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(Reviewed by R.T.P.3)

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ABSTRACTS FROM THE SCIENTIFIC AND TECHNICAL PRESS.

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(Prepared by R.T.P.3.)

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Notices and abstracts from the Scientific and Technical Press are prepared primarily for the information of Scientific and Technical Staffs. Particular attention is paid to the work carried out in foreign countries, on the assumption that the more accessible British work (for example that published by the Aeronautical Research Committee) is already known to these Staffs.

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NOTE.—As far as possible, the country of origin quoted in the items refers to the original source.

American Bomb Types. (Inter. Avia., Nos. 898-899, Dec. 11th, 1943, pp. 21-22.) (121/1 U.S.A.)

Depending upon the use to which they are put, the following American bomb designs are in use:—

(1) DEMOLITION BOMBS.

(*a*) *General Purpose Bombs* (G.P.), which contain from 50 to 55 per cent. explosive; their cases are made from seamless extruded steel tubes, on to which are welded reinforced nose caps; they are used in five sizes, namely, 100 lb. bombs for the demolition of one or two-storey buildings and other unarmoured targets; 250 lb. bombs for use against larger buildings and unarmoured ships; 500 lb. bombs for use against railway installations, bridges, etc., and against lightly armoured ships; 1,000 lb. bombs for the destruction of large bridges and part installations; 2,000 lb. bombs for the bursting of dams and the destruction of battle cruisers and battle ships.

(*b*) *Semi-Armour Piercing Bombs* (S.A.P.), which contain about 32 per cent. explosive and are available in weights of 500 lb. and 1,000 lb. for cases in which the penetration of the G.P. bombs is not sufficient.

(*c*) *Armour Piercing Bombs* (A.P.), which contain only from five to twelve per cent. explosive and are used in six sizes from 600 lb. to 1,600 lb.; these bombs, developed from coastal mortar shells, are used comparatively rarely as they are effective only when direct hits are scored.

(*d*) *Light Case Bombs* (L.C.), with 77 to 80 per cent. explosive, which produce their effect mainly by blast and are used chiefly for the destruction of blocks of buildings; the biggest bomb of this type, frequently termed "block buster," has a weight of 4,200 lb. and carries an explosive charge of 3,362 lb. It is pointed out that the effect of the largest sizes of light case bombs is frequently overestimated, as for example, two 2,000 lb. bombs cause more damage than one of 4,000 lb. Details of the sizes of smaller light case bombs are not available.

(*e*) *Depth Bombs* (D.B.), with an explosive filled amounting to 70 to 75 per cent. of the weight; they have a very thin case and are detonated by hydrostatic fuse provoking the explosion depending upon the pressure exerted on it by the surrounding water; the effect of the bombs takes the form of under-water shock waves; this type of projectile is used to combat submarine and is available in sizes of 325 lb. and 650 lb.

(2) FRAGMENTATION BOMBS.

These are used in weights of 20 to 30 lb.; they consist of a steel cylinder which encloses the explosive filled and around which is wound an iron bar of rectangular cross section; upon the explosion the latter breaks up into 1,000-1,500 splinters weighing about one-third of an ounce each. For release from medium altitudes impact fuses are employed whereas in low flying attacks delayed action fuses or parachutes are used to prevent the attacking aircraft from being hit by splinters. It is reported that in certain cases single or clustered fragmentation bombs with time fuses are used against closed formations of enemy aircraft.

(3) CHEMICAL BOMBS.

These are mostly bombs weighing 100 lb., with a light steel case filled with various chemicals, depending upon the use to which they are put; for example, they can be filled with incendiary liquids, chemicals producing smoke-screens, or with harrassing or casualty agents. Besides these the U.S. Army Air Forces use *incendiary sticks* weighing about 4 lb. and consisting of a magnesium case filled with thermit.

(4) PRACTICE BOMBS.

These weigh 100 lb. and are usually filled with sand.

(5) DRILL AND GAUGE BOMBS.

These are used in various sizes for training purposes and for ballistic experiments.

That the American and the British Air Forces do not employ the same designs of bomb is discernible superficially by the fact that the American bombs are fitted with box-type fins, whereas the British show cylindrical vanes; it is claimed that the American design produces a considerably smaller spread because the bombs are prevented from rotating about their axis. Without attempting to describe the designs of the American instantaneous, time and hydrostatic fuses, it may be recorded that the instantaneous fuses are sometimes fitted with "feelers" measuring from six to twenty-four inches length, resembling the "Dinort" sticks used in Germany.

New De-Icing Developments. (Inter. Avia., Nos. 898-899, December 11th, 1943, p. 20.) (121/2 U.S.A.)

While hitherto the accretion of ice on airscrews was prevented by means of an anti-icing liquid which was spread over the leading edges of the airscrew blades by means of a slinger ring, the United States Rubber Co. has now developed a new method in collaboration with the Army Air Forces. Almost the entire leading edge of the airscrew blade is covered with a newly developed type of synthetic rubber " Uskon," which as a result of the admixture of chemical substances is electrically conductive.

As the tests carried out by the Army Air Forces by electrically heating the airscrews have produced satisfactory results, the possibilities of applying this system also in other fields of anti-icing protection are now being studied with considerable intensity. As regards hot air de-icing, in the P.B.Y. " Catalina " twin-engined and the P.B.2Y. " Coronado " four-engined flying-boats, only the wing leading edges are heated with air which in turn is heated by the exhaust gases. An additional heating installation operating on aviation petrol is installed in the tail of the hull for the heating of the leading edges of the control surfaces. The B-24 " Liberator " four-engined bomber and the new P4Y-1 twin-engined naval flying-boat, both of which will be fitted with consolidated Vultee anti-icing systems, will not have this supplementary heating installation and their tail units will be heated by means of hot air supplied from the power plant.

A.B.A. Pressure Priming System for Starting Aircraft. (Inter. Avia., Nos. 898-899, Dec. 11th, 1943, pp. 23-24.) (121/3 Sweden.)

The A.B.A. starting method makes use of a special container holding the priming fuel (either normal aviation petrol or especially volatile fuel) under constant nitrogen pressure, whence it is discharged into the intake manifold of the engine by means of an instantly acting remote-controlled valve equipped with an effective atomiser. The following versions have been tested:—(*a*) The container can be removed with the aid of an automatic cut-off valve closing the passage between the container and the permanently mounted pressure line to the priming valve; outside of the aircraft it is filled with a starting fuel and pressure nitrogen by means of suitable equipment. (*b*) The container is permanently installed and is charged through a petrol pipe ending in a quick-coupling. (*c*) The permanent equipment of the aeroplane merely consists of the priming nozzle and the pipe ending in a quick-coupling for connection to a service cart; in this case such a cart equipped with a storage container must be available on each aerodrome. In the first two cases the weight of the entire installation amounts to 5.1 lb. for each engine, whereas in the third case the weight is only 1.3 lb. The priming nozzle is controlled electrically by means of a solenoid and acts instantaneously because the pipe leading from the container to the nozzle is constantly filled with fuel. The fuel metered out by the nozzle is sufficient for normal idling, so that the engine turns on the priming fuel until it is warmed up sufficiently and obtains its normal mixture supply from the carburettor. The starting method described has been tested by A.B. Aerotransport with good results over a period of two years, and the engines were normally found to fire within three seconds, whereas normal carburettor operation began within from five to sixty seconds, the latter at lowest temperatures.

American Statistics of Civil Aircraft Accidents Due to Engine Failure (Engines of 90 h.p. or Less). (Inter. Avia., Nos. 898-899, December 11th, 1943, p. 20.) (121/4 U.S.A.)

The Safety Bureau of the U.S. Civil Aeronautics Board recently published statistics covering aircraft accidents resulting from engine failure in the period from 1939 to 1942. Although the report analyses only trouble experienced with engines of 90 h.p. or less, interesting comparisons can nevertheless be made of the frequency of the various types of engine trouble. Roughly 55 per cent. of all accidents caused by engine trouble were traceable to failure of the fuel system, of which, however, over one-third were chargeable to personnel error, including carburettor icing, fuel exhaustion caused by the pilot's lack of attention to his fuel supply, the use of wrong grade fuel, etc. One-sixth of the remaining accidents were due to each of the following causes:—

(a) Dirt or water in the fuel system;
(b) Improper idling and throttle adjustment;
(c) Carburettor icing under conditions where the pilot was not at fault;
(d) Fuel line leaks, vapour locks, broken throttle brackets, etc.

Some 23 per cent. of accidents resulted from undetermined causes; in the main it is assumed that these failures were of a nature which could not be determined after the crash owing to the engine being too badly damaged. The third group of about 10 per cent. consists of accidents produced by power plant structural failure, such as, in the order of their frequency:—Valves and valve springs, airscrews, cylinders, crankshafts, and pistons. In the fourth place, with about seven per cent., was ignition malfunctioning, more than half of which occurred as a result of faulty magnetos or sparking plugs. The remaining five per cent. of the cases investigated were due to lubrication system failures or miscellaneous causes.

Non-Destructive Testing of Non-Ferrous Semi-Finished Metal Products by New Magnetic Induction Methods. (W. Schirp, E.T.Z., Vol. 64, Nos. 31-32, 12/8/43, pp. 413-414.) (121/5 Germany.)

The magnetic induction method for the inspection of non-ferrous metals depends on the fact that the apparent resistance of a coil fed with high frequency alternating current and surrounding the specimen varies with the dimensions and electrical conductivity of the latter. The method is primarily suited for tubes, rods or profiles of nominally constant cross-section which can be passed through the coil. Flow rates as high as 1 m./sec. can be maintained through the apparatus, which normally is provided with two test coils forming the opposite arms of a Wheatstone bridge. An e.m.f. of sonic frequency is applied and the out of balance current after amplification can be observed on a cathode ray oscillograph and will operate an electronic relay as soon as certain limiting values are exceeded.

When testing for consistency of dimensions or constitution (hardness or heat treatment, type of alloy, etc.) the specimen under investigation passes through one of the coils whilst the other surrounds a stationary reference sample. Dimensional errors are separated from those due to heat treatment, etc., by changes in phase displacement of the cathode ray record. The sensitivity of the inspection is not sufficient to record cracks or other internal faults (inclusions).

Such faults are detected by passing the specimen through both coils in succession, the coils being placed in close proximity to each other. Under these conditions, changes in dimension or constitution of sample (unless they are abnormal) will affect both coils equally, each crack or fault, on the other hand, giving rise to two discontinuities in the record (a crack smaller than the longitudinal dimension of the coils is recorded twice as it passes through the two coils, whilst for longer cracks, the beginning and end of the fault is recorded). It is obvious that by duplicating the circuits and recorders and employing three search coils spanning the specimen whilst a fourth surrounds the standard, the fault testing can be carried out simultaneously with inspection for dimensions and heat treatment.

In most cases of semi-finished products, the latter inspection need not be carried out over the whole length of the specimen. Thus, in the apparatus developed by Heinkel for dural tubes, the checking for dimensions and heat treatment against a standard is carried out over the first 20 cm., whilst the testing for flaws is carried out over the remaining length. Only one set of electronic recorders is thus required, the coils only being switched in or out as required.

The test process is completely automatic and does not depend on visual observation, special electronic relays being provided which automatically mark faulty sections of the tubes as they pass through the apparatus. Further relays ensure that only specimens fulfilling the specification are passed on to the works, the rejects being further sorted, depending on whether the material or dimensions are at fault.

A great advantage of the apparatus is the high speed of operation (over 1 m./sec.) and the absence of skilled attention. It is stated that prior to its installation, numerous cases arose where faults either escaped detection or were only noticed after an appreciable amount of fabrication had been carried out on the product.

Surface Structure Markings on Al.-Mn. and Al.-Mg.-Si. Sheet Metal After Anodic Treatment. (H. Rohrig and E. Kopernick, Z. f. Metallkunde, Vol. 35, No. 5, May, 1943, pp. 117-120.) (121/6 Germany.)

During the anodic treatment (d.c. sulphuric acid electrolytes) of Al.-Mn. alloy sheet, dark cloudy markings are occasionally produced, especially if the material is semi-hard. Surface markings are also found, although more rarely, when anodising Al.-Mg.-Si. sheet. In this case, however, the marking is not dark, but speckled. The chemical composition of sheets exhibiting this abnormality does not differ in any way from that of other sheets yielding the normal white oxide film on treatment. It appears that the discolouration of Al-Mn. sheet is due to the supersaturation of the mixed crystals with Mn. at their boundaries. This may lead to an uneven distribution of Mn. already in the casting, if the latter is annealed incorrectly.

The segregate once formed will persist in the rolled sheet and on subsequent anodising produces a dark cloudy deposit of manganese oxide. The cure of the trouble therefore lies in a close temperature control of the cast alloy prior to rolling. The casting should be carried out quickly and the annealing temperature prior to rolling should not exceed 450°C. for 4 hours, at an actual rolling temperature of 350°C. Slow cooling of the casting (of the order of 30 minutes) and lengthy annealing periods (of the order of 24 hours) favour the breaking up of the mixed crystal and the formation of unevenly dispersed segregates may lead to troubles during subsequent anodising.

In the case of Al.-Mg.-Si. alloys, the Mg_2Si segregate is already formed during the cooling of the casting. On account of the higher mobility of the Mg. and Si. atoms compared with those of Mn., however, marked difference in concentration of segregate producing an uneven oxide film on subsequent anodisation occur only relatively rarely. Suitable heat treatment of the original casting again obviates the trouble.

The Effect of Annealing Temperature and Period on the Softening of Previously Cold Worked Metal (Crystal Recuperation and Recrystallisation Phenomena). (A. Pomp and G. Niebch, Z. f. Metallkunde, Vol. 35, No. 5, May, 1943, pp. 111-117.) (121/7 Germany.)

The experiments were carried out on Krupp soft steel of the following per cent. composition :—

C.	Si.	Mn.	P.	S.	Fe.
.08	.05	.06	.005	.01	rest

The material was available in the form of round bars of 26 mm. diameter which were cut into 40 cm. lengths and annealed at 900°C. for 30 minutes. The bars were subsequently cooled in Kieselguhr (infusorial earth) and ground down to 18 mm. diameter.

The specimens so obtained were next stretched in a 35-ton tensile machine so as to exhibit permanent reduction in cross-section of 5, 7.5, 10, 12.5, 15 and 20 per cent. respectively. The bars were then cut into cylindrical blocks, each 10 mm. high and annealed at a series of constant temperature ranging from 620°C. to 900°C., the annealing time varying from 10 minutes to 8 hours.

Subsequent cooling took place either in still air or at a very much slower rate in the oven (1°C./min.), The blocks were then finally split longitudinally and the Brinell hardness determined at two points for each of the two new internal surfaces thus formed.

These surfaces were then polished and etched for micro graphical examination of the structure.

Immediately after cold working and before the subsequent annealing, the material gave the following hardness values:—

Per cent. diminution in area.	Brinell Hardness 2.5/62.5/30 Kg./mm.^{2}
0	93
5	121
7.5	129
10	136
12.5	142
15	149
20	160

With annealing, some or all of this strain hardening disappears.

The experimental results are given in graphical form, the Brinell hardness being plotted against annealing period for each temperature, with degree of original cold working (per cent. reduction in area) as parameter.

Broadly speaking, the curves fall into two classes, depending on whether the original cold working amounted to less or more than 10 per cent. reduction in cross-section.

(1) In the former case, after an initial rapid softening of the material, a steady state is reached in about 30 minutes and extending the annealing period to 8 hours causes no further reduction in hardness. The final value, moreover, is still appreciably above that of the original material prior to cold working. (Brinell 115 against 93.)

(2) If, on the other hand, the material has been stretched to give a reduction in area between 10 and 20 per cent., the softening during annealing is progressive over much longer period (of the order of 4 hours) and the final hardness figure is practically identical with that of the original material prior to cold working.

It appears that in the case of moderate strain hardening the subsequent softening on annealing is mainly due to crystal recuperation and metallographical examination shows no change in structure of the material.

With high degrees of original strain hardening, however, marked recrystallisation of the material takes place on annealing.

Phosphatising in the Cold. (Z.V.D.I., Vol. 87, No. 49-50, 11/12/43, p. 794.) (121/8 Germany.)

In the well known phosphatising (anti-rust) process, bath temperatures of the order of 90-95°C. were employed originally.

It has been found that equivalent results can be obtained in the cold, if sodium nitrite is added as an accelerator to a zinc phosphate bath ($pH = 2.7$).

The process has been worked on a large scale for over two years and led to a saving of several thousand tons of coal per month.

The Influence of High Frequency (Supersonic) Longitudinal Vibrations on the Magnetic Response of Nickel. (Part III—Measurements on Nickel Wire with the Ferrograph.) (G. Schmid and V. Jetter, Z. f. Elektrochemie, Vol. 48, No. 10, Oct., 1942, pp. 513-522.) (121/9 Germany.)

The experiments covered nickel wires ranging in diameter from .5 to 2 mm. which were suspended vertically and subjected to longitudinal vibrations of a frequency of 19,500/sec. by means of a nickel tube oscillator attached to the lower end and operating by magnetrostriction. The upper end of the wire was attached to a steel band passing over horizontal rollers and carrying a scale pan for loading the wire statically. Reflexion of the longitudinal waves at the upper end of the wire was prevented by covering the attachment with Chatterton compound. The vibration amplitude was measured by observing the displacements of a reference point on the wire (suitably illuminated) in a microscope. It was found that this amplitude corresponded to that of the upper end of the oscillator and could therefore be measured by electromagnetic induction. The amplitude was varied by changing the power input of the oscillator, the change in extension corresponding to a range of stress amplitudes from 0 to 3 kg./mm.². By means of the scale pan loads, the wire could also be subjected to a series of constant static loads from 0 to 5 kg./mm.² simultaneously with the excitation. The magnetic response of the wire (I/H curve) was traced out by a cathode ray oscillograph working in conjunction with a Forster Ferrograph. On this oscillograph, the horizontal deflection corresponds to changes in the applied field strength H whilst the vertical deflection records the changes in the magnetisation I. The ferrograph is operated with alternating current of 50 cycles/sec. which is also the periodicity of the observed I/H curves. The magnetic field thus changes from zero to a maximum value in 1/200 sec.

Before the measurements, the Ni. wires were annealed in an atmosphere of H_2 for two hours at 800°C. and quenched in H_2 at room temperature. The initial permeability of the wires was of the order of 130, but diminished to about 40 with continued mechanical excitation (age hardening).

Most of the experiments were carried out in weak magnetic fields ($H_{max} = \sim .2$ Oersted). Under these conditions, in the absence of static load and high frequency excitation, there is practically no hysteresis and the magnetisation curve shrinks to such narrow dimensions that in general only two parallel lines enclosing a very narrow gap can be detected. As soon as the oscillation, however, is started up the loop broadens out, becoming wider as the oscillation or stress amplitude increases. After a certain maximum amplitude is reached (usually of the order of 1 kg./mm.²) however, the loop shrinks again and approximates to its original narrow shape when its stress amplitude reaches about 2 kg./mm.². The loop now is however more tilted and I_{max} considerably greater than in the original (unexcited) state. These characteristics are retained if the wire is subjected to a constant tensile load whilst subjected to high frequency excitation. The size of the loop is however reduced by the static load which evidently appears to oppose the vibratory effect. For the same stress intensity, however, the static load produces a much smaller numerical effect. Thus, in the absence of high frequency excitation, a static tensile stress of 1 kg./mm.² reduces the maximum magnetisation of the wire by about 25 per cent. On the other hand, in the absence of static load a high frequency stress vibration with an amplitude of 1 kg./mm.² increases I_{max} 10 times! From this it might appear at first sight as if the pressure component of the high frequency oscillation were responsible for the increased effect. This pressure component can, however, be made to disappear by subjecting the wire to a tensile load in excess of the excitation amplitude. The wire is now always fluctuating in tension, but still shows a six-fold increase in maximum magnetisation compared with no load conditions. Quite different results are, however, obtained if the magnetisation is carried out in strong fields of the order of 50 Oersted. Increasing the amplitude of the high frequency stress (no static load) now progressively reduces the width of the loop without however affecting the general shape of I_{max} appreciably. The diagram approaches more and more to the ideal shape as the stress amplitude is increased to beyond 2 kg./mm.². It is evident that the high frequency oscillation "frees" formerly irreversible processes in the material already at very weak values of the field H.

Increasing the static load in the absence of high frequency oscillation, however, both closes the loop and alters its shape, the material evidently becoming increasingly difficult to magnetise.

The interrelation between stress and magnetic behaviour thus depends markedly on the frequency of the stress. This is also shown by the fact that soft annealed Ni. will age harden at a very much smaller stress when the latter is applied at high frequency than when applied statically.

Magnetic tests of the type described are hoped to lead eventually to a better understanding of the changes in material structure under load. Their great advantage lies in the fact that they give average results over the whole volume, whilst electron diffraction tests only deal with surface effects.

Infinitely Variable Gears for Machine Tools. (H. Schopke, Z.V.D.I., Vol. 87, No. 49-50, 11/12/43, pp. 773-780.) (121/10 Germany.)

The article deals mainly with mechanical and electrical drives, hydraulic gears for machine tools having already been considered exhaustively by H. Krug in a previous issue of this journal (R.T.P. Translation No. 1,975).

Infinitely variable gears are of special interest in conjunction with machine tools since they afford means of speeding up production. It is, however, essential that such gears be absolutely reliable. A certain drop in efficiency with wear may be permitted, provided the tool continues to function.

Under no circumstances, however, must gear adjustment or failure lead to the complete stoppage of the machine tool. These very strict requirements have naturally limited the number of practical solutions. Broadly speaking, mechanical gears have found their field on relatively light machine tools, whilst the speed control of heavy tools is generally electrical. Medium tools, on the other hand, can be efficiently controlled by hydraulic gears.

Amongst the mechanical gears, the P.I.V. and Heynau gears have proved outstanding successes. Both gears are of the expanding pulley-belt type, but differ fundamentally in design, the P.I.V. employing grooved pulleys with a special link chain whilst the Heynau utilises a solid steel ring and plain pulleys. P.I.V. gears transmitting up to 30 h.p. with a speed control range of 1 : 6 are fitted extensively to German machine tools and are stated to have functioned very satisfactorily. The Heynau gear transmits rather smaller powers, but its extreme compactness and large speed control (1 : 12) has rendered it a favourite for certain tools such as thread grinders.

Turning now to electrical drives, the Leonard type with D.C. motors and both field and armature control has proved the most successful. It can easily be adapted to work in conjunction with an automatic gear box of normal type and a speed range of 100 : 1 can be covered continuously by simply pressing a number of control buttons. The great flexibility of the drive is of special advantage in planing machines where return strokes of 1 m./sec. are easily achieved by this means. Another interesting example is provided by heavy shears which formerly had to be fitted with flywheels but which now can be controlled satisfactorily by the Leonard system without employing either flywheel or couplings. Although electrical gears, as already explained, are most suited for heavy tools, simplified Leonard controls have lately come into the market for outputs as low as $\frac{1}{2}$ h.p., thus invading a field previously reserved for mechanical gears.

Dangers of the Atmosphere (Translation of Abstract). (T. O. Eriksson, Flygning, Vol. 20, No. 15; Abstracted in Luftwissen, Vol. 10, No. 4, April, 1943, p. 22.) (121/11 Germany.)

The dangers to which aircraft are exposed when flying are fog and clouds, precipitations—of which only hail is likely to cause damage—thunderstorms and icing.

The following steps should be taken to counter the danger of icing:—

1. Follow weather reports;
2. Avoid dangerous altitude levels between 0.5 and 1 km. and temperatures just below 0°;
3. Make for other altitude levels once icing conditions are encountered;
4. Do not take-off with iced-up aircraft;
5. Avoid flying close to clouds at temperatures less than +0.5°; and finally
6. Keep an eye on the air thermometer.

The precautions to be taken in thunderstorms owing to the danger of lightning are:—

1. Take in trailing antenna, remove earphones and avoid touching metal parts with bare hands;
2. Fly some distance below cloud, but desist from dangerous low flying;
3. Avoid flying close along front of thunderstorms or try to fly over thunder clouds.

It should also be remembered that there is the danger of an electric shock when the aircraft is electrically charged, *e.g.*, through jettisoning fuel and that gusts are most severe in thunderstorms.

The New German Glider School at Ith. (Luftwelt, Vol. 9, No. 15, 1st Aug., 1942, pp. 298-299.) (121/12 Germany.)

Describing the opening of the new Glider Training School at Ith in the Weser Hills. The school accommodates 120 pupils and 50 gliders and is intended for training young candidates from the Hitler Youth Air Training Corps.

The Ith already has a history of ten years of glider flying and can show records such as those of the 1939 meeting, with 10,840 km. total distance flown, 40 high altitude ascents between 1,000 and 3,000 m., a distance record of 293 km. and an endurance record of 10 hours.

The Influence of Carbon Content on the Hot Zincing of Sheet Steel. (W. Pungel, Stahl and Eisen, Vol. 64, No. 7, 17/2/44, pp. 101-105.) (121/13 Germany.)

The experiments were carried out on 2 mm. sheet steel which was available in eight different batches with C content ranging from .06 to .78 per cent. Samples (20 x 20 cm.) were cut from each batch and were subjected to the following preliminary treatment in lots of 12:—

(*a*) Sandblasting only.
(*b*) Sandblasting followed by annealing at 750°C. for one hour.
(*c*) Normalised only.

Each lot of 12 was next pickled in 20 per cent. HCl and then hot zinced at 430-440°C. (30 sec. immersion period), six of the samples being treated by the so-called dry process, the wet process being adopted for the remainder. (In the dry process the sample is sprinkled with NH_4Cl powder and dried before immersion, whilst in the wet process, the pickled and still wet specimen is immersed, the bath in this case being covered with a surface layer of NH_4Cl and $ZnCl_2$ flux.)

After zincing, the samples were subjected to the following tests:—

(*a*) Determination of thickness of deposit (chemical method).
(*b*) Adhesion tests (Ericson cup and folding tests).
(*c*) Examination of structure of deposit (sectioned).
(*d*) Bending fatigue strength.

The author concludes that provided the sheet metal surface is thoroughly cleaned by sandblasting before pickling and the pickling liquor removed before dipping, the C content of the sheet exerts no detrimental effect on the zinc deposit and affects neither its uniformity nor adhesion. The thickness of the resulting deposit was practically the same in the wet and dry process and averaged about

700 gm./m.². Uneven deposits, however (black patches), result if the sheet is not sandblasted prior to pickling, and in this case there is some evidence that the nature of the zinc deposit deteriorates with increasing C content of the sheet. This is evidently due to uneven attack of the pickling solution and attempts to overcome this difficulty by altering the nature of the latter have failed so far.

Testing Armour-Piercing Bullets for Cracks After Manufacture. (Z.V.D.I., Vol. 88, No. 3-4, 22/1/44, p. 54.) (121/14 Germany.)

It is claimed that hair cracks are rendered more easily visible if the hardened part is subjected to sudden changes in temperature. For this purpose, two water tanks are provided which are kept at 0° and 100°C. respectively. The parts are transferred from the cold to the hot tank several times and finally examined at room temperature.

Stress Coefficients for Rotating Disks of Conical Profile. (K. E. Bishopp, A.S.M.E., December, 1943, Meeting.) (Preprint available.) (121/15 U.S.A.)

The conical profile is expressed by the equation

$$2h = 2H\,(1 - r/R),$$

where $2H$ = thickness at hub.
r = radius under consideration.
$2h$ = thickness at r.
R = periphery.

Let p and q = mean radial and hoop stresses at r.
ρ = mean density of material.
ω = angular velocity (radians/sec.).

By equating forces on a small element of volume we obtain :—

$$(1 - r/R)\,q - (1 - 2r/R)\,p - r\,(1 - r/R)\,(dp/dr) = \rho\,(1 - r/R)\,r^2\omega^2 \qquad (1)$$

also the compatability of stress and strain requires :—

$$p - \sigma q = (d/dr)\,(rq - \sigma rp) \qquad (2)$$

where σ = Poisson's ratio.

Combination of (1) and (2) yields a hypergeometrical differential equation, which the author solves by using a combination of power and logarithmic series ensuring rapid convergence.

The general solution is of the form :—

$$P\,(x) = AP_1\,(x) + BP_2\,(x) + P_3\,(x)$$

where $P = (1 - x)\,p$ and $x = r/R$,

i.e., $p = Ap_1 + Bp_2 + \rho R^2\omega^2 p_3$

$q = Aq_1 + Bq_2 + \rho R^2\omega^2 q_3$

The author has calculated the stress coefficients p_1, p_2, p_3, and q_1, q_2, q_3, at intervals of $r/R = .01$ to an accuracy of five parts in 2×10^6. A worked out example shows how the geometrical constants A and B are determined in any special case.

It is claimed that the approximation to an arbitrary profile by a series of conical instead of uniform disks leads to a considerable shortening of the mathematical work besides producing a clearer picture of the stress distribution, since no discontinuities (except those due to abrupt change in the profile) arise.

Torsion Fatigue Testing Machine for Large Parts. (Z.V.D.I., Vol. 88, No. 3-4, 22/1/44, p. 54.) (121/16 Germany.)

It is known that the torsional and bending fatigue strength of a specimen depends markedly on its cross-section. Thus the torsional fatigue strength of a crankshaft with a journal diameter of 245 mm. is only about half that of a model made of the same material to one-sixth scale. It has therefore been necessary to design fatigue testing machines capable of handling large specimens and the author describes a type of torsional machine capable of exerting a periodic twisting moment of up to $\pm 12,000$ kgm. superposed on a static moment of up to 12,000 kgm. The amplitude of twist is $\pm 6°$ and high grade steel shafts up to 160 mm. diameter can be tested. The machine is operated by a D.C. shunt motor of 80 K.W., the normal speed being 800 r.p.m. For starting up a two-stage gearbox with reduction ratios of 1 : 24 and 1 : 6 respectively in used, the motor being under Leonard control. At the operational speed of 800 r.p.m. the gears are uncoupled electro-magnetically and the drive is direct.

Shrink Fit Stresses and Deformation. (A. W. Rankin, A.S.M.E. Annual Meeting, Dec., 1943.) (Preprint available.) (121/17 U.S.A.)

The author obtains expressions for the stresses in a solid cylinder of infinite length caused by the application of a uniform radial stress over a single circumferential ring of finite length on the surface of the cylinder.

In an arched shrink fit problem, the determination of its stresses would be extremely complex since the stress distribution in the ring would also vary. A good approximation to the average deformation of the shaft surface can, however, be obtained by assuming the radial stress constant over the length of the ring, *i.e.*, neglecting the stress increase at the ends of the ring.

The author considers the special case of a cylinder of radius r_0 subjected to a pressure p lb./sq. in. over a length $2a$. The cylinder is assumed infinitely long and there is no constraint in the axial direction (z axis).

If the whole surface of the cylinder is subjected to a uniform radial stress, the radial deformation u is given by :—

$$u = \{ (1-\gamma)\, r_0 p \} / E$$

when γ = Poisson's ratio.

Similarly, the average radial deformation σ of the shaft surface if the pressure is limited to a length $2a$ ($z = \pm a$) can be expressed in the form

$$\delta = \{ (1-\gamma)\, r_0 p \} / KE$$

where K is a function of a/r_0 and $\rightarrow 1$ when $a/r_0 \rightarrow \infty$ and is given in the following table :—

a/r_0	K
.05	3.5
.10	2.4
.15	1.9
.20	1.6
.25	1.4
.30	1.3
.40	1.25
∞	1.0

The radial, axial and shear stress of the shaft are given explicitly by the author in the form of infinite integrals, which are solved numerically and a series of curves are given from which the actual stresses can be determined in any given case.

The distribution of radial, tangential, axial and shear stress have been worked out numerically for the special case when $a/r_0 = .15$. The results are given graphically, the value of the stress being expressed in terms of the applied radial stress p for various axial distances z/r_0 with (r/r_0) as parameter. (r = particular radius considered). It is interesting to note that the internal radial and tangential stresses at the origin (r=0) amount to only 30 per cent. of the applied radial stress, whilst the axial stress at the origin = .18 p. The distribution of shear stress is worthy of note. This stress is zero for the centre of the shaft (r=0) and is also zero at the shaft surface with the exception of the lines of disconand not to a change in permeability proper since the partial pressures have not been changed.)

The rubber layers employed usually have a total thickness from .15 to .25 mm. Over this range, *K* varies inversely as the thickness. The absolute value of *K* depends, however, very much on the nature of the rubber and the period over which it has been exposed to air and light (1), (11).

As already stated, a good quality balloon fabric should have a *K* factor of less than 10 l./m.^{2} per 24 hours.

It is interesting to note that using synthetic rubber (Neoprene), the *K* factor is as little as 2.5, whilst even the best natural rubber balloon fabric has *K* values above 6.

In addition, the synthetic material deteriorates very much less on exposure to air and light. Thus after 14 days exposure (mid-summer), the *K* factor for this material only increased from 2.4 to 2.7, whilst fabric treated with natural rubber showed nearly 100 per cent. increase in permeability.

Several methods (1, 2) for measuring the permeability of balloon fabric are in use. The simplest consist in measuring the change in pressure in a vessel fitted with a cap of the material and originally filled with H_2 at a pressure of one atmosphere. This method is used in France (5), but leads to erroneous results unless a correction for the amount of air entering the vessel is applied. The most accurate method consists in exposing the two sides of the fabric to a continuous flow of air and hydrogen respectively and measuring the amount of H_2 picked up by the air. This can be done either chemically (7) (burning to water), optically (5) (8) (interferometer) or electrically (2) (6) (measurement of thermal conductivity). The last two methods, although very accurate, require rather expensive apparatus and for this reason, the author follows the chemical method (5, 7, 8, 9, 10).

The apparatus employed by the Rubber Research Institute, Delft, employs a circular piece of fabric 37.5 cm. diameter which forms a central partition in a circular metal box of 8 mm. total depth. The box is immersed in a thermostat (25°C.) and air circulated through one of the chambers at a rate of about 5 litres/hour, whilst H_2 circulates through the other chamber at about three times this rate; the difference of pressure between the two chambers being 30 mm. H_2O.

Before every determination, the two chambers are scavenged at these flow rates for about one hour before readings are taken. The air leaving the apparatus passes through drying tubes (silica gel) and then over a hot platinum spiral. The steam formed by the combustion of the contained H_2 is absorbed in two further silica gel tubes and determined by weighing. The diaphragm box is placed in the thermostat so that the fabric is vertical, the air entering its appropriate compartment from below and leaving at the top, whilst the reverse flow direction is employed for the H_2.

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The Single-Seat Slow Speed Aircraft L.F.1 Built by the Brunswick Technical High School. (H. Winter, Z.V.D.I., Vol. 88, Nos. 3-4, 22/1/44, pp. 43-46.) (121/19 Germany.)

The aircraft is a high wing (parasol) monoplane with the following principal characteristics:—

Weight (empty)	251 kg.
Flying weight	355 kg.
Span	8.02 m.
Overall length	6.08 m.
Max. height	2.38 m.
Wing loading	41.8 kg./m.^{2}.
Power loading	7 kg./h.p.
Engine	Zundapp. 50 h.p. at 2,350 r.p.m.

The aircraft is built mainly of plywood and satisfies the P.3 class of the German Aircraft Strength Specification (sport and travel). In order to utilise fully very steep angles of approach, the undercarriage has been considerably strengthened. In order to facilitate transport, the wing and tail planes are divided along the central axis and can be folded back along the fuselage, the hangar space required then amounting to only 6 × 1.6 × 2.4 m. The wing is fitted with an adjustable nose slat made of metal (hand controlled). Both ailerons and landing flaps have hinge slats, and it is possible to utilise the ailerons as additional high lift devices.

The wing mounting is such that the setting angle can be readily varied on the ground over the range 0 to 16° with regard to the fuselage axis. The horizontal tail plane is placed well above the slip stream and provided with a similar adjustment for incidence.

The performance of the aircraft at a flying weight of 355 kg. is given in the following table (calm air):—

Take-off run (zero flap deflection)	100-150 m.
,, flap at 45°	60-80 m.
Landing run (zero flap)	70-85 m.
No brakes, 45° flap	60-82 m.
Landing run (zero flap)	35-70 m.
With brakes, 45° flap	30-40 m.
Max. speed—	
Zero flap, nose slat fully open	140 km./h.
,, slat half open	151 km./h.
,, slat closed	165 km./h.
45° flap, slat fully open	120 km./h.
Min. speed—	
Zero flap	67 km./h.
45° flap	47 km./h.
Time of climb (slat open)	1,000 m. in 6.7 min.
	2,000 m. in 15 min.
	3,000 m. in 28 min.
Ceiling (open slat)	3,800 m.
,, (closed slat)	4,200 m.

With a little practice, both take-off and landing can be carried out on a field 100 m. long and 20 m. wide. The aircraft is intended for research on the aerodynamics of slow speed flight and further reports will be issued by the Technical High School in due course.

Research for Aeronautics: Its Planning and Application. (W. S. Farren, The Engineer, Vol. 157, Nos. 4,598-4,599, pp. 146-148 and 164-167.) (7th Wright Brothers Lecture.) (121/20 Great Britain.)

Aeronautical research can only be intelligently planned, pursued and applied, if there exists intimate and whole-hearted collaboration between the research worker, the designer, the constructor and user.

The main efforts should be directed to advances in basic theory. Experimental information must be provided both to extend the theory and reduce its limitations. Lastly, we must ensure that the experimental application is made in such conditions that the practical value of the theory is rendered obvious to the user.

A case of imperfect planning in the past is provided by the reduction in the cooling drag of an aeroplane power plant, theory indicating a large possible saving already many years ago. In this case an earlier realisation by the designer of the outstanding advance that was within his grasp would have brought him to a closer co-operation with his only source of specific information—the research establishments. These in turn were backward in that they did not supply the information in a convincing form, directly applicable to practical problems. Finally, the user, not realising fully the possibility was only lukewarm in face of possible reduction in reliability or increased maintenance difficulties. He therefore did not force the pace of development till rather late in the day.

On the other hand, an example of good planning and excellent co-operation was shown by the boundary layer research carried out at Cambridge University, which led to important results in a relatively short space of time.

The final criterion of success in research is the extent to which the aircraft has improved with time. For this purpose the author compares a typical fighter and bomber of the year 1917 with corresponding examples of 1942. The types chosen are the S.E.5 and Spitfire and the Handley Page 0/400 and Lancaster respectively.

The most obvious difference between the old and new types is the change over from biplane to monoplane construction, the total wing area remaining roughly the same. The following table gives the ratio of some characteristic data, that of the older machine being taken as unity in each case:—

TABLE I.

	Spitfire/SE5.	Lancaster/0-400.
Wing area	1.0	0.75
Total weight	4.0	5.0
Military load	4.0	8.0
Power	7.0	7.0
Speed	3.0	2.75
Total drag	0.5	0.50
Touch down and take-off speed ...	1.5	1.8

It will be noted that the most outstanding facts are a seven-fold increase in power accompanied by a four-five-fold increase in total weight together with a three-fold increase in maximum speed.

Moreover, the weight analysis given below shows that the weight of the power plant forms either the same or even a smaller proportion of the total weight, the weight per h.p. being only about 4/7 of the 1917 value.

TABLE II.

	SE5.	Spitfire.	0/400.	Lancaster.
	%	%	%	%
Structure ...	30	29	40	31
Power plant ...	37	38	22	16
Fuel	15	17	19	20
Load	18	16	19	23

This improvement in specific weight is largely due to the supercharger which is now an essential feature of every aircraft engine, but was not available in 1917.

Credit must also be given to the modern high octane fuels which make it possible to utilise the supercharger to the utmost.

The thermal efficiency of the engine has also been improved so that the fuel consumption per net b.h.p./hour has scarcely changed in spite of the work absorbed in driving the supercharger.

Another outstanding feature in Table I is the large reduction in drag of the modern designs.

An analysis of this drag is given below:—

TABLE III.

	Drag at 100ft./sec. lb. SE5.	Spitfire.
Wings	28	20
Wing bracing	15	—
Body and cooling	44	39
Tail surface	7	4
Undercarriage	16	—
Total ...	110	63

The absence of external bracing and the use of a retractable undercarriage alone account for a 30 per cent. reduction in drag, the remainder being due to the provision of smoother surfaces. Of special interest is the fact that the combined body and cooling drag of the Spitfire is 10 per cent. less than that of the 1917 machine in spite of the seven-fold increase in power output.

This reduction in drag also accounts for the fact that the modern machine for the same percentage of fuel weight has a 40 per cent. better range and a very much greater cruising speed.

Of course the higher wing loading automatically leads to an increase in the landing and take-off speeds. With the help of flaps and variable pitch propellers, however, this increase has been kept within permissible bounds. Both these features are of relatively modern development and without their help prohibitive air fields would be required.

We have dealt so far with aerodynamic and power plant improvement only. A glance at Table II shows, however, that the structural engineer has also taken a hand. Thus the metal structure of the robust Spitfire with a primary load factor of 10 forms a slightly smaller percentage of lb. total aircraft weight than the wood and canvas of the S.E.5 with a load factor of only 6. It is, however, in the large machines that the structural engineer, by the adoption of revolutionary designs, has made most progress. It used to be thought that the percentage structural weight must necessarily increase with the total weight of the machine. Table II shows this increase for the Handley Page 0/400. For the Lancaster, however, the percentage structure weight is practically back at the S.E.5 value. This is not only due to the employment of new materials as

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such, but rather to the employment of the material to better advantage so that the percentage of lowly stressed materials is reduced to the utmost. It is here that elastic theory, combined with refined practical testing, both on the ground and in the air, has made tremendous strides. Additional problems successfully tackled cover structural vibrations (especially those set up by aerodynamic forces or flutter), stability and control. As regards the last two factors, however, much more remains to be done and there is room for a wholesale improvement in the method of attack, especially the co-ordination of experiments in flight.

As regards problems of the immediate future, high altitude flying takes the front rank. Economic cruising under these conditions calls urgently for further developments in laminar flow aerofoils, whilst high speed flight will only become possible if the increase in drag associated with the shock wave can be reduced.

It may well be that the whole layout of such high altitude aircraft will be different from what we have been accustomed. In the future, the thermo-dynamic problems of the engine will also become aerodynamic and the advent of jet propulsion will bring in its wake a host of new problems on stability and control.

The many new problems awaiting us are largely interdependent and success in dealing with them depends on assembling and co-ordinating all efforts not only of a single team but of many teams of workers. It is the duty of the research director to weld these parts together, and for this purpose it is essential that each research worker should know exactly why the work is being done and should be convinced of its value. There is no single or simple formula by which to determine the best method of handling research. Confidence of the staff in their leaders will, however, overcome most difficulties and conserve that enthusiasm so essential to research.

LIST OF SELECTED TRANSLATIONS.

No. 67.

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		AERO AND HYDRODYNAMICS.
2069	——	*On the Theory of the Unsteady Two-Dimensional Compression Shock.* (Ing. Archiv., Vol. 14, No. 1, 1943, pp. 14-20.)
2070	Schmidt, K.... ...	*The Experimental Solution of Two-Dimensional Potential Problems by Electrical Dipole Fields.* (Ing. Archiv., Vol. 14, No. 1, 1943, pp. 30-52.)
2071	Schultz-Grunow, F...	*Non-Steady Spherically Symmetrical Gas Motion and Non-Steady Gas Flow in Nozzles and Diffusers.* (Ing. Archiv., Vol. 14, No. 1, 1943, pp. 21-25.)
2073	Buri, A.	*A Method of Calculation for the Turbulent Boundary Layer with Accelerated and Retarded Basic Flow.* (Thesis No. 652, Federal Technical College, Zurich, 1931.)
2074	——	*Some Applications for the Method of Hydraulic Analogy.* (Pub. Sci. et Tech. du Min. de l'Air, No. 144, 1939, pp. 43-77.)
		AIRCRAFT AND ACCESSORIES.
2089	——	*Wing Nose De-Icing by Endless Belt Dipping Process. German Patent* 720,670. (Flugsport, Vol. 34, No. 14, 8/7/42, p. 129.)
2090	Focke	*Helicopter Elevator Controls. German Patent* 683,137. (Flugsport, Vol. 32, No. 1, 3/1/40, p. 75.)
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2068	——	*Rapid Determination of Magnesium Content of Al./Mg. Alloys.* (Z.V.D.I., Vol. 86, Nos. 35-36, 5/9/42, p. 558.)
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TRANSLATION NUMBER AND AUTHOR.		TITLE AND REFERENCE.
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2075	Pfau, H.	*Geared-Down Revolution Counter for Ultra High Speeds.* (Luftwissen, Vol. 7, No. 12, Dec., 1940, pp. 424-426.)
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2062	Shimoyama, Y. ...	*Vibration of a Running Belt.* (Trans. Soc. Mech. Engineering, Japan, Vol. 6, No. 23, May, 1940.)
2066	——	*The Drawing of Tough Metals Through Convergent Conical Dies.* (Ing. Archiv., Vol. 13, No. 8, 1943, pp. 342-354.)
2067	——	*Determination of Lowest Natural Bending Frequency of Axial Flow Compressor Blades.* (Mitt. der Deutschen Akad. Luftfahrtforschung, No. 1, May, 1942.)
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2059	Trutnovsky, K. ...	*Slot and Labyrinth Seals.* (Z.V.D.I., Vol. 83, No. 29, 22/7/39, pp. 857-858.)
2064	Junkers	*Simple Device for the Cold Bending of Light Alloy Tubes.* (Der Flieger, Vol. 22, No. 10, October, 1943, p. 308.)
2091	Dornier	*Combination of Corrugated and Plain Metal Sheets. German Patent* 685,266. (Flugsport, Vol. 32, No. 1, 3/1/40, p. 74.)
2095	Junkers	*Simple Device for the Rapid Removal of Burrs in the Flared End Sections of Light Alloy Pipes.* (Der Flieger, Vol. 22, No. 10, October, 1943, p. 308.)

TITLES AND REFERENCES OF ARTICLES AND PAPERS SELECTED FROM PUBLICATIONS REVIEWED IN R.T.P.3.

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THEORY AND PRACTICE OF WARFARE.

Training and Organisation.

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13	18315	G.B.	*The Air War in* 1943. (F. A. de V. Robertson, Flight, Vol. 44, No. 1,827, 30/12/43, pp. 725-731.)
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			Strategy and Tactics.
15	17216	G.B.	*Air Force Targets—XXIV.* (The Engineer, Vol. 175, No. 4,587, 10/12/43, pp. 458-461.)
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17	17407	U.S.A. ...	*Attack by Glider.* (J. Stuart, Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, pp. 26-27, 98-200.)
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23	17558	U.S.A. ...	*Limitation of Air Warfare.* (H. S. Leroy, Air Law Review, Vol. 12, No. 1, January, 1941, pp. 19-33.)
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30	17921	U.S.A. ...	*Fighting Line-Abreast (Successful Fighter Plane Tactics Used in Defence of Malta).* (J. L. Lowrey, Aviation, Vol. 42, No. 10, October, 1943, pp. 192-193, 314, 321.)
31	17999	U.S.A. ...	*Bombing the American Way (Tactics and Strategy)—Part II.* (E. E. Miller, Aviation, Vol. 42, No. 9, Sept., 1943, pp. 118-119, 333-341.)
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40	17458	U.S.A. ...	*Vega's "Chin Turret" (Photo).* (American Aviation, Vol. 7, No. 11, 1/11/43, p. 26.)
41	17470	G.B.	*Emergency Pressure Device for Operating Hydraulic System (Cartridge).* (Inter. Avia., No. 884-885, 14/9/43, p. 12.)
42	17585	G.B.	*A Metallurgical Study of Enemy Aircraft Components (Diaphragm Capsules and Bellows Fittings of Control Units and Tubing from Bourdon Gauge) (M.A.P. Reports).* (Metal Industry, Vol. 63, No. 25, 17/12/43, pp. 395-396.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
43	17599	Germany ...	*The Messerschmitt Monostrut Landing Wheel as a Precursor of the Retractable Undercarriage.* (N. Eickel, Der Deutsche Sportflieger, Vol. 10, No. 10, Oct., 1943, pp. 162-163.)
44	17615	U.S.A. ...	*Bullet Proof Glass for Flying Fortresses (2 in. Thick, 18 lb./sq. foot, Perfect Against .3 in. Cal. Gun at 100 feet).* (Inter. Avia., No. 889-890, 16/10/43, p. 12.)
45	17770	G.B.	*Protecting German Oil Tanks Against Air Attack (German Methods).* (Petroleum Times, Vol. 47, No. 1,209, 27/11/43, p. 659.)
46	17812	U.S.A. ...	*Converting Airacobra into a Two-Place Trainer (Photo).* (American Aviation, Vol. 7, No. 12, 15/11/43, p. 31.)
47	17820	G.B.	*Synthetics in Aircraft.* (J. Seaman, Mechanical World, Vol. 114, No. 2,971, 10/12/43, pp. 670-673.)
48	17896	G.B.	*Anodic Films on Aluminium Parts of German Aircraft (M.A.P. Reports).* (Metal Industry, Vol. 63, No. 26, 24/12/43, p. 412.)
49	17905	U.S.A. ...	*Design Analysis of the Fleetwings B.T.-12.* (D. Baker, Aviation, Vol. 42, No. 10, October, 1943, pp. 119-132, 356.)
50	17919	U.S.A. ...	*Air Corps Materials (Data Sheet).* (Aviation, Vol. 42, No. 10, October, 1943, p. 183.)
51	17920	U.S.A. ...	*Air Corps Standards—Tube Fittings A.N. 811 (Data Sheet).* (Aviation, Vol. 42, No. 10, Oct., 1943, p. 185.)
52	17993	Canada ...	*Comparison of Structural Details of Leading German Aircraft (Part I).* (Commercial Aviation, Vol. 5, No. 9, September, 1943, pp. 90-100.)
53	18009	U.S.A. ...	*Army Air Force Standards (Data Sheets).* (Aviation, Vol. 42, No. 9, Sept., 1943, pp. 177-192.)
54	18080	U.S.A. ...	*Development of the Heinkel III Bomber.* (M. W. Bourdon, Automotive and Aviation Industries, Vol. 89, No. 10, 15/11/43, pp. 24-25, 166.)
55	18091	U.S.A. ...	*Design and Development of the North American Aviation Trainer Series (Abstract from S.A.E Paper).* (R. Rund, Automotive and Aviation Industries, Vol. 89, No. 10, 15/11/43, pp. 35, 98.)
56	18093	U.S.A. ...	*Comparison of Hydraulic and Electrical Accessory Systems in Aircraft (Weight Analysis). (Abstract of S.A.E. Paper.)* (W. C. Trautman and R. E. Middleton, Automotive and Aviation Industries, Vol. 89, No. 10, 15/11/43, p. 102.)
57	18127	G.B.	*"Uniframe" Construction.* (L. R. Morphew, The Aeroplane, Vol. 65, No. 1,700, 24/12/43, p. 733.)
58	18198	U.S.A. ...	*Passive Defence—The Protective Armouring of Military Aircraft.* (H. J. Alter, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-19.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
59	18202	U.S.A.	*Magnesium in German Aircraft.* (H. W. Schmidt, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-14.)
60	18413	U.S.A.	*New Turrets on American Heavy Bombers.* (Automotive and Aviation Industries, Vol. 89, No. 9, 1/11/43, pp. 26-27.)
61	18428	U.S.A.	*New Type of Light-weight Flooring Used in the Mars Transport (Laminated Paper Base Phenolic Plastic).* (Aeroplane, Vol. 66, No. 1,702, 7/1/44, p. 19.)
62	19455	U.S.A.	*Boeing B. 17 (New Nose Turret and External Bomb Racks).* (Inter. Avia., No. 891-892, 30/10/43, pp. 11-12.)
			Special Equipment.
63	17094	G.B. ...	*Anti-Icing System Uses Engine Exhaust Heat.* (H. W. Perry, Flight, Vol. 44, No. 1,823, 2/12/43, p. 618.)
64	17174	U.S.A.	*Portable Searchlight for Army and Navy.* (Industrial and Engineering Chemistry (News Edition), Vol. 21, No. 20, 25/10/43, p. 1726.)
65	17300	G.B. ...	*Portable Runways.* (Aeroplane, Vol. 65, No. 1,698, 10/12/43, p. 667.)
66	17403	U.S.A.	*Parachute Flares and Photo Flash Bombs.* (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, p. 130.)
67	17454	G.B. ...	*Consolidated De-Icing System (Exhaust).* (Trade and Engineering Times, Vol. 53, No. 956, Oct., 1943, p. 35.)
68	17497	U.S.A.	*Automatic Pilot for Bomb Runs.* (Inter. Avia., No. 888, 6/10/43, pp. 18-19.)
69	17579	G.B. ...	*Special Arms Container Dropped by Parachute (Photo).* (Flight, Vol. 44, No. 1,825, 16/12/43, p. 658.)
70	17594	G.B. ...	*Small Compressed Air Unit.* (Engineer, Vol. 176, No. 4,588, 17/12/43, p. 490.)
71	17681	U.S.A.	*Parachutes in Tropics Protected by Air Conditioning.* (Journal of the Franklin Institute, Vol. 236, No. 3, September, 1943, pp. 326-327.)
72	17916	U.S.A.	*Exhaust Anti-Icer System Developed by Consolidated Vultee Aircraft Corp. (Design Detail).* (Aviation, Vol. 42, No. 10, October, 1943, p. 177.)
73	17926	U.S.A.	*Portable Heatable Oil Tank.* (Aviation, Vol. 42, No. 10, October, 1943, p. 217.)
74	17995	Canada	*Plastic Megaphones Used by U.S. Marine Corps.* (Commercial Aviation, Vol. 5, No. 9, September, 1943, p. 114.)
75	18115	U.S.A.	*Paper Cargo Parachute.* (American Aviation, Vol. 7, No. 13, 1/12/43, p. 42.)
76	18270	G.B. ...	*German Containers Dropped by Parachute (Photo).* (Flight, Vol. 45, No. 1,828, 6/1/44, p. 13.)

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77	18279	U.S.A.	...	*Life Jacket Dye Marker (Use of Fluorescein-Yellow Patch Visible Several Miles).* (Industrial Engineering and Chemistry (News Edition), Vol. 21, No. 21, 10/11/43, p. 1807.)
78	18298	G.B. ...	...	*A Portable Aspirator for Gas Sampling.* (H. C. Stephenson, Chemistry and Industry, Vol. 63, No. 1, 1/1/44, pp. 3-4.)
79	18460	G.B. ...	...	*Device for Cutting Barrage Balloon Cables.* (Inter. Avia., No. 891-892, 30/10/43, p. 17.)

Armament and Explosives.

80	17088	Germany	...	*Rockets as Secret Weapons—Some German Rocket Experiments and Developments.* (Flight, Vol. 44, No. 1,823, 2/12/43, p. 605.)
81	17090	G.B. ...	...	*Rocket Research—An Account of Experiments Carried Out in Scotland from 1934 to 1939.* (J. J. Smith and J. Dennis, Flight, Vol. 44, No. 1,823, 2/12/43, pp. 610-613.)
82	17305	G.B. ...	...	*75 mm. Cannon Mounted on Mitchell Two-Motor Aircraft.* (Aeroplane, Vol. 65, No. 1,698, 10/12/43, pp. 660, 664.)
83	17395	U.S.A.	...	*The Sperry O-1 Bombsight (Photo).* (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, p. 70.)
84	17410	U.S.A.	...	*New Armament for Liberator (Photo).* (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, p. 45.)
85	17468	U.S.A.	...	*Major Improvements in Fire-Power Since Last War.* (American Aviation, Vol. 7, No. 10, 15/10/43, p. 32.)
86	17537	Germany	...	*Unexploded Bomb Disposal (Photographs).* (Luftwelt, Vol. 10, No. 20, 15/10/43, pp. 402-403.)
87	17567	G.B. ...	...	*Fortress Evolution (from Blisters to Power-Operated Turrets, Limited Bomb Load).* (Flight, Vol. 44, No. 1,825, 16/12/43, pp. 662-663.)
88	17593	U.S.A.	...	*Improved American Aircraft Armament.* (Engineer, Vol. 176, No. 4,588, 17/12/43, p. 492.)
89	17595	G.B. ...	...	*Rocket Attack.* (Engineer, Vol. 176, No. 4,588, 17/12/43, p. 486.)
90	17637	U.S.A.	...	*Bomber Training Device (Acoustic Recorder for Situation of Impact on Remote Ranges).* (Inter. Avia., No. 878, 29/7/43, p. 11.)
91	17652	U.S.A.	...	*The Breaking of Multiple Bonds and the Primary Detonating Explosives.* (Leroy R. Carl, Journal of the Franklin Institute, Vol. 235, No. 6, June, 1943, pp. 553-575.)
92	17666	U.S.A.	...	*The Horizontal Path Along the Earth's Surface of a Projectile or Plane Under Constant Tangential Acceleration.* (W. S. Kimball, Journal of the Franklin Institute, Vol. 236, No. 1, July, 1943, pp. 67-79.)

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93	17777	U.S.A. ...	*The Calibre* .50 *Machine Gun.* (J. Kirk, Army Ordnance, Vol. 25, No. 141, Nov.-Dec., 1943, p. 564.)
94	17781	Germany ...	*The Armament of the Focke-Wulf* 190 *A*-3 *Aircraft.* (Army Ordnance, Vol. 25, No. 141, Nov.-Dec., 1943, p. 608.)
95	17783	U.S.A. ...	*High Speed Tractors for Guns* (*Photos*). (Army Ordnance, Vol. 25, No. 141, Nov.-Dec., 1943, p. 583.)
96	17784	U.S.A. ...	*Convertible Small Arms—The Evolution of Hand Weapons for Semi- and Full-Automatic Fire.* (V. A. Scher, Army Ordnance, Vol. 25, No. 141, Nov.-Dec., 1943, pp. 584-587.)
97	17845	Germany ...	*German Six-Barrelled Rocket Gun Used on the Russian Front* (*Photo*). (Flight, Vol. 44, No. 1,826, 23/12/43, p. 687.)
98	18017	Japan ...	*Japanese Bombsight* (*Photo*). (Aviation, Vol. 42, No. 9, Sept., 1943, p. 270.)

Military Types of Aircraft (G.B. and Australia).

99	17096	Australia ...	*Australian Single - Seater Fighter — Boomerang* (*Photo*). (Flight, Vol. 44, No. 1,623, 2/12/43, p. 620.)
100	17296	G.B.	*R.A.F. Flying Boats,* 1918-1943 (*Photos*). (Aeroplane, Vol. 65, No. 1,697, 3/12/43, pp. 640-641.)
101	17392	G.B.	*Bristol Blenheim IV* (*Recognition Details*). (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, p. 69.)
102	17414	Canada ...	*Handling the Anson V Trainer.* (R. A. Keith, Canadian Aviation, Vol. 16, No. 10, Oct., 1943, pp. 53-55.)
103	17492	G.B.	*Bristol Beaufighter.* (Inter. Avia., No. 888, 6/10/43, pp. 1, 14-15.)
104	17840	G.B.	*Avro Lancaster II* (*four* 1,650 *h.p. Bristol Hercules XVI Motors*) (*Photos*). (Aeroplane, Vol. 65, No. 1,699, 17/12/43, pp. 698-699.)
105	17842	G.B.	*The Armstrong-Whitworth Ensign* (*Recognition Details*). (Aeroplane, Vol. 65, No. 1,699, 17/12/43, p. 703.)
106	17965	G.B.	*The Percival Proctor* (*All-Wood Construction: Construction and Manufacture of Fuselage and Wings*). (W. E. Goff, Aircraft Production, Vol. 6, No. 63, January, 1944, pp. 5-12.)
107	18016	G.B.	*Halifax II Features Higher Speed.* (Aviation, Vol. 42, No. 9, Sept., 1943, p. 232.)
108	18249	G.B.	*Mosquito Undercarriage Lag* (*Photo*). (Inter. Avia., Vol. —, No. 881, 19/8/43, p. 1.)
109	18269	G.B.	*Looking Back* (*Review of Aircraft Types*—1943). (Flight, Vol. 45, No. 1,828, 6/1/44, pp. 7-12.)

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110	18277	G.B., U.S.A. ...	*Aircraft in Flying Attitudes* (*Spitfire IX, Hellcat, Mustang, Mosquito*)—*Recognition Details.* (Flight, Vol. 45, No. 1,828, 6/1/44, p. a-b.)
111	18322	G.B.	*Some Aeroplanes of the Year* 1943 (*Photos*). (The Aeroplane, Vol. 65, No. 1,701, 31/12/43, pp. 756-757.)

Military Types of Aircraft (U.S.S.R.).

112	17291	U.S.S.R. ...	*MBR-2 Reconnaissance Flying Boat.* (Aeroplane, Vol. 65, No. 1,697, 3/12/43, p. 633.)
113	17480	U.S.S.R. ...	*New Russian Military Types* (*Yak-9, Lagg-5, MBR-6*). (Inter. Avia., No. 884-885, 14/9/43, pp. 22-23.)
114	17487	U.S.S.R. ...	*Lagg-3 Fighter.* (Inter. Avia., No. 888, 6/10/43, pp. 10-11.)
115	17569	U.S.S.R. ...	*Russian Single-Seater Fighter—Mig-3* (*Recognition Details*). (Flight, Vol. 44, No. 1,825, 16/12/43, p. 666.)
116	17617	U.S.S.R. ...	*Lagg-3 Fighter* (*Silhouette*). (Inter. Avia., No. 889-890, 16/10/43, p. 1.)
117	17640	U.S.S.R. ...	*Lagg-5 Single-Seat Fighter.* (Inter. Avia., No. 878, 29/7/43, p. 13.)
118	18117	U.S.S.R. ...	*Tupolev PS-35 Transport Aircraft* (*Photo*) (*Two* 850 *h.p. M.* 85 *Motors*). (The Aeroplane, Vol. 65, No. 1,700, 24/12/43, p. 714.)
119	18268	U.S.S.R. ...	*Russian Fighter—Yak-1* (*Photo*). (Flight, Vol. 45, No. 1,828, 6/1/44, p. 4.)
120	18425	G.B.	*Aeroplanes of the Red Air Forces—III* (*Silhouettes*). (Aeroplane, Vol. 66, No. 1,702, 7/1/44, p. 17.)

Military Types of Aircraft (U.S.A.).

121	17091	U.S.A. ...	*Lockheed Lodestar* (*C-56 and C-57*) (*Recognition Details*). (Flight, Vol. 44, No. 1,823, 2/12/43, p. 614.)
122	17325	U.S.A. ...	*Curtiss AT-9* (*Jeep*) (*Recognition Details*). (Flight, Vol. 44, No. 1,824, 9/12/43, pp. a-b.)
123	17326	U.S.A. ...	*Beechcroft AT-10* (*Wichita*) (*Recognition Details*). (Flight, Vol. 44, No. 1,824, 9/12/43, pp. a-b.)
124	17391	U.S.A. ...	*Lockheed Lightning* (*Recognition Details*). (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, p. 68.)
125	17396	U.S.A. ...	*Douglas "Bolo"* (*B-18A*) (*Photo*). (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, p. 71.)
126	17399	U.S.A. ...	*Construction of the Bell Airacobra* (*P-39*) (*Detail Drawings*). (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, p. 116.)
127	17413	U.S.A. ...	*Douglas Skytrain for Carrying Troops and Equipment.* (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, pp. 52-53, 161.)
128	17473	U.S.A. ...	*A-36 Invader* (*P-51 Mustang*). (Inter. Avia., No. 884-885, 14/9/43, pp. 16-17.)
129	17474	U.S.A. ...	*Torpedo Bomber "Sea Wolf."* (Inter. Avia., Vol. —, No. 884-885, 14/9/43, p. 17.)

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130	17486	U.S.A. ...	*North American B25C "Mitchell" Fuselage Nose (Photo).* (Inter. Avia., No. 884-885, 14/9/43, p. 1.)
131	17488	U.S.A. ...	*Lockheed-Vega PV-1 (Long Range Patrol Bomber) (Photo).* (Inter. Avia., No. 888, 6/10/43, p. 1.)
132	17601	U.S.A. ...	*Design Details of Liberator III (Rear Fuselage Interior, Tail Turret, Ground Drift Indicator).* (Der Deutsche Sportflieger, Vol. 10, No. 10, Oct., 1943, p. 163.)
133	17602	U.S.A. ...	*Republic "Thunderbolt" (Photographs).* (Der Deutsche Sportflieger, Vol. 10, No. 10, Oct., 1943, p. 166.)
134	17607	U.S.A. ...	*Taylocraft Light Aeroplane "Auster" for Liaison and Communication Duties.* (Inter. Avia., No. 889-890, 16/10/43, pp. 9-10.)
135	17609	U.S.A. ...	*Martin Marauder III (B-26C) Medium Bomber—I.* (Inter. Avia., No. 889-890, 16/10/43, pp. 10-11.)
136	17614	U.S.A. ...	*Consolidated B-24H Long Range Bomber (Liberator Development).* (Inter. Avia., No. 889-890, 16/10/43, pp. 11-12.)
137	17632	U.S.A. ...	*Truman Report on American Military Aircraft.* (Inter. Avia., No. 878, 29/7/43, pp. 8-10.)
138	17636	U.S.A. ...	*Martin PBM-3 "Mariner" Flying Boat.* (Inter. Avia., No. 878, 29/7/43, p. 11.)
139	17805	U.S.A. ...	*Martin "Mars" for U.S. Navy (Photo).* (American Aviation, Vol. 7, No. 12, 15/11/43, p. 24.)
140	17833	U.S.A. ...	*Boeing B-17 G Fortress (New Improved Version).* (Aeroplane, Vol. 65, No. 1,699, 17/12/43, p. 689.)
141	17848	U.S.A. ...	*Boeing 314-A (Clipper) (Recognition Details).* (Flight, Vol. 44, No. 1,826, 23/12/43, p. 694.)
142	17849	U.S.A. ...	*Boeing Sea Ranger (Recognition Details).* (Flight, Vol. 44, No. 1,826, 23/12/43, p. 695.)
143	18023	U.S.A. ...	*Design Detail of Consolidated Vultee PBY Catalina.* (Aviation, Vol. 42, No. 9, Sept., 1943, p. 187.)
144	18119	U.S.A. ...	*Douglas C-54A Skymaster (Photo).* (The Aeroplane, Vol. 65, No. 1,700, 24/12/43, p. 720.)
145	18123	U.S.A. ...	*R.A.F. Fortresses in the Battle of Atlantic (Photos).* (The Aeroplane, Vol. 65, No. 1,700, 24/12/43, pp. 726-727.)
146	18237	U.S.A. ...	*Grumman Hellcat Ship-Based Fighter.* (Inter. Avia., No. 881, 19/8/43, p. 10.)
147	18311	U.S.A. ...	*America's New Bombers—B29.* (Flight, Vol. 44, No. 1,827, 30/12/43, p. 721.)
148	18312	U.S.A. ...	*Ryan PT-25 (Recognition Details).* (Flight, Vol. 44, No. 1,827, 30/12/43, p. 722.)
149	18313	U.S.A. ...	*Interstate L-6 (Recognition Details).* (Flight, Vol. 44, No. 1,827, 30/12/43, p. 723.)
150	18321	U.S.A. ...	*The Beech Kansas (Recognition Details).* (The Aeroplane, Vol. 45, No. 1,701, 31/12/43, p. 761.)
151	18415	U.S.A. ...	*Development and Engineering Features of Lockheed P-38 Fighter.* (Automotive and Aviation Industries, Vol. 89, No. 9, 1/11/43, pp. 32-36.)

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152	18431	U.S.A. ...	*Flying Fortress with New "Chin Turret."* (U.S. Air Services, Vol. 28, No. 11, November, 1943, p. 34.)
153	18462	U.S.A. ...	*Piper PT Trainer (Photograph).* (Inter. Avia., No. 891-892, 30/10/43, p. 1.)
154	18463	U.S.A. ...	*North American P-51B "Mustang II" Fighter (Photographs).* (Inter. Avia., No. 891-892, 30/10/43, p. 1.)

Military Types of Aircraft (Germany).

155	17288	Germany ...	*Reports of New Heinkel Four-Motor Aircraft.* (Aeroplane, Vol. 65, No. 1,697, 3/12/43, pp. 630-631.)
156	17294	Germany ...	*The Me. 323 Six-Motor Transport (Photo).* (Aeroplane, Vol. 65, No. 1,697, 3/12/43, p. 636.)
157	17298	Germany ...	*The Dornier Do. 17P (Recognition Details).* (Aeroplane, Vol. 65, No. 1,697, 3/12/43, pp. 648-649.)
158	17306	Germany ...	*Dornier 17P with a Hook for Glider Towing (Photo).* (Aeroplane, Vol. 65, No. 1,698, 10/12/43, p. 665.)
159	17473	Germany ...	*Messerschmitt Types (Me. 109F, 109G, 210A1).* (Inter. Avia., No. 884-885, 14/9/43, p. 20.)
160	17580	Germany ...	*Me. 210 (Photo).* (Flight, Vol. 44, No. 1,825, 16/12/43, p. 658.)
161	17618	Germany ...	*Ju. 87D Dive Bomber.* (Inter. Avia., No. 889-890, 16/10/43, p. 18.)
162	17619	Germany ...	*Me. 410 Long Range Fighter.* (Inter. Avia., No. 889-890, 16/10/43, p. 18.)
163	17620	Germany ...	*Siebel Si. 204 Small Transport.* (Inter. Avia., No. 889-890, 16/10/43, p. 19.)
164	17647	Germany ...	*Junkers Ju. 905 with Loading Ramp (Photo).* (Inter. Avia., No. 878, 29/7/43, Frontispiece.)
165	18022	Germany ...	*Design Detail Drawings of Ju. 88.* (Aviation, Vol. 42, No. 9, Sept., 1943, p. 189.)
166	18026	Germany ...	*Design Details of Junkers 88.* (Aviation, Vol. 42, No. 9, Sept., 1943, p. 189.)
167	18118	Germany ...	*German Reconnaissance Aircraft Me. 210 (Photo).* (The Aeroplane, Vol. 65, No. 1,700, 24/12/43, p. 717.)
168	18240	Germany ...	*Dornier Do. 217 E2 Level and Dive Bomber.* (Inter. Avia., No. 881, 19/8/43, p. 8.)
169	18314	Germany ...	*Heinkel He. 177 Bomber (Photo).* (Flight, Vol. 44, No. 1,827, 30/12/43, p. 724.)
170	18461	Germany ...	*Focke-Wulf F.W. 290 Fighter Fitted with B.M.W. 802 Engine (2,000 h.p. 18-Cylinder Radial).* (Inter. Avia., No. 891-892, 30/10/43, p. 18.)

Military Types of Aircraft (Italy).

171	17292	Italy	*Cant Z, 506 B Airone Torpedo Bomber (Photo).* (Aeroplane, Vol. 65, No. 1,697, 3/12/43, p. 634.)
172	17482	Italy	*Caproni Ca. 331 Light Bomber.* (Inter. Avia., No. 884-885, 14/9/43, pp. 23 and I.)
173	17483	Italy	*Reggiane Re. 2,003 Two-Seater Fighter.* (Inter. Avia., No. 884-885, 14/9/43, pp. 23-27 and I.)

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174	17624	Italy	*Reggiane Re.* 2,001 *Single-Seat Fighter.* (Inter. Avia., No. 889-890, 16/10/43, p. 20.)
175	17625	Italy	*Fiat R.S.* 14 *Seaplane.* (Inter. Avia., No. 889-890, 16/10/43, p. 20.)
176	17641	Italy	*Piaggio P.* 108*B Heavy Bomber.* (Inter. Avia., No. 878, 29/7/43, p. 14.)
177	17642	Italy	*Reggiane Re.* 2,000 *Fighter (Catapult Take-off).* (Inter. Avia., No. 878, 29/7/43, p. 14.)
178	18245	Italy	*Macchi C.* 202 *Fighter.* (Inter. Avia., No. 881, 19/8/43, p. 12.)

Military Types of Aircraft (Japan).

179	17394	Japan ...	*Clipped Wing Mitsubishi Zero (Photo).* (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, p. 70.)
180	17481	Japan ...	*New Japanese Types (Mitsubishi S-OO-*2 *Fighter, Rawanishi H-*02 *Flying Boat).* (Inter. Avia., No. 884-885, 14/9/43, p. 23.)
181	17570	Japan ...	*Mitsubishi KB-*98 *(Marigane II) (Recognition Details).* (Flight, Vol. 44, No. 1,825, 16/12/43, p. 667.)
182	17838	Japan ...	*Karvanishi H-*97-1 ("*Mavis*") *(Photo).* (Aeroplane, Vol. 65, No. 1,699, 17/12/43, p. 694.)
183	17844	Japan ...	*Clipped Wing Mitsubishi Zero (Photo).* (Flight, Vol. 44, No. 1,826, 23/12/43, p. 685.)
184	17918	Japan ...	*Design Details of Aichi* 99 *Dive Bomber.* (Aviation, Vol. 42, No. 10, October, 1943, pp. 178-179.)
185	18121	Japan ...	*Kawanishi H-*02 *Flying Boat (Photo).* (The Aeroplane, Vol. 65, No. 1,700, 24/12/43, p. 722.)

Military Types of Aircraft (France).

186	17622	France ...	*Bloch So.* 161 *Large Transport.* (Inter. Avia., No. 889-890, 16/10/43, p. 19.)
187	17623	France ...	*Mauboussin M.* 400 *Small Transport (Copy of DH* 89). (Inter. Avia., No. 889-890, 16/10/43, p. 20.)

Military Types of Aircraft (Switzerland).

188	17329	Switzerland ...	*The Farner W.F.* 12 *Two-Seater Trainer (Cirrus Engines, Shaft Drive, Tricycle Undercarriage).* (Flight, Vol. 44, No. 1,824, 9/12/43, p. 647.)
189	18317	Switzerland ...	*A Swiss Fighter C-*36. (Flight, Vol. 44, No. 1,827, 30/12/43, p. 733.)

Military Types of Aircraft (Sweden).

190	17455	Sweden ...	*New Swedish Aircraft.* (Trade and Engineering Times, Vol. 53, No. 956, Oct., 1943, p. 35.)
191	17648	Sweden ...	*J-*22 *Fighter (Silhouette).* (Inter. Avia., No. 878, 29/7/43, Frontispiece.)
192	18236	Sweden ...	*Svenska S.* 17 *Reconnaissance Plane.* (Inter. Avia., No. 881, 19/8/43, pp. 1-7.)

Gliders and Gliding.

193	16457	U.S.A. ...	*Waco CG-*4*A Powered Glider.* (Inter. Avia., No. 891-892, 30/10/43, pp. 12-13.)

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194	17289	U.S.A. ...	*Glider Amphibian—LRA-1 (Photo).* (Aeroplane, Vol. 65, No. 1,697, 3/12/43, p. 631.)
195	17324	Germany ...	*The Gotha 242 Twin-Boom Glider (Photo).* (Flight, Vol. 44, No. 1,824, 9/12/43, p. 642.)
196	17475	U.S.A. ...	*Waco Hadrian I Transport Glider.* (Inter. Avia., Vol. —, No. 884-885, 14/9/43, p. 17.)
197	17571	G.B.	*Jettisoning Weight—Effect on the Gliding Characteristics of Aircraft.* (P. F. Ashwood and J. M. N. Willis, Flight, Vol. 44, No. 1,825, 16/12/43, pp. 668-669.)
198	17621	Germany ...	*Gotha Go. 244 Powered Glider.* (Inter. Avia., No. 889-890, 16/10/43, p. 19.)
199	17837	G.B.	*New Modified Hotspur Glider (Photo).* (Aeroplane, Vol. 65, No. 1,699, 17/12/43, p. 694.)
200	17852	G.B.	*Maximum Gliding Distance of an Aircraft Produced by Jettisoning Load in a Forced Landing.* (T. B. A. Boughton, Flight, Vol. 44, No. 1,826, 23/12/43, p. 706.)
201	18254	Germany ...	*Jachtmann's 55-Hour Gliding Record.* (A. Juhre, Luftwelt, Vol. 10, No. 21, 1/11/43, p. 427.)

Troop Transport and Ambulance.

202	17485	G.B.	*Air Ambulances.* (Inter. Avia., No. 884-885, 14/9/43, pp. 29-30.)
203	17610	U.S.A. ...	*Douglas C-74 Large Transport (200,000 lb.).* (Inter. Avia., No. 889-890, 16/10/43, p. 11.)
204	17613	U.S.A. ...	*Lockheed C-69 "Constellation" Transport.* (Inter. Avia., No. 889-890, 16/10/43, p. 11.)
205	17633	U.S.A. ...	*Fairchild S-82 Transport.* (Inter. Avia., No. 878, 29/7/43, p. 10.)
206	17634	U.S.A. ...	*Waco C-62 Transport.* (Inter. Avia., No. 878, 29/7/43, p. 11.)
207	17635	U.S.A. ...	*Curtiss C-76 "Caravan" Transport.* (Inter. Avia., No. 878, 29/7/43, p. 11.)
208	17644	U.S.A. ...	*Office of War Information Report on Air Transport.* (Inter. Avia., No. 878, 29/7/43, pp. 17-18.)
209	17809	U.S.A. ...	*Seven Types of Plane now in Service with Air Transport Command.* (American Aviation, Vol. 7, No. 12, 15/11/43, p. 30.)

Carriers and Fleet Air Arm.

210	17448	G.B.	*Fleet Air Arm Aircraft.* (Trade and Engineering Times, Vol. 53, No. 956, Oct., 1943, p. 32.)
211	17564	U.S.A. ...	*Civil Liability of Aircraft Carriers Under the Canadian Law.* (B. V. Richardson, Air Law Review, Vol. 12, No. 4, October, 1941, pp. 345-355.)
212	17626	U.S.A. ...	*New American Aircraft Carriers.* (Inter. Avia., No. 889-890, 16/10/43, p. 21.)
213	17815	U.S.A. ...	*The M-1—Largest of the Navy's Non-Rigid Airships (Photo).* (American Aviation, Vol. 7, No. 12, 15/11/43, p. 46.)
214	18247	U.S.A. ...	*New American Aircraft Carriers.* (Inter. Avia., No. 881, 19/8/43, pp. 15-16.)

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215	18285	G.B. ...	... 1943—*The Decisive Year at Sea (Use of Carriers, Amphibian Vehicles, etc.).* (Engineer, Vol. 177, No. 4,591, 7/1/44, pp. 2-6.)

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216	17713	U.S.A.	... *New Carrier Current Air Raid Warning Device.* (Journal of the Franklin Institute, Vol. 235, No. 3, March, 1943, pp. 323-324.)
217	17773	U.S.A.	... *Guns Against Aircraft—Organization and Function of the Army's A.A. Command.* (J. A. Green, Army Ordnance, Vol. 25, No. 141, Nov.-Dec., 1943, pp. 549-551.)
218	18251	Germany	... *Equipment of Military Rescue Squads for Dealing with Civilian Air Raid Casualties.* (K. Scheurmann, Luftwelt, Vol. 10, No. 21, 1/11/43, pp. 410-413.)
219	18252	Germany	... *Hitler Youth Doing A.R.P. Work.* (Luftwelt, Vol. 10, No. 21, 1/11/43, pp. 414-421.)

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220	17327	G.B. ...	... *Tyre Changing (Rapid Removal).* (Flight, Vol. 44, No. 1,824, 9/12/43, pp. 643-644.)
221	17412	U.S.A.	... *The Spokane Army Air Depot for Servicing and Repairing Combat Aircraft.* (A. F. Speeth, Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, pp. 49-50.)
222	17423	Canada	... *Production by Repair—Salvaging Damaged Aircraft.* (J. I. Waddington, Canadian Aviation, Vol. 16, No. 10, Oct., 1943, pp. 82-84, 106.)
223	17426	Canada	... *Organization of Large Scale Aircraft Repair and Overhaul.* (Canadian Aviation, Vol. 16, No. 10, Oct., 1943, pp. 116-120.)

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224	17498	Switzerland ...	*New Aerodynamics Reports of the Zurich Technical High School (List).* (Inter. Avia., No. 888, 6/10/43, pp. 23-24.)
225	17799	France	... *Some Considerations on the Diminution of Resistance at Supersonic Speed by the Chilowsky Process.* (D. Riabouchinsky, Comptes Rendus, Vol. 208, No. 26, 26/6/39, pp. 2037-2040.)
226	18129	Germany	... *The Theory of Two Dimensional Gas Waves of Large Amplitude.* (H. Pfriem, Z.V.D.I., Vol. 86, No. 27-28, 11/7/42, p. 436.)
227	18235	Germany	... *Theoretical Introduction to Gas Dynamics (Book Review).* (R. Sauer, Schiff und Werft, Vol. 44-24, No. Heft. 21-22, November, 1943, p. 313.)
228	18486	U.S.A.	... *Induced Drag of a Twisted Wing.* (H. W. Sibert, Journal of Aeronautical Science, Vol. 10, No. 2, Feb., 1943, pp. 71-72.)

Wind Tunnels.

229	17490	U.S.A.	... *Wright Field High Altitude Wind Tunnel.* (Inter. Avia., No. 888, 6/10/43, p. 12.)

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230	17800	France	*High Speed Wind Tunnels and Their Application to Ballistic Research.* (E. Huguenard, La Technique Aeronautique, Vol. 15, No. 37, 15/11/27, pp. 346-355, and No. 38, 15/12/24, pp. 378-392.)
231	17911	U.S.A.	*Fundamentals of Wind Tunnel Control.* (R. R. Longwell, Aviation, Vol. 42, No. 10, October, 1943, pp. 162-163, 354-355.)
232	17930	U.S.A.	*Class-Room Wind Tunnel.* (Aviation, Vol. 42, No. 10, October, 1943, p. 253.)
233	18485	U.S.A.	*On the Design of the Contraction Cone for a Wind Tunnel.* (H. S. Tsien, Journal of Aeronautical Science, Vol. 10, No. 2, Feb., 1943, pp. 68-70.)

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234	17358	G.B. ...	*Experimental Fluid Dynamics Applied to Engineering Practice.* (G. A. Hawkins, Mechanical World, Vol. 114, No. 2,968, 19/11/43, pp. 579-582.)
235	17372	G.B. ...	*Experimental Fluid Dynamics Applied to Engineering Practice—III (Fluid Flow in Pipes, Wind Action on Buildings and Tidal Flow, Supersonic Wind Tunnels).* (G. A. Hawkins, Mechanical World, Vol. 114, No. 2,970, 3/12/43, pp. 658-661.)
236	17525	U.S.A.	*Use of Bentonite for Studying Fluid Flow.* (Scientific American, Vol. 169, No. 6, December, 1943, pp. 278-279.)
237	18130	Germany	*The Formation of Drops at Nozzles and the Disintegration of Fluid Jets.* (W. Ohnesorge, Z.V.D.I., Vol. 81, No. 16, 17/4/37, pp. 465-466.)
238	18335	G.B. ...	*Pipe Line Calculations for Industrial Water Supply.* (J. V. Brittain, Mechanical World, Vol. 114, No. 2,973, 24/12/43, pp. 732-733.)
239	18480	—— ...	*List of References on the Disintegration of Fluid Jets Falling Under the Action of Gravity.* (R.T.P. Bibliography No. 93, Jan., 1944.)

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240	17287	G.B. ...	*Boeing 314A Civil Flying Boat (Photo).* (Aeroplane, Vol. 65, No. 1,697, 3/12/43, p. 630.)
241	17404	U.S.A.	*A History of Curtiss Commercial Aircraft.* (F. D. Walker, Curtiss Fly Leaf, Vol. 26, No. 1, March-April, 1943, pp. 8-10, 30.)
242	17469	U.S.A.	*New 24-Passenger Douglas Planned.* (American Aviation, Vol. 7, No. 10, 15/10/43, p. 17.)
243	17578	U.S.A.	*The World's Largest Flying Boat—the 70-Ton Martin Mars (Photos).* (Flight, Vol. 44, No. 1,825, 16/12/43, pp. 656-660.)
244	17998	U.S.A.	*The Hammond Aeroplane (Winner of Dept. of Commerce Safety Competition in 1934).* (Aviation, Vol. 42, No. 9, Sept., 1943, p. 117.)

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245	18032	U.S.A. ...	*Flight Trainer which can be Built by Pre-Flight Students.* (Civil Aeronautics Journal, Vol. 4, No. 11, 15/11/43, pp. 150-151.)
246	18106	America ...	*Avro York—Makeshift British Air Liner.* (American Aviation, Vol. 7, No. 13, 1/12/43, p. 17.)
247	18239	U.S.A. ...	*Cessna "Loadmaster" Cargo Aeroplane.* (Inter. Avia., No. 881, 19/8/43, p. 10.)
248	18424	U.S.A. ...	*Bristol Transport Aircraft (Historical Review).* (Aeroplane, Vol. 66, No. 1,702, 7/1/44, pp. 12-15.)
			Civil Aviation and Air Cargo.
249	17227	U.S.A. ...	*Air Cargo: How Army Experience Will Benefit Post-War Air Transportation.* (O. P. Echols, S.A.E. Journal, Vol. 51, No. 11, November, 1943, pp. 17-19, 34-36.)
250	17307	G.B.	*Railways and Air Transport.* (Aeroplane, Vol. 65, No. 1,698, 10/12/43, p. 666.)
251	17425	Canada ...	*Canada in Post-War Aviation.* (T. Wayling, Canadian Aviation, Vol. 16, No. 10, Oct., 1943, pp. 94-96.)
252	17542	U.S.A. ...	*What is a Feeder Airline?* (J. H. Frederick and W. J. Hudson, Journal of Air Law and Commerce, Vol. 13, No. 1, January, 1942, pp. 54-60.)
253	17808	U.S.A. ...	*New York Port Authority Starts Planning for Trans-Ocean Traffic.* (American Aviation, Vol. 7, No. 12, 15/11/43, p. 26.)
254	17818	U.S.A. ...	*Requirements of a Local Air Transport System (Abstract).* (E. P. Warner, American Aviation, Vol. 7, No. 12, 15/11/43, p. 70.)
255	17835	G.B.	*The Case for the Established Air Lines.* (Aeroplane, Vol. 65, No. 1,699, 17/12/43, p. 692.)
256	17922	U.S.A. ...	*Air Transport Charts Routes to New Horizons.* (J. Parker Van Zandt, Aviation, Vol. 42, No. 10, October, 1943, pp. 198-200, 305-310.)
257	17964	U.S.A. ...	*Survey of U.S. Overseas Mail by the C.A.B. Research and Analysis Division (Seaborne Mail Considered as Base Cargo for Air Service).* (Civil Aeronautics Journal, Vol. 4, No. 10, 15/10/43, pp. 127-128.)
258	17986	U.S.A. ...	*Airline Accident Statistics,* 1938-*June,* 1943. (Civil Aeronautics Journal, Vol. 4, No. 10, 15/10/43, pp. 139-142.)
259	18031	U.S.A. ...	*New Devices for Air Traffic Control.* (W. A. M. Burden, Civil Aeronautics Journal, Vol. 4, No. 11, 15/11/43, p. 149.)
260	18120	G.B.	*Commonwealth Post-War Aviation Plans.* (The Aeroplane, Vol. 65, No. 1,700, 24/12/43, p. 720.)
261	18199	U.S.A. ...	*Engineering of Power Control and Altitude Selection in Airline Operation.* (R. D. Speas, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-10.)

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262	18248	G.B.	*S.B.A.C. Memorandum on Civil Aviation.* (Inter. Avia., No. 881, 19/8/43, pp. 18-20.)
263	18310	G.B.	*No Great Expectations (the Future of Air Transport and a Consideration of the Problems Involved).* (Flight, Vol. 44, No. 1,829, 30/12/43, pp. 720-721.)
264	18323	G.B.	*Organisation of New Swedish Air Line (S.I.L.A.).* (The Aeroplane, Vol. 65, No. 1,701, 31/12/43, p. 753.)
265	18324	G.B.	*U.K.-Australia Air Route.* (The Aeroplane, Vol. 65, No. 1,701, 31/12/43, p. 752.)
266	18366	U.S.A ...	*Economic Significance to Passenger Traffic of Central City Landings.* (C. E. McCollum, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 66-70.)
267	18474	Switzerland ...	*Civil Aviation via Polar Region.* (Inter. Avia., No. 891-892, 30/10/43, pp. 31-32.)
268	18473	Australia ...	*Australian Civil Aviation Plans.* (Inter. Avia., No. 891-892, 30/10/43, pp. 30-31.)

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269	17221	G.B.	*Direct Hydraulic System (Maintaining Sustained Pressure Without an Accumulator).* (Automobile Engineer, Vol. 33, No. 444, December, 1943, pp. 519-522.)
270	17225	G.B.	*Hydraulic Valve Actuation.* (Automobile Engineer, Vol. 33, No. 444, December, 1943, p. 527.)
271	17276	U.S.A. ...	*Aircraft Oil Systems—High Altitude Problems.* (H. E. Moerman, S.A.E. Journal, Vol. 51, No. 11, November, 1943, pp. 394-396, 407.)
272	17284	U.S.A. ...	*Converting To-day's Military Aeroplane Transports for Post-War Passenger and Cargo Use (Excerpts from Paper).* (W. J. Forster, S.A.E., Vol. 51, No. 11, Nov., 1943, pp. 29, 49-50.)
273	17290	G.B.	*Design of Post-War Aircraft.* (Roy Chadwick, Aeroplane, Vol. 65, No. 1,697, 3/12/43, p. 631.)
274	17421	Canada ...	*Conservation by Redesign—Simplifying Aircraft Standards.* (K. Edgar, Canadian Aviation, Vol. 16, No. 10, Oct., 1943, pp. 78, 100.)
275	17461	U.S.A. ...	*Flying Wheel (Design by J. A. Philpott).* (American Aviation, Vol. 7, No. 11, 1/11/43, p. 44.)
276	17489	U.S.A. ...	*Deyster-Hubbs Cargo Plane Project (Exchangeable Fuselage).* (Inter. Avia., No. 888, 6/10/43, p. 12.)
277	17810	U.S.A ...	*Aircraft Interior Decorating Analysed.* (E. J. Foley, American Aviation, Vol. 7, No. 12, 15/11/43, p. 80.)
278	17811	U.S.A. ...	*Four Basic Types of Post-War Plane Envisaged.* (G. B. Dobben, American Aviation, Vol. 7, No. 12, 15/11/43, pp. 31, 48-50.)
279	17909	U.S.A. ...	*Design Approach for Long Range Aircraft—Part II (Development of Flying Boats for Distance Runs).* (R. V. Boname, Aviation, Vol. 42, No. 10, October, 1943, pp. 153-155, 326-341.)

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280	17910	U.S.A.	...	*Super-Aluminium Alloys for Aircraft Structures—Part III (Study of Corrosion Resistance of New Artificially Aged Aluminium Alloys).* (K. R. Jackman, Aviation, Vol. 42, No. 10, October, 1943, pp. 156-161, 284-293.)
281	17984	U.S.A.	...	*Data on Plastics for Aircraft Use (New A.N.C. 17 Booklet).* (Civil Aeronautics Journal, Vol. 4, No. 10, 15/10/43, p. 133.)
282	17985	U.S.A.	...	*Plastic Parts on Aeroplanes (Chart).* (Civil Aeronautics Journal, Vol. 4, No. 10, 15/10/43, p. 133.)
283	18001	U.S.A.	...	*Design Approach for Long Range Aircraft—Part I (Wing and Power Loadings and Other Aerodynamic Characteristics).* (R. V. Boname, Aviation, Vol. 42, No. 9, Sept., 1943, pp. 139-143, 296-297.)
284	18007	U.S.A.	...	*Super-Aluminium Alloys for Aircraft Structures—Part II.* (K. R. Jackman, Aviation, Vol. 42, No. 9, Sept., 1943, pp. 168-177, 302-303.)
285	18196	U.S.A.	...	*Perspective Illustration as Applied to Aircraft Design and Production.* (A. M. Fitzpatrick, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-13.)
286	18220	U.S.A.	...	*Tension Joints in Aircraft Structures (Riveted Joints Analysis: Effect of Holes on the Tension Efficiency of 24S.T. Aluminium Alloy, etc.).* (C. H. Holleman, Preprints of 11th Annual Meeting of Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-7.)
287	18221	U.S.A.	...	*Progress in Aircraft Plywood,* 1941-1942. (T. D. Perry, Preprints of 11th Annual Meeting of Institute of Aeronautical Sciences, 27-29/1/43, pp. —.)
288	18483	U.S.A.	...	*Space Limitations and Optimum Conditions in Aircraft Spring Design.* (R. H. Carter, Journal of the Aeronautical Sciences, Vol. 10, No. 2, Feb., 1943, pp. 51-57.)
				Aircraft Testing.
289	17283	U.S.A.	...	*Philosophy of Flight Testing (Excerpts from Paper).* (J. Kendrick, S.A.E., Vol. 51, No. 11, Nov., 1943, pp. 29, 47-48.)
290	17522	U.S.A.	...	*New Electronically-Controlled Precision Testing Apparatus for Aircraft Propeller Governors.* (Scientific American, Vol. 169, No. 6, December, 1943, pp. 275-276.)
291	17756	U.S.A.	...	*Automatic Temperature Recording Control System (for Use in Flight Test Work, etc.).* (M. E. Moore, Transactions of the A.S.M.E., Vol. 65, No. 8, Nov., 1943, pp. 809-815.)
292	18088	U.S.A.	...	*Flight Testing with a Propeller Thrust Meter (Abstract of S.A.E. Paper).* (G. W. Brady, Automotive and Aviation Industries, Vol. 89, No. 10, 15/11/43, pp. 33-34.)

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293	18216	U.S.A. ...	*Experimental Investigations in Aircraft Dynamics (Experimental Vibration Studies).* (W. B. Bergen, Preprints of 11th Annual Meeting of Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-31.)
294	18217	U.S.A. ...	*Effects of Yielding and Perforations on Wing Tension Surfaces.* (R. K. Koegler and A. Schnitt, Preprints of 11th Annual Meeting of Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-44.)

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295	17303	G.B.	*Post-War Air Racing (including Review of Earlier Contests).* (Aeroplane, Vol. 65, No. 1,698, 10/12/43, pp. 672-673.)
296	17331	G.B.	*Atlantic Record.* (Flight, Vol. 44, No. 1,824, 9/12/43, p. 649.)
297	17416	Canada ...	*Best Speed for Climb.* (L. Sloan, Canadian Aviation, Vol. 16, No. 10, Oct., 1943, pp. 58-59.)
298	17495	Germany ...	*Lilienthal German Aviation Prizes (Recipients).* (Inter. Avia., No. 888, 6/10/43, p. 16.)
299	17900	G.B.	*The Lateral Stability of Aeroplanes (Derivative Calculation by the Lotz System).* (H. L. Price, Aircraft Engineering, Vol. 15, No. 178, December, 1943, pp. 345-351.)
300	17923	U.S.A. ...	*Cruise Control for Flying Efficiency. Part IV—Cruising Power Chart.* (R. D. Speas and others, Aviation, Vol. 42, No. 10, October, 1943, pp. 203-206, 350-351.)
301	18010	U.S.A. ...	*Cruise Control for Flying Efficiency. Part III—Power Control (Latest Methods of Cutting Engine Fuel Costs Through the Use of Meters, Charts and Calculators).* (R. D. Speas and others, Aviation, Vol. 42, No. 9, Sept., 1943, pp. 204-207, 310-312.)
302	18067	U.S.A. ...	*A New Method of Longitudinal Control for Aircraft by Use of an Adjustable Angle of Attack Balance.* (R. J. White, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-26.)
303	18215	U.S.A. ...	*Aerodynamic Considerations of Rotors in Hovering and Vertical Climb Conditions.* (C. H. Kaman, Preprints of 11th Annual Meeting of Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-19.)
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305	18364	U.S.A. ...	*Roof Landing Problems.* (J. M. Miller, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 37-50.)
306	18373	U.S.A. ...	*Frequency and Vibration Problems of Rotors.* (R. H. Prewitt and R. A. Wagnor, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 137-157.)
307	18374	U.S.A. ...	*Autogyro Rotor Longitudinal Stability.* (A. Klemin and others, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 158-183.)

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308	18426	G.B. ...	*The Speed Spiral (the Economic Aspects of Speed in Air Transport).* (Aeroplane, Vol. 66, No. 1,702, 7/1/44, pp. 18-19.)
309	18481	U.S.A. ...	*Three-Dimensional Wing Flutter Analysis.* (A. H. Flax, Journal of the Aeronautical Sciences, Vol. 10, No. 2, February, 1943, pp. 41-47.)
310	18482	U.S.A. ...	*Rate of Climb Calculations.* (G. Otten, Journal of the Aeronautical Sciences, Vol. 10, No. 2, Feb., 1943, pp. 48-50.)

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311	17419	Canada ...	*Radium Aids Night Flying.* (Canadian Aviation, Vol. 16, No. 10, Oct., 1943, pp. 70, 142.)
312	17462	U.S.A. ...	*Fragile Cargo Jettisoned in Special Wooden Boxes.* (American Aviation, Vol. 7, No. 10, 15/10/43, p. 78.)
313	17768	G.B. ...	*Paper Petrol Tanks.* (Petroleum Times, Vol. 47, No. 1,209, 27/11/43, pp. 658-659.)
314	17982	U.S.A. ...	*Flight Communications Service (Warning Pilots on Flying Conditions).* (Civil Aeronautics Journal, Vol. 4, No. 10, 15/10/43, p. 129.)
315	17988	Canada ...	*Aids to Aeronautical Navigation (Latest Developments in Pilot Aids).* (Commercial Aviation, Vol. 5, No. 9, Sept., 1943, p. 42.)
316	18012	U.S.A. ...	*American Airlines Turn and Bank Fixture (Allows Quick Installation and Removal).* (Aviation, Vol. 42, No. 9, Sept., 1943, p. 217.)
317	18417	U.S.A. ...	*Ice Tyre for Aeroplanes (Sharp Steel Lugs Grip Ice).* (Automotive and Aviation Industries, Vol. 89, No. 9, 1/11/43, p. 37.)
318	18418	U.S.A. ...	*Electronic Control for De-Icer System.* (Automotive and Aviation Industries, Vol. 89, No. 9, 1/11/43, pp. 37, 62.)
319	18459	U.S.A. ...	*Caterpillar Track Landing Gear (Dowty).* (Inter. Avia., No. 891-892, 30/10/43, pp. 14-15.)
320	18468	France ...	*Pressure Cabin of Improved Wood (Lyons Arsenal).* (Inter. Avia., No. 891-892, 30/10/43, p. 20.)

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321	17295	G.B. ...	*The Future of the Flying Boat (Saunders Roe Scheme).* (Aeroplane, Vol. 65, No. 1,697, 3/12/43, pp. 637-638.)
322	17297	G.B. ...	*Elements of Flying Boat Design (Review of Types).* (Aeroplane, Vol. 65, No. 1,697, 3/12/43, pp. 642-645.)
323	17566	G.B. ...	*Will There be a Place for the Flying Boat? (A Critical Review of the Saro Report.)* (Flight, Vol. 44, No. 1,825, 16/12/43, pp. 661-662.)
324	18275	G.B. ...	*The Case for the Flying Boat.* (H. Knowler, Flight, Vol. 45, No. 1,828, 6/1/44, p. 15.)
325	18465	France ...	*Latecoere* 631 *Giant Flying Boat—I.* (Inter. Avia., No. 891-892, 30/10/43, pp. 19 and I.)

Rotary Wing Aircraft.

326	17459	U.S.A. ...	*Piasecki's One-Man Helicopter.* (American Aviation, Vol. 7, No. 11, 1/11/43, p. 31.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
327	17466	U.S.A. ...	*Platt-Le Page Twin-Rotored Helicopter (Artist's Version).* (American Aviation, Vol. 7, No. 10, 15/10/43, p. 64.)
328	17568	G.B.	*More Rotating Wings (Recent U.S. Helicopter Designs).* (Flight, Vol. 44, No. 1,625, 16/12/43, p. 664.)
329	17638	U.S.A. ...	*Nash-Kelvinator Helicopter Projects.* (Inter. Avia., No. 878, 29/7/43, pp. 11-12.)
330	18213	U.S.A. ...	*Control of Helicopter Rotor.* (E. B. Wilford, Preprints of 11th Annual Meeting of Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-7.)
331	18214	U.S.A. ...	*A Method of Rapid Estimation of Helicopter Performance.* (Q. Wald, Preprints of 11th Annual Meeting of Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-15.)
332	18360	U.S.A. ...	*Army Experiences with Rotary Aircraft.* (E. S. Nichols, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 3-11.)
333	18361	U.S.A. ...	*Rotorcraft Patrols for Protection of Merchant Shipping (Proposals by Kellett Autogyro Corp.).* (Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 12-16.)
334	18362	U.S.A. ...	*Rotorcraft Drive Systems.* (J. M. Schuckers, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 17-27.)
335	18363	U.S.A. ...	*A New Parameter of Lifting Rotors.* (A. M. Young, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 28-36.)
336	18365	U.S.A. ...	*Commercial and Military Uses of Rotating Wing Aircraft.* (I. Sikorsky, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 51-65.)
337	18367	U.S.A. ...	*Mechanical Design in Rotary Aircraft.* (J. S. Pecker, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 71-84.)
338	18368	U.S.A. ...	*Gyroplanes and Combination Types.* (E. Burke Wilford, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 85-94.)
339	18369	U.S.A. ...	*Treatment of Performance on Rotors with Special Attention to Centre Cut-Outs.* (P. H. Stanley, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1943, pp. 95-106.)
340	18370	U.S.A. ...	*Stress Analysis of Rotor Blades.* (H. J. Mulvey, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 107-114.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
341	18372	U.S.A. ...	*Rotor Controls.* (H. S. Campbell, Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 126-136.)
342	18466	France ...	*Breguet G. 10A Helicopter.* (Inter. Avia., No. 891-892, 30/10/43, p. 20.)

Propeller Testing and Design.

343	17277	U.S.A. ...	*Notes on the Selection and Installation of Aircraft Propellers.* (T. B. Rhines, S.A.E. Journal, Vol. 51, No. 11, November, 1943, pp. 397-407.)
344	17826	G.B.	*Pressure Distribution on Propeller Blades (Abstract).* (J. L. Taylor, Mechanical World, Vol. 114, No. 2,971, 10/12/43, p. 681.)
345	17898	G.B.	*Airscrew Blade Twist Effects.* (J. Lockwood Taylor, Aircraft Engineering, Vol. 15, No. 178, December, 1943, p. 340.)
346	17968	G.B.	*Hollow Metal Airscrew Blade (Patent).* (Aircraft Production, Vol. 6, No. 63, January, 1944, p. 51.)
347	18087	U.S.A. ...	*Propeller of Metal and Hard Rubber.* (Automotive and Aviation Industries, Vol. 89, No. 10, 15/11/43, p. 166.)
348	18205	U.S.A. ...	*A Tabular Method of Propeller Blade Stress Analysis.* (J. Stuart, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-14.)
349	18207	U.S.A. ...	*Problems of Routine Propeller Balancing.* (J. T. Farran, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-9.)
351	18233	Germany ...	*Modern Developments of Tugboats with Special Reference to the Kort-Nozzle Propellers.* (W. Hinterthan, Schiff und Werft, Vol. 44-24, No. Heft 21-22, November, 1943, pp. 302-305.)
352	18484	U.S.A. ...	*Dynamic of Constant Speed Propellers.* (H. K. Weiss, Journal of Aeronautical Sciences, Vol. 10, No. 2, Feb., 1943, pp. 58-67, 70.)

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353	17191	G.B.	*Aerodrome Abstracts (Vol. 11, No. 5, Abstract Nos. 78-100).* (Journal of the Inst. of Civil Engineers, Vol. 21, No. 1, Nov., 1943, pp. 1-8.)
354	17386	G.B.	*Experimental Soil Mechanics—Part V.* (Russell Allin, Civil Engineering, Vol. 38, No. 448, Oct., 1943, pp. 214-215.)
355	17424	Canada ...	*Mobile Control Truck Directs Aircraft Landing.* (Canadian Aviation, Vol. 16, No. 10, Oct., 1943, pp. 90-92.)
356	17438	G.B.	*Experimental Soil Mechanics—Part IV.* (Russell Allin, Civil Engineering, Vol. 38, No. 447, Sept., 1943, pp. 190-191.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
357	17440	France ...	... *The Rate of Freezing in Soil and its Dependence on the Thickness of the Snow Layer (Abstract).* (H. Geslin, Civil Engineering, Vol. 38, No. 447, Sept., 1943, p. 208.)
358	17447	G.B. ...	... *Idlewild Airport.* (Trade and Engineering Times, Vol. 53, No. 956, Oct., 1943, p. 31.)
359	17543	U.S.A.	... *Working Memorandum on Inter-Municipal Airport Co-operation.* (E. F. Jarz, Journal of Air Law and Commerce, Vol. 13, No. 1, January, 1942, pp. 61-63.)
360	17544	U.S.A.	... *Illinois Model Airport Zoning Act—A Bill.* (Journal of Air Law and Commerce, Vol. 13, No. 1, January, 1942, pp. 64-69.)
361	17545	U.S.A.	... *Regulation Requiring Notice or Construction or Alteration of Structures on or Near Civil Airways.* (Journal of Air Law and Commerce, Vol. 13, No. 1, January, 1942, pp. 72-75.)
362	17549	U.S.A.	... *Airport Legal Developments of Interest to Municipalities*—1941. (J. M. Hunter and L. H. Ulman, Journal of Air Law and Commerce, Vol. 13, No. 2, April, 1942, pp. 116-139.)
363	17555	—— ...	... *Constitutionality of Zoning Laws Enacted to Protect Airport Approaches.* (Journal of Air Law and Commerce, Vol. 13, No. 3, July, 1942, pp. 272-277.)
364	17577	G.B. ...	... *Municipal Airport Requirements.* (W. R. Dainty, Flight, Vol. 44, No. 1,825, 16/12/43, p. 678.)
365	17819	U.S.A.	... *Effect of Aircraft Operating Characteristics on Airport Runway Patterns (Triangular Airport Pattern).* (J. C. Leslie and others, American Aviation, Vol. 7, No. 12, 15/11/43, p. 72.)
366	17836	G.B. ...	... *Suggestion for an International Airports Corporation.* (Aeroplane, Vol. 65, No. 1,699, 17/12/43, p. 692.)
367	17853	G.B. ...	... *Wartime Aerodrome Construction in South Africa—The Importance of Turf Grasses.* (Parks and Sports Grounds, Vol. 9, No. 3, Dec., 1943, pp. 4-6.)
368	17854	G.B. ...	... *Surfacing Types for Aerodromes.* (Parks and Sports Grounds, Vol. 9, No. 3, Dec., 1943, pp. 8-9.)
369	17855	G.B. ...	... *Airport Planning in the U.S.A.* (Parks and Sports Grounds, Vol. 9, No. 3, Dec., 1943, p. 9.)
370	17856	G.B. ...	... *The Technics of Ground Facilities. 7—Equipment and Mechanisation.* (J. P. Chaplin, Parks and Sports Grounds, Vol. 9, No. 3, Dec., 1943, pp. 10-12.)
371	17858	G.B. ...	... *Croydon's Proposed Airport Development.* (Parks and Sports Grounds, Vol. 9, No. 3, Dec., 1943, p. 13.)
372	17859	G.B. ...	... *Airport Dust Laying.* (Parks and Sports Grounds, Vol. 9, No. 3, Dec., 1943, p. 12.)
373	18113	America	... *C.A.A. Develops New "Outer-Marker" Beacons to Aid "Lost" Night Fliers.* (American Aviation, Vol. 7, No. 13, 1/12/43, p. 36.)

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374	18122	G.B. ...	... *Airports for London.* (The Aeroplane, Vol. 65, No. 1,700, 24/12/43, pp. 724-725.)
375	18224	G.B. ...	... *Method of Testing the Bearing Capacity of Soils and Runways as Used by the Central Public Works Department, India.* (J. J. Bryan, Journal of Inst. Civil Engineers, Vol. 21, No. 2, December, 1943, pp. 121-122.)
376	18225	G.B. ...	... *Aerodrome Abstracts (Vol. 2, No. 6, Abstract Nos.* 101-120). (Journal of Inst. Civil Engineers, Vol. 21, No. 2, December, 1943.)
377	18471	G.B. ...	... *Proposed Expansion of Croydon Airport.* (Inter. Avia., No. 891-892, 30/10/43, p. 29.)

Maintenance.

378	17464	U.S.A.	... *American Airlines New Tyre Changer.* (American Aviation, Vol. 7, No. 10, 15/10/43, p. 70.)
379	17465	U.S.A.	... *The Importance of Maintenance in Post-War Civil Aviation.* (E. J. Foley, American Aviation, Vol. 7, No. 10, 15/10/43, pp. 70-71.)
380	17484	Sweden	... *A.B.A. Rotor Balancer for Gyroscopes and Supercharger Impellers.* (Inter. Avia., No. 884-885, 14/9/43, pp. 24-25 and I.)
381	17506	U.S.A.	... *Collapsible Aircraft Service Stand.* (Scientific American, Vol. 169, No. 6, December, 1943, p. 254.)
382	17816	U.S.A.	... *New Wheel Tester (Capable of Testing Landing Loads up to* 40,000 *Pounds per Wheel).* (American Aviation, Vol. 7, No. 12, 15/11/43, p. 48.)
383	17925	U.S.A.	... *Engineering in Airline Maintenance (Maintenance Equipment Employed by Trans-Canada Airlines).* (Aviation, Vol. 42, No. 10, October, 1943, pp. 213-226, 282-283.)
384	18011	U.S.A.	... *Continuous Overhaul of P.A.A. "Clippers" (Highly Efficient System of Progressive Overhaul).* (D. Baker, Aviation, Vol. 42, No. 9, Sept., 1943, pp. 211-212, 297-302.)

ENGINES AND ACCESSORIES.

Named Types.

385	17098	G.B. ...	... *Details of the B.M.W.* 801 *as Used for Fighter Aircraft.* (Flight, Vol. 44, No. 1,823, 2/12/43, p. 621.)
386	17451	G.B. ...	... *German Aero Engines (M.A.P. Examinations).* (Trade and Engineering Times, Vol. 53, No. 956, Oct., 1943, p. 34.)
387	17832	G.B. ...	... *Packard Merlins.* (Aeroplane, Vol. 65, No. 1,699, 17/12/43, p. 688.)
388	17868	Germany	... *D.B.-601 Liquid-Cooled Aircraft Engine (M.A.P. Reports).* (M. W. Bourdon, Automotive Industries, Vol. 89, No. 8, 15/10/43, pp. 28-31, 62.)
389	18079	U.S.A.	... *Lycoming "Packaged Power" Unit (6-Cylinder Horizontally Opposed Aircraft Engine).* (Automotive and Aviation Industries, Vol. 89, No. 10, 15/11/43, p. 23.)

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390	18116	America ...	*Wright 2,200 h.p. Cyclone 18.* (American Aviation, Vol. 7, No. 13, 1/12/43, p. 78.)
391	18128	G.B. ...	*Napier Sabre Aero Engine.* (M.A.P. Report, 13/1/44.)
392	18273	G.B. ...	*The New Cyclone 18 Engine (2,200 h.p.).* (Flight, Vol. 45, No. 1,828, 6/1/44, p. 17.)
393	18469	France ...	*Gnome Rhone 28R (4-Bank 28-Cylinder Radial Pressure Cooled, 3,750 h.p. at 20,000 feet).* (Inter. Avia., No. 891-892, 30/10/43, p. 21.)

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ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
394	17304	G.B. ...	*German Cowlings (M.A.P. Reports).* (Aeroplane, Vol. 65, No. 1,698, 10/12/43, pp. 682-683.)
395	17518	U.S.A. ...	*Reducing Diesel Noise by Correct Design.* (Scientific American, Vol. 169, No. 6, December, 1943, p. 270.)
396	17573	G.B. ...	*Engine Cowlings—Examples of German Practice (M.A.P. Reports).* (Flight, Vol. 44, No. 1,825, 16/12/43, pp. 672-675.)
397	17908	U.S.A. ...	*The Case for the Integral Power Plant—Part II.* (S. A. Moss, Aviation, Vol. 42, No. 10, October, 1943, pp. 143-180, 276-282.)
398	17972	Germany ...	*German Ingenuity—Quick-Release Fasteners for Cowlings and Covers.* (Aircraft Production, Vol. 6, No. 63, January, 1944, pp. 37-39.)
399	17976	Germany ...	*Anodic Films—An Examination of Aluminium Alloy Parts from German Aircraft.* (Aircraft Production, Vol. 6, No. 63, January, 1944, p. 48.)
400	18003	U.S.A. ...	*The Case for the Integral Power Plant—Part I.* (Sanford A. Moss, Aviation, Vol. 42, No. 9, Sept., 1943, pp. 150-151, 321-326.)
401	18206	U.S.A. ...	*Temperature Effects on Turbine Supercharger Installations.* (P. Colman, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-22.)
402	18355	U.S.A. ...	*Aircraft Engine Inlet and Exhaust Porting.* (V. C. Young, S.A.E. Preprints, 10-14/1/44.)

Accessories (Cylinders, Pistons, etc.).

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
403	17248	G.B. ...	*Steering Gears—Some Notes on Their Performance Characteristics.* (H. N. Charles, Automobile Engineer, Vol. 33, No. 443, Nov., 1943, pp. 501-505.)
404	17249	G.B. ...	*New Filtering Method.* (Automobile Engineer, Vol. 33, No. 443, Nov., 1943, p. 1205.)
405	17263	U.S.A. ...	*Application of Electronic Control.* (E. H. Vedder, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-6.)
406	17280	U.S.A. ...	*S.A.E. Standardizing Piston and Ring Nomenclature.* (S.A.E., Vol. 51, No. 11, Nov., 1943, p. 39.)

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407	17343	G.B. ...	... *Eccentric Gear Mechanisms for Variable Angular Velocity.* (Machinery, Vol. 63, No. 1,624, 25/11/43, pp. 603-604.)
408	17377	G.B. ...	... *Eccentric Gear Mechanisms for Variable Angular Velocity.* (Machinery, Vol. 63, No. 1,623, 1/12/43, pp. 577-581.)
409	17382	G.B. ...	... *Chromium Plating for Engine Rings and Liners.* (Mechanical World, Vol. 114, No. 2,966, 5/11/43, pp. 544-545.)
410	17401	U.S.A.	... *Carburettor Air Filter.* (Wayne Cannon, Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, pp. 120-127.)
411	17512	U.S.A.	... *New Materials being Tested for Brake Cylinder Pistons (Tin-Plated Cast Iron Pistons, Plastic with Hardened Steel Inserts, etc.).* (Scientific American, Vol. 169, No. 6, December, 1943, p. 261.)
412	17692	G.B. ...	... *Metallurgical Investigations of Some Light Alloy Pistons from German Aircraft.* (C. Wilson, Metallurgia, Vol. 29, No. 169, Nov., 1943, pp. 33-36.)
413	17760	U.S.A.	... *Investigation of Large Diesel Engine Wrist Pins, Pistons, and Crankcase Explosions.* (F. E. Feast, Transactions of the A.S.M.E., Vol. 65, No. 8, Nov., 1943, pp. 847-852.)
414	17876	U.S.A.	... *Simmonds - Hobson Automatic Engine Control (Mark 46).* (Automotive Industries, Vol. 89, No. 8, 15/10/43, p. 104.)
415	17962	G.B. ...	... *Splined Shafts (Patent).* (Aircraft Production, Vol. 6, No. 63, January, 1944, p. 51.)
416	18049	G.B. ...	... *Torque Reversal in Gear Drives.* (W. A. Tuplin, Engineering, Vol. 156, No. 4,067, 24/12/43, p. 503.)
417	18403	G.B. ...	... *The Effect of Chemical Surface Treatments on the Scuffing of Gears.* (H. D. Mansion, I.A.E. Report, Vol. —, No. 1,943-15, December, 1943, pp. 1-16.)
418	18467	France	... *Homocinetic Coupling for Tandem Engines up to 2,000 h.p. Developed at the Lyons Arsenal.* (Inter. Avia., No. 891-892, 30/10/43, p. 20.)
419	18479	—— ...	... *List of References on Packings.* (R.T.P. Bibliography No. 92, Dec., 1943.)

Pumps, Boilers, Turbines, etc.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
420	17164	G.B. ...	... *Hydrogen in Boilers.* (G. Preece, Engineer, Vol. 176, No. 4,586, 3/12/43, p. 449.)
421	17243	U.S.A.	... *The Elliott-Lysholm Blower.* (A. Lysholm, Automobile Engineer, Vol. 33, No. 433, Nov., 1943, pp. 483-486.)
422	17264	U.S.A.	... *Description and Performance of Boilers 12 and 14, Trenton Channel Plant, and Boilers 9 and 10, Maryville Plant, Detroit Edison Co.* (R. J. Brandon and W. A. Carter, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-6.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
423	17265	U.S.A. ...	*Furnace Design and Development of Steam Generating Units Burning Central Illinois Coal.* (J. R. Michele, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-7.)
424	17433	G.B.	*The Efficiencies of Gas Turbines.* (C. B. M. Dale, Engineering, Vol. 156, No. 4,065, 10/12/43, p. 474.)
425	17445	G.B.	*Water Circulators in Steam Boilers.* (Trade and Engineering Times, Vol. 53, No. 956, Oct., 1943, p. 28.)
426	17588	G.B.	*Corrosion in Boilers.* (C. P. Parry, Engineer, Vol. 176, No. 4,588, 17/12/43, p. 487.)
427	17728	G.B.	*High Dewpoint Temperatures in Boiler Flue Cases.* (W. F. Harlow, Engineering, Vol. 156, No. 4,066, 17/12/43, pp. 497-500.)
428	17729	G.B.	*The Efficiencies of Gas Turbines.* (Engineering, Vol. 156, No. 4,066, 17/12/43, p. 494.)
429	17761	U.S.A. ...	*Proposed Expressions for Roots' Supercharger Design and Efficiencies.* (F. A. Hiersch, Transactions of the A.S.M.E., Vol. 65, No. 8, Nov., 1943, pp. 853-855.)
430	17941	G.B.	*The Suppression of the Evaporation of Mercury from Diffusion Pumps.* (C. S. Bull and O. Klemperer, Journal of Scientific Instruments, Vol. 20, No. 11, November, 1943, pp. 179-181.)
431	18178	——	*List of References on Wind Power Generating Plant.* (R.T.P. Bibliography No. 91, Nov., 1943.)
432	18230	G.B.	*An Oil Engine Symposium.* (The Engineer, Vol. 176, No. 4,590, 31/12/43, p. 525.)
433	18234	Germany ...	100 *Years of Turbine Construction by the Escher-Wyss Company.* (O. Tapp, Schiff und Werft, Vol. 44-24, No. Heft. 21-22, November, 1943, pp. 305-311.)
434	18288	G.B.	*Oil Engine Outputs.* (P. Jackson, Engineer, Vol. 177, No. 4,591, 7/1/44, pp. 12-13.)
435	18303	G.B.	*Efficiencies of Combustion Turbines.* (P. Jackson, Engineering, Vol. 156, No. 4,068, 31/12/43, p. 534.)

Aero Engine Performance and Phenomena.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
436	17179	G.B.	450 *b.h.p. from* 1½ *Litres (a Highly Supercharged Two-Stroke Providing Exhaust Turbine Drive).* (J. Lowley, Motor, Vol. 83, No. 2,152, 24/3/43.)
437	17286	Germany ...	*Bearing Friction and Boundary Layer Phenomena.* (S. Kierskalt (Translation in hand, Rolls Royce), Z.V.D.I., Vol. 7, No. 21-22, 29/5/43, pp. 321-324.)
438	17317	G.B.	*Acceleration Forces in High Speed Engines.* (J. Stoney, Machinery, Vol. 63, No. 1,625, 2/12/43, pp. 637-638.)
439	17656	U.S.A. ...	*Anti-Rust Insurance for Aeroplane Engines.* (A. M. Hoffman, Journal of the Franklin Institute, Vol. 235, No. 6, June, 1943, pp. 655-656.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
440	17709	U.S.A. ...	*Effect of Altitude on Knock Rating.* (Journal of the Franklin Institute, Vol. 235, No. 3, March, 1943, p. 289.)

Jet Propulsion.

441	17532	Switzerland ...	*The Development of Jet or Rocket Propulsion (R.T.P. Translation No. 1,330).* (J. Stemmer, Journal of the Royal Aeron. Society, Vol. 47, No. 396, December, 1943, pp. 407-428.)
442	17850	Switzerland ...	*Jet Propulsion (R.T.P. Translation).* (J. Stemmer, Flight, Vol. 44, No. 1,826, 23/12/43, pp. 700-702.)

Thermodynamics.

443	17103	U.S.A. ...	*Measurement of High Temperatures in High Velocity Gas Streams (Exhaust Gas).* (W. J. King, Trans. A.S.M.E., Vol. 65, No. 5, July, 1943, p. 421.)
444	17980	U.S.A. ...	*Aircraft Power Plant Fire Protection (C.A.A. Flight Engineering Report No. 34).* (Civil Aeronautics Journal, Vol. 4, No. 10, 15/10/43, p. 128.)
445	18005	U.S.A. ...	*Effect of Spinner and Cowl Entrance Combinations on Engine Cooling.* (J. Jonas, Aviation, Vol. 42, No. 9, Sept., 1943, pp. 159, 286-287.)
446	18256	U.S.A. ...	*Second Law of Thermodynamics for Changes of State and Quantity of Working Substance with Particular Reference to Steam Engines.* (G. Zerkowitz, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-5.)
447	18412	U.S.A. ...	*Hydraulic Control of Aircraft Engine Temperature.* (W. A. Ray, Automotive and Aviation Industries, Vol. 89, No. 9, 1/11/43, pp. 25, 58-60.)

Testing and Research.

448	17657	U.S.A. ...	*Laboratory Equipment for Testing Engines at Different Altitudes and Temperatures.* (Journal of the Franklin Institute, Vol. 235, No. 6, June, 1943, p. 630.)
449	17791	G.B.	*The Chemical Background for Engine Research (Book Review, Edited by R. E. Burk and O. Grummitt).* (Nature, Vol. 152, No. 3,867, 11/12/43, p. 675.)
450	17973	G.B.	*Magnetic Filters for Engine Testing.* (Aircraft Production, Vol. 6, No. 63, January, 1944, pp. 40-41.)
451	18048	G.B.	*Cracks in Wheel Seats within the Hubs of Wheels (Effect of Press Fit; Photo-Elastic Analysis) (With Discussion).* (G. W. C. Hirst, Engineering, Vol. 156, No. 4,067, 24/12/43, pp. 501-502, 512.)
452	18059	U.S.A. ...	*Laboratory Investigation of Altitude Vapour Formation in Aircraft Fuel System (Abstract of S.A.E. Paper).* (W. H. Curtis, Automotive and Aviation Industries, Vol. 89, No. 10, 15/11/43, p. 35.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
			Cold Starting and Fuel Injection.
453	17427	G.B. ...	... *The Indicating of Engine Fuel Injection Systems.* (N. Kendall, Engineering, Vol. 156, No. 4,065, 10/12/43, pp. 461-464.)
454	17935	U.S.A.	... *New Standard Starting Fluid* (*Prevents Ice-Clogging of the Fuel Lines at 70° Below Zero*). (National Petroleum News, Vol. 35, No. 45, 10/11/43, p. 32.)
455	18274	G.B. ...	... *Warming Up* (*Heating Aircraft Engines in Cold Weather: Portable Electric Heating Apparatus*). (A. G. Arend, Flight, Vol. 45, No. 1,828, 6/1/44, p. 18.)
			Servicing and Maintenance.
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473	17937	U.S.A. ...	*New Super Aviation Fuel Concentrate—Dynafuel (Made Entirely from Petroleum).* (National Petroleum News, Vol. 35, No. 44, 3/11/43, p. 27.)
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481	17767	G.B. ...	... *Germany's "Revolution on Wheels" (Conversion to Producer Gas).* (Petroleum Times, Vol. 47, No. 1,209, 27/11/43, pp. 650-652.)

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ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
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485	17224	G.B. ...	... *Some Points in Connection with Modern Oils and Greases.* (Automobile Engineer, Vol. 33, No. 444, December, 1943, pp. 523-527.)
486	17232	G.B. ...	... *Lubrication—Use of Dry Film for High Temperatures.* (Automobile Engineer, Vol. 35, No. 444, December, 1943, p. 537.)
487	17500	G.B. ...	... *Lubrication.* (Science Library Bibliographical Series, July-September, 1943.)
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489	17660	U.S.A.	... *New Quenching Oil Aids Production of Low Alloy Steels.* (Journal of the Franklin Institute, Vol. 235, No. 6, June, 1943, p. 576.)
490	17766	G.B. ...	... *Time for a Special Offensive Against German Oil? (Review of Raid Damage on German Oil Plant.)* (Petroleum Times, Vol. 47, No. 1,209, 27/11/43, pp. 646, 656.)
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497	17108	U.S.A.	...	*The Holding Power and Hydraulic Tightness of Expanded Tube Joints: Analysis of the Stress and Deformation.* (J. N. Goodier and G. J. Schoessow, Trans. A.S.M.E., Vol. 65, No. 5, July, 1943, pp. 489-496.)
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499	17113	U.S.A.	...	*Volute Spring Formulas (with Discussion).* (C. J. Holland, Trans. A.S.M.E., Vol. 65, No. 5, July, 1943, pp. 533-541.)
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504	17357	G.B. ...	...	*Disposition of Spring Section (Rectangular Section Compression Rings).* (Mechanical World, Vol 114, No. 2,967, 12/11/43, pp. 574-577.)
505	17378	G.B. ...	...	*Improving the Fatigue Strength of Threaded Parts.* (Mechanical World, Vol. 114, No. 2,966, 5/11/43, pp. 523-526.)
506	17428	G.B. ...	...	*Young's Modulus for Carbon Brushes.* (Y. F. Soper, Engineering, Vol. 156, No. 4,065, 10/12/43, p. 464.)
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511	18195	U.S.A. ...	*Significance of the Secant and Tangent Moduli of Elasticity in Structural Design.* (D. S. Welford, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-36.)
512	18218	U.S.A. ...	*Bending Strength in the Plastic Range.* (F. P. Cozzone, Preprints of the 11th Annual Meeting of Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-47.)
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517	18264	U.S.A. ...	*Behaviour of Synthetic Phenolic Resin Adhesives in Plywood Under Alternating Stresses.* (A. G. H.Dietz and H. Grinsfelder, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-15.)
518	18265	U.S.A. ...	*The Effects of Web Deformation on the Torsion of I-Beams.* (J. N. Goodier and M. V. Barton, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-6.)
519	18266	U.S.A. ...	*Fatigue Studies on Urea Assembly Adhesives.* (A. G. H. Dietz and H. Grinsfelder, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-12.)
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523	17123	G.B.	*Effects of Precipitation Treatment of Binary Magnesium-Aluminium Alloys (Concluded).* (F. A. Fox and E. Lardner, Metal Industry, Vol. 63, No. 23, 3/12/43, pp. 363-364.)

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530	17505	U.S.A.	... *Magnesium Development (New Magnesium Alloys, Fabricating Methods, etc.).* (Scientific American, Vol. 169, No. 6, December, 1943, pp. 253-254.)
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535	17884	G.B. ...	... *Metallurgical Investigations of Some Light Alloy Pistons from German Aircraft (M.A.P. Reports I).* (Light Metals, Vol. 6, No. 71, Dec., 1943, pp. 589-593.)
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538	17889	G.B. ...	... *Aluminium and Magnesium in the Electrical Industries (Uses of Light Metal for Cable Sheathing and Conductors).* (Light Metals, Vol. 6, No. 71, Dec., 1943, pp. 621-622.)
539	17897	G.B. ...	... *Magnesium from Dolomite.* (Metal Industry, Vol. 63, No. 26, 24/12/43, p. 414.)
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546	17135	U.S.A.	... *Basic Electric Steel Practice (Symposium of Papers).* (Metal Progress, Vol. 44, No. 5, November, 1943, pp. 941-944.)
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563	18139	U.S.A.	... *List of National Emergency Alloy Steels (Chart).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 672.)
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567	18145	U.S.A.	... *Hardness Traverses of Amola Steels (Chart).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 694.)
568	18149	U.S.A.	... *Constituents of 24S Alloy—Etching Characteristics.* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 706.)

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570	18158	U.S.A	...	*Iron, Iron Carbide Equilibrium Diagram.* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 736.)
571	18162	U.S.A.	...	*S-Curve for 0.89 per cent. Carbon Steel.* (Metal Progress, No. 4, Vol. 44, October, 1943, p. 772.)
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573	18180	U.S.A	...	*Hardness Conversion Chart for Steels (Data Sheet).* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 852.)
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580	17124	U.S.A.	...	*Properties of Cast Red Brass as Affected by the Ambient Atmosphere During Melting.* (H. B. Gardner and others, Journal of Research of the National Bureau of Standards, Vol. 31, No. 3, Sept., 1943, pp. 125-140.)
581	17130	G.B. ...	...	*Correspondence on Paper: "The Expansion of a Bismuth-Lead-Tin-Cadmium Alloy on Cooling After Solidification."* (C. H. Desch, Journal of Institute of Metals, Vol. 69, No. 10, Oct., 1943, p. 465.)
582	17132	G.B. ...	...	*A Thermodynamical Theory of Restoration Phenomena in the Ageing of Copper-Aluminium Alloys.* (Prof. S. T. Konobeevski, Journal of Institute of Metals, Vol. 69, No. 9, September, 1943, pp. 397-413.)
583	17140	U.S.A.	...	*Non-Ferrous Metals (Review of Papers Given at the National Metal Congress).* (Metal Progress, Vol. 44, No. 5, November, 1943, pp. 951-954.)
584	17258	U.S.A.	...	*Notch-Toughness Tests of Carbon-Molybdenum Pipe Material.* (W. F. Kinney and others, A.S.M.E. Preprints, Vol. —, 29th Nov.-3rd Dec., 1943, pp. 1-9.)
585	17511	U.S.A.	...	*New Heat-Resistant Alloy (Replacing Large Part of Nickel and Chromium with Silicon and Manganese).* (Scientific American, Vol. 169, No. 6, December, 1943, p. 261.)

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586	17693	G.B. ...	... *Electrolytic Production of Cobalt—a Review of Recent Work.* (Metallurgia, Vol. 29, No. 169, Nov., 1943, pp. 37-41.)
587	17694	G.B. ...	... *Palladium: Its History and Properties.* (L. Sanderson, Metallurgia, Vol. 29, No. 169, Nov., 1943, pp. 41-42.)
588	17697	G.B. ...	... *Effect of Sulphur and Antimony on Steam or Valve Bronze Casting.* (A. J. Smith and J. W. Bolton, Metallurgia, Vol. 29, No. 169, Nov., 1943, pp. 44-45.)
589	17698	G.B. ...	... *Nickel in Bronze.* (A. H. Hesse and J. L. Basil, Metallurgia, Vol. 29, No. 169, Nov., 1943, pp. 47-48.)
590	17881	G.B. ...	... *Toxicology of Beryllium.* (Light Metals, Vol. 6, No. 71, Dec., 1943, p. 581.)
591	18135	U.S.A.	... *Representative Micrographs of Copper-Base Alloys.* (Metal Progress, Vol. 44, No. 4, October, 1943, pp. 636-639.)
592	18145	U.S.A.	... *Aluminium Bronzes Commonly Used in Aircraft (Table).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 701.)
593	18147	U.S.A.	... *Physical Constants of Purest Zinc (Chart).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 702.)
594	18150	U.S.A.	... *Standard Brass and Bronze Alloys (Table).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 708.)
595	18151	U.S.A.	... *Engineering Properties of Monel (Table).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 710.)
596	18152	U.S.A.	... *Engineering Properties of "A" Nickel (Table).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 711.)
597	18154	U.S.A.	... *Hardness Conversion for Cartridge Brass (70 per cent. Copper, 30 per cent. Zinc) (Table).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 714.)
598	18155	U.S.A.	... *Copper and its Alloys in Wrought Form (Chart).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 720.)
599	18187	U.S.A.	... *Cartridge Brass Defects.* (C. O. Windrath, Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 643.)
600	18386	G.B. ...	... *Lead-Coated Sheets (as Substitute for Cadmium and Zinc Coatings).* (Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, p. 74.)
601	18476	—— ...	... *List of References on Tin and Lead Base Bearing Metals (Babbitts).* (R.T.P. Bibliography No. 89, Sept., 1943.)
			Plastics and Resin.
602	17181	U.S.A.	... *Ketones as Solvents for Vinyl Resins.* (R. W. Quarles, Industrial and Engineering Chemistry, Vol. 35, No. 10, 7/10/43, pp. 1033-1043.)
603	17199	G.B. ...	... *High Shock-Resisting Mouldings ("Rockite" 3,932).* (Plastics, Vol. 7, No. 79, Dec., 1943, pp. 529-530.)
604	17200	G.B. ...	... *Production of High Polymers for Electrical and Chemical Resistance (Polythene).* (Plastics, Vol. 7 No. 79, Dec., 1943, pp. 531-532.)

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605	17201	Germany ...	*The Shaping of Plates and Foils of Polyvinyl Chloride and Mixed Polymers.* (Z.V.D.I., 1943, Vol. 87, p. 346.) (Plastics, Vol. 7, No. 79, Dec., 1943, p. 540.)
606	17202	France ...	*Electrical Classification of Plastics* (*Revue Generale de l'Electricite, Dec.*, 1942). (Plastics, Vol. 7, No. 79, Dec., 1943, p. 541.)
607	17205	G.B.	*The Future of Plastics—I.* (M. D. Curwen, Plastics, Vol. 7, No. 79, Dec., 1943, pp. 543-548.)
608	17206	G.B.	*Metallizing Plastics* (*Contd.*). (E. E. Halls, Plastics, Vol. 7, No. 79, Dec., 1943, pp. 549-561.)
609	17207	Germany ...	*Serviceability of Plastic Gears* (*Static and Dynamic Strength and Wear Resistance of Representative Types of Laminated Plastics and Wood for Gears*)*—Part I.* (Kunststoffe, 1942, Vol. 32, pp. 263-270.) (Opitz and others, Plastics, Vol. 7, No. 79, Dec., 1943, pp. 562-577.)
610	17208	G.B.	*Resinoids and Other Plastics as Film Formers. XXII—High Elastic Deformations of Polymers.* (B. J. Brajnikaff, Plastics, Vol. 7, No. 79, Dec., 1943, pp. 572-578.)
611	17209	G.B.	*New Adhesive* (*Cascophen LT*-67). (Plastics, Vol. 7, No. 79, Dec., 1943, p. 542.)
612	17228	G.B.	*Paraldehyde—A Fluid Fuel Stretching Agent Employed in Switzerland.* (Automobile Engineer, Vol. 33, No. 444, December, 1943, p. 528.)
613	17236	G.B.	*Marvinol Elasto-Plastic.* (Automobile Engineer, Vol. 33, No. 444, December, 1943, p. 550.)
614	17245	G.B.	*Plastic Bodywork. Part III—Plywood Characteristics and the Moulded Plywood Body.* (W. Nichols, Automobile Engineer, Vol. 33, No. 433, Nov., 1943, pp. 493-498.)
615	17456	G.B.	*The Uses of Nylon.* (V. E. Yarsley, Trade and Engineering Times, Vol. 53, No. 956, Oct., 1943, p. 44.)
616	17592	G.B.	*A Survey of Plastics—I* (*with Discussion*). (S. L. Smith, Engineer, Vol. 176, No. 4,588, 17/12/43, pp. 491-492, 481.)
617	17720	U.S.A. ...	*Plastic Pipe and Tubing. One Solution of Metal Shortage Problem.* (Journal of the Franklin Institute, Vol. 235, No. 4, April, 1943, p. 434.)
618	17730	G.B.	*Plastic Material for Dies.* (Engineering, Vol. 156, No. 4,066, 17/12/43, p. 488.)
619	17733	G.B.	*Polyvinyl Alcohol. Part I—Its Chemistry and Applications.* (I. Jones, British Plastics, Vol. 15, No. 175, December, 1943, pp. 380-384, 408.)
620	17734	G.B.	*Hand Grenade No. 69. Production and Manufacturing Methods of a Plastics Hand Grenade Reviewed.* (British Plastics, Vol. 15, No. 175, December, 1943, pp. 385-390.)
621	17735	G.B.	*A Survey of Plastics—Part I* (*from the Viewpoint of the Mechanical Engineer*). (S. Livingston Smith, British Plastics, Vol. 15, No. 175, December, 1943, pp. 391-394.)

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622	17737	G.B. ...	... *A Material to Replace Mica—"Polectro."* (British Plastics, Vol. 15, No. 175, December, 1943, p. 420.)
623	17738	G.B. ...	... *An Hygroscopic Plastics Packaging Method.* (British Plastics, Vol. 15, No. 175, December, 1943, p. 420.)
624	17739	G.B. ...	... *"Alkathene"—A Polythene Plastics Material.* (British Plastics, Vol. 15, No. 175, December, 1943, pp. 417-428.)
625	17740	G.B. ...	... *Plastics for Pumping Machinery.* (British Plastics, Vol. 15, No. 175, December, 1943, pp. 419-420.)
626	17742	G.B. ...	... *Plastics Pellets for Gunnery Training.* (British Plastics, Vol. 15, No. 175, December, 1943, pp. 421-422.)
627	17864	G.B. ...	... *A Survey of Plastics.* (S. L. Smith, The Engineer, Vol. 176, No. 4,589, 24/12/43, pp. 511-512.)
628	18028	G.B. ...	... *Structural and Physical Properties of Plastics. Part II—Experimental.* (L. W. Turner, Chemistry and Industry, Vol. 62, No. 52, 25/12/43, pp. 492-495.)
629	18228	G.B. ...	... *A Survey of Plastics. IV—Reinforced Plastics as Structural Materials.* (S. L. Smith, The Engineer, Vol. 176, No. 4,590, 31/12/43, pp. 529-531.)
630	18410	G.B. ...	... *Science and Industry of Plastics (Book Review).* (R. S. Morrell, Nature, Vol. 152, No. 3,858, 9/10/43, p. 398.)
631	18489	G.B. ...	... *Laminated Paper Plastic for Aircraft.* (Mechanical World, Vol. 114, No. 2,974, 31/12/43, pp. 758-759.)

Rubber (Natural and Synthetic).

632	17125	U.S.A.	... *Electrical and Mechanical Properties of the System Buna S-Gilsonite (Suitable for the Insulation of Communication Cables).* (A. H. Selker and others, Journal of Research of the National Bureau of Standards, Vol. 31, No. 3, Sept., 1943, pp. 141-161.)
633	17177	U.S.A.	... *New Rubberlike Plastic Material "Compars" (Compounded Polyvinyl Alcohol Resin).* (Industrial and Engineering Chemistry (News Edition), Vol. 21, No. 20, 25/10/43, p. 1770.)
634	17203	Germany	... *Technical Qualities of Soft Rubber.* (Z.V.D.I., 1943, Vol. 87, p. 347.) (Roelig, Plastics, Vol. 7, No. 79, Dec., 1943, p. 542.)
635	17240	G.B. ...	... *Rubber Roads.* (Automobile Engineer, Vol. 33, No. 433, Nov., 1943, p. 470.)
636	17381	G.B. ...	... *Defects in Rubber Tyres—Use of Supersonics.* (Mechanical World, Vol. 114, No. 2,966, 4/11/43, p. 535.)
637	17444	G.B. ...	... *Synthetic Rubber Linings—Use in Concrete Fuel Storage Tanks.* (Trade and Engineering Times, Vol. 53, No. 956, Oct., 1943, p. 28.)
638	17534	G.B. ...	... *Elasticity of Rubber.* (H. P. Stevens, Chemistry and Industry, Vol. 62, No. 50, 11/12/43, p. 474.)

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639	17608	U.S.A. ...	*Marvinol Rubber Plastic (Vinyl Resin Derivative)* (Inter. Avia., No. 889-890, 16/10/43, p. 13.)
640	17718	U.S.A. ...	*Proposed Substitutes for Rubber (How to Assess Them).* (Journal of the Franklin Institute, Vol. 235, No. 4, April, 1943, pp. 406-409.)
641	17763	U.S.A. ...	*Fatigue Characteristics of Rubber.* (F. L. Yost, Transactions of the A.S.M.E., Vol. 65, No. 8, Nov., 1943, pp. 881-888.)
642	17867	U.S.A. ...	*How Good are Synthetic Rubber Tyres?* (E. L. Warner, Automotive Industries, Vol. 89, No. 8, 15/10/43, pp. 26-27, 76-80.)
643	17932	U.S.A. ...	*Synthetic Rubber Progress in the U.S.A.* (National Petroleum News, Vol. 35, No. 45, 10/11/43, pp. 10-11.)
644	17938	U.S.A. ...	*Synthetic Rubber Made in a Few Minutes (New Process).* (National Petroleum News, Vol. 35, No. 44, 3/11/43, p. 27.)
645	18004	U.S.A. ...	*New Guides to High Altitude Rubbers.* (H. J. Marx and S. S. Kagut, Aviation, Vol. 42, No. 9, Sept., 1943, pp. 152-154, 288-293.)
646	18047	U.S.A. ...	*Five Commercial Types of Synthetic Rubber (Bulletin Issued by the U.S. Rubber Co.).* (Review of Scientific Instruments, Vol. 14, No. 10, Oct., 1943, p. 325.)
647	18085	U.S.A. ...	*Compar—A New Rubber Substitute.* (Automotive and Aviation Industries, Vol. 89, No. 10, 15/11/43, p. 46.)
648	18086	U.S.A. ...	*Synthetic Rubber Progress Report.* (Automotive and Aviation Industries, Vol. 89, No. 10, 15/11/43, p. 82.)
649	18278	U.S.A. ...	*The Field of Synthetic Rubber vs. Natural Rubber and the Plastics.* (E. P. Dinsmore, Industrial Engineering and Chemistry (News Edition), Vol. 21, No. 21, 10/11/43, pp. 1798-1801.)
650	18299	G.B.	*Recent Developments in the Field of Olefinic Reactivity, Particularly in Relation to the Chemical Behaviour of Rubber, Drying Oils and Hydrocarbons (Abstract).* (E. H. Farmer, Chemistry and Industry, No. 1, 1/1/44, p. 6.)
651	18334	G.B.	*Guayule Rubber—Mechanical Equipment for its Production.* (Mechanical World, Vol. 114, No. 2,973, 24/12/43, pp. 730-731.)

Wood and Synthetics.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
652	17153	G.B.	*Timber Drying Kilns (Forest Products Research Laboratory, Leaflet No. 30).* (Engineering, Vol. 156, No. 4,064, 3/12/43, p. 450.)
653	17257	U.S.A. ...	*Glued Laminated Lumber Construction (with Bibliography).* (F. J. Hanrahan, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-9.)
654	17371	G.B.	*Balsa Wood in Industry.* (Mechanical World, Vol. 114, No. 2,970, 3/12/43, p. 657.)

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655	17441	G.B. ...	*The Seasoning of Timber—Use of Urea.* (Civil Engineering, Vol. 38, No. 447, Sept., 1943, p. 188.)
656	17753	U.S.A.	*Glued Laminated Lumber Construction (with Bibliography).* (F. J. Hanrahan, Mechanical Engineering, Vol. 65, No. 12, December, 1943, pp. 905-913.)
657	17758	U.S.A.	*Lignite—Influence of Storage Conditions Upon Size Degradation, Size Stability, and Friability.* (C. J. Eckhardt and C. W. Yates, Transactions of the A.S.M.E., Vol. 65, No. 8, Nov., 1943, pp. 829-836.)
658	18344	G.B. ...	*Physical Properties of Wood.* (Mechanical World Engineering Record, Vol. 114, No. 2,972, 17/12/43, pp. 702-703.)

Glass and Ceramics.

659	17178	U.S.A.	*Plastic and Glass Combination for Self-Sealing Tanks in War Planes.* (Industrial and Engineering Chemistry (News Edition), Vol. 21, No. 10, 25/10/43, p. 1770.)
660	17341	G.B. ...	*Glass for Precision Gauging.* (H. B. Hambleton, Machinery, Vol. 63, No. 1,624, 25/11/43, pp. 592-593.)
661	17366	G.B. ...	*The Processing of Glass in the Lamp and Radio Valve Industries.* (R. L. Breadner and C. H. Simms, Mechanical World, Vol. 114, No. 2,970, 3/12/43, pp. 639-641.)
662	17528	U.S.A.	*Glass Fibres Now Available in Seven Basic Types.* (Scientific American, Vol. 169, No. 6, December, 1943, p. 281.)
663	17667	U.S.A.	*Parachute Flare Shades Woven of Glass Fibres.* (Journal of the Franklin Institute, Vol. 236, No. 1, July, 1943, p. 80.)
664	17710	U.S.A.	*Glass Fibres Used for Camouflage.* (Journal of the Franklin Institute, Vol. 235, No. 3, March, 1943, p. 309.)
665	17721	U.S.A.	*Glass Jewels Speed Instrument Manufacture.* (Journal of the Franklin Institute, Vol. 235, No. 4, April, 1943, pp. 436-437.)
666	17824	G.B. ...	*The Processing of Glass in the Lamp and Radio Valve Industries—II.* (R. L. Breadner and C. H. Simms, Mechanical World, Vol. 114, No. 2,971, 10/12/43, pp. 686-689.)
667	17336	G.B. ...	*The Processing of Glass in the Lamp and Radio Valve Industries—IV.* (C. H. Simms and R. L. Breadner, Mechanical World, Vol. 114, No. 2,973, 24/12/43, pp. 734-735.)
668	18347	G.B. ...	*The Processing of Glass in the Lamp and Radio Valve Industries—III.* (R. L. Breadner and C. H. Simms, Mechanical World, Engineering Record, Vol. 114, No. 2,972, 17/12/43, pp. 714-716, 717.)

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			Silver and Diamonds
669	17127	G.B. ...	... *The Constitution of Silver-Magnesium Alloys in the Region 0.40 Atomic per cent. Magnesium.* (K. W. Andrews and W. Hume Rothery, Journal of Institute of Metals, Vol. 69, No. 11, Nov., 1943, pp. 485-493.)
670	17149	G.B. ...	... *Industrial Diamonds.* (D. F. Galloway, Engineering, Vol. 156, No. 4,064, 3/12/43, pp. 441-444.)
671	17229	G.B. ...	... *Diamond Turning—Experimental Data on the Machining of Aluminium Alloys.* (Automobile Engineer, Vol. 33, No. 444, December, 1943, pp. 531-532.)
672	17315	G.B. ...	... *Uses of Sintered Silver.* (Machinery, Vol. 63, No. 1,625, 2/12/43, p. 634.)
673	17367	G.B. ...	... *Low Temperature Brazing with Silver Alloys.* (A. J. T. Eyles, Mechanical World, Vol. 114, No. 2,970, 3/12/43, pp. 642-644.)
674	17375	G.B. ...	... *Surface Finish with Diamond Tools.* (Machinery, Vol. 63, No. 1,623, 1/12/43, pp. 573-576.)
675	17430	G.B. ...	... *Piston Turning with Diamond Tools.* (Engineering, Vol. 156, No. 4,065, 10/12/43, pp. 466-468.)
676	17719	U.S.A.	... *Recovery of Diamond Dust Used for Polishing Tungsten Carbide Dies.* (Journal of the Franklin Institute, Vol. 235, No. 4, April, 1943, p. 433.)
			Cement, Concrete.
677	17163	G.B. ...	... *Cement in Peace and War.* (Engineer, Vol. 176, No. 4,586, 3/12/43, pp. 453-454.)
678	17337	U.S.A.	... *Crystals from Portland Cement Hydration (an Electron Microscope Study).* (C. M. Sliepcevich and others, Industrial Engineering and Chemistry, Vol. 35, No. 11, Nov., 1943, pp. 1178-1187.)
679	17529	U.S.A.	... *A New Photographic Lens Cement.* (Scientific American, Vol. 169, No. 6, December, 1943, p. 283.)
680	18160	U.S.A.	... *Properties of Refractory Materials, Except Fireclay (Table).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 746.)
			Paints, Varnish, Glazes, Inks.
681	17194	U.S.A.	... *Discussion of Paper on Behaviour of Glazing Material Subjected to Explosion.* (T. R. Eilenberg and W. K. Jones, A.S.T.M. Bulletin, No. 124, Oct., 1943, pp. 15-17.)
682	17195	U.S.A.	... *Comparison of Methods for Determining the Drying Rates of Varnishes.* (H. R. Moore, A.S.T.M. Bulletin, No. 124, Oct., 1943, pp. 19-29.)
683	17504	U.S.A.	... *New Inks that will Stay on Metals and are Fluorescent.* (Scientific American, Vol. 169, No. 6, December, 1943, p. 252.)
684	17732	G.B. ...	... *Corona Suppression in High Voltage Machines Effected by Semi-Conducting Paint (Coronox).* (Engineering, Vol. 156, No. 4,066, 17/12/43, p. 488.)

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685	18029	G.B. ...	... *Progress in Paints and Painting (Abstract).* (V. G. Jolly, Chemistry and Industry, Vol. 62, No. 52, 25/12/43, pp. 495-496.)
686	18280	U.S.A.	... *Paint at War.* (Industrial Engineering and Chemistry (News Edition), Vol. 21, No. 21, 10/11/43, p. 1808.)

Grease, Putty, Asphalt, Graphite.

687	17180	U.S.A.	... *Symposium of Papers on Solvents.* (Various authors, Industrial and Engineering Chemistry, Vol. 35, No. 10, 7/10/43, pp. 1020-1077.)
688	17187	U.S.A.	... *Surface Consistency Characteristics of Asphalts.* (E. C. Knowles and F. C. McCoy, Industrial and Engineering Chemistry, Vol. 35, No. 10, 7/10/43, pp. 1118-1122.)
689	17196	U.S.A.	... *A Method of Evaluating Performance in Service of Slow-Curing Asphalts.* (J. Zapata, A.S.T.M. Bulletin, No. 124, Oct., 1943, pp. 31-39.)
690	17668	U.S.A.	... *New Method of Waterproofing Many Kinds of Materials (Cloth, Paper, Ceramics, etc.).* (Journal of the Franklin Institute, Vol. 236, No. 1, July, 1943, pp. 109-110.)
691	17750	U.S.A.	... *Practical Cutting Fluid Recommendations (for Use with High Speed Steel Tools).* (C. W. Boston and others, Mechanical Engineering, Vol. 65, No. 12, December, 1943, pp. 889-892.)
692	17902	G.B. ...	... *Preventing Joints from Sticking (Use of Colloidal Graphite).* (Aircraft Engineering, Vol. 15, No. 178, December, 1943, p. 368.)
693	17934	U.S.A.	... *Lithium and Strontium, New Tools for the Grease Industry (Abstract).* (W. F. Luckenback, National Petroleum News, Vol. 35, No. 45, 10/11/43, p. 29.)
694	18282	Germany	... *Synthetic Products Used for Cutting Compounds (German Developments).* (Industrial Engineering and Chemistry (News Edition), Vol. 21, No. 21, 10/11/43, p. 1814.)
695	18283	Germany	... *New Product Found for Hydrocarbon-Resistant Putties.* (Industrial Engineering and Chemistry (News Edition), Vol. 21, No. 21, 10/11/43, p. 1814.)

General Properties of Materials (including Corrosion).

696	17166	G.B.	... *Coagulation of Colloids.* (E. K. Rideal, Nature, Vol. 152, No. 3,865, 27/11/43, p. 618.)
697	17168	G.B. ...	... *Molecular Weight of Native Cellulose.* (N. Gralen and T. Svedberg, Nature, Vol. 152, No. 3,865, 27/11/43, p. 625.)
698	17339	U.S.A.	... *Effect of Acetylation on Water-Binding Properties of Cellulose—Relation Between Physical Properties and Hygroscopicity.* (W. H. Aiken, Industrial Engineering and Chemistry, Vol. 35, No. 11, Nov., 1943, pp. 1206-1210.)

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699	17658	U.S.A. ...	*Cathodic Protection as a Means of Preventing Corrosion of Buried Pipe Lines.* (Journal of the Franklin Institute, Vol. 235, No. 6, June, 1943, pp. 623-624.)
700	17699	G.B.	*The Physical Properties of Steel Wire as Affected by Variations in the Drawing Operations.* (H. J. Godfrey, Metallurgia, Vol. 29, No. 169, Nov., 1943, pp. 48-49.)
701	17706	U.S.A. ...	*Breakdown and Time Lag of Dielectric Materials (Breakdown of Liquid Carbon Tetrachloride).* (S. S. Attwood and W. H. Bixby, Journal of the Franklin Institute, Vol. 235, No. 3, March, 1943, pp. 259-272.)
702	17744	Germany ...	*Synthetic Bristles and Electrostatic Excitability—German Report.* (From Die Warme, Vol. 65, 1942, pp. 266-267.) (F. Broihan, British Plastics, Vol. 15, No. 175, December, 1943, pp. 426-428.)
703	18131	U.S.A. ...	*Machinability Ratings of Metals and Cutting Fluid Recommendations.* (O. W. Boston and others, Metal Progress, Vol. 44, No. 4, October, 1943, pp. 622-624.)
704	18137	U.S.A. ...	*The A.B.C. of Corrosion and Heat Resisting Steels (Chart).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 662.)
705	18159	U.S.A. ...	*Hardenability Calculated from Composition (Chart).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 742.)
706	18164	U.S.A. ...	*Nomograph for Calculation of Corrosion Rates.* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 786.)
707	18168	U.S.A. ...	*Relative Corrodibility of Some Common Metals and Alloys (Data Sheet).* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 800.)
708	18193	U.S.A. ...	*Data on Damping Capacity of Many Metals.* (Metal Progress, Vol. 44, No. 4, Oct., 1943, pp. 643-644.)
709	18348	G.B.	*Protection of Steel Pipes from Corrosion.* (J. H. Smith, Mechanical World Engineering Record, Vol. 114, No. 2,972, 17/12/43, pp. 717-719.)
710	18383	G.B.	*Stress Corrosion of Stainless Steel (Abstract).* (Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, p. 66.)

B. Fabrication.

Welding (Arc, Spot, Resistance Fusion).

711	17118	G.B.	*Fusion Welding of Wrought Aluminium Alloys—Part III.* (Metal Industry, Vol. 63, No. 23, 3/12/43, pp. 358-360.)
712	17142	U.S.A. ...	*Welding Developments (Review of Papers Given at the American Welding Society's Convention).* (Metal Progress, Vol. 44, No. 5, November, 1943, pp. 964-966.)

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713	17213	G.B. ...	... *Fusion Welding of Wrought Aluminium Alloys—IV (Carbon Arc Welding, Heliarc Welding, Atomic Hydrogen Welding, "Weibel" Process, Technotherm-Rakos Process).* (Metal Industry, Vol. 63, No. 24, 10/12/43, pp. 375-376.)
714	17402	U.S.A.	... *Cycle Welding Replaces Riveting.* (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, p. 128.)
715	17435	G.B. ...	... *Ignition Control for Seam-Welding Machines.* (Engineering, Vol. 156, No. 4,065, 10/12/43, pp. 476-477.)
716	17436	G.B. ...	... *Resistance Welding of Chain Cables.* (T. Scott Glover, Engineering, Vol. 156, No. 4,065, 10/12/43, pp. 477-480.)
717	17521	U.S.A.	... *Arc-Welding Speeded—Use of High Voltage Spark Maintains the Spark.* (Scientific American, Vol. 169, No. 6, December, 1943, p. 274.)
718	17589	G.B. ...	... *Welded Joints and the Izod Test.* (H. B. Ferguson, Engineer, Vol. 176, No. 4,588, 17/12/43, pp. 487-488.)
719	17673	U.S.A.	... *Underwater Resistance Welding of Stranded Wire.* (Journal of the Franklin Institute, Vol. 236, No. 2, August, 1943, p. 230.)
720	17743	G.B. ...	... *Scientific Welding and Plastics—The Reconditioning of Dies.* (C. W. Brett, British Plastics, Vol. 15, No. 175, December, 1943, pp. 423-424.)
721	17825	G.B. ...	... *Alternating Current Arc Welding.* (Mechanical World, Vol. 114, No. 2,971, 10/12/43, p. 690.)
722	17953	G.B. ...	... *Resistance Welding Practice (Instructional Film).* (Sheet Metal Industries, Vol. 18, No. 200, December, 1943, pp. 2157-2163.)
723	17954	G.B. ...	... *The Relative Advantages of Alternating and Direct Current in Shipyard Welding.* (H. F. Bibby, Sheet Metal Industries, Vol. 18, No. 200, December, 1943, pp. 2165-2167.)
724	17955	G.B. ...	... *Speedy Repairs Effected by Bronze Welding.* (P. L. Pocock, Sheet Metal Industries, Vol. 18, No. 200, December, 1943, pp. 2168-2169.)
725	17956	G.B. ...	... *Practical Guidance for Small Shops Installing Resistance Welding Equipment.* (L. H. Park, Sheet Metal Industries, Vol. 18, No. 200, December, 1943, pp. 2170-2172.)
726	17957	G.B. ...	... *Swivelling Welding Platform.* (Sheet Metal Industries, Vol. 18, No. 200, December, 1943, p. 2152.)
727	17959	G.B. ...	... *Welding and Welding Jigs.* (Sheet Metal Industries, Vol. 18, No. 200, December, 1943, p. 2153.)
728	18043	U.S.A.	... *Electronic Control of Resistance Welding (Book Review).* (G. N. Chute, Review of Scientific Instruments, Vol. 14, No. 10, Oct., 1943, pp. 312-313.)
729	18064	G.B. ...	... *Vibrations, Application to Welding and Soldering Operations.* (Metal Industry, Vol. 63, No. 27, 31/12/43, p. 422.)

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730	18170	U.S.A. ...	*Welding Symbols (Adopted by American Welding Society).* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 808.)
731	18171	U.S.A. ...	*Recommended Electrode Materials for Spot Welding Similar and Dissimilar Metals.* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 814.)
732	18174	U.S.A. ...	*Chart Classifying the Principal Welding Processes.* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 826.)
733	18175	U.S.A. ...	*Fluxes for Oxy-Acetylene Welding and Brazing (Data Sheet).* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 828.)
734	18176	U.S.A. ...	*Speed of Manual Arc Welding (Chart).* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 830.)
735	18183	U.S.A. ...	*Helium-Shielded Arc Welding for Light Metals.* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 605.)
736	18189	U.S.A. ...	*Shear Tester for Spot Welds.* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 620.)
737	18192	U.S.A. ...	*"Fish-Eyes" in Steel Welds.* (P. R. Jerabek, Metal Progress, Vol. 44, No. 4, Oct., 1943, pp. 640-642.)
738	18242	Germany ...	*Weibel Welding Method.* (Inter. Avia., Vol. —, No. 881, 19/8/43, pp. 1, 8-9.)
739	18294	G.B.	*Welding Hazards — Importance of Preventive Measures.* (Metal Industry, Vol. 64, No. 1, 7/1/44, p. 8.)
740	18331	G.B.	*Heavy Arc Weldings: A.C. or D.C.? Single or Multi-Operator?* (H. C. Bibby, Mechanical World, Vol. 114, No. 2,973, 24/12/43, pp. 725-728, 748.)
741	18398	G.B.	*Constant Current Ignition Control Panels for Resistance Welding Machines.* (B. G. Higgins, Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, pp. 137-144.)
742	18399	G.B.	*Welding of Copper and Copper Alloys.* (Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, p. 144.)
743	18400	G.B.	*Influence of the Composition of Shielded Arc Welding Electrodes.* (J. W. Miller, Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, pp. 145-146.)
744	18401	G.B.	*Resistance Welding (M.O.S. Welding Memorandum 4A and 4B).* (Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, p. 146.)
745	18402	Switzerland ...	*Spot Welding in the Light Metal Industries* (From Schweiz-Techn. Zeitschrift, 1942, No. 26, pp. 373-378.) (P. Hellring, Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, pp. 147-152.)
746	18451	U.S.A. ...	*Tack and Plug Welding Simplified.* (O. Craft, Machinist (European Edition), Vol. 87, No. 26, 16/10/43, p. 108.)
747	18490	G.B.	*Pressure Welding for Heavy Tubing.* (Mechanical World, Vol. 114, No. 2,974, 31/12/43, p. 759.)

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748	18493	G.B.	*Shafting Repairs by Welding.* (H. Vale, Mechanical World, Vol. 114, No. 2,974, 31/12/43, p. 770.)
749	18496	G.B.	*Heavy Arc Welding: A.C. or D.C.2 Single or Multi-Operator —II.* (H. F. Bibby, Mechanical World, Vol. 114, No. 2,974, 31/12/43, pp. 772-777.)

Heat Treatment.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
750	18133	U.S.A. ...	*Factors Insuring Satisfactory Furnace Refractory Construction.* (J. Wallerius and others, Metal Progress, Vol. 44, No. 4, October, 1943, pp. 632-634.)
751	17137	U.S.A. ...	*Induction Furnace for Electric Melting of Aluminium.* (M. Tama, Metal Progress, Vol. 44, No. 5, November, 1943, pp. 967-968C.)
752	17139	U.S.A. ...	*Heat Treatment Problems (Review of Papers Given at the National Metal Congress).* (Metal Progress, Vol. 44, No. 5, November, 1943, pp. 949-951.)
753	17144	U.S.A. ...	*Radio-Frequency Heating Applied to Wood Glueing.* (R. A. Bierwirth and C. N. Hoyler, Proc. of Institute of Radio Engineers, Vol. 31, No. 10, Oct., 1943, pp. 529-537.)
754	17365	G.B.	*Arc Welded Blast Furnace.* (Mechanical World, Vol. 114, No. 2,968, 19/11/43, pp. 598-599.)
755	17822	G.B.	*Observations on Foundry Technique.* (E. J. Raybould, Mechanical World, Vol. 114, No. 2,971, 10/12/43, p. 684.)
756	17880	G.B.	*Air Conditioning for Melting Furnaces.* (Light Metals, Vol. 6, No. 71, Dec., 1943, p. 578.)
757	17888	——	*H.-F. Electrothermics in the Technology of Light Metals—Pt. I (Account of Russian Practice).* (B. J. Brajnikoff, Light Metals, Vol. 6, No. 71, Dec., 1943, pp. 615-621.)
758	17891	G.B.	*Constant Heating Rate Control—Application of Thermocouple-Rectifier Bias Principle.* (R. J. Smith, Metal Industry, Vol. 63, No. 26, 24/12/43, pp. 402-404.)
759	17952	G.B.	*Developments in Thermal Technique as Applied to Vitreous Enamelling Processes.* (J. Fallon, Sheet Metal Industries, Vol. 18, December, 1943, pp. 2149-2151.)
760	18156	U.S.A. ...	*Cooling Power of Quenching Baths (Chart).* (Metal Progress, Vol. 44, No. 4, October, 1943, p. 730.)
761	18184	U.S.A. ...	*Preventing Quench Cracks in Tool Steels.* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 618.)

Surface Protection (Spraying, Electro-Plating, etc.).

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762	17116	G.B.	*Lead Coatings on Steel.* (G. Soderberg, Metal Industry, Vol. 63, No. 23, 3/12/43, p. 356.)
763	17156	G.B.	*Reclamation of Worn Parts by the Metal-Spraying Process.* (W. E. Ballard, Engineering, Vol. 156, No. 4,064, 3/12/43, pp. 457-458.)

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764	17226	G.B. ...	... *Metal Protection—Temporary Coating Suitable for all Finishes.* (Automobile Engineer, Vol. 33, No. 444, December, 1943, p. 527.)
765	17244	G.B. ...	... *Recent American Practice in Metal Spraying Worn Parts.* (Automobile Engineer, Vol. 33, No. 433, Nov., 1943, pp. 487-489.)
766	17370	G.B. ...	... *Reconditioning Files.* (Mechanical World, Vol. 114, No. 2,970, 3/12/43, p. 656.)
767	17388	G.B. ...	... *Hard Surfaces on Steel.* (D. Taylor, Civil Engineering, Vol. 38, No. 448, Oct., 1943, p. 235.)
768	17442	G.B. ...	... *Painting Underwater Steel.* (Civil Engineering, Vol. 38, No. 447, Sept., 1943, p. 189.)
769	17530	U.S.A.	... *Porous Chrome Plating of Piston Rings.* (Scientific American, Vol. 169, No. 6, December, 1943, p. 283.)
770	17665	U.S.A.	... *Reclaiming Worn Files.* (Journal of the Franklin Institute, Vol. 236, No. 1, July, 1943, p. 66.)
771	17684	U.S.A.	... *Theory of the Potential and the Technical Practice of Electrodeposition.* (Journal of the Franklin Institute, Vol. 236, No. 3, September, 1943, pp. 304-305.)
772	17714	U.S.A.	... *Flame-Priming Method of Preparing Steel Surfaces for Painting.* (Journal of the Franklin Institute, Vol. 235, No. 3, March, 1943, p. 325.)
773	17731	G.B. ...	... *Hard Chromium Plating on Steel (Abstract).* (A. W. Logozzo, Engineering, Vol. 156, No. 4,066, 17/12/43, p. 485.)
774	17890	G.B. ...	... *Metallizing (Spraying Molten Metal on to Worn Machine Parts).* (N. C. Jones, Chemistry and Industry, Vol. 62, No. 51, 18/12/43, pp. 481-482.)
775	17892	G.B. ...	... *Reclamation of Worn Parts.* (Metal Industry, Vol. 63, No. 26, 24/12/43, p. 404.)
776	18200	U.S.A.	... *Design—Strengthened Sheet Metal.* (R. S. Smith, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-6.)
777	18296	G.B. ...	... *Zinc Plating — Electrodeposition from Sodium Zincate Solutions.* (N. A. Tope, Metal Industry, Vol. 64, No. 1, 7/1/44, pp. 10-12.)
778	18297	G.B. ...	... *Plating "Novelties" — Multi-Coloured Electroplates and Monel Plating.* (Metal Industry, Vol. 64, No. 1, 7/1/44, p. 12.)
779	18305	G.B. ...	... *Bonded Deposits on Economiser Heating Surfaces —II.* (J. R. Rylands and J. R. Jenkinson, Engineering, Vol. 156, No. 4,068, 31/12/43, pp. 536-538.)
780	18327	G.B. ...	... *The Repair of Worn or Over-Machined Parts by Electrodeposition.* (Machinery, Vol. 63, No. 1,628, 23/12/43, p. 715.)
781	18389	G.B. ...	... *Electro-Tinning.* (Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, pp. 76-78.)

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			Drilling, Cutting, Pressing, Extrusion.
782	17141	U.S.A. ...	*Matters Relating to Metal Cutting (Review of Papers Given at the National Metal Congress).* (Metal Progress, Vol. 44, No. 5, November, 1943, pp. 962-964.)
783	17349	G.B.	*Deep Hole Drilling.* (Machinery, Vol. 63, No. 1,622, 11/11/43, p. 543.)
784	17376	G.B.	*An Indexing Jig for Drilling Tangential Holes in a Spherical Surface.* (Machinery, Vol. 63, No. 1,623, 1/12/43, p. 576.)
785	17764	U.S.A. ...	*Portable Oil Well Drilling and Servicing Equipment.* (J. Moon, Transactions of the A.S.M.E., Vol. 65, No. 8, Nov., 1943, pp. 857-863.)
786	17870	U.S.A. ...	*Impact Extrusion and Cold Pressing of Aluminium Parts.* (P. Koenig, Automotive Industries, Vol. 89, No. 8, 15/10/43, pp. 38-40.)
787	18102	G.B.	*Screw Cutting Blind Holes.* (J. H. Davis, Machinery, Vol. 63, No. 1,626, 9/12/43, p. 661.)
788	18328	G.B.	*Flattening Steel Discs.* (Machinery, Vol. 63, No. 1,628, 23/12/43, pp. 716-718.)
789	18450	U.S.A. ...	*Tool Drills Angular Holes.* (European Edition, Machinist, Vol. 87, No. 26, 16/10/43, p. 107.)
790	18495	G.B.	*Metal Spinning.* (Mechanical World, Vol. 114, No. 2,974, 31/12/43, p. 771.)
791	18499	G.B.	*Tube Cutting and Slitting.* (Mechanical World, Vol. 114, No. 2,974, 31/12/43, p. 780.)
			Rolling, Milling, Drawing, Forging.
792	17246	G.B.	*Metal Drawing (American Practice in the Use of Lubricants).* (Automobile Engineer, Vol. 33, No. 443, Nov., 1943, pp. 499-500.)
793	17270	U.S.A. ...	*An Introduction to High Speed Milling.* (P. Dubosclard, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-6.)
794	17274	U.S.A. ...	*Aluminium Forging Technique Advanced.* (S.A.E. Journal, Vol. 51, No. 11, November, 1943, pp. 24, 36.)
795	17308	G.B.	*Hyper-Milling with Carbide Cutters.* (Machinery, Vol. 63, No. 1,625, 2/12/43, pp. 617-621.)
796	17361	G.B.	*Fine Drawing of Gold-Covered Wire.* (Mechanical World, Vol. 114, No. 2,968, 19/11/43, p. 589.)
797	17581	G.B.	*Chemical and Physical Control in Relation to Rolling and Deep-Drawing Industries (Organisation of Suitable Laboratories and Equipment).* (C. S. Dobson, Metal Industry, Vol. 63, No. 25, 17/12/43, pp. 386-388.)
798	17696	Sweden ...	*The Cleaning of Heated Steel Before and During Rolling and Forging.* (G. Wallguist, Metallurgia, Vol. 29, No. 169, Nov., 1943, p. 43-44.)
799	17746	U.S.A. ...	*An Introduction to High Speed Milling.* (P. Dubosclard, Mechanical Engineering, Vol. 65, No. 12, December, 1943, pp. 865-871.)

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800	17946	G.B. ...	... *The Principles of Lubrication in Modern Deep-Drawing Practice.* (H. A. H. Crowther and others, Sheet Metal Industries, Vol. 18, No. 200, December, 1943, pp. 2,099-2,105.)
801	18111	G.B. ...	... *Forging and Heat-Treatment of Anti-Tank Shot.* (Machinery, Vol. 63, No. 1,628, 23/12/43, pp. 709-714.)
802	18163	U.S.A.	... *Draw Temperature for S.A.E.* 1,050 *Basic Steel Forgings (Chart).* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 782.)
803	18169	U.S.A.	... *Standard Tolerances for Forgings up to* 100 *lb. (Data Sheet).* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 804.)
804	18173	U.S.A.	... *Rules Governing Forging Machine Dies (Data Sheet).* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 822.)
805	18390	G.B. ...	... *The Principles of Lubrication in Modern Deep-Drawing Practice (Contd.).* (H. A. H. Crowther and others, Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, pp. 81-83, 88.)

Polishing, Machining, Turning, Grinding.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
806	17214	G.B. ...	... *Electrolytic Polishing of Metals.* (S. Wernick, Metal Industry, Vol. 63, No. 24, 10/12/43, pp. 377-380.)
807	17235	G.B. ...	... *Electrolytic Polishing—A Novel Method of Finishing Metal Surfaces.* (S. Wernick, Automobile Engineer, Vol. 33, No. 444, December, 1943, pp. 549-550.)
808	17242	G.B. ...	... *Gear Grinding (Form Wheel Grinding).* (Automobile Engineer, Vol. 33, No. 433, Nov., 1943, pp. 477-482.)
809	17345	G.B. ...	... *Machining Operations on Gun Barrels.* (Machinery, Vol. 63, No. 1,622, 11/11/43, pp. 533-536.)
810	17711	U.S.A.	... *Dry Versus Wet Grinding of Carbide Tools.* (Journal of the Franklin Institute, Vol. 235, No. 3, March, 1943, pp. 319-320.)
811	17776	U.S.A.	... *Machining Cast Armour Plate—A Discussion of the Tools and Technique Required.* (F. W. Lucht, Army Ordnance, Vol. 25, No. 141, Nov.-Dec., 1943, pp. 559-563.)
812	17823	G.B. ...	... *Centreless Grinding.* (H. Seymour, Mechanical World, Vol. 114, No. 2,971, 10/12/43, p. 685.)
813	17948	G.B. ...	... *Industrial Metal Finishing. Pt. IV—Overcoming the Problems of Degreasing and Cleaning.* (H. Silman, Sheet Metal Industries, Vol. 18, No. 200, December, 1943, pp. 2121-2125.)
814	18099	G.B. ...	... *Securing Fine Surface Quality by Grinding.* (H. J. Wills, Machinery, Vol. 63, No. 1,626, 9/12/43, pp. 657-659.)
815	18449	U.S.A.	... *Ball Turning on a Lathe.* (F. J. Atzrott, European Edition, Machinist, Vol. 87, No. 26, 16/10/43, p. 105.)

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			Bending and Expanding.
816	17109	U.S.A. ...	*Experimental Investigation of Tube Expanding.* (E. D. Grimson and G. H. Lee, Trans. A.S.M.E., Vol. 65, No. 5, July, 1943, pp. 497-505.)
817	17110	U.S.A. ...	*Practical Aspects of Making Expanded Joints.* (C. A. Maxwell, Trans. A.S.M.E., Vol. 65, No. 5, July, 1943, pp. 507-514.)
818	17111	U.S.A. ...	*Discussion — Expanded Tube Joints.* (Trans. A.S.M.E., Vol. 65, No. 5, July, 1943, pp. 515-522.)
819	17757	U.S.A. ...	*Mechanics of Sheet Metal Bending.* (W. Schroeder, Transactions of the A.S.M.E., Vol. 65, No. 8, Nov., 1943, pp. 817-827.)
820	17762	U.S.A. ...	*Theory of the Expanding of Boiler and Condenser Tube Joints Through Rolling (with Discussion).* (A. Nadai, Transactions of the A.S.M.E., Vol. 65, No. 8, Nov., 1943, pp. 865-880.)
821	18477	——	*List of References on Tube Bending.* (R.T.P. Bibliography No. 90, Sept., 1943.)
			Soldering and Brazing.
822	17211	G.B.	*Substitute Solder for Food Cans.* (Metal Industry, Vol. 63, No. 24, 10/12/43, pp. 373-374.)
823	17254	G.B.	*Low Tension Soldering Irons (Hints on Construction).* (Wireless World, Vol. 49, No. 11, November, 1943, pp. 340-341.)
824	17363	G.B.	*Brazing Electrical Connections.* (Mechanical World, Vol. 114, No. 2,968, 19/11/43, p. 597.)
825	17583	G.B.	*Soldering Techniques.* (D. L. Olwell and W. C. Lang, Metal Industry, Vol. 63, No. 25, 17/12/43, pp. 392-393.)
826	17700	G.B.	*A New Soft Solder* (87.5 *per cent. Lead,* 0.5 *per cent. Arsenic and* 12 *per cent. Antimony*). (Metallurgia, Vol. 29, No. 169, Nov., 1943, p. 49.)
827	17947	G.B.	*Conservation of Tin in Soft Solders.* (D. L. Colwell and W. C. Lang, Sheet Metal Industries, Vol. 18, No. 200, December, 1943, p. 2106.)
828	17950	G.B.	*Solders and Soldering Practice.* (W. E. Hoare, Sheet Metal Industries, Vol. 18, No. 200, December, 1943, pp. 2129-2138.)
829	17958	G.B.	*Soldering Stainless Steels.* (Sheet Metal Industries, Vol. 18, No. 200, December, 1943, p. 2152.)
830	18062	G.B.	*Saving Tin in Solders and Babbits.* (Metal Industry, Vol. 63, No. 27, 31/12/43, pp. 420-421.)
831	18391	G.B.	*Conservation of Tin in Soft Solders.* (D. L. Colwell and W. C. Lang, Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, pp. 84-86.)
832	18494	G.B.	*Brazing Copper Pipes.* (Mechanical World, Vol. 114, No. 2,974, 31/12/43, p. 771.)
			Powder Metallurgy.
833	17193	U.S.A. ...	*Research on Powder Metals Inflammability.* (A.S.T.M. Bulletin, No. 124, Oct., 1943, p. 14.)

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834	17204	Germany ...	*Moulding Powders with Low Resin Content.* (Kunststoffe, Vol. 33, p. 97.) (Plastics, Vol. 7, No. 79, Dec., 1943, p. 542.)
835	17347	G.B.	*High Strength Parts Made from Powdered Metals.* (Machinery, Vol. 63, No. 1,622, 11/11/43, p. 538.)
836	17741	G.B.	*A New High Heat Resistant "Lucite" Moulding Powder.* (British Plastics, Vol. 15, No. 175, December, 1943, p. 420.)
837	17885	G.B.	*Powder Metallurgy of Aluminium and its Alloys.* (Light Metals, Vol. 6, No. 71, Dec., 1943, pp. 594-597.)
838	18134	U.S.A. ...	*Dense Nickel Parts from Metal Powder.* (C. Hardy, Metal Progress, Vol. 44, No. 4, October, 1943, pp. 634-635.)
839	18439	U.S.A. ...	*Powder Metals Find Wide Use.* (European Edition, Machinist, Vol. 87, No. 26, 16/10/43, pp. 83-86.)

Dies.

840	17285	U.S.A. ...	*Aluminium Alloy Forging Dies: Considerations in Their Design and Use.* (S.A.E. Journal, Vol. 51, No. 11, November, 1943, pp. 23-24.)
841	17318	G.B.	*Matrix Alloy for Die.* (Machinery, Vol. 63, No. 1,625, 2/12/43, p. 638.)
842	17344	G.B.	*The Maintenance of Die Casting Dies.* (H. K. Barton, Machinery, Vol. 63, No. 1,624, 25/11/43, pp. 609-611.)
843	17701	G.B.	*Cast Die for Forging Shells.* (P. Attenborough, Metallurgia, Vol. 29, No. 169, Nov., 1943, p. 50.)
844	17736	G.B.	*Plastics Dies and Punches—Properties and Uses of Thermo-Cast.* (British Plastics, Vol. 15, No. 175, December, 1943, pp. 396-400.)
845	18132	U.S.A. ...	*Hardening High Speed Taps and Dies in the Electric Salt Bath.* (P. C. Farren, Metal Progress, Vol. 44, No. 4, October, 1943, pp. 625-631.)
846	18397	G.B.	*The Development of Sintered Tungsten Carbide Drawing Dice.* (E. J. Sandford, Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, pp. 129-134.)

Tools and Machines.

847	17364	G.B.	*Care of Press Tools.* (Mechanical World, Vol. 114, No. 2,968, 19/11/43, p. 597.)
848	17686	G.B.	*Jigs and Tools for Anodising.* (G. O. Taylor, Metallurgia, Vol. 29, No. 169, Nov., 1943, pp. 7-10.)
849	17747	U.S.A. ...	*Standardization of Cutting Tools—Development of Fine-Finished, Single-Point, Chip Breaker Type.* (C. J. Wiberg, Mechanical Engineering, Vol. 65, No. 12, December, 1943, pp. 871-880.)
850	17751	U.S.A. ...	*Metal Cutting Nomograph (for Cutting Steel with Single Point Tools).* (W. W. Gilbert and W. C. Truckenmiller, Mechanical Engineering, Vol. 65, No. 12, December, 1943, pp. 893-898.)
851	17752	U.S.A. ...	*Cutting Angle Relationships on Metal Cutting Tools.* (M. Kronenberg, Mechanical Engineering, Vol. 65, No. 12, December, 1943, pp. 901-904.)

ITEM NO.	R.T.P. REF.			TITLE AND JOURNAL.
852	18100	G.B. ...	...	*Press Tool Hints.* (Machinery, Vol. 63, No. 1,626, 9/12/43, p. 659.)
853	18301	G.B. ...	...	*Drying Machine for Coated Welding Rods.* (Engineering, Vol. 156, No. 4,068, 31/12/43, pp. 525-526.)
854	18302	G.B. ...	...	*Reamer Honing Machine.* (Engineering, Vol. 156, No. 4,068, 31/12/43, pp. 527-528.)

C. Inspection.

X-Ray Inspection.

855	17122	G.B. ...	...	*Radiographic Inspection Terminology.* (Metal Industry, Vol. 63, No. 23, 3/12/43, p. 362.)
856	17136	U.S.A.	...	*Exposure Chart for Radiography of Steel.* (Metal Progress, Vol. 44, No. 5, November, 1943, p. 944B.)
857	17152	G.B. ...	...	*Industrial Radiography.* (Engineering, Vol. 156, No. 4,064, 3/12/43, p. 447.)
858	17527	U.S.A.	...	*High Speed X-Ray for Examination of Castings.* (Scientific American, Vol. 169, No. 6, December, 1943, pp. 280-281.)
859	17882	G.B. ...	...	*Interpretation of Radiographs (Assessing Quality of Castings).* (Light Metals, Vol. 6, No. 71, Dec., 1943, pp. 582-583.)
860	17940	G.B. ...	...	*Technique of Intensity Measurements in X-Ray Crystal Analysis by Photographic Methods.* (J. M. Robertson, Journal of Scientific Instruments, Vol. 20, No. 11, November, 1943, pp. 175-179.)
861	18083	U.S.A.	...	*Radiographic Inspection of Light Alloy Castings.* (R. Taylor, Automotive and Aviation Industries, Vol. 89, No. 10, 15/11/43, pp. 36-40, 106.)
862	18188	U.S.A.	...	*Handling Film for Radiography.* (Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 618.)

Spectrographic and Microscopic Methods.

863	17129	G.B. ...	...	*The Spectrographic Analysis of Copper and Copper-Rich Alloys by the Arc Method.* (H. Millbourn, Journal of Institute of Metals, Vol. 69, No. 10, Oct., 1943, pp. 441-463.)
864	17360	G.B. ...	...	*The Spectrographic Analysis of Cast Iron.* (F. B. Ling and others, Mechanical World, Vol. 114, No. 2,968, 19/11/43, pp. 587-589.)
865	17439	Germany	...	*A Tension-Optical Method for the Investigation of Contraction Processes in Paint Films (Abstract).* (W. Konig, Civil Engineering, Vol. 38, No. 447, Sept., 1943, p. 208.)
866	17682	U.S.A.	...	*Infra-Red Spectroscopy for Determining the Nature and Characteristics of Materials.* (Journal of the Franklin Institute, Vol. 236, No. 3, September, 1943, p. 327.)
867	17860	G.B. ...	...	*The Electron Microscope and its Application to Engineering Problems—No. 1.* (A. G. Quarrell, The Engineer, Vol. 176, No. 4,589, 24/12/43, pp. 499-502.)

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868	18066	U.S.A.	*Analysis by Infra-Red Spectroscopy—A New Method Applied to Mixtures of Nitroparaffins.* (J. R. Nielsen and D. C. Smith, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 10, 18/10/43, pp. 609-615.)
869	18186	U.S.A.	*Direct Positives for Micrographs.* (Metal Progress, Vol. 44, No. 4, Oct., 1943, pp. 619-620.)
870	18227	G.B.	*The Electron Microscope and its Application to Engineering Problems—II.* (A. G. Quarrell, The Engineer, Vol. 176, No. 4,590, 31/12/43, pp. 526-528.)
871	18384	G.B.	*Microscopic Examination of Metal Coatings.* (Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, p. 66.)

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872	17765	G.B.	*The Rapid Photometric Determination of Aluminium in Magnesium Alloys.* (F. W. Haywood and others, Journal of the Society of Chemistry and Industry, Vol. 62, No. 11, Nov., 1943, pp. 187-189.)
873	18068	U.S.A.	*Photometric Estimation of Silicon in Magnesium and Magnesium Alloys.* (A. J. Boyle and V. V. Hughey, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 10, 18/10/43, pp. 618-619.)

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874	17107	U.S.A.	*Mechanical Tests of Cellulose Acetate—III.* (W. N. Findley, Trans. A.S.M.E., Vol. 65, No. 5, July, 1943, pp. 479-487.)
875	17192	U.S.A.	*Determining the Flash Points of Heavy Bodied Paints by the Tag Closed Cup and the Pensky-Martens Testers.* (D. Busper, A.S.T.M. Bulletin, Vol. —, No. 124, Oct., 1943, pp. 13-14.)
876	17535	G.B.	*Spot Tests for the Identification of Certain Metallic Coatings and of Certain Metals in Bulk (Book Review).* (B. S. Evans and D. S. Higgs, Chemistry and Industry, Vol. 62, No. 50, 11/12/43, p. 476.)
877	17821	G.B.	*The Spark Test for Ferrous Metals—Its Practical Application Using Standard Reference Specimens.* (Mechanical World, Vol. 114, No. 2,971, 10/12/43, pp. 674-677.)
878	17893	G.B.	*Chemical Analysis of Metals.* (Metal Industry, Vol. 63, No. 26, 24/12/43, p. 408.)
879	17894	G.B.	*Fineness Determination of Clay-Free Sands.* (O. J. Myers and R. Kattus, Metal Industry, Vol. 63, No. 26, 24/12/43, p. 409.)
880	18051	G.B.	*Rapid Test for Manganese in Tool Steel.* (Engineering, Vol. 156, No. 4,067, 24/12/43, p. 505.)
881	18069	U.S.A.	*Modified Basic Succinate Estimation of Aluminium in Magnesium Alloys.* (A. J. Boyle and D. F. Musser, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 10, 18/10/43, pp. 621-622.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
882	18070	U.S.A. ...	*Iodometric Estimation of Zinc in Magnesium Alloys.* (C. C. Casto and A. J. Boyle, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 10, 18/10/43, pp. 623-624.)
883	18071	U.S.A. ...	*Determination of Small Amounts of Arsenic, Antimony and Tin in Lead and Lead Alloys.* (C. L. Luke, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 10, 16/10/43, pp. 626-629.)
884	18076	U.S.A. ...	*Dithizone Method for the Rapid Determination of Copper.* (G. H. Bendix and D. Grabenstetter, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 10, 18/10/43, pp. 649-652.)
885	18185	U.S.A. ...	*Determining Chromium in Alloy Steel.* (Metal Progress, Vol. 44, No. 4, Oct., 1943, pp. 618-619.)
886	18190	U.S.A. ...	*Fast and Accurate Analytical Methods for Metals and Alloys.* (W. G. Bullard, Metal Progress, Vol. 44, No. 4, Oct., 1943, p. 640.)
887	18267	U.S.A. ...	*Results of the Examination of Two Carbon Molybdenum Tubular Creep Test Specimens, with Particular Reference to Graphitization Caused by Testing Conditions.* (H. J. Kerr and F. Eberle, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-7.)

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888	17362	G.B.	*Sand Quality and Control.* (Mechanical World, Vol. 114, No. 2,968, 19/11/43, pp. 596-597.)
889	17862	G.B.	*Quality Control (Symposium of Papers at the Institution of Mechanical Engineers).* (Various Authors, The Engineer, Vol. 176, No. 4,589, 24/12/43, pp. 507-508.)
890	18090	G.B.	*Practical Application of Quality Control.* (W. A. Bennett and J. W. Rodgers, Machinery, Vol. 63, No. 1,628, 23/12/43, pp. 701-706.)
891	18352	U.S.A. ...	*Getting a Better Grip on Quality Control.* (J. Gaillard, S.A.E. Preprints, 10-14/1/44, pp. 1-8.)

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Gauges.

892	17095	G.B.	*A Case for the Standardization of Boost Gauges.* (Flight, Vol. 44, No. 1,823, 2/12/43, pp. 619-620.)
893	17600	Germany ...	*New Caliper Gauges for Measuring the Wall Thickness of Tubes.* (Der Deutsche Sportflieger, Vol. 10, No. 10, Oct., 1943, p. 164.)
894	17971	G.B.	*Glass Gauges (Some Disadvantages).* (C. A. Coppach, Aircraft Production, Vol. 6, No. 63, January, 1944, p. 16.)
895	18340	G.B.	*Pressure Gauges—Their Installation, Maintenance and Repair.* (J. R. Fawcett, Mechanical World, Vol. 114, No. 2,973, 24/12/43, pp. 743-748.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
			Compasses.
896	17806	U.S.A. ...	*Bendix Develops New Gyro Flux Compass.* (American Aviation, Vol. 7, No. 12, 15/11/43, p. 91.)
897	18210	U.S.A. ...	*Magnesyn Remote Reading Compass.* (Preprints of 11th Annual Meeting of Institute of Aeronautical Sciences, 17-27/1/43, pp. 1-22.)
898	18276	G.B.	*Gyro Flux-Gate Compass (Magnetic Compass Uses a New Principle).* (Flight, Vol. 45, No. 1,828, 6/1/44, pp. 20-21.)
899	18416	U.S.A. ...	*Bendix Gyro Flux-Gate Compass.* (Automotive and Aviation Industries, Vol. 89, No. 9, 1/11/43, p. 37.)
			Meters.
900	17138	U.S.A. ...	*Precision of Pyrometers.* (Metal Progress, Vol. 44, No. 5, November, 1943, pp. 968C-968D.)
901	17519	U.S.A. ...	*The Spectrophotometer Aids Camouflage Work (Matching Camouflage Colours).* (Scientific American, Vol. 169, No. 6, December, 1943, p. 270.)
902	17705	U.S.A. ...	*The Calibration of the Electromagnetic Microbarograph.* (E. L. Sulkowski, Journal of the Franklin Institute, Vol. 235, No. 3, March, 1943, pp. 239-258.)
903	17759	U.S.A. ...	*A Thermal Anomometer for Low Velocity Flow.* (R. A. Seban and others, Transactions of the A.S.M.E., Vol. 65, No. 8, Nov., 1943, pp. 843-846.)
904	18042	U.S.A. ...	*Construction of Monochromator Cams for Recording Spectrophotometers.* (J. M. Moran, Review of Scientific Instruments, Vol. 14, No. 10, Oct., 1943, pp. 287-291.)
905	18074	U.S.A. ...	*An Improved Automatic Gas Effusiometer (for the Determination of the Specific Gravity of Gases).* (L. C. Drake, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 10, 18/10/43, p. 647.)
906	18208	U.S.A. ...	*Altimeter Setting Indicator (for Installation at Airports).* (C. H. Colvin, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-5.)
907	18212	U.S.A. ...	*A Multiple Recording Manometer (for Wind Tunnel Testing).* (P. J. Campbell, Preprints of 11th Annual Meeting of Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-11.)
			Miscellaneous.
908	17162	G.B.	*Gyroscopic Principles and Applications—No. 2.* (C. E. Inglis, Engineer, Vol. 176, No. 4,586, 3/12/43, pp. 452-453.)
909	17182	U.S.A. ...	*Vapour Pressure Slide Rule.* (F. T. Miles, Industrial and Engineering Chemistry, Vol. 35, No. 10, 7/10/43, pp. 1052-1061.)

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910	17217	G.B. ...	*Gyroscopic Principles and Applications.* (C. E. Inglis, The Engineer, Vol. 176, No. 4,587, 10/12/43, pp. 464-465.)
911	17662	U.S.A.	*Quartz Crystals Used to Measure High Accelerations.* (Journal of the Franklin Institute, Vol. 236, No. 1, July, 1943, p. 8.)
912	18041	U.S.A.	*Some Improvements for the Analytical Ultracentrifuge.* (D. H. Moore, Review of Scientific Instruments, Vol. 14, No. 10, Oct., 1943, pp. 295-297.)

PRODUCTION.

Organisation and Control.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
913	17172	U.S.A.	*Symposium of Man Power Problems in Chemical Industry (Training Programmes for Chemists, Training Programmes for Chemical Engineers, Training of Women Operators for Chemical Industry, How Industry is Solving its Man Power Problems, Chemical Man Power for Post-War Industries).* (Various Authors, Industrial and Engineering Chemistry, Vol. 21, No. 20, 25/10/43, pp. 1701-1715.)
914	17219	G.B. ...	*Post-War Industrial Reconstruction.* (The Engineer, Vol. 176, No. 4,587, 10/12/43, p. 463.)
915	17237	G.B. ...	*The Rôle of the Progress Department in Speeding Up Production.* (Automobile Engineer, Vol. 33, No. 444, December, 1943, p. 548.)
916	17309	G.B. ...	*Monopoly and Control—Germany's Master Plan (Book Review).* (J. Berkin and C. A. Welsh, Machinery, Vol. 63, No. 1,625, 2/12/43, pp. 622-624.)
917	17319	G.B. ...	*Notes on Standardisation and Production Efficiency (Technical Bulletin, Nov.,* 1943). (Journal of the Institution of Production Engineers, Vol. 22, No. 11, Nov., 1943, pp. 85-93.)
918	18345	G.B. ...	*Buying Department and Stores Records.* (Mechanical World Engineering Record, Vol. 114, No. 2,972, 17/12/43, pp. 703-705.)
919	17352	G.B. ...	*Production Control—A Method of Approach.* (W. F. Walker, Machinery, Vol. 63, No. 1,622, 11/11/43, pp. 548-552.)
920	17356	G.B. ...	*Women Engineers in War and After.* (G. L. Entwisle, Mechanical World, Vol. 114, No. 2,967, 12/11/43, pp. 568-569.)
921	17369	G.B. ...	*Material Schedule and Standard — Eliminating Waste in Production.* (Mechanical World, Vol. 114, No. 2,970, 3/12/43, pp. 649-650.)
922	17559	U.S.A.	*Government Procurement of Aircraft.* (A. W. Knauth, Air Law Review, Vol. 12, No. 1, January, 1941, pp. 34-39.)
923	17598	Germany	*Swiss Aircraft Industry.* (Der Deutsche Sportflieger, Vol. 10, No. 10, Oct., 1943, p. 158.)
924	17726	G.B. ...	*Post-War Industrial Reconstruction.* (Engineering, Vol. 156, No. 4,066, 17/12/43, pp. 491-492.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
925	17829	G.B. ...	... *Allied Aircraft Output.* (Aeroplane, Vol. 65, No. 1,699, 17/12/43, p. 686.)
926	17904	U.S.A.	... *Aircraft Industry and Profits.* (R. L. Hoadley, Aviation, Vol. 42, No. 10, October, 1943, pp. 114-116, 322-325.)
927	17975	G.B. ...	... *Stores and Materials Control—Efficient Organisation to Aid Production.* (F. W. Cook, Aircraft Production, Vol. 6, No. 63, January, 1944, pp. 44-47.)
928	18112	America	... *Control of Surplus Aircraft Disposal.* (American Aviation, Vol. 7, No. 13, 1/12/43, p. 26.)

Research and Training.

929	17154	G.B. ...	... *Education for the Public Services.* (Engineering, Vol. 156, No. 4,064, 3/12/43, p. 452.)
930	17171	G.B. ...	... *Organization of Scientific and Industrial Research in India.* (Nature, Vol. 152, No. 3,865, 27/11/43, pp. 622, 639.)
931	17239	G.B. ...	... *Importance of Research to Industry.* (Automobile Engineer, Vol. 33, No. 433, Nov., 1943, p. 469.)
932	17431	G.B. ...	... *Higher Technical Education.* (Engineering, Vol. 156, No. 4,065, 10/12/43, pp. 471-472.)
933	17437	U.S.A.	... *Curtiss Research Laboratory.* (A. F. Donovan, Curtiss Fly Leaf, Vol. 26, No. 1, March-April, 1943, pp. 12-14.)
934	17591	G.B. ...	... *Technical Education (Report of the Council of the City and Guilds of London Institute).* (Engineer, Vol. 176, No. 4,588, 17/12/43, p. 490.)
935	17755	U.S.A.	... *Eleventh Annual Meeting of the Engineers' Council for Professional Development (E.P.C.D.) (Review of Post-War Problems and Their Effects on Engineering Education).* (Mechanical Engineering, Vol. 65, No. 12, December, 1943, pp. 915-920.)
936	17789	G.B. ...	... *The Social Sciences in Great Britain.* (Nature, Vol. 152, No. 3,867, 11/12/43, pp. 669-670.)
937	17792	G.B. ...	... *Suggested New School of Aeronautical Science.* (Nature, Vol. 152, No. 3,867, 11/12/43, pp. 686-687.)
938	17793	G.B. ...	... *Functions of the Special and General Libraries.* (Nature, Vol. 152, No. 3,867, 11/12/43, pp. 687-688.)
939	17803	U.S.A.	... *German Research Facilities "Extensive" (Further Expansion of N.A.C.A. Research Programme).* (K. E. Johnsen, American Aviation, Vol. 7, No. 12, 15/11/43, p. 19.)
940	17977	G.B. ...	... *Laboratory and Production (Need for Close Cooperation).* (W. A. Sparks, Aircraft Production, Vol. 6, No. 63, January, 1944, p. 49.)
941	18246	G.B. ...	... *Training of Aeronautical Engineers in Great Britain (Proposals).* (Inter. Avia., No. 881, 19/8/43, p. 10.)
942	18433	U.S.A.	... *Professional Education for Aviation's Managers.* (U.S. Air Services, Vol. 28, No. 11, November, 1943, p. 11.)

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			Aircraft and Aero Engine Production.
943	17373	G.B. ...	... *Stretching Structural Parts for Aircraft (Stretch-Forming Tests and Typical Production Methods).* (F. C. Hoffman, Machinery, Vol. 63, No. 1,623, 1/12/43, pp. 561-570.)
944	17387	G.B. ...	... *The Preparation, Workmanship and Inspection of Riveted Connections.* (R. H. Selby Hele, Civil Engineering, Vol. 38, No. 448, Oct., 1943, pp. 216-219.)
945	17453	G.B. ...	... *Weighing an Air Liner.* (Trade and Engineering Times, Vol. 53, No. 956, Oct., 1943, p. 35.)
946	17572	G.B. ...	... *Russian Landscape (the Dynamic Aircraft Industry—New Development).* (Flight, Vol. 44, No. 1,825, 16/12/43, pp. 670-671.)
947	17582	G.B. ...	... *Moulding Large Bronze Propellers.* (Metal Industry, Vol. 63, No. 25, 17/12/43, pp. 389-391.)
948	17603	Germany	... *Drying "Mosquito" Fuselage with Infra-Red Heat (Photograph).* (Der Deutsche Sportflieger, Vol. 10, No. 10, Oct., 1943, p. 166.)
949	17865	U.S.A.	... *Engineering Production of Flying Fortresses (the Technical Aspects of the Boeing-Douglas-Vega Production Problem).* (M. Short, Automotive Industries, Vol. 89, No. 8, 15/10/43, pp. 17-21, 92-95.)
950	17907	U.S.A.	... *Refrigerators to Thunderbolt Wings (Account of Servel's Wing Fabrication Methods, etc.).* (G. E. Stedman, Aviation, Vol. 42, No. 10, October, 1943, pp. 142-147, 346.)
951	17912	U.S.A.	... *Plastic Shields Speed Blade Balancing.* (Aviation, Vol. 42, No. 10, October, 1943, p. 167.)
952	17913	U.S.A.	... 100-*Ton Rotary Unit for Curing Rubber Propeller Blade Cuffs at Hamilton Standard Propeller Plant.* (Aviation, Vol. 42, No. 10, October, 1943, pp. 167-168.)
953	17914	U.S.A.	... *Pliofilm Raincoat for Shipping P-*40 *Aircraft Bodies.* (Aviation, Vol. 42, No. 10, October, 1943, p. 168.)
954	17949	G.B. ...	... *Development of Aircraft Detail Fittings (Part* 4). (W. Cookson, Sheet Metal Industries, Vol. 18, No. 200, December, 1943, pp. 2126-2128.)
955	17970	G.B. ...	... *The Halifax Undercarriage Bridge Casting (Use of Magnesium and Special Foundry Production Methods).* (J. A. Gates, Aircraft Production, Vol. 6, No. 63, January, 1944, pp. 21-31.)
956	17978	G.B. ...	... *Curing Machine—Continuously-Operating Turntable for Hamilton Airscrew Blades.* (Aircraft Production, Vol. 6, No. 63, January, 1944, p. 50.)
957	17990	Canada	... *Fly-Cutting to Victory (Use of Tool Bits in Special Adapters to Overcome Shortage of Milling Cutters).* (G. Fox, Commercial Aviation, Vol. 5, No. 9, Sept., 1943, pp. 76-82.)
958	17994	Canada	... *Milling Spars for the "Lancaster."* (H. L. Flynn, Commercial Aviation, Vol. 5, No. 9, Sept., 1943, pp. 108-114.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
959	18000	U.S.A. ...	*The Lockheed P. 38 Lightning (Mechanised Assembly Methods, etc.).* (J. H. Sreenan, Aviation, Vol. 42, No. 9, Sept., 1943, pp. 121-134, 309-310.)
960	18006	U.S.A. ...	*How Fewer Workers Build More Bomber Nose Sections (Use of Unique Breakdown System and Special Tooling at Consolidated Vultee Plants).* (Aviation, Vol. 42, No. 9, Sept., 1943, pp. 161-165.)
961	18008	U.S.A. ...	*Conservation in Canada's Aircraft Industry (Saving Materials and Man Hours by Improved Methods of Production).* (J. Montagnes, Aviation, Vol. 42, No. 9, Sept., 1943, pp. 181, 283-286.)
962	18096	G.B.	*Production Short-Cuts on Aircraft Parts (Eliminating Wrinkles in Forming Operations, Simplifying Contour Milling Operations, etc.).* (Machinery, Vol. 63, No. 1,626, 9/12/43, pp. 645-650.)
963	18253	Germany ...	*Mass Production of Do. 217.* (K. W. Pielike, Luftwelt, Vol. 10, No. 21, 1/11/43, pp. 422-423.)
964	18388	G.B.	*The Manufacture of Steel Landing Mats.* (Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, p. 75.)
965	18419	U.S.A. ...	*Salt Bath Treatment of Aircraft Parts.* (S. M. Defoy, Automotive and Aviation Industries, Vol. 59, No. 9, 1/11/43, pp. 38-40, 156.)
966	18441	U.S.A. ...	*Shot-Blasting Aircraft Engine Parts.* (European Edition, Machinist, Vol. 87, No. 26, 16/10/43, pp. 88-89.)
967	18452	U.S.A. ...	*Self-Locking Terminal Assembly (Tongue Punched in Flat Pieces Keep Screws from Backing Out and Eliminates Lockwasher).* (T. C. Du Mond, Machinist, Vol. 87, No. 26, 16/10/43, p. 108.)

General Industrial Methods.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
968	17354	G.B.	*Photographic Layout Methods.* (Mechanical World, Vol. 114, No. 2,967, 12/11/43, p. 560.)
969	17379	G.B.	*Diagrams on Metal Surfaces by Photography.* (Mechanical World, Vol. 114, No. 2,966, 5/11/43, p. 526.)
970	17509	U.S.A. ...	*Colour-Matching in Industry—Use of Recording Spectrophotometer.* (J. Markus, Scientific American, Vol. 169, No. 6, December, 1943, pp. 256-258.)
971	17510	U.S.A. ...	*Precision Casting for the Production of Small Metal Parts (Use of Lost-Wax Process).* (Scientific American, Vol. 169, No. 6, December, 1943, pp. 259-261.)
972	17514	U.S.A. ...	*Industrial Uses of Felt—Survey of Recent Developments.* (W. Colwell, Scientific American, Vol. 169, No. 6, December, 1943, pp. 265-266.)
973	17724	G.B.	*Special Screw Cutting in an Amateur's Workshop.* (Engineering, Vol. 156, No. 4,066, 17/12/43, p. 486.)
974	17866	U.S.A. ...	*Production of Steel Cartridge Cases in Large Quantities.* (J. Geschelin, Automotive Industries, Vol. 89, No. 8, 15/10/43, pp. 22-25, 62.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
975	18308	G.B. ...	*Ink v. Pencil Tracings.* (Engineering, Vol. 156, No. 4,068, 31/12/43, p. 534.)
976	18339	G.B. ...	*Printing Production Templates.* (Mechanical World, Vol. 114, No. 2,973, 24/12/43, p. 742.)
977	18375	U.S.A. ...	*Infra-Red Spectroscopy—Industrial Applications (Comprehensive Survey) (including Library of Reference Curves).* (R. B. Barnes and Z. V. Williams, Industrial and Engineering Chemistry (Analytical Ed.), 11/11/43, pp. 659-707.)
978	18395	G.B. ...	*Photographic Reproduction of Layouts on Metal.* (A. H. Tiltman, Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, pp. 117-127, 134.)
979	18444	U.S.A. ...	*Concave Surfaces Can be Milled.* (C. Havranek, European Edition, Machinist, Vol. 87, No. 26, 16/10/43, p. 97.)
			Tools and Equipment.
980	17368	G.B. ...	*Equipment and Methods for the Production Heat Treatment of Gears.* (Mechanical World, Vol. 114, No. 2,970, 3/12/43, pp. 645-648.)
981	17398	U.S.A. ...	*Mechanical Furnace—Loading Device Saves Steels and Cuts Production Time.* (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, pp. 115, 130.)
982	17974	G.B. ...	*Special Purpose X-Ray Equipment for Quantity Production Inspection of Aircraft Bearings and Light Alloy Castings.* (Aircraft Production, Vol. 6, No. 63, January, 1944, pp. 42-43.)
983	18136	U.S.A. ...	*Wartime Applications of Industrial Gas Equipment.* (E. G. de Coriolis, Metal Progress, Vol. 44, No. 4, October, 1943, pp. 647-648, 654-656.)
984	18411	U.S.A. ...	*Diversification of War Products at Minneapolis-Moline Plant (Survey of Installations and Equipment).* (J. Geschelin, Automotive and Aviation Industries, Vol. 89, No. 9, 1/11/43, pp. 18-24, 72.)
985	18423	U.S.A. ...	*Device for Duplicating Exact Contours (Dupligraph).* (Automotive and Aviation Industries, Vol. 59, No. 9, 1/11/43, pp. 84-85.)
986	18440	U.S.A. ...	*Simplified Grinder Aids Production.* (S. L. Huffman, European Edition, Machinist, Vol. 87, No. 26, 16/10/43, p. 87.)
			Scrap, Salvage and Fuel Economy.
987	17353	G.B. ...	*Industrial Salvage in Peace and War.* (Mechanical World, Vol. 114, No. 2,967, 12/11/43, pp. 559-560.)
988	18500	G.B. ...	*Ways of Effecting Fuel Economy in the Factory (the Effects of Keeping Records, etc.).* (Mechanical World, Vol. 114, No. 2,974, 31/12/43, pp. 760-761.)
989	17683	U.S.A. ...	*Ford Reclaims Tungsten Carbide Chips.* (Journal of the Franklin Institute, Vol. 236, No. 3, September, 1943, pp. 325-326.)

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			Workers' Welfare.
990	17173	U.S.A. ...	*Industrial Safety (National Safety Council Meeting).* (F. J. Van Antwerpen, Industrial and Engineering Chemistry, Vol. 21, No. 20, 25/10/43, pp. 1721-1723.)
991	17429	G.B.	*Air-Conditioning Developments.* (B. C. Oldham and G. E. Clifford, Engineering, Vol. 156, No. 4,065, 10/12/43, pp. 465-466.)
992	17502	U.S.A. ...	*Home Air-Conditioning with New Type of Gas-Fired Refrigeration Unit.* (Scientific American, Vol. 169, No. 6, December, 1943, p. 249.)
993	17503	U.S.A. ...	*Industrial Temperature Control.* (Scientific American, Vol. 169, No. 6, December, 1943, pp. 250-252.)
994	17513	U.S.A. ...	*Music in Industry.* (H. Burris-Meyer, Scientific American, Vol. 169, No. 6, December, 1943, pp. 262-264.)
995	17828	G.B.	*Causes of Factory Fires.* (Mechanical World, Vol. 114, No. 2,971, 10/12/43, p. 673.)
996	18393	G.B.	*The Scope of Lighting in Industry.* (J. H. Nelson, Sheet Metal Industries, Vol. 19, No. 201, Jan., 1944, pp. 101-108.)
997	18491	G.B.	*Reducing Factory Noise.* (Mechanical World, Vol. 114, No. 2,974, 31/12/43, p. 763.)
			TRANSPORT.
			Military Vehicles, Tanks, Trucks, etc.
998	17220	G.B.	*The Guy "Quad-Ant" Chassis—a Four-Wheel Drive Military Vehicle.* (Automobile Engineer, Vol. 33, No. 444, December, 1943, pp. 511-517.)
999	17222	——	*U.S. Light Tank M-5 (Fitted with Automobile Engines and Semi-Automobile Gear Boxes).* (Automobile Engineer, Vol. 33, No. 444, December, 1943, p. 522.)
1000	17775	U.S.A. ...	*Evolution of the Army's Vehicles for Amphibious Operations.* (E. S. Van Deusen, Army Ordnance, Vol. 25, No. 141, Nov.-Dec., 1943, pp. 555-558.)
1001	17786	U.S.A. ...	*Versatile Army Vehicles (the Half-Tracks Prove Adaptable to Many Uses).* (R. P. Johnson, Army Ordnance, Vol. 25, No. 141, Nov.-Dec., 1943, pp. 596-599.)
1002	18078	U.S.A. ...	*American Tank Engines.* (Automotive and Aviation Industries, Vol. 89, No. 10, 15/11/43, pp. 20-22.)
			Locomotives, Automobiles.
1003	17231	G.B.	*Steering Gears—Some Notes on Their Performance Characteristics.* (H. N. Charles, Automobile Engineer, Vol. 33, No. 444, December, 1943, pp. 533-537.)
1004	17241	G.B.	*A Battery Electric Vehicle.* (Automobile Engineer, Vol. 33, No. 433, Nov., 1943, pp. 471-476.)
1005	17256	U.S.A. ...	*Trends in Future Car Design (S.A.E. Meeting).* (National Petroleum News, Vol. 35, No. 42, 20/10/43, pp. 20, 38.)

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1006	17272	U.S.A. ...	*Post-War Research Possibilities in Railway Equipment.* (W. I. Cantley, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-8.)
1007	17281	U.S.A. ...	*Future Automobiles (Symposium of Papers) (Excerpts).* (Various Authors, S.A.E., Vol. 51, No. 11, Nov., 1943, pp. 28-29, 45-47.)
1008	17517	U.S.A. ...	*Air-Rail Terminal Planned at Oklahoma City.* (Scientific American, Vol. 169, No. 6, December, 1943, p. 270.)
1009	18053	G.B.	*Counter-Pressure Brake Testing of Locomotives.* (D. R. Carling, Engineering, Vol. 156, No. 4,067, 24/12/43, p. 514.)
1010	18414	U.S.A. ...	*Future Car Designs (Symposium of Papers Presented at the S.A.E.).* (Automotive and Aviation Industries, Vol. 89, No. 9, 1/11/43, pp. 28-30, 154.)

WIRELESS AND ELECTRICITY.

Radio (Reception, Antennæ, Transmitters, etc.).

1011	17146	U.S.A. ...	*The Distribution of Current Along a Symmetrical Centre-Driven Antenna.* (R. King and C. W. Harrison, Proc. Institute of Radio Engineers, Vol. 31, No. 10, Oct., 1943, pp. 548-567.)
1012	17147	U.S.A. ...	*Some Aspects of Radio Reception at Ultra-High Frequency. Part IV—General Superheterodyne Considerations at Ultra-High Frequencies.* (L. Malter, Proc. Institute of Radio Engineers, Vol. 31, No. 10, Oct., 1943, pp. 567-575.)
1013	17148	U.S.A. ...	*Some Aspects of Radio Reception at Ultra-High Frequencies. Part V—Frequency Mixing in Diodes.* (E. W. Herold, Proc. Institute of Radio Engineers, Vol. 31, No. 10, Oct., 1943, pp. 575-582.)
1014	17250	G.B.	*Radio Data Charts—12. Inductance, Capacity and Frequency; Short Wave.* (J. M. Sowerby, Wireless World, Vol. 49, No. 11, Nov., 1943, pp. 324-326.)
1015	17252	G.B.	*Commando Signals (Organisation and Equipment).* (Wireless World, Vol. 49, No. 11, November, 1943, pp. 332-334.)
1016	17253	G.B.	*International Telecommunications.* (Wireless World, Vol. 49, No. 11, November, 1943, p. 339.)
1017	17676	U.S.A. ...	*Glass Kite String Used for Box Kite for Radio Antenna.* (Journal of the Franklin Institute, Vol. 236, No. 3, September, 1943, p. 240.)
1018	17712	U.S.A. ...	*War Standards for Military Radio.* (S. K. Wolf, Journal of the Franklin Institute, Vol. 235, No. 3, March, 1943, pp. 321-322.)
1019	17715	U.S.A. ...	*Radio Parts Tested Under Extreme Temperature Ranges.* (Journal of the Franklin Institute, Vol. 235, No. 3, March, 1943, pp. 325-326.)
1020	17967	G.B.	*Plastic Aerial Masts—Characteristics of Laminated Fabric and Paper (Moulding and Winding Processes).* (W. A. Cook, Aircraft Production, Vol. 6, No. 63, January, 1944, pp. 17-19.)

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1021	18035	G.B.	*Frequency-Modulation Transmitter and Receiver for Studio-to-Transmitter Relay System.* (W. F. Goetter, Proceedings I.R.E., Vol. 31, No. 11, 11/11/43, pp. 600-606.)
1022	18036	G.B.	*Power-Tube Performance in Class C Amplifiers and Frequency Multipliers as Influenced by Harmonic Voltage.* (R. I. Sarbacher, Proceedings I.R.E., Vol. 31, No. 11, 11/11/43, pp. 607-625.)
1023	18037	G.B.	*Coupled Antennæ and Transmission Lines.* (R. King, Proceedings I.R.E., Vol. 31, No. 11, 11/11/43, pp. 626-640.)
1024	18038	G.B.	*Radio Production for the Armed Forces.* (S. C. Hooper, Proceedings I.R.E., Vol. 31, No. 11, 11/11/43, pp. 640-642.)
1025	18039	G.B.	*Standard Frequency Broadcast Service of National Bureau of Standards.* (Proceedings I.R.E., Vol. 31, No. 11, 11/11/43, pp. 642-643.)
1026	18209	U.S.A. ...	*Resonant Electrical Control Systems (Application to Single and Multi-Channel Radio Control).* (D. W. Moore, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-6.)
1027	18211	U.S.A. ...	*Vultee Radio Recorder (for Flight Performance Data).* (H. D. Giffen, Preprints of 11th Annual Meeting of Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-20.)
1028	18241	U.S.A. ...	*Emergency Wireless Transmitter (Range 150 Miles, 33 lb.).* (Inter. Avia., No. 881, 19/8/43, p. 11.).
1029	18377	G.B.	*A Tentative Statistical Study of Domestic Radio Interference.* (S. Whitehead, The Journal of Institution of Electrical Engineers, Vol. 90, Part III, No. 12, Dec., 1943, pp. 181-192.)

General Electricity (Petersen Coils, Cosmic Rays, etc.).

1030	17104	U.S.A. ...	*Process Lags in Automatic Control Circuits.* (J. G. Ziegler and N. B. Nichols, Trans. A.S.M.E., Vol. 65, No. 5, July, 1943, pp. 433-434.)
1031	17499	G.B.	*Neutral Earthing and Petersen Coils (1937 to Date).* (Science Library Bibliographical Series, No. 597, 21/10/43, pp. 1-2.)
1032	17663	U.S.A. ...	*On the Absorption of the Hard Component of the Cosmic Radiation.* (M. E. Rose, Journal of the Franklin Institute, Vol. 236, No. 1, July, 1943, pp. 9-45.)
1033	17795	G.B.	*Wave Guides in Electrical Communication.* (Nature, Vol. 152, No. 3,867, 11/12/43, p. 701.)
1034	18034	G.B.	*Stability in High Frequency Oscillators.* (R. A. Heising, Proceedings I.R.E., Vol. 31, No. 11, 11/11/43, pp. 595-600.)
1035	18044	U.S.A. ...	*Electromagnetic Waves (Book Review).* (S. A. Schelkunoff, Review of Scientific Instruments, Vol. 14, No. 10, Oct., 1943, pp. 310-311.)

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1036	18073	U.S.A. ...	*Hydrogen Electrode Half-Cell in Polarography.* (J. P. Baumberger and K. Bardwell, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 10, 18/10/43, pp. 639-641.)
1037	18075	U.S.A. ...	*Apparatus for Photoelectric Titrations (Application to Dark Coloured Resins).* (R. H. Osborn and others, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 10, 18/10/43, pp. 642-646.)
1038	18300	G.B.	*The Heating of Electromagnet Windings.* (G. Windred, Engineering, Vol. 156, No. 4,068, 31/12/43, pp. 521-523.)
1039	18376	G.B.	*The Frequency Synthesizer (with Discussion).* (H. J. Finden, The Journal of Institution of Electrical Engineers, Vol. 90, Part III, No. 12, Dec., 1943, pp. 165-180.)
1040	18378	G.B.	*Standardization of Commercial Electric Motor Dimensions.* (A. Marryat, The Journal of Institution of Electrical Engineers, Vol. 90, Part II, No. 18, Dec., 1943, pp. 369-380.)
1041	18380	G.B.	*Discussion on "The Law of Moving-Iron Instrument" and "Theory of the Force or Torque of Soft Iron Electrical Instruments."* (The Journal of Institution of Electrical Engineers, Vol. 90, Part II, No. 18, Dec., 1943, pp. 492-498.)
1042	18381	G.B.	*Discussion on "Some Problems in the Application of Electric Heating to Commercial Premises."* (The Journal of Institution of Electrical Engineers, Vol. 90, Part II, No. 18, Dec., 1943, pp. 499-501.)
1043	18409	G.B.	*Lightning Protection of Buried Cable.* (Nature, Vol. 152, No. 3,858, 9/10/43, pp. 424-425.)
1044	18434	G.B.	*Protection of Structures Against Lightning (with Discussion).* (J. F. Shipley, The Journal of Institution of Electrical Engineers, Vol. 90, Part I, No. 36, Dec., 1943, pp. 501-523.)
1045	18435	G.B.	*Cosmic Rays (Abstract).* (E. Berry, The Journal of Institution of Electrical Engineers, Vol. 90, Part I, No. 36, Dec., 1943, p. 523.)
			Electronics.
1046	17251	G.B.	*Electronic Voltage Regulators (Contd.).* (F. L. Hogg, Wireless World, Vol. 49, No. 11, November, 1943, pp. 327-331.)
1047	18040	G.B.	*Electronics—New Field of Development.* (C. J. Marsden, Proceedings I.R.E., Vol. 31, No. 11, 11/11/43, p. 644.)
1048	18262	U.S.A. ...	*The Theory and Design of Electronic-Control Apparatus.* (W. D. Cockrell, A.S.M.E. Preprints, Vol. —, No. —, 29th Nov.-3rd Dec., 1943, pp. 1-10.)
1049	18349	G.B.	*Electronic Motor Control.* (H. Seymour, Mechanical World Engineering Record, Vol. 114, No. 2,972, 17/12/43, p. 712.)

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LIGHT AND HEAT.

Heat Transfer.

1050	17145	U.S.A. ...	*Heat Conduction Problems in Presses Used for Glueing of Wood.* (G. H. Brown, Proc. Institute of Radio Engineers, Vol. 31, No. 10, Oct., 1943, pp. 537-548.)
1051	17183	U.S.A. ...	*Condensation of Vapours (Film Coefficients of Heat Transfer for the Condensation of Alcohols, Esters and Ketones).* (D. F. Othmer and S. Berman, Industrial and Engineering Chemistry, Vol. 35, No. 10, 7/10/43, pp. 1068-1077.)
1052	17273	U.S.A. ...	*Absorption of Heat by the Walls of a Furnace.* (J. Blizard, A.S.M.E. Preprints, 29th Nov.-3rd Dec., 1943, pp. 1-7.)
1053	17338	U.S.A. ...	*Nomograph of Dittus-Boetter Equation (Predicting Heat Transfer Coefficient).* (C. J. Ryant, Industrial Engineering and Chemistry, Vol. 35, No. 11, Nov., 1943, pp. 1187-1188.)
1054	17604	Germany ...	*Automatic Adjustment of Heat Transfer in Oil Coolers by Use of Corrugated Tubes (Increase of Circulating Pressure Open Tube and Reduce Cooling).* (Der Deutsche Sportflieger, Vol. 10, No. 10, Oct., 1943, p. 166.)
1055	17654	U.S.A. ...	*A Note on the Symmetry of Certain Thermodynamic Relations.* (J. W. Creely and others, Journal of the Franklin Institute, Vol. 235, No. 6, June, 1943, pp. 617-622.)
1056	18057	U.S.A. ...	*Constant Heating Rate Control by the Thermo-Couple-Rectifier Bias Principle.* (R. J. Smith, Metal Progress, Vol. 4, No. 4, October, 1943, pp. 613-616.)
1057	18487	G.B.	*The Insulation of Medium and Low Pressure Steam Pipes—The Calculation of Heat Loss from Lagged Pipes.* (H. Buckley, Mechanical World, Vol. 114, No. 2,974, 31/12/43, pp. 733-736, 778-779.)

Light Distribution, Colour, etc.

1058	17650	U.S.A. ...	*Theory of the Half-Tone Process. II—The Diffraction Theory—Calculation of the Light Distribution.* (J. A. C. Yule, Journal of the Franklin Institute, Vol. 235, No. 5, May, 1943, pp. 483-497.)
1059	17680	U.S.A. ...	*On the Geometry of Colour Space (Specification of Colour).* (D. E. Spencer, Journal of the Franklin Institute, Vol. 236, No. 3, September, 1943, pp. 293-302.)
1060	17796	G.B.	*Optical Topics in Part Connected with Charles Parsons.* (Lord Rayleigh, Nature, Vol. 152, No. 3,867, 11/12/43, pp. 676-682.)
1061	18379	G.B.	*Discussion on "Fluorescent Lamps."* (The Journal of Institution of Electrical Engineers, Vol. 90, Part II, No. 18, Dec., 1943, pp. 478-491.)

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PHOTOGRAPHY
(HIGH SPEED CAMERA, R.A.F. TRAINING, Etc.).

1062	17389	U.S.A. ...	*The Camera Installations on Photographic Reconnaissance Aircraft (Photos).* (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, pp. 54-55.)
1063	17400	U.S.A. ...	*Photographing Templates.* (Flying and Popular Aviation, Vol. 33, No. 5, Nov., 1943, pp. 118-119.)
1064	17446	G.B.	*Work of the Photographic Reconnaissance Unit.* (Trade and Engineering Times, Vol. 53, No. 956, Oct., 1943, p. 31.)
1065	17515	U.S.A. ...	*Photography, an Industrial Tool.* (A. Perry, Scientific American, Vol. 169, No. 6, December, 1943, pp. 267-269.)
1066	17674	U.S.A. ...	*"Fish Eye" Camera Provides Quick Solution of Lighting Problems (Especially Suitable for Studying the Illumination in Aeroplanes and Factories).* (Journal of the Franklin Institute, Vol. 236, No. 2, August, 1943, pp. 230-231.)
1067	17788	U.S.A. ...	*The Quantitative Determination of Hypo in Photographic Prints with Silver Nitrate.* (J. I. Crabtree and others, Journal of the Franklin Institute, Vol. 235, No. 4, April, 1943, pp. 351-360.)
1068	17846	G.B.	*Teaching Air Photography.* (J. Yoxall, Flight, Vol. 44, No. 1,826, 23/12/43, pp. 689-692.)
1069	18046	U.S.A. ...	*High Speed Movie Camera (8,000 Frames a Second).* (Review of Scientific Instruments, Vol. 14, No. 10, Oct., 1943, p. 323.)
1070	18124	G.B.	*The Strategic Eye—I (Historical Development of the Williamson Type Aerial Camera).* (The Aeroplane, Vol. 65, No. 1,700, 24/12/43, pp. 728-729.)
1071	18318	G.B.	*The Strategic Eye—II (Aerial Cameras).* (The Aeroplane, Vol. 65, No. 1701, 31/12/43, pp. 754-755.)
1072	18319	G.B.	*R.A.F. No. 1 School of Photography.* (The Aeroplane, Vol. 65, No. 1,701, 31/12/43, pp. 758-759.)
1073	18371	U.S.A. ...	*Photographic Observations in Flight of the Stalling of Rotating Wings.* (F. J. Bailey, Jn., Procs. of Rotating Wing Aircraft Meeting at Franklin Institute, November-December, 1939, pp. 115-125.)
1074	18408	G.B.	*Clinical Photography.* (Nature, Vol. 152, No. 3,858, 9/10/43, pp. 423-424.)

METEOROLOGY
(MET. OBSERVATORIES, LIGHTNING PHENOMENA, Etc.).

1075	17415	Canada ...	*Meteorology and Air Training—II.* (P. Perry, Canadian Aviation, Vol. 16, No. 10, Oct., 1943, pp. 56-57, 102-105.)
1076	17576	G.B.	*Plan for Chain of Magnetic Stations and Meteorological Observatories Throughout the Colonies.* (Flight, Vol. 44, No. 1,825, 16/12/43, p. 677.)

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1077	18045	U.S.A.	...	*Oceanography for Meteorologists (Book Review).* (H. W. Sverdrup, Review of Scientific Instruments, Vol. 14, No. 10, Oct., 1943, pp. 319-320.)
1078	18203	U.S.A.	...	*Lightning Phenomena.* (C. D. McCann, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-26.)
1079	18204	U.S.A.	...	*The Determination of Vertical Velocities in Thunderstorms.* (C. E. Buell, Preprints of Papers Presented at the 11th Annual Meeting of the Institute of Aeronautical Sciences, 27-29/1/43, pp. 1-6.)

PHYSIOLOGY AND AVIATION MEDICINE.

1080	17167	G.B. ...	...	*Patulin—Anti-Bacterial Properties.* (Nature, Vol. 152, No. 3,865, 27/11/43, pp. 619-620.)
1081	17169	G.B. ...	...	*Colour of Red Corpuscles.* (H. Hartridge, Nature, Vol. 152, No. 3,865, 27/11/43, p. 629.)
1082	17501	U.S.A.	...	*Penicillin Poses Production Problems.* (Scientific American, Vol. 169, No. 6, December, 1943, pp. 247-249.)
1083	17722	U.S.A.	...	*Experimental Burns. Changes in the Phosphorus Content and Moisture Content of Muscle.* (J. O. Ely, Journal of the Franklin Institute, Vol. 235, No. 4, April, 1943, pp. 416-424.)
1084	17723	U.S.A.	...	*Refrigerated Container Designed for Food Now Speeds Blood for Red Cross.* (Journal of the Franklin Institute, Vol. 235, No. 4, April, 1943, p. 350.)
1085	17794	G.B. ...	...	*Binocular and Uniocular Threshold of Vision.* (M. H. Pirenne, Nature, Vol. 152, No. 3,867, 11/12/43, pp. 698-699.)
1086	17797	G.B. ...	...	*Distribution of Colour Blind Men in Great Britain.* (P. E. Vernon and A. Straker, Nature, Vol. 152, No. 3,867, 11/12/43, p. 690.)
1087	18030	U.S.A.	...	*Pilot Medical Data Should be Collected (Abstract of Paper Presented at Aero Medical Association Meeting).* (W. R. Stovall, Civil Aeronautics Journal, Vol. 4, No. 11, 15/11/43, pp. 147, 162.)
1088	18108	U.S.A.	...	*New Apparatus for Revealing Diplopia (Double Vision) in Applicants for Pilot Certificates.* (A. J. Herbolshimer, American Aviation, Vol. 7, No. 13, 1/12/43, p. 21.)

MATHEMATICS AND PHYSICS.

1089	17081	—— ...	...	*The Integration of the Reynolds Equation for Journal Bearing of Finite Width.* (G. Vogelpohl, Ingenieur Archiv., Vol. 14, No. 3, 1943, pp. 192-212.)
1090	17707	U.S.A.	...	*The Path Equation for Motion on the Surface of the Rotating Earth in a Uniform Parallel Field of Force with Initial Velocity Along the Field.* (W. S. Kimball, Journal of the Franklin Institute, Vol. 235, No. 3, March, 1943, pp. 273-283.)