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(Reviewed by R.T.P.3)

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List of Selected Translations

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

The Aerodynamics of Model Aircraft in Free Flight. (F. W. Schmitz, Berlin, 1942. Publishers: Volckmann, Nachf.) (120/1 Germany.)

This most interesting book was awarded the Ludwig Prandtl Prize in 1941. It covers wind tunnel determinations of wing polars of model aircraft wings over the range of Reynolds numbers $Re = 20,000$ to $170,000$, *i.e.*, free flight conditions. The model wings were all of rectangular plan with a chord of 90 mm. and a span of 450 mm. and covered the following profiles:—

(1) Goettingen 625.
(2) N.A.C.A. N. 60, } N.A.C.A. Tech. Note 388.
(3) N.A.C.A. N. 60 R, } N.A.C.A. Tech. Note 388.
(4) Flat plate.
(5) Curved plate, Goettingen 417a.

The aerofoils had the following principal dimensions, the measurements being expressed as a percentage of the chord:—

Profile.	Max. Thickness. d	at x	Max. Camber. f	at x	Nose radius. r
625	20	30	6	33·3	3·4
N. 60	12.41	30	4	40	1.4
N. 60 R.	12.41	30	3	36	1.4
Flat plate	2.9	10 to 75	0	—	·5
Curved plate, 417a ...	2.9	—	5.8	40	1.45

The measurements covered the usual lift, drag and moment coefficients over the incidence range $\pm 20°$ and *Re* from 20,000 to 170,000, the results being corrected both for aspect ratio and wind tunnel interference. Great care was taken to ensure an air stream of very little initial turbulence, the critical *Re* for a sphere being 380,000 at $C_D = .3$ against 405,000 in free air.

Whilst a full scale glider (span 13 m.) will have a gliding angle of about 1 in 20, a gliding speed of about 16 m./sec. and $Re = 1.5 \times 10^6$, a good model to 1/10 scale will glide at about 6 m./sec. at an angle of 1 in 10. Although the glide is much steeper, the actual rate of vertical descent is less than that of the full scale glider and this is achieved by reducing the wing loading of the model to $\frac{1}{16}$ full scale value of 16 kg./m.^{2}. The reduction in *Re* to about 50,000 has thus profoundly affected performance. The boundary layer on the wing is now predominantly laminar and will have great difficulty in following the wing profile on the suction side without early separation. Whilst in the full scale machine flying at a small angle of incidence every effort is made to keep the boundary layer laminar and thus reduce drag, the reverse holds on the model wing operating at relatively large incidence, the benefit of an adhering turbulent layer far outweighing the extra friction drag. Profile 417a with a sharp nose and small thickness ratio thus gives the best results, the nose vortex ensuring turbulence at flight incidence. In the case of profiles 625, N. 60 and N. 60 R., on the other hand, a very small change in speed or incidence may cause a sudden change in lift of over 100 per cent., due to differences in the adherence of the boundary layer. These changes, moreover, exhibit marked hysterisis effects. It is interesting to note that such profiles can be readily stabilised to operate at the higher lift value by the simple expedient of stretching a fine thread along the wing span and slightly in front of the nose.

Considerations of boundary layer stability also affect wing tip and airscrew design for the model. Thus in order to make the effective *Re* as high as possible, a rectangular wing plan and airscrews with blade widths increasing towards the periphery should be adopted.

Apart from the wing polar diagrams already mentioned, the book also contains interesting photographs of the stages of boundary layer separation at small *Re* values. These photographs were taken using a two-dimensional water channel and show clearly how a previously separated laminar boundary layer will adhere again on becoming turbulent.

Heat Transfer and Hydraulic Flow Resistance for Streams of High Velocity. (V. L. Lelchuk, Journal of Technical Physics, U.S.S.R., Vol. 9, No. 9, 1939, pp. 808-818.) (R.T.P. Translation No. T.M. 1,054.) (120/2 U.S.S.R.)

The apparatus consisted of a piston compressor delivering air up to 6 atmospheres (absolute) into a settling tank from which it passed through a 3 in. pipe line fitted with a standard orifice meter and was subsequently heated (up to 400°C.) by an electric heater.

The measuring section consisted of a smooth copper tube, 14 mm. internal diameter and 2 mm. thick, placed centrally inside a brass tube 19.8 mm. internal diameter, the intervening space forming a water jacket (counter flow). Even distribution of the cooling water was assured by the admixture of a small percentage of compressed air before admission.

The experimental tube was 1,431 mm. long and provided with nine static pressure holes (.08 mm. diameter) distributed along its length. Thermocouples were provided for measuring both the variations in tube wall and jacket water temperatures between inlet and exit; the rate of cooling water flow being determined by weighing.

The following table gives the range of the various variables covered in the experiments :—

Air flow	40-100 gm./sec.
Water flow	30-40 ,,
Air temperature—	
Entry	230-400°C.
Exit	140-200°C.
Water temperature—	
Entry	8-10°C.
Exit	63-76°C.
Tube wall temperature—	
Entry	60-70°C.
Exit	19-23°C.
Static pressure of air—	
Entry	20-50 m. H_2O.
Exit	7-17 m. H_2O.
Nusselt number	200-500 $(\alpha D/\lambda)$.
Peclet number	50,000-300,000 $(W\gamma C_p D/\lambda)$.
Reynolds number	70,000-420,000 (WD/ν),

where W = stream velocity.
γ = weight of unit volume of fluid.
α = heat transfer coefficient.
λ = thermal conductivity.
ν = kinematic viscosity.

It is interesting to note that neither the flow speed W nor the flow temperature T of the air in the working section are measured directly, but are calculated as follows :—

From the conservation of energy we have

$$\frac{AW^2}{2g} + C_p T + Q = C_p T_0 + \frac{AW_0^2}{2g} \quad . \quad . \quad . \quad . \quad (1)$$

where A = mechanical equivalent of heat.
Q = heat loss up to section considered.

If the R.H.S. of the above applies to the wide tube prior to entry into the cooler, $W_0 \to 0$ and T_0 can be measured directly with a thermometer.

Defining the stagnation temperature at any point as

$$T_m = \frac{AW^2}{2gC_p} + T$$

we thus have for any particular section of the cooled tube

$$T_m = T_0 - \frac{Q}{C_p} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (2)$$

where Q can be determined from the mass flow of water and the gradient of the water temperature.

Substituting (2) in (1) gives

$$W = \sqrt{\frac{2gC_p}{A}(T_m - T)}$$

also

$$W = \frac{GV}{F} = \frac{GRT}{pF}$$

where G = mass rate of flow of air.
F = cross section of tube.
R = gas constant.

Knowing therefore T_m, T can be calculated.

The Bernoulli equation for compressible flow with friction is given by

$$\frac{WdW}{g} = -Vdp - \xi\frac{W^2}{2g} \times \frac{1}{D}dL$$

when ξ = friction coefficient. Hence

$$\xi = \frac{-2D}{\rho W^2} \frac{d(p+\rho W^2)}{dL}$$

where $\rho = 1/Vg$ = density.

The friction coefficient at any section thus depends on the slope of $(p+\rho W^2)$ at that section. Calculating ρ at the stagnation temperature of the section, the results obtained fit the Nikuradse equation :—

$$\xi = .0032 + \frac{.221}{Re^{.237}} \qquad (3)$$

originally obtained for flow without heat transfer. Defining the heat transfer coefficient α in terms of the stagnation temperature, we similarly have :—

$$dQ = \alpha\,(T_m - T_W)\,\pi D\,.\,dL,$$

where T_W = tube wall temperature.

Since dQ is known from the water temperature distribution, α as well as the corresponding Nusselt number $\alpha D/\lambda$ can be calculated.

According to the momentum theory of heat transfer, a simple relationship exists between the resistance coefficient ξ and α, provided the thermal resistance of the laminar boundary layer at the wall can be neglected.

This relationship is of the form

$$\xi/8 = Nu/Pe \qquad (4)$$

where Pe = Peclet number $= \dfrac{W\gamma C_p D}{\lambda}$

γ = weight of unit volume of the fluid.

The experimental results show that this relationship holds, provided the stagnation temperature T_m is used throughout for calculating the material constants. It should be especially noted that this result is independent of Mach number.

Heat Transfer to a Plate in Flow at High Speed. (E. Eckert and O. Drewitz, Forchung, Vol. 11, No. 3, June, 1940, pp. 116-124.) (R.T.P. Translation No. T.M. 1,045.) (120/3 Germany.)

The equation of the laminar boundary layer of a semi-infinite flat plate in a two-dimensional longitudinal flow exhibiting a temperature gradient are given by

$$\frac{\partial(\rho u)}{\partial x} + \frac{\partial(\rho v)}{\partial y} = 0 \qquad (1)$$

$$\rho\left(u\frac{\partial u}{\partial x} + v\frac{\partial u}{\partial y}\right) = \frac{\partial}{\partial y}\left(\eta\frac{\partial u}{\partial y}\right) \qquad (2)$$

$$\frac{\partial}{\partial y}\lambda\left(\frac{\partial T}{\partial y}\right) + \eta\left(\frac{\partial u}{\partial y}\right)^2 = gC_p\rho\left(u\frac{\partial T}{\partial x} + v\frac{\partial T}{\partial y}\right) \qquad (3)$$

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where u = velocity component in x direction (along plate).
v = velocity component in y direction (perp. to plate).
T = temperature.
ρ = density.
η = viscosity.
λ = thermal conductivity.
c_p = specific heat at constant pressure.
g = gravitational constant.

Since the pressure is assumed to be constant in the boundary layer, the material constants in the above equations depend on T only. The maximum temperature rise in the boundary layer due to internal friction of air (Prandtl number < 1) is of the order of the adiabatic temperature rise and in case of sonic speeds amounts to about 60°C. The corresponding changes in density, viscosity and thermal conductivity are therefore relatively small.

Neglecting these changes for the present equation (1) is fulfilled by the stream function ψ whilst (2) has been solved by Blasius.

With the help of the Blasius substitution, (3) reduces to the Pohlhausen form

$$\frac{d^2\theta}{d\xi^2}+Pr\,\zeta\,\frac{d\theta}{d\xi}=f(\xi) \quad . \quad . \quad . \quad . \quad . \quad . \quad (4)$$

where $\xi=\frac{1}{2}y\sqrt{\frac{u_0}{\nu x}}$

$$\zeta=\frac{\psi}{\sqrt{\nu u_0 x}}$$

Pr = Prandtl number $=\frac{\eta C_p}{\lambda}$ $\quad u_0$ = velocity of undisturbed stream.

θ = temperature rise above undisturbed stream.

(A) If we neglect the heat generated in the boundary layer itself, *i.e.*, u_0 is sufficiently small so that the disturbance function on the R.H.I. of (4) $\rightarrow 0$ we obtain the ordinary Pohlhausen solution, *i.e.*,

$$\frac{\theta_1(\xi)}{T_w-T_0}=1-a\int_0^{\xi} e^{-Pr\int_0^{\xi} d\xi}\,d\xi \quad . \quad . \quad . \quad . \quad . \quad (5)$$

where T_w = plate temperature.
T_0 = undisturbed flow temperature.
$a=f(Pr)$.

Graphical solutions $\theta_1/(T_w-T_0)$ with Pr as parameter are given. It is interesting to note that the Blasius velocity profile and the temperature profile are of identical shape if $Pr=1$. As Pr increases, the thickness of the temperature profile shows a relative decrease and at $Pr=1{,}000$ (oil), the laminar boundary layer is ten times as thick as the corresponding temperature profile.

Putting $\alpha\,(T_w-T_0)$ = heat transfer per unit time and unit area at a distance x from the leading edge, the transfer coefficient α is given very approximately by

$$\frac{x\alpha}{\lambda}=\cdot 332\sqrt{Re}\,\sqrt[3]{Pr}$$

(B) If now we introduce heat generated by internal friction in the boundary layer (u_0 large) the R.H.S. of equation (4) is no longer zero and the general solution of (4) becomes more complicated.

A considerable simplification, however, results if the gas temperature T_0 in the undisturbed flow is replaced by the so-called "natural" temperature T_e, defined as the temperature assumed by an unheated plate exposed to the stream.

In this case $(d\theta/d\xi)_{\xi=0}$ is zero and equation (5) simplifies to

$$\theta_\epsilon \Big/ \frac{u_0^2}{2gc_p} = f\,(Pr)$$

where θ_ϵ = temperature rise of unheated wall above T_0.

Knowing θ_ϵ, the natural temperature of the unheated wall becomes $T_\epsilon = T_0 + \theta_\epsilon$.

Values of $\theta_\epsilon/(u_0^2/2gc_p)$ as a function of Pr and $u_0/2gc_p$ as a function of u_0 are given by the author in graphical form. The former ranges from 1 to 15 over the range Pr 1 to 1,000. For the Pr range .5 to 2 involved for gases $\theta_\epsilon/(u_0^2/2gc_p)$ is almost directly proportional to $\sqrt{Pr}$. The temperature field θ_2/θ_ϵ for the unheated plate is also given. For the same Pr, the non-dimensional thickness of the temperature field θ_2 is greater than that of the low speed field θ_1.

Since $u_0^2/2gc_p = 1$ at about 45 m./sec., θ_ϵ is about 20°C. and 100°C. for air speeds of the order of 200 and 450 m./sec. respectively ($Pr = 1$). (In the case of oil ($Pr = 1{,}000$) the temperature rise of the unheated plate would be 15 times as great.)

Thus at 200 m./sec. or 450 m.p.h. the laminar friction causes a rise in the "natural" air temperature of 20°C., *i.e.*, the effective temperature difference for heat transfer in a radiator with a measured surface temperature of 65°C. above the atmosphere (see level flight) is only 45°C. whilst at 380 m./sec. it would become zero, and the radiator would cease functioning.

Similar considerations apply to the thermally insulated pressure cabin, which will have to be artificially cooled under high speed low level flight conditions.

(*C*) As is evident from the linear form of (4), the final solution can be obtained by the superposition of two temperature fields. By introducing T_ϵ instead of T_0 into the equation, the fields are sorted out so that one (θ_1) refers to the plate kept at a temperature T_w, whilst the other (θ_2) represents the friction flow only.

The resultant field θ is shown for $Pr = .7$, θ/θ_ϵ being plotted against the non-dimensional thickness ξ. The heat removed from the plate by the air per second is given by

$$q = \alpha\,[(T_w - T_0) - \theta_\epsilon] = \alpha\,[T_w - T_\epsilon]$$

where α = heat transfer coefficient and is therefore = 0 if $\theta_\epsilon = T_w - T_0$.

If $T_w = T_0$, heat is flowing into the plate and calculation shows that the whole of the friction heat is absorbed if $T_w - T_\epsilon = -.4\,\theta_\epsilon$.

It is interesting to note that with the above definition for the heat transfer coefficient, the expression for the Nusselt number is the same as that already obtained for low air speeds neglecting heat generated by friction in the boundary layer.

In all the above, it has been definitely assumed that the material constant of the medium (ρ, η, etc.) remain invariant.

A detailed examination of this assumption has been carried out for the special case of $Pr = 1$ from which it is concluded that the velocity profile is not appreciably affected up to $M = 2$ and that the heat transfer factor estimated on a T_ϵ basis remains within 3 per cent. of its low speed values provided the material values for T_ϵ are used in the equations.

The effect of turbulence on the heat transfer in the boundary layer has so far been neglected. Although an exact theoretical treatment of such flows is not possible, it appears highly probable that the superposition of frictionless and friction temperature fields will still hold provided the material values remain constant. This latter assumption seems justified in view of the small effect of such variations in the case of the laminar field.

Under these conditions, the characteristic expressions for the Nusselt number $\alpha x/\lambda$ obtained for the low speed laminar flow will still hold provided α is defined by

$$q = \alpha (T_w - T_\epsilon)$$

where T_ϵ = temperature of the unheated plate with turbulent boundary layer.

At the moment T_ϵ will have to be determined experimentally.

Theoretical investigations, as far as they go, indicate that the effect of turbulence is to raise T_ϵ by about 5 per cent. at 200 m./sec.

Experimental Investigation in Aircraft Dynamics. (W. B. Berger, J. Aeron. Sc., Vol. 10, No. 8, Oct., 1943, pp. 233-249.) (120/4 U.S.A.)

In the early days of flying, problems of stability, power plant and primary strength were of such importance that vibration was accepted as a necessary evil. To be sure, failures were common, but it was not till the other phases of design were well under control that vibration problems began to be perceived in their true perspective. These problems have now become urgent and must be solved if the present rate of development is to be maintained.

Aircraft vibration can be classified under three main headings:—

1. Those originating in the power plant.
2. Those due to dynamic loads applied to the elastic aircraft structure during landing and take-off or flight manœuvres.
3. Those due to aerodynamic excitation, such as wing flutter, aileron reversal, etc.

1. *Power plant vibration problems* are amenable to mathematical analysis and the frequencies and magnitudes of the excitation forces are thus already known in the design stage. Complete elimination of such forces over the whole speed range is impossible in a piston mechanism and the problem thus generally reduces itself to preventing the forcing impulses from inducing dangerous vibrations in those portions of the aircraft structure to which they may be transmitted, *i.e.*, the natural frequency of such parts must be either above or below the excitation frequency. In coupled systems, the transmissibility of the excitation, *i.e.*, the ratio of transmitted force to excitation force is least for large values of the ratio forcing frequency/natural frequency, and whenever possible, the natural frequency of parts subjected to induced vibration should be less than 60 per cent. of the forcing frequency. If for reasons of rigidity such low frequencies are not possible, the natural frequency must be made at least twice the forcing frequency. Thus instrument panels and delicate accessories should have natural frequencies below 700 cycles per min. Throttle control tubes, on the other hand, generally require a natural frequency of at least 4,000, whilst for accessories directly attached to the engine a lower limit of 10,000 cycles per min. is often found necessary.

The introduction of friction or viscous damping is only recommended as a last resort. Dynamic dampers, however, have given good results.

2. With increasing size of aircraft, the structure necessarily becomes more flexible and under certain landing conditions the fuselage may tend to vibrate transversely at one or more of its natural frequencies, and these vibrations may build up so that the static design stresses are exceeded by considerable amounts. The empirical rules associated with the design of small aircraft are thus no longer applicable and an extensive research was undertaken to determine the load factors under these new conditions with a view to rationalising the design of large aircraft structures. The experiments were carried out mainly on three large flying boats ranging from 50,000 to 140,000 lb. gross, representative smooth water landings being carried out over a range of loads and landing techniques. Rough water tests are in progress. The tests show that whilst the accelerations ($\sim 2g$) encountered at the C.G. of the aircraft were well within the design limita-

tions ($\sim 6g$), the acceleration at the tail may amount to as much as $9g$ and exceed the design acceleration. Even higher accelerations have been noted at the stabiliser tip. In addition to these vertical accelerations the aircraft was also subject to a considerable angular acceleration about the C.G. when landing. Such accelerations are very important in twin-tail aircraft where the heavy fin and rudder masses can build up large inertia forces. It thus may prove necessary to proportion the hull load factor in accordance with a parabolic acceleration distribution from the rear step to the tail.

3. Unlike power plant vibrations, aerodynamic excitation (flutter), except in the simplified two-dimensional case, is not amenable to theoretical treatment without experimental data covering at least some of the factors entering into the problem.

Much progress has been made of late in the design of suitable recording instruments. Acceleration pick-ups are now available which weigh less than $\frac{1}{2}$ oz. each and give a practically linear response over the range $\pm 20g$ at frequencies up to 5,000 cycles/minute. The pick-ups are of the induction type and are compensated for changes in the ambient air temperatures, and the measuring current, after amplification, is recorded on a special oscillograph which can handle 12 stations simultaneously. Including power supply, the whole equipment weighs 100 lb. The usual procedure in flight tests is to subject the structural part under investigation to forced mechanical vibration by attaching a rotating out of balance mass. The response of the member is then studied at a series of constant flying speeds for various constant forced frequencies. The approach of flutter is indicated by increasing amplitude and decreasing damping of the vibration, the power input to the oscillator showing a corresponding decrease. From experience gained so far it appears that at least for 2-degree coupling involving a control surface, the increase in amplitude with speed is sufficiently gradual to give advance warning. In the case of flexure-torsion coupling, however, critical conditions may be reached more suddenly and this is being investigated at present.

Quite apart from proving the safety of any particular type of aircraft, flutter research is of importance in providing fundamental data for design investigation. In this connection wind tunnel tests are naturally attractive. If the requirements of complete dynamic and geometrical similarity can be met, the flutter speed of the model will be exactly the same as that of the full-scale structure. Since this is generally too high for wind tunnel work, a material of lower modulus/density ratio is chosen for the model than is employed for the full-scale structure. Details are given of such a flying boat model built to geometric scale 1 : 7.87, utilising a cellulose nitrate plastic. The wing flutter speed ratio for this model was calculated to be 1 : 4.3 of full scale, whilst the theoretical natural frequency ratio to full scale for various types of vibration was 1 : .545. The latter factor was found to be in excellent agreement with flight tests and since the model showed no dangerous vibration till wind speeds of the order of 96 m.p.h. were reached, it was concluded that the prototype should be safe for diving speeds up to 400 m.p.h., which are clearly outside the range of the design speed of this type.

A balsa wood model for tail flutter investigation was also made. It consisted of a fuselage section fitted with conventional stabilizer fin and control surfaces, the major flutter parameters being adjustable over wide limits. In order to obtain the pertinent dynamic data (frequency, phase angle, damping), induction type accelerometers weighing less than $\frac{1}{2}$ oz. were mounted in different parts of the structure. The results were plotted in terms of non-dimensional flutter speed against control surface/fuselage natural frequency ratio α. They are generally in good agreement with Theodorsen's theoretical conclusions, taking account of friction at the hinge (without friction, the non-dimensional flutter speed becomes zero at a critical value of α generally less than 1).

If the frequency ratio exceeds a certain limit (usually of the order of 2), the control surface has a very high flutter speed and mass balance is of secondary importance. Aerodynamic balance of the control surface seems to be most effective at small values of the frequency ratio α.

The effect of control tabs on tail flutter is most marked. Such tabs are usually constrained to move about their hinges by an amount proportional to the control surface deflection. A leading tab is one in which the tab motion is in the same direction as that of the surface. Such a tab raises the flutter speed markedly in the case of large mass unbalance and a frequency ratio α near unity. This suggests designing the control surface with considerable aerodynamic balance (thus necessitating the addition of only a relatively small mass to obtain the necessary forward position of the C.G.) and increasing the hinge moment so as to satisfy stability requirements by fitting a leading tab.

Fault Detector for Hydraulic Systems. (Flugsport, Vol. 30, No. 1, 19/1/44, pp. 5-6.) (120/5 Germany.)

Fault detection in hydraulic systems usually necessitates disconnecting sections of the pipe line in turn and measuring the pressure by means of a manometer. This process takes time and may lead to a loss of oil. The Junkers firm have now developed a very sensitive optical gauge, by means of which the pressure in any part of the pipe line can be accurately determined by measuring the corresponding deformation of the pipe wall under load. Disconnecting the circuit is therefore no longer necessary. The instrument consists essentially of a plunger, the lower end of which contacts the tube wall whilst the upper end carries a flat plate of glass above which is placed a plano-convex lens. Plunger and glasses are carried in a casing which screws into a clamp surrounding the tube under examination.

With no load in the pipe, the casing is screwed home till the contact pressure on the plunger is such that the Newton interference fringes formed between the plate and lens (viewed by reflected light) occupy a definite position on circular reference marks provided on the glass.

Any displacement of the tube wall due to internal hydraulic pressure is accompanied by a corresponding shift in ring diameter, which can be read off directly on the reference mark and converted into hydraulic pressure by means of a previous calibration of the instrument.

The Amplidyne. (F. Felix, J. Am. Soc. of Naval Engineers, Vol. 55, No. 4, Nov., 1943, pp. 778-781.) (120/6 U.S.A.)

The article describes in simple language the new motor generator designed by the G.E.C. and which represents one of the most important electrical developments of recent years. By the ingenious use of short circuit and compensating field windings, the generator will respond to changes in the field input as small as ½ watt to produce change in output of several kilowatt. The machine thus lends itself admirably to many distant control operations, being robust and simple and not requiring any electronic devices. In a normal generator, with separately excited field, reducing the field flux or excitation power to a value of a few watts so that it can be handled by control devices, reduces the output to negligible amounts. If now the external load is disconnected and the brushes shorted, the armature current and flux can resume their original value. This armature flux is utilised by fitting two new brushes, one in the centre of each armature flux loop, just as conventional brushes are fitted in the centre of the excitation flux. One of these new brushes is connected directly to the load whilst the other brush passes first through a compensating field, which ensures that the load current passing through the armature is incapable of setting up an armature flux. It is then possible to re-establish the original output at a very small field excitation. Moreover, increasing this separate field excitation from say 1 to 4 watts, will cause a fourfold change in output (10 to 40 kilowatts).

If several control fields, independently excited from signal devices are placed on the same pole structure, the Amplidyne will respond to their resultant action and amplify as for a single field.

The small space required by the individual coils makes it possible to have a normal complement of four fields, permitting many independent functions to control the Amplidyne output.

Each of these fields is easily adjusted by a small resistor or other means, and since their current requirements are so small, their action may be automatically blocked by small rectifiers as long as certain operating conditions or limits are not reached.

"Direpeller" Method of Jet Propulsion. (E. Lagelbauer, Mechanical Engineering, Vol. 66, No. 1, Jan., 1944, pp. 66-67.) (120/7 U.S.A.)

The reaction of an air jet depends on the momentum per second which is imparted to the air and the same thrust can therefore be produced either by having a high mass flow rate and a low increment of speed or vice-versa. From the point of view of compactness and thermal efficiency of installation the high speed jet presents important advantages. From the point of view of propulsion efficiency, however, it pays to handle the largest possible flow rate and impart only a moderate increment of velocity to the jet. One way of overcoming this difficulty would be to utilise the jet to draw in extra air from the outside and thus accelerate a larger mass which would issue at a correspondingly lower speed. Experiments with such so-called "thrust augmenters" have shown, however, that this mixing is always accompanied by considerable losses unless the mixing device assumes prohibitive dimensions.

The author suggests the following method for overcoming this difficulty:—

Consider an open cylinder pointing in the direction of flight and provided with guide vanes at entry giving a spin to the air. The reaction jets are placed tangentially near the inner surface of the cylinder so as to increase the spin. The rotary momentum thus generated is extracted in a second guide vane ring placed at the exit of the cylinder, the issuing gas thus producing a purely axial reaction. The tangential reaction produced on the casing can be balanced by employing two units with opposite gas rotation. As from the appended sketch the tubes envisaged appear to be about 6 foot internal diameter, the quantity of induced air should be considerable.

No test data are as yet available.

The Energy Transformation in the Gas and Oil Turbine. (W. Nusselt, Die Warme, Vol. 66, No. 15, June, 1943, pp. 139-143.) (120/8 Germany.)

The main difficulty in designing an efficient gas turbine is the fact that the blade temperatures with existing materials must not exceed about 600°C. On the other hand, a reasonable thermal efficiency requires considerable precompression of the charge, and since this has to be carried out adiabetically for reasons of space, the temperature of the gas entering the combustion space is already relatively high. As a result, the amount of heat that can be added without exceeding critical exhaust temperatures is restricted. The positive-negative work ratio of the cycle is thus relatively low which necessitates that the compressor and turbine efficiencies must both be high if any useful work is to be produced.

Theoretically, lowest exhaust temperatures are reached if the combustion gases are expanded to atmospheric pressure and the resultant kinetic energy abstracted in single velocity stage turbine. The resultant gas speeds are, however, very high and the heat generated by friction in the boundary layer of the turbine blades causes the latter to exceed the gas temperature by appreciable amounts. According to the author, this temperature difference amounts to already 27°C.

at a gas speed of 250 m./sec. and rises to 240°C. at 500 m./sec. for a thermally insulated (uncooled) blade.

Since normally, the blades are only imperfectly cooled by conduction through the blade foot, it is clear that a considerable portion of the temperatures drop due to expansion will be regenerated by friction on the blade and the single stage impulse turbine thus does not present such an attractive solution as might appear at first sight (quite apart from troubles due to the high speed of operation inherent in the design).

With a fixed combustion temperature, the overall thermal efficiency can be improved if the exhaust heat leaving the turbine could be utilised in the combustion chamber. This is, however, only possible if the exhaust temperature is above the compression temperature. Moreover, this temperature difference must be of the order of at least 50°C. if the regenerator is to be of reasonable dimensions. These temperature restrictions automatically limit the compression ratio which can be adopted. According to the author, the best compromise is obtained at quite a low compression ratio of the order of 2 (pressure scale), when an overall thermal efficiency of the order of 25 per cent. should be possible, on the assumption that both turbine and compressor have indicated efficiencies of 85 per cent. and that the maximum combustion temperature is 500°C.

As is well known, heat exchanges become more efficient, if both the hot and cool gases can be kept under pressure. For this reason, the firm of Escher Wyss have lately introduced a closed circuit hot air turbine in which the same air is continually circulated by a compressor, heat being added externally by means of an oil burner. By making the original pressure in the circuit sufficiently high, the dimensions of the heat exchanger, as well as that of the turbine and compressor can be considerably reduced for a given output, in spite of the relatively low effective compression ratio and maximum temperature. An overall efficiency of the order of 20 per cent. has already been obtained and plants of this type have been successfully employed as emergency sets for electric generating stations.

The author is of the opinion that the gas turbine will have an important field of application in civil aircraft of the future when power units of the order of 10,000 h.p. will be required. It is not thought that present overall thermal efficiencies of the order of 20-25 per cent. can be exceeded till improved blading materials allowing higher working temperatures becomes available.

As an interim solution, the author refers to a proposal of Mangold of subdividing the heat addition by providing a series of combustion chambers, each feeding its own turbine wheel, all the wheels being on a common axis. In this manner a series of pressure stages are formed, the exhaust from each turbine entering the combustion chamber of the succeeding wheel. If the difficulty of exhaust gas dilution on successive combustions can be overcome, this method presents interesting possibilities.

The Technique of Lining Tanks Made of Wood, Metal, or Concrete with Vinidur Plastic. (A. Sirot, Kunststoffe, Vol. 33, No. 2, Feb., 1943, pp. 33-39.) (120/9 Germany.)

Vinidur foils made of Igelit P.C.U. are available in strips 70 cm. wide and up to 20 m. long. For anti-corrosion lining of tanks a film thickness between .7 and 1 mm. is recommended, since it is difficult to manufacture thicker films free from wrinkles, whilst if the thickness is reduced below about ½ mm., the mechanical strength of the film is insufficient to ensure safe handling. The major part of the article deals with the lining of metal containers. For best results, such tanks should be of welded construction and 4-8 mm. thick, and the foundations must be such that the tank cannot distort appreciably when in use.

The internal surface must first be thoroughly cleaned and then artificially roughened by sand blasting or in the case of light alloys, a chemical treatment can be adopted for this purpose (ZnO and NaOH). The surface is then covered with three layers of P.C. 10 solution (total consumption about 1.5 kg./m.^{2}) with drying periods of 1-2 hours before the second and third coat is applied. The last coating has to stand about 15 hours before being subjected to a temperature of 130°-140°C. This causes the solvent (methyl chloride?) to evaporate and plasticises the synthetic resins contained in the solution. The heat is supplied from the outside of the tank by means of a torch. The foil, which has been previously covered with one layer of P.C.A. 20 solution and dried for 15 hours, is then applied in sections of .5 to 1 m.^{2}, depending on the amount of surface of the tank which can be kept at the requisite temperature. The foil is pressed on evenly by hand. The joints between the strips can either overlap (in which case a cover strip is cemented on subsequently) or are butt-welded in place. The process can also be applied to steel tubes by inserting a tubular liner made of the film and applying internal air pressure (about .3 atmosphere). In the case of wood or concrete tanks, heat cannot be utilised to plasticise the cement and a special compound P.C. 13 A.M. which acts at room temperature is used. Three layers of this compound are brushed on the internal surface as before, but in this case the foil previously treated with P.C.A. 20 has to be applied soon after the third coating of the cement. Overlap joints of the foil are preferable in this case. Linings of this type have proved perfectly satisfactory against the most intense corrosive chemicals over the temperature range −10°C. to +50°C.

Mechanical cleaning is simple. The coating will stand walking on which is important when inspecting large containers. Storage tanks, water cleaning and chemical reaction vessels have been successfully provided with liners of this type. Other fields of application are in the tanning, brewing and milk industries. The lining has also proved very satisfactory for electrolytic baths. As an alternative to the thin films, the lining can also be built up of Vinidur plates, 3-5 mm. thick which are welded at the edges and supported inside the tank proper. Such lining will withstand corrosive fluids at temperature up to 100°C.

Substitution of Phosphoric and Chromic Acid for Hydrofluoric Acid for Cleaning Sheet Metal to be Spot Welded. (Flying and Industrial Aviation, Vol. 32, No. 1, January, 1943, p. 90.) (120/10 U.S.A.)

The highly scientific mind of the chemist is augmenting the inventive genius of the tool equipment designer in speeding the production of warplanes.

An example is given in the announcement by the Vega Aircraft Corporation that the simple but ingenious substitution of phosphoric and chromic acid for the commonly used hydrofluoric acid in the cleaning of sheet metal to be spot welded has not only resulted in a cleaner, brighter surface, but has also helped step up production of B-17F Flying Fortresses and Vega Ventura bombers.

Under the system previously used, the tendency of the aluminium sheet to alloy with the copper tip of the spot welder necessitated the cleaning of the tip after every 10 or 15 spots. When using a combination of phosphoric and chromic acids the tips do not have to be cleaned oftener than every 500 to 800 spots and as much as 3,300 spots have been made, without cleaning the tips.

A further advantage of the new solution is that the sheet metal may be left in the tank from an average of three to five minutes up to half an hour without injuring the metal. Under the old method, immersion in the acid had to be timed almost to the second.

The same soap tank and hot rinse is used in connection with the new solution as was employed before.

Rapid Determination of the Magnesium Content of Al./Mg. Alloys. (Z.V.D.I., Vol. 86, No. 35-36, 5/9/42, p. 558.) (Translation of original Digest.) (120/11 Germany.)

The magnesium content of Al./Mg. alloys can be determined by X-ray diffraction, since the lattice constant of the α mixed crystal increases with increasing Mg. content. For a successful determination the following conditions must be fulfilled :—

(1) Complete solution of the Mg. in the α mixed crystal.

(2) Uniform distribution of the Mg.

(3) Fine grain structure of the sample.

The simplest method for achieving this is to take a small sample of the liquid melt in an iron spoon (previously heated to the temperature of the molten alloy) and scatter it on a well conducting metal plate. The resulting discs of metal of about .1 to .2 mm. thick are annealed in a salt bath for 5 minutes (the temperature of the bath being just under its melting point) and then quenched in water. The lattice constant is best determined by means of an electronic (Geiger) counter and the corresponding Mg. content follows from calibration curves.

The analysis takes about 20 minutes and is accurate to a small multiple of .01 per cent.

(Original article in Z. Metallkunde, Vol. 34, No. 5, 1942, pp. 114-116.)

LIST OF SELECTED TRANSLATIONS.

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2037	Kevne, F. ...	*Contributions to the Profile Theory (Part* II). (L.F.F., Vol. 20, No. 3, 16/4/43, pp. 81-96.)
2056	Eser, E. ...	*On the Flow of Compressible Fluids Past Solid Bodies at Subsonic Velocity.* (L.F.F., Vol. 20, No. 7, 20/7/43, pp. 220-230.)
2042	Krober, G. ...	*Vane Grids for the Deflection of Fluid Flows with Small Energy Losses.* (N.A.C.A. Tech. Memo. No. 722.) (Ing. Archiv., Vol. 3, No. 6, 1932.)

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2039	Rotta, J. ...	*Aerodynamic Forces on a Wing Fitted with a Lateral Plate (with Some Notes on the Effect of the Fuselage on the Rolling Moment and Lateral Force during a Sideslip).* (Ing. Archiv., Vol. 13, No. 3, 1942, pp. 119-131.)
2058	Guglielmetti, G. ...	*Geodetic Construction.* (Rivista Aeronautica, Vol. 15, No. 2, Feb., 1939, pp. 319-322.)
2049	Nitzchte, O. ...	*Aircraft Landing Feeler with Indicating Apparatus. (German Patent* 731,647.) (Flugsport, Vol. 35, No. 8, 21/4/43, pp. 19-20.)

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2041	Straunaris, M. ...	*Theory of Metal Solution.* (Z. f. Phys. Chem., Vol. 156, No. 2, Sept., 1931, pp. 150-158.)
2047	Hempel, M.... Krug, H. ...	*Fatigue Strength and Elongation of Steels at High Temperatures.* (Z.V.D.I., Vol. 86, No. 39-40, 3/10/42, pp. 599-605.)
2059	Trutnovsky, K. ...	*Slot and Labyrinth Seals.* (Z.V.D.I., Vol. 83, No. 29, 22/7/39, pp. 857-858.)
2053	Gustrow, H. ...	*Injection Moulds for Deep Components.* (Kunststoffe, Vol. 32, No. 10, Oct., 1942, p. 311.)

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2038	Trutnovsky, K. ...	*Construction and Operation of Packing Glands.* (Z.V.D.I., Vol. 85, No. 16, 19/4/41, pp. 383-387.)
2057	Kollman, K. ...	*Limiting Factors in Single-Stage Centrifugal Superchargers for Aero Engines.* (Luftwissen, Vol. 7, No. 3, March, 1940, pp. 54-61.)
2050	Heidebroek ...	*Systematic Tests on the Suitability of Bearing Materials.* (A.T.Z., Vol. 45, No. 24, 25/12/42, pp. 652-656.)
		INSTRUMENTS.
2054	Perthen, J.	*A New Method for Measuring Surface Finish by Means of an Electric Condenser.* (Masch. Betrieb, Vol. 15, No. 23-24, Dec., 1936, pp. 669-672.)
2052	Penther, H.	*Photographic Reproduction and Storing of Engineering Drawings.* (Z.V.D.I., Vol. 86, No. 43-44, Oct., 1942, p. 661.)
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2040	Straubel, R. ...	*Indefinite Integrals Containing Products of Cylindrical Functions.* (Ing. Archiv., Vol. 13, No. 1, Feb., 1942, pp. 14-20.)
2043	Collatz, L. ... ... Zermuhl, R.	*The Accuracy of Various Methods of Integration of Ordinary Differential Equations of the First and Second Orders.* (Ing. Archiv., Vol. 13, No. 1, Feb., 1942, pp. 34-36.)
2044	Zech, T. H. ...	*The Damping of Non-Linear Vibrations.* (Ing. Archiv., Vol. 13, No. 1, Feb., 1942, pp. 21-33.)
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2046	Grosskopf, J. ...	*A Recording Phase Meter for Reception Observations in the Short, Medium and Long Wave Ranges.* (T.F.T., Vol. 29, No. 11, 1940, pp. 334-339.)

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			Training and Organisation.
10	16859	G.B.	*Two Uses of Air Power: Independent Action and Combined Operations.* (F. H. de V. Robertson, Flight, Vol. 44, No. 1,821, 18/11/43, p. 566.)
11	16997	U.S.A.	*Task Force Command Organisation (Chart).* (Flying, including Industrial Aviation, Vol. 33, No. 4, Oct., 1943, p. 74.)
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14	17004	U.S.A.	*The Personnel of the A.A.F.* (Flying, including Industrial Aviation, Vol. 33, No. 4, Oct., 1943, pp. 114-115, 236.)
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25	16600	U.S.A. ...	*Panel Instruments with Internal Pivots.* (Automotive Industries, Vol. 89, No. 7, 1/10/43, pp. 40-41.)
26	16611	G.B.	*Aircraft Plastics. Part III (Plastics Seat for Fighter Aircraft, Moulding of Perspex, etc.).* (W. Nichols, British Plastics, Vol. 15, No. 174, November, 1943, pp. 331-338.)
27	16716	U.S.A. ...	*Foldable Housing Unit for the Armed Forces (Can be Transported by Plane).* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 222.)
28	16722	U.S.A. ...	*Tube Identification Used in Curtiss Aircraft.* (Scientific American, Vol. 169, No. 5, Nov., 1943, pp. 226-227.)
29	16745	U.S.A. ...	*Aviation Uses of the Amplidyne (Amplidyne-Controlled Aircraft Turret Guns, etc.).* (R. A. Averitt, Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 177-179, 250.)
30	16849	G.B.	*Fluid Drive—Fundamental Principles of Hydraulic Systems Explained.* (Flight, Vol. 44, No. 1,822, 25/11/43, pp. 592-594.)
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59	16851	U.S.A.	...	*Dakota on Floats—The U.S. Army C-47 and C-53 Transport.* (H. W. Perry, Flight, Vol. 44, No. 1,821, 18/11/43, pp. 552-553.)
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82	17033	France ...	*Latécoère* 631 *Giant Flying Boat.* (Der Flieger, Vol. 22, No. 10, Oct., 1943, pp. 296-297.)
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83	16962	Sweden ...	*The Svenska J.* 22 (*Recognition Details*). (Aeroplane, Vol. 65, No. 1,695, 19/11/43, pp. 588-589.)
			Gliders.
84	16764	G.B.	*The Horsa Glider* (*Drawing*). (Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 274-275.)
85	16945	Turkey ...	*Turkish Transport Glider* (*Photo*). (Aeroplane, Vol. 65, No. 1,696, 26/11/43, p. 619.)
86	16955	Germany ...	*Gotha Go.* 244 *Transport Glider* (*Photo*). (Aeroplane, Vol. 65, No. 1,695, 19/11/43, p. 579.)
87	16957	Germany ...	*D.F.S.* 230 *Glider* (*Photo*). (Aeroplane, Vol. 65, No. 1,695, 19/11/43, p. 579.)
88	17033	Holland/ Croatia	*Glider Design.* (Der Flieger, Vol. 22, No. 10, Oct., 1943, pp. 305-306.)
			Maintenance and Servicing.
89	16742	U.S.A. ...	*Modification Centres Fit Military Planes for Combat.* (Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 125-128.)
90	16759	U.S.A. ...	*Service Manuals for the Army and Navy Air Forces.* (A. Lundgren, Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 233-241, 277-280.)
91	16863	U.S.A. ...	*Weapon Maintenance in Battle.* (E. E. MacMorland, Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 773-774, 780.)
92	17023	U.S.A. ...	*Field Maintenance.* (Flying, including Industrial Aviation, Vol. 33, No. 4, Oct., 1943, pp. 193, 320-325.)
93	17031	Germany ...	*Mobile Unit for Oxygen Supply* (*Photographs*). (Der Flieger, Vol. 22, No. 10, Oct., 1943, p. 298.)
			A.R.P., Anti-Tank Weapons, etc.
94	15408	G.B.	*A New Air Raid Warning* (*G.E.C. Equipment*). (Electronic Engineering, Vol. 16, No. 188, October, 1943, pp. 210-211.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
95	15693	G.B.	*17-Pounder Anti-Tank Gun.* (Engineer, Vol. 176, No. 4,579, 15/10/43, p. 314.)
96	16718	U.S.A. ...	*Sub-Machine Gun Redesigned to Save Materials and Tooling.* (Scientific American, Vol. 169, No. 5, Nov., 1943, pp. 222-223.)
97	16878	U.S.A. ...	*Sub-Machine Gun M. 3.* (Mechanical Engineering, Vol. 65, No. 11, November, 1943, p. 819.)
98	16917	Switzerland ...	*Germany Under the Fire of Total Air War (Phosphorus Bombs, Shelters, Relief Measures. etc.).* (Inter. Avia., No. 882-883, 31/8/43, pp. 1-9.)

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99	16507	G.B.	*A Contribution to Cascade Theory.* (J. Lockwood Taylor, Journal of the Royal Aeron. Society, Vol. 47, No. 395, Nov., 1943, pp. 397-400.)
100	16590	Germany ...	*On the Accumulation of Errors in the Multhopp Process for Lift Distribution.* (S. Kleinwachter, L.F.F., Vol. 20, No. 819, 16/10/43, pp. 261-262.)
101	16647	U.S.A. ...	*Oscillations in Closed Surge Tanks.* (A. M. Binnie, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-4.)
102	16653	U.S.A. ...	*Fluid Flow Through Two Orifices in Series II.* (M. G. Stuart and D. R. Yarnall, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-9.)
103	16678	Australia ...	*An Australian Wind Tunnel at the Aeronautical Laboratory at Fishermen's Bend.* (Aircraft Engineering, Vol. 15, No. 177, Nov., 1943, pp. 310-316.)
104	16679	G.B.	*Equivalent Air Speed and Mach Number Chart (Data Sheet No. 10).* (Aircraft Engineering, Vol. 15, No. 177, Nov., 1943, p. 318.)
105	16680	G.B.	*Critical Reversal Speed of a Wing (Quick Approximate Determination).* (W. H. Horton, Aircraft Engineering, Vol. 15, No. 177, Nov., 1943, pp. 319-324.)
106	16763	U.S.A. ...	*The 20 ft. Diameter Stainless Steel Mouth of the 400 m.p.h. Wind Tunnel at Wright Field (Photo).* (Aero Digest, Vol. 43, No. 6, Sept., 1943, p. 264.)
107	16766	U.S.A. ...	*Wind Tunnel Manual (Small Wind Tunnels for Educational Use) (R).* (Aero Digest, Vol. 43, No. 6, Sept., 1943, p. 343.)
108	17068	U.S.A. ...	*Nozzles for Supersonic Flow without Shock Fronts.* (A. H. Shapire, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-8.)

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Air Cargo and Post-War Aviation.

109	16640	U.S.A. ...	*The Characteristics of Surface Cargo Transportation.* (F. Carpi, S.A.E. Preprint, 8-9/11/43, p. 1-9.)
110	16691	G.B.	*Post-War Transport.* (Electrician, Vol. 131, No. 3,415, 12/11/43, p. 480.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
111	16698	U.S.A.	*The Characteristics of Air Cargo Transportation.* (E. J. Foley, S.A.E. Preprint, 8-9/11/43, p. 1-8.)
112	16731	U.S.A.	*The Economics of Post-War Carriage of Air Cargo.* (J. V. Sheehan, S.A.E. Journal, Vol. 51, No. 10, October, 1943, pp. 362-368.)
113	16927	U.S.A.	*Post-War Air Transport (American and British Opinions).* (Inter. Avia., No. 882-883, 31/8/43, pp. 33-34.)
114	16931	G.B.	*The Influence of Aviation on Shipbuilding.* (Aeroplane, Vol. 65, No. 1,696, 26/11/43, p. 602.)
115	16944	G.B.	*Air Freight of the Future.* (J. P. Chaplin, Aeroplane, Vol. 65, No. 1,696, 26/11/43, pp. 614-615.)
116	16960	G.B.	*Air Transport—The Present Position and Future Policy.* (K. M. Beaumont, Aeroplane, Vol. 65, 19/11/43, pp. 586-587.)

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ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
117	16578	G.B.	*Post-War Transport Aircraft (Contd.).* (E. P. Warner, Engineering, Vol. 156, No. 4,061, 12/11/43, pp. 396-397.)
118	16700	U.S.A.	*Post-War Private Planes.* (A. Klemin, Scientific American, Vol. 169, No. 5, Nov., 1943, pp. 198-201.)
119	16749	U.S.A.	*Martin Engineer Designs New Cargo Plane.* (Aero Digest, Vol. 43, No. 6, Sept., 1943, p. 199.)
120	16765	U.S.A.	*Henry Kaiser's Cargo Seaplane (Photo).* (Aero Digest, Vol. 43, No. 6, Sept., 1943, p. 385.)
121	16841	G.B.	*The Case for the Flying Boat: Importance of Marine Aircraft to British Empire.* (Flight, Vol. 44, No. 1,822, 25/11/43, pp. 582-583, 595.)
122	16857	U.S.A.	*New 24-Passenger Douglas.* (Flight, Vol. 44, No. 1,821, 18/11/43, p. 563.)
123	16906	U.S.A.	*Avro York—New Air Transport.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, p. 591.)
124	16919	U.S.A.	*Martin Cargo Transport (Design Fundamentals).* (Inter. Avia., No. 882-883, 31/8/43, pp. 13-14.)
125	16922	G.B.	*Miles Large Transport Aircraft Project.* (Inter. Avia., No. 882-883, 31/8/43, p. 18.)
126	17029	G.B.	*Napier-Heston, Racing Aircraft.* (Der Flieger, Vol. 22, No. 10, Oct., 1943, pp. 284-285.)
127	17064	G.B.	*Post-War Transport Aircraft (Contd.).* (E. P. Warner, Engineering, Vol. 156, No. 4,063, 26/11/43, p. 437.)

General Design and Equipment.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
128	16675	U.S.A.	*Non-Reflecting Eyeglasses and Windshields (Method of Eliminating Light Reflections).* (Industrial and Engineering Chemistry (News Edition), Vol. 21, No. 19, 10/10/43, p. 1662.)
129	16697	U.S.A.	*Some Economic Aspects of the Commercial Use of Converted Military Aircraft.* (E. C. Wells, S.A.E. Preprint, 8-9/11/43, pp. 1-10.)
130	16699	U.S.A.	*Design Considerations of the Cargo Aeroplane.* (C. Wood, S.A.E. Preprint, 8-9/11/43, pp. 1-9.)

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131	16715	U.S.A. ...	*Glass Tanks.* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 220.)
132	16729	U.S.A. ...	*An Aircraft Double Windshield—Its Development and Use.* (R. L. McBrien, S.A.E. Journal, Vol. 51, No. 10, October, 1943, pp. 350-355.)
133	16732	U.S.A. ...	*Problems in Wood Aircraft.* (I. C. Peterson, S.A.E. Journal, Vol. 51, No. 10, October, 1943, pp. 369-380.)
134	16858	G.B.	*The Tandem Monoplane.* (T. R. Young, Flight, Vol. 44, No. 1,821, 18/11/43, pp. 564-565.)
135	16865	U.S.A. ...	*Development of Post-War Aircraft.* (J. T. Bain, Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 781-784.)

Stability, Operating Speeds, Specifications.

136	16641	U.S.A. ...	*Pay Load versus Operating Speeds in Air Transport Operations.* (J. G. Borger, S.A.E. Preprints, 8-9/11/43, pp. 1-9.)
137	16681	G.B.	*The Lateral Stability of Aeroplanes—Disturbed and Controlled Motions.* (H. L. Price, Aircraft Engineering, Vol. 15, No. 177, Nov., 1943, pp. 325-329.)
138	16734	U.S.A. ...	*Airworthiness—Speculations on Future Regulations (Excerpts from Paper).* (K. Warner, S.A.E. Journal, Vol. 51, No. 10, October, 1943, pp. 26, 40-41.)

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139	16506	Germany ...	*Airscrew Blade Stress Due to Periodic Displacement (R.T.P.3 Translation No. 1,955).* (Journal of the Royal Aeron. Society, Vol. 47, No. 395, Nov., 1943, pp. 390-396.)
140	16619	G.B.	*Cristofin Plastic Covering for Hydulignum Airscrew Blades.* (British Plastics, Vol. 15, No. 174, November, 1943, p. 369.)
141	16683	G.B.	*Hollow Steel Airscrew Blade Production.* (H. W. Perry, Aircraft Engineering, Vol. 15, No. 177, Nov., 1943, pp. 331-333.)
142	16761	U.S.A. ...	*Propeller Blades Shielded During Test (Transparent Plastic Shield to Guard Propeller Blades from Air Draughts During Balancing Test).* (Aero Digest, Vol. 43, No. 6, Sept., 1943, p. 247.)

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143	16940	Germany ...	*Focke-Wulf Helicopter Patent.* (Aeroplane, Vol. 65, No. 1,696, 26/11/43, p. 609.)
144	16993	Germany ...	*Autogyro Developments (Mainly Cierva).* (W. Zuerl, Der Flieger, Vol. 22, No. 9, Sept., 1943, pp. 268-273.)
145	17034	Germany ...	*Autogyro Developments (Pitcairn, Hafner, etc.).* (Der Flieger, Vol. 22, No. 10, Oct., 1943, pp. 298-304.)

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146	16356	G.B.	*Auxiliary Generating Plant for Aircraft.* (Engineer, Vol. 176, No. 4,582, 5/11/43, pp. 372-374.)

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147	16388	G.B. ...	... *Rotol Auxiliary Generating Plant.* (Aeroplane, Vol. 65, No. 1,693, 5/11/43, p. 516.)
148	16595	U.S.A.	... *New High Speed Aviation Generator.* (Automotive Industries, Vol. 89, No. 7, 1/10/43, p. 39.)

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149	15142	U.S.A.	... *Increasing the High Altitude Life of Carbon Brushes for Aeroplane Generators.* (Scientific American, Vol. 169, No. 3, September, 1943, p. 126.)
150	16674	U.S.A.	... *Rubber De-Icer.* (Industrial and Engineering Chemistry (News Edition), Vol. 21, No. 19, 10/10/43, p. 1660.)
151	16757	U.S.A.	... *New Techniques Applied to Anti-Icing Problem.* (Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 225-227, 267.)
152	16789	U.S.A.	... *Aeroplane Patent Digest (Supplement No. II-A, Miscellaneous Aeronautics).* (Aeroplane Patent Digest (including Bulletin No. 244), 26/10/43, p. 1-29.)
153	16845	G.B. ...	... *A New Locking Device—Positive Locking and Quick Release by Direct or Remote Control (Ingersoll "Y" Lock).* (Flight, Vol. 44, No. 1,822, 25/11/43, p. 589.)
154	16852	G.B. ...	... *Castor Shimmy; its Prevention by the Use of Twin-Contact Tyres.* (O. J. Marstrand, Flight, Vol. 44, No. 1,821, 18/11/43, pp. 554-555.)

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155	16840	G.B. ...	... *Gatwick Airport—Four Development Schemes.* (Flight, Vol. 44, No. 1,822, 25/11/43, pp. 578-580.)
156	16932	G.B. ...	... *Airways for Peace.* (E. P. Warner, Aeroplane, Vol. 65, No. 1,696, 26/11/43, pp. 602-603.)
157	17019	U.S.A.	... *Constructing Air Bases at Home and Abroad.* (Flying, including Industrial Aviation, Vol. 33, No. 4, Oct., 1943, pp. 186-187, 203-208.)
158	17020	U.S.A.	... *Analysis of Equipment at Wright Field.* (Flying, including Industrial Aviation, Vol. 33, No. 4, Oct., 1943, pp. 188-190, 280.)

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159	16574	G.B. ...	... *The "Bristol" Hercules Aero Engine.* (Engineering, Vol. 156, No. 4,061, 12/11/43, p. 387.)
160	16655	U.S.A.	... *The Smith Master Valve Engine and its Performance.* (B. E. Short and T. N. Smith, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-5.)
161	16908	G.B. ...	... *Hercules Development.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, p. 591.)
162	16912	G.B. ...	... *Rotol Auxiliary Power Unit.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, p. 574.)
163	16924	Germany	... *D.B. 601N Engine (Details of British Examination).* (Inter. Avia., No. 882-883, 31/8/43, p. 21.)

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164	16987	Germany ...	*Hirth Aircraft Engine Types (H.M. 60-H.M. 501).* (Der Flieger, Vol. 22, No. 9, Sept., 1943, pp. 252-253.)
165	17032	G.B. ...	*Design Detail of Merlin 20 and 61, Bristol Hercules.* (Der Flieger, Vol. 22, No. 10, Oct., 1943, pp. 294-295.)
			Design and Efficiency.
166	15422	U.S.A. ...	*Tolerance and Dimensional Control.* (H. Adams, Mechanical Engineering, Vol. 65, No. 10, October, 1943, pp. 739-740.)
167	16212	Germany ...	*Redesign and Substitute Materials for Fittings.* (From Die Chemische Technik, Vol. 16, No. 5, 13/3/43, pp. 39-43.) (F. Petrak, Engineers' Digest, Vol. 4, No. 8, August, 1943, pp. 242-243.)
168	16579	G.B. ...	*The Coefficient of Propulsive Efficiency.* (K. C. Barnaby, Engineering, Vol. 156, No. 4,061, 12/11/43, pp. 399-400.)
169	16846	G.B. ...	*A Steam Engine for Aircraft (Report of American Design).* (Flight, Vol. 44, No. 1,822, 25/11/43, p. 589.)
170	16861	U.S.A. ...	*An Autobiography (including Review of Early Experimental Work on Detonation, Side-Valve Engine, Sleeve-Valve Engine, Diesel Engines).* (H. R. Ricardo, Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 765-769.)
171	17049	Germany ...	*Progress In Gear Construction.* (From Maschinenbau, Der Betrieb, Vol. 22, No. 1, January, 1943, pp. 9-13.) (H. Wittmann, Engineers' Digest, Vol. 4, No. 11, November, 1943, pp. 320-322.)
172	17078	Germany ...	*The Synthesis of Link Drives (Use of Complex Numbers).* (E. Hackmuller, Ingenieur Archiv., Vol. 14, No. 3, 1943, pp. 141-154.)
			Accessories, including De-Icers.
173	15729	U.S.A. ...	*Advantages of Duct Seal Bands.* (Aero Digest, Vol. 43, No. 2, August, 1943, pp. 229-230.)
174	15737	U.S.A. ...	*Reducing Normalizing Time of Engine Mount Ring to Approx. One Minute by Special Vega Fixture.* (Aero Digest, Vol. 43, No. 2, August, 1943, pp. 391-395.)
175	16134	Germany ...	*The Spiral Ring Spring.* (R. Sonntag, Ing. Archiv., Vol. 14, No. 1, 1943, pp. 53-74.)
176	16412	G.B. ...	*Exhaust Gas De-Icer.* (Flight, Vol. 44, No. 1,820, 11/11/43, p. 523.)
177	16539	G.B. ...	*Chart for Helical Gear Calculations.* (E. Byron, Machinery, Vol. 63, No. 1,620, 28/10/43, p. 493.)
178	16649	U.S.A. ...	*Recommended Specification for Prime-Mover Speed Governing (for Driving Electric Generators).* (A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-5.)
179	16676	U.S.A. ...	*Packless Flexible Fastener (for Flexible Hose in Aircraft Engines).* (Industrial and Engineering Chemistry (News Edition), Vol. 21, No. 19, 10/10/43, p. 1672.)

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180	16702	U.S.A.	...	*New Exhaust Heat De-Icer.* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 201.)
181	16736	U.S.A.	...	*Modern Filter Development as Applied to Fuel and Oil Systems of Diesel Engines (Excerpts).* (C. A. Winslow, S.A.E. Journal, Vol. 51, No. 10, October, 1943, pp. 26, 28.)
182	16747	U.S.A.	...	*Increasing Capacity of Ball Reciprocating Bearings.* (S. R. Thomas, Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 191, 272.)
183	16873	U.S.A.	...	*Care of Cooling Systems of Liquid-Cooled Engines.* (Mechanical Engineering, Vol. 65, No. 11, November, 1943, p. 811.)
184	16900	G.B. ...	...	*Piston Metallurgy (Investigation of German Pistons).* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, pp. 572-574.)
185	16969	Germany	...	*Developments in Piston Design.* (E. Mahle, Aluminium, Vol. 25, No. 4, April, 1943, pp. 171-174.)

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186	16604	U.S.A.	...	*Use of Glow Plugs in Cold Starting Diesel Engines.* (A. F. Klingner, Automotive Industries, Vol. 89, No. 7, 1/10/43, pp. 28-29, 64.)
187	16730	U.S.A.	...	*Cold-Starting Tests on Diesel Engines.* (H. R. Porter, S.A.E. Journal, Vol. 51, No. 10, October, 1943, pp. 356-361, 368.)
188	17040	Denmark	...	*Thermodynamic Possibilities of a Compound Diesel.* (From Ingenioren, Maskinteknik, Copenhagen, 7/8/43, pp. 89-95.) (J. L. Mansa, Engineers' Digest, Vol. 4, No. 11, November, 1943, pp. 307-308.)

Turbines and Oil Engines.

189	16622	G.B. ...	...	*Oil Engine Outputs.* (Engineer, Vol. 176, No. 4,584, 19/11/43, p. 406.)
190	16646	U.S.A.	...	*Gas Turbines and Turbo-Superchargers (including Bibliography).* (S. A. Moss, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-13.)
191	16777	G.B. ...	...	*The Efficiencies of Combustion Turbines.* (S. J. Davies and M. I. Fawzi, Engineering, Vol. 156, No. 4,062, 19/11/43, pp. 401-403.)
192	17045	Germany	...	*Steam or Gas Turbine?* (From Die Wärme, Vol. 65, No. 49, 5/12/42, pp. 419-425.) (O. Martin, Engineers' Digest, Vol. 4, No. 11, November, 1943, pp. 313-314.)
193	17046	Germany	...	*Energy Conversion in Gas and Oil Turbines.* (From Die Wärme, Vol. 66, No. 15, June, 1943, pp. 139-142.) (W. Nusselt, Engineers' Digest, Vol. 4, No. 11, November, 1943, pp. 314-316.)
194	17056	G.B. ...	...	*The Efficiencies of Combustion Turbines (Contd.).* (S. J. Davies and M. I. Fawzi, Engineering, Vol. 156, No. 4,063, 26/11/43, pp. 421-424.)
195	17071	U.S.A.	...	*Bursting Tests of Steam Turbine Disc Wheels.* (E. L. Robinson, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-8.)

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			Boilers.
196	15819	U.S.A.	*Fuel Oil Pressure Control Valves (for Boilers).* (R. W. Hiteshue, Journal of the American Society of Naval Engineers, Vol. 55, No. 3, Aug., 1943, pp. 397-403.)
197	16575	G.B.	*The Fouling of Boiler Tube Surfaces.* (Engineering, Vol. 156, No. 4,061, 12/11/43, pp. 391-392.)
198	16624	G.B.	*Hydrogen in Boilers.* (R. J. Lingley, Engineer, Vol. 176, No. 4,584, 19/11/43, p. 409.)
199	17063	G.B.	*The Fouling of Boiler Tube Surfaces (Contd.).* (W. F. Harlow, Engineering, Vol. 156, No. 4,063, 26/11/43, pp. 424-425.)
200	17074	U.S.A.	*Natural Circulation Test Results on the 2,500 Psi Twin Branch Boiler.* (W. H. Rowand and T. B. Allardice, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-5.)
			Flow Fan.
201	16593	U.S.A.	*Light Weight Axial Flow Fan.* (Automotive Industries, Vol. 89, No. 7, 1/10/43, p. 39.)
			FUELS AND LUBRICANTS.
			Fuels (General).
202	16573	G.B.	*An Organised Fuel Policy.* (E. W. Smith, Engineering, Vol. 156, No. 4,061, 12/11/43, pp. 385-386.)
203	16581	G.B.	*Modern Refining Practice—New Methods of Construction and Erection of Large Fractionating Towers.* (Petroleum Times, Vol. 47, No. 1,207, 30/10/43, pp. 588-589.)
204	16583	G.B.	*Home Produced Fuels (Presidential Address at the Institute of Fuel).* (E. W. Smith, Petroleum Times, Vol. 47, No. 1,207, 30/10/43, pp. 592-594.)
205	16643	U.S.A.	*Military Ground Forces Fuels and Lubricants.* (J. A. Richardson, S.A.E. Preprint, 4-5/11/43, pp. 1-6.)
206	16779	G.B.	*An Organised Fuel Policy (Contd.).* (E. W. Smith, Engineering, Vol. 156, No. 4,062, 19/11/43, p. 405.)
207	16788	U.S.A.	*Future for Diesel Engine Fuels.* (A. L. Foster, A.S.M.E. Preprint, Nov. 29-Dec. 3, 1943.)
			Gaseous Fuels.
208	15680	G.B.	*I.A.E. Fuel and Lubricant Research (Producer Gas and Waste Oil Reclamation, etc.).* (Petroleum Times, Vol. 47, No. 1,207, 30/10/43, pp. 580-582.)
209	16656	U.S.A.	*Function-Fitted Combustion—the Implications of a New Concept of Industrial Gas Utilisation.* (H. W. Smith, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-5.)
210	16720	U.S.A.	*Producer Gas Developments in Brazil.* (Scientific American, Vol. 169, No. 5, Nov., 1943, pp. 225-226.)

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211	17042	Germany ...	*Rail Car with Charcoal Gas Producer.* (From Deutsche Motor-Zeitschrift, Vol. 20, No. 3, March, 1943, pp. 80-82.) (F. Kralik, Engineers' Digest, Vol. 4, No. 11, November, 1943, pp. 310-311.)
212	17050	Germany ...	*Compressed Gas for Motor Vehicles.* (From Brennstoff und Wärmewirtschaft, Vol. 25, No. 3, March, 1943, pp. 45-49.) (E. Soens, Engineers' Digest, Vol. 4, No. 11, November, 1943, pp. 322-323.)
			Coals, Pulverised Fuels.
213	16657	U.S.A. ...	*Test Methods for Rating the Performance of Domestic Stoker Coals.* (R. J. Helfinstine, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-8.)
214	16658	U.S.A. ...	*Laboratory and Field Tests on Coal-in-Oil Fuels.* (J. F. Barkley and others, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-12.)
215	17070	U.S.A. ...	*The Flow Characteristics of Coal-Ash Slags in the Solidification Range.* (W. T. Reid and P. Cohen, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-15.)
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218	16535	G.B.	*Lubrication at Low Rubbing Speed.* (Machinery, Vol. 63, No. 1,620, 28/10/43, p. 481.)
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220	16642	U.S.A. ...	*Corrosion Preventive Oil and Aircraft Engine Preservation.* (A. P. Ayers, S.A.E. Preprint, 4-5/11/43, pp. 1-6.)
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223	16690	G.B.	*Transformer Oil—Care and Treatment to Reduce Breakdown Due to Acidity.* (Electrician, Vol. 131, No. 3,415, 12/11/43, pp. 479-480.)
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228	15695	G.B. ...	*The Simple Trussed Beam.* (J. J. O'Donovan, Engineering, Vol. 156, No. 4,057, 15/10/43, p. 303.)
229	16444	Germany ...	*The Form Coefficient of Stepped Shafts Under Torsion as Determined by Micro Extensometer Measurements.* (A. Wegand, L.F.F., Vol. 20, No. 7, 20/7/43, pp. 217-219.)
230	16584	Germany ...	*Experiments on the Effects of Transverse Holes, Splines and Diameter Changes on the Torsional Fatigue Strength of Shafts.* (W. Herold, Z.V.D.I., Vol. 81, No. 18, 1/5/37, pp. 505-509.)
231	16587	Germany ...	*Bending Tests on the Static Load Carrying Capacity of Large Double T Girders Made of Various Light Alloys.* (A. Thum and R. Z. Von Mantcuffel, L.F.F., Vol. 20, No. 819, 16/10/43, pp. 242-254.)
232	16651	U.S.A. ...	*Deflection of Uniformly Loaded Circular Plates.* (F. C. W. Olson, A.S.M.E Preprints, Nov. 29-Dec. 3, 1943, pp. 1-2.)
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239	17044	Germany ...	*Friction of Wire Ropes on Driving Pulleys.* (From Z.V.D.I., Vol. 86, No. 35-36, 5/9/42, p. 554.) (L. Klein, Engineers' Digest, Vol. 4, No. 11, November, 1943, p. 312.)
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244	15647	Switzerland ...	*The Design of Autoclave Flanges (IV). (Worked Out Example.)* (R. V. Band, Schweizer Archiv., Vol. 8, No. 4, April, 1942, pp. 122-129.)
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249	15634	Switzerland ...	*Experience with New Materials (High Grade Cast Iron, Steel Castings, Magnesium, Plastics, Cutting Oils).* (H. Stager, Schweizer Archiv., Vol. 8, No. 6, June, 1942, pp. 178-197.)
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252	16628	G.B. ...	...	*Effects of Precipitation Treatment of Binary Magnesium-Aluminium Alloys (Part I).* (F. A. Fox and E. Lardner, Metal Industry, Vol. 63, No. 21, 19/11/43, pp. 322-325.)
253	16822	G.B. ...	...	*Aluminium in the Construction of Rolling Stock.* (L. P. Dudley, Light Metals, Vol. 6, No. 70, November, 1943, p. 521.)
254	16823	G.B. ...	...	*Superheating of Magnesium.* (Light Metals, Vol. 6, No. 70, November, 1943, pp. 528-529.)
255	16825	G.B. ...	...	*Aluminium in Automobiles.* (E. V. Pannell, Light Metals, Vol. 6, No. 70, November, 1943, pp. 534-536.)
256	16826	G.B. ...	...	*Aluminium-Wool-Rubber Brake Linings.* (Light Metals, Vol. 6, No. 70, November, 1943, pp. 536-537.)
257	16827	G.B. ...	...	*Aluminium in Plant and Equipment for the Chemical Industry.* (Light Metals, Vol. 6, No. 70, November, 1943, pp. 538-557.)
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259	16832	G.B. ...	...	*Aluminium Packaging in War.* (Light Metals, Vol. 6, No. 70, November, 1943, p. 563.)
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268	16980	Germany	...	*Technology of Aluminium—4th Edition (Book Review).* (A. V. Zeerleder, Aluminium, Vol. 25, No. 10, October, 1943, p. 338.)
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298	16632	G.B. ...	... *A.S.T.M. Committee's Reports on Non-Ferrous Metals and Solders.* (Metal Industry, Vol. 63, No. 21, 19/11/43, p. 332.)
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315	15630	Switzerland ...	*Connection Between Structure and Strength Characteristics of Compressed Phenolplastics.* (W. Siegfried, Schweizer Archiv., Vol. 8, No. 8, August, 1942, pp. 255-262.)
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342	16645	U.S.A.	... *Surface Fatigue of Plastic Materials (Progress Report No. 16 of the A.S.M.E. Special Research Committee on Strength of Gear Teeth).* (E. Buckingham, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-10.)
343	16696	U.S.A.	... *Characteristics of Plastics as Engineering Materials (First Draft).* (W. F. Bartoe and D. S. Frederick, S.A.E. Preprint, 10/11/43, pp. 1-5.)
344	16721	U.S.A.	... *Plastic Envelope for Blue Prints, Maps, etc.* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 226.)
345	16724	U.S.A.	... *New Type of Adhesive for Bonding Thin Sheets of Wood (Combines Thermo-Plastic and Thermo-Setting Qualities).* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 229.)
346	16780	G.B. ...	... *Synthetic Materials.* (Engineering, Vol. 156, No. 4,062, 19/11/43, p. 412.)
347	16828	G.B. ...	... *Lamp Screening for A.R.P. (Use of Plastic and Aluminium).* (Light Metals, Vol. 6, No. 70, November, 1943, p. 558.)
348	16830	G.B. ...	... *Bonding Metal with Adhesives (the Cycloweld Process).* (Light Metals, Vol. 6, No. 70, November, 1943, p. 560.)
349	16898	G.B. ...	... *Plastics Drop Hammer Punch.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, p. 565.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
350	17036	Germany	... *Vidal Plastic Construction in the U.S.A.* (Der Flieger, Vol. 22, No. 10, Oct., 1943, p. 307.)
351	17059	G.B. ...	... *Engineering Plastics.* (Engineering, Vol. 156, No. 4,063, 26/11/43, pp. 431-432.)

Rubber (Nat. and Syn.) and Leather.

352	15134	U.S.A.	... *Experimental Plantings of Golden Rod for Rubber Production.* (Scientific American, Vol. 169, No. 3, September, 1943, p. 111.)
353	15138	U.S.A.	... *Synthetic Rubber To-day (Review of Most Important Products).* (Scientific American, Vol. 169, No. 3, September, 1943, pp. 115-117.)
354	15143	U.S.A.	... *Substitute Sponge Rubber Derived from Linoleic Acid.* (Scientific American, Vol. 169, No. 3, September, 1943, p. 126.)
355	15394	U.S.A.	... *The Rubber Development Corporation (Wild Rubber from South America).* (Inter. Avia., No. 875, 7/7/43, pp. 19-20.)
356	15678	U.S.A.	... *Rubber Production in the U.S.A.* (Inter. Avia., No. 876-877, 19/7/43, pp. 16-17.)
357	14857	U.S.A.	... *The Present Status of Synthetic Rubber.* (L. B. Sebrell, Industrial and Engineering Chemistry (Indust. Edition), Vol. 35, No. 7, July, 1943, pp. 736-750.)
358	15888	U.S.A.	... *Effect of Petroleum Products on Neoprene Vulcanizates.* (D. F. Fraser, Industrial and Engineering Chemistry, Vol. 35, No. 9, Sept., 1943, pp. 947-948.)
359	15889	U.S.A.	... *Bend, Brittle and Shatter Points of Rubberlike Materials.* (G. E. King, Industrial and Engineering Chemistry, Vol. 35, No. 9, Sept., 1943, pp. 949-951.)
360	15890	U.S.A.	... *Heat Resistance of Neoprene G.N. Vulcanizates.* (D. B. Forman, Industrial and Engineering Chemistry, Vol. 35, No. 9, Sept., 1943, pp. 952-957.)
361	15891	U.S.A.	... *Carbon Black in Butyl Rubber.* (L. B. Turner and others, Industrial and Engineering Chemistry, Vol. 35, No. 9, Sept., 1943, pp. 958-963.)
362	15892	U.S.A.	... *Heat Generation in Flexed Rubber.* (S. D. Gehman and others, Industrial and Engineering Chemistry, Vol. 35, No. 9, Sept., 1943, pp. 964-971.)
363	15894	U.S.A.	... *Simple Vulcanizates of Buna S and Sulphur (Physical and Chemical Properties).* (La Verne, E. Cheyney and A. L. Robinson, Industrial and Engineering Chemistry, Vol. 35, No. 9, Sept., 1943, pp. 976-979.)
364	15896	U.S.A.	... *Blends of Thiokol F.A. with Neoprene G.N., Hycar O.R.-15 and Perbunan 26.* (S. M. Martin and A. E. Laurence, Industrial and Engineering Chemistry, Vol. 35, No. 9, Sept., 1943, pp. 986-991.)

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365	16106	U.S.A. ...	*Determination of Butadiene in the Presence of Other Unsaturated and Saturated Gaseous Hydrocarbons.* (J. F. Cuneo and R. L. Switzer, Industrial and Engineering Chemistry, Vol. 15, No. 8, 17/8/43, pp. 508-509.)
366	16463	U.S.A. ...	*The Rubber Programme—Present and Future.* (B. Dewey, Ind. and Eng. Chem (News Edition), Vol. 21, No. 18, 25/9/43, pp. 1503-1509.)
367	16466	U.S.A. ...	*Koroseal Sponge.* (Ind. and Eng. Chem. (News Edition), Vol. 21, No. 18, 25/9/43, p. 1552.)
368	16571	G.B.	*The Molecular Structure of Rubber.* (R. B. Richards, Chemistry and Industry, Vol. 62, No. 46, 13/11/43, p. 433.)
369	16639	U.S.A. ...	*Recent Progress in Synthetic Rubbers.* (S.A.E. Preprint, 10/11/43, pp. 1-5.)
370	16669	U.S.A. ...	*Canadian Production of Synthetic Rubber.* (Industrial and Engineering Chemistry (News Edition), Vol. 21, No. 19, 10/10/43, p. 1612.)
371	16670	U.S.A. ...	*Thirty Years' Contributions to the Science of Synthetic Rubber.* (W. L. Semon, Industrial and Engineering Chemistry (News Edition), Vol. 21, No. 19, 10/10/43, pp. 1613-1619.)
372	16815	G.B.	*Rheology in the Textile, Leather, Shoe and Allied Trades.* (Nature, Vol. 152, No. 3,861, 30/10/43, pp. 514-515.)
373	17028	G.B.	*Rubber-like Plastics and Their Applications (Symposium of Papers).* (Chemistry and Industry, Vol. 62, No. 48, 27/11/43, p. 454.)

Wood and Plywood.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
374	14964	U.S.A. ...	*Making Curved Plywood (Discussion).* (Mechanical Engineering, Vol. 65, No. 9, Sept., 1943, pp. 677-678.)
375	15148	U.S.A. ...	*Locking Wood Screw.* (Scientific American, Vol. 169, No. 3, September, 1943, p. 138.)
376	15156	G.B.	*Fault-Finding in Aircraft Timbers.* (Aeronautics, Vol. 9, No. 2, September, 1943, p. 53.)
377	15497	G.B.	*Raw Materials for Rayon. I—Wood Pulp.* (D. B. Halpern, Times Trade and Engineering, Vol. 53, No. 955, Sept., 1943, p. 11.)
378	16052	U.S.A. ...	*Progress in Wood Lamination Using Low Temperature Phenol Gluca for Shipbuilding.* (Scientific American, Vol. 169, No. 4, Oct., 1943, p. 174.)
379	16464	U.S.A. ...	*New Plywood Adhesive.* (Ind. and Eng. Chem. (News Edition), Vol. 21, No. 18, 25/9/43, p. 1536.)
380	16726	U.S.A. ...	*Products of the Pine (Resin, Turpentine, etc.).* (J. M. Crowe, Scientific American, Vol. 169, No. 5, Nov., 1943, pp. 202-204.)
381	16820	G.B.	*Wood Utilisation (Indian Research).* (Nature, Vol. 152, No. 3,864, 20/11/43, p. 605.)
382	16911	G.B.	*Thermo-Setting Adhesive for Plywood.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, p. 603.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
			Diamonds, Sapphires, Glass.
383	15030	U.S.A. ...	*Synthetic White Sapphire.* (Journal of Aeronautical Science (Review Section), Vol. 2, No. 1, January, 1943, p. 101.)
384	16252	G.B. ...	*Refractory Materials for Glass Making.* (J. H. Partridge, G.E.C. Journal, Vol. 12, No. 3, Feb., 1943, pp. 119-131.)
385	16315	Germany ...	*Production of Hard Metal Alloys and Their Use for Replacement of Diamonds in the Drawing Industry.* (Stahl and Eisen, Vol. 62, No. 52-53, Dec., 1942, pp. 1083-1091.) (S. Hinnuber, Engineers' Digest, Vol. 4, No. 9, Sept., 1943, pp. 266-269.)
386	16668	U.S.A. ...	*Flexible Fibre Glass Sleeving.* (Review of Scientific Instruments, Vol. 14, No. 9, Sept., 1943, p. 280.)
387	16901	G.B. ...	*Glass Gauges.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, p. 574.)
388	16910	G.B. ...	*Diamond Turning—Experiments Carried Out on Aircraft Pistons.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, pp. 592-594.)
389	16949	G.B. ...	*Piston Turning and Diamond Tools.* (Engineer, Vol. 176, No. 4,585, 26/11/43, pp. 431-432.)
			Concretes, Carbides.
390	14480	G.B. ...	*The Application of Vasco-loy-Ramet (Tantalum Carbide Material.* (Mechanical World, Vol. 114, No. 2,957, 3/9/43, pp. 262-264.)
391	14560	G.B. ...	*The "Mitia" Carbide Chart.* (British Plastics, Vol. 15, No. 172, September, 1943, p. 215.)
392	15609	Germany ...	*Silicon Carbide (Silit) Heating Elements for Electric Furnaces.* (J. Eberwein, Gas and Electro Wärme, Vol. 1,943, No. 3, June, 1943, pp. 47-51.)
393	15893	U.S.A. ...	*Density of Carbon Black by Helium Displacement.* (R. P. Rossman and W. R. Smith, Industrial and Engineering Chemistry, Vol. 35, No. 9, Sept., 1943, pp. 972-976.)
394	16121	U.S.A. ...	*Tensile and Other Properties of Concretes Made with Various Types of Cements.* (L. Schuman and J. Tucker, National Bureau of Standards, Vol. 31, No. 2, August, 1943, pp. 107-124.)
395	16705	U.S.A. ...	*Sea-Going Concrete—U.S. Developments in Ship Building.* (E. J. Cleary, Scientific American, Vol. 169, No. 5, Nov., 1943, pp. 205-206.)
396	16723	U.S.A. ...	*Concrete Protection Afforded by Freeze-Resistant Resin.* (Scientific American, Vol. 169, No. 5, Nov., 1943, pp. 228-229.)
			Paints, Lacquers, Graphite.
397	14293	G.B. ...	*Sticking Joints—The Use of Graphite as an Anti-Adhesive.* (The Automobile Engineer, Vol. 33, No. 440, September, 1943, p. 379.)
398	14515	G.B. ...	*The Structure of Graphite.* (H. Lipson and A. R. Stokes, Proceedings of the Royal Society, Vol. 181, No. 984, 24/9/42, pp. 101-105.)

ITEM NO	R.T.P. REF.		TITLE AND JOURNAL.
399	15147	U.S.A. ...	*Lacquer Coating Test for Locating Strains in Metal Parts ("Stresscoat").* (Scientific American, Vol. 169, No. 3, September, 1943, p. 133.)
400	15619	Switzerland ...	*Reaction Changes Due to Water Absorption of Oil Lacquers Containing Red Lead.* (W. Beck, Schweizer Archiv., Vol. 8, No. 2, February, 1942, pp. 45-52.)
401	16194	G.B.	*The Treatment of Roof Glazing by Fabric Attached with Bituminous Adhesive.* (C. M. Watkins and T. A. Baker, Journal of the Society of Chemical Industry, Vol. 62, No. 9, Sept., 1943, pp. 141-144.)
402	16541	G.B.	*Development in Roll Mills for Paint Manufacture.* (Mechanical World, Vol. 114, No. 2,965, 29/10/43, pp. 491-493.)

Corrosion and General Properties of Metals.

403	14865	U.S.A. ...	*Identification of Rust on Iron and Steel.* (R. O. Clark, Industrial and Engineering Chemistry (Analyt. Edition), Vol. 15, No. 7, 19/7/43, pp. 464-465.)
404	15133	U.S.A. ...	*What is Hardness?* (S. R. Williams, Scientific American, Vol. 169, No. 3, September, 1943, pp. 109-111.)
405	15466	Germany ...	*The Stress Corrosion of Some Al.-Zn.-Mg. Alloys After Hot Age Hardening.* (W. Bungardt and G. Scheitberger, Z.J. Metallk., Vol. 35, No. 2, February, 1943, pp. 47-55.)
406	15807	U.S.A. ...	*Nomogram for Calculating Hardenability.* (C. K. Donoho and W. W. McCulloch, Metal Progress, Vol. 44, No. 3, Sept., 1943, p. 440.)
407	15810	U.S.A. ...	*Mechanical Properties of Metal Foils.* (B. Chalmers and P. W. Seddon, Metal Progress, Vol. 44, No. 3, Sept., 1943, pp. 424, 456-458.)
408	15928	G.B.	*Vitrification, Crystallinity and Fusilibility of Refractories and Slags.* (J. F. Hyslop, Metal Treatment, Vol. 10, No. 34, Summer, 1943, pp. 83-86.)
409	16442	Germany ...	*The Corrosion of Cladded Al.-Zn.-Mg. Alloys.* (W. Bungardt, L.F.F., Vol. 20, No. 7, 20/7/43, pp. 207-209.)
410	16652	U.S.A. ...	*The Corrosion of Alloy Steels by High Temperature Steam.* (G. A. Hawkins and others, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-4.)
411	16704	U.S.A. ...	*Anti-Freeze Reconditioner Restores Anti-Rust Properties.* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 204.)
412	16719	U.S.A. ...	*Rust Prevents Air in Salvaging Normandie's Equipment.* (Scientific American, Vol. 169, No. 5, Nov., 1943, pp. 223-224.)
413	16794	Germany ...	*The Mechanics of Materials as a New Factor in the Assessment of Material Properties.* (W. Kuntze, Metallwirtschaft, Vol. 19, No. 48, pp. 1073-1081.)
414	16869	U.S.A. ...	*The Nature of Pure Metals.* (J. F. Young, Mechanical World, Vol. 65, No. 11, November, 1943, pp. 795-801.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL
415	16888	Germany ...	*Investigations of Stress Corrosion (from Zeitschrift für Metallkunde).* (G. Wasseiman, Metal Industry, Vol. 63, No. 22, 26/11/43, p. 346.)

B. Fabrication.

Cutting, Etching, Boring.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL
416	15946	G.B.	*Screw-Cutting Drilled Blind Holes.* (W. Cooper, Machinery, Vol. 63, No. 1,618, 14/10/43, p. 437.)
417	15962	G.B.	*Gear Box Boring Methods.* (Machinery, Vol. 63, No. 1,617, 7/10/43, pp. 411-412.)
418	16423	Germany ...	*The Influence of Scale on the Etching of Iron.* (J. Sittard, Metallwirtschaft, Vol. 19, No. 45, 8/11/40, pp. 1008-1012.)

Welding.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL
419	14966	U.S.A. ...	*Spot and Seam Welding Data for Low Carbon Steels.* (Mechanical Engineering, Vol. 65, No. 9, Sept., 1943, p. 692.)
420	15361	G.B.	*Second Interim Report of the R. 52 Sub-Committee on the Spot Welding of Light Alloys.* (G. H. Field and others, The Institute of Welding Quarterly Trans., Vol. 6, No. 2, April, 1943, pp. 49-68.)
421	15362	G.B.	*A Development in Welded Fabrication for Marchant Shipbuilding.* (R. B. Shepheard and others, The Institute of Welding Quarterly Trans., Vol. 6, No. 2, April, 1943, pp. 69-78.)
422	15363	G.B.	*"Forged-Spot" Welding for Use in Shipbuilding and Other Constructional Work.* (G. H. Wright and others, The Institute of Welding Quarterly Trans., Vol. 6, No. 2, April, 1943, pp. 79-97.)
423	15364	G.B.	*Metallic Arc Welding of High Sulphur Free-Cutting Steels.* (T. Swinden and H. F. Tremlett, The Institute of Welding Quarterly Trans., Vol. 6, No. 1, January, 1943, pp. 1-3.)
424	15365	G.B.	*Production of Simple Spot Welds in Mild Steel Plates of $\frac{1}{4}''$, $\frac{1}{8}''$ and $\frac{3}{8}''$ Thickness.* (J. Dearden and H. O'Neill, The Institute of Welding Quarterly Trans., Vol. 6, No. 1, January, 1943, pp. 8-23.)
425	15366	G.B.	*A Consideration of Tests to Determine the Weldability of Steels for Arc Welding.* (J. G. Ball, The Institute of Welding Quarterly Trans., Vol. 6, No. 1, January, 1943, pp. 24-46.)
426	15370	G.B.	*Standardisation of the Photography of Welds.* (E. S. van Someren, The Institute of Welding Quarterly Trans., Vol. 5, No. 1, January, 1942, pp. 1-10.)
427	15371	G.B.	*The Inspection of Welded Steel Joints in Relation to Their Mechanical Strength.* (J. Dearden, The Institute of Welding Quarterly Trans., Vol. 5, No. 2, April, 1942, pp. 47-54.)
428	15372	G.B.	*Weldability of Some Low Alloy Steel.* (J. S. Vatchagandhy and G. P. Contractor, The Institute of Welding Quarterly Trans., Vol. 5, No. 2, April, 1942, pp. 55-66.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
429	15374	G.B.	*Investigation into the Behaviour of Welded Rigid Frame Structures. The Behaviour of Stanchions Bent in Single Curvature (Third Interim Report).* (J. E. Baker and J. W. Roderick, The Institute of Welding Quarterly Trans., Vol. 5, No. 3, July, 1942, pp. 97-119.)
430	15375	G.B.	*Examination of Stress Distribution in Spot Welded Joints in Light Alloys by Means of the Brittle Lacquer Process.* (R. F. Tylecote, The Institute of Welding Quarterly Trans., Vol. 5, No. 3, July, 1942, pp. 120-132.)
431	15378	G.B.	*An Estimation of the Distribution of Shear Stress in Spot Welds.* (R. F. Tylecote, The Institute of Welding Quarterly Trans., Vol. 5, No. 3, July, 1942, pp. 143-144.)
432	15653	Switzerland ...	*Spot Welding of Al. Alloys in Aircraft Construction.* (A. V. Zeerleder, Inter. Avia., No. 879-880, 9/8/43, pp. 1-7, 11.)
433	15803	U.S.A. ...	*Test Specimens from Welded Pipe.* (J. J. Crowe, Metal Progress, Vol. 44, No. 3, Sept., 1943, p. 432.)
434	15805	U.S.A. ...	*Rapid and Accurate Inspection of Spot Welds.* (L. L. Anderson, Metal Progress, Vol. 44, No. 3, Sept., 1943, pp. 433-434, 462.)
435	15809	U.S.A. ...	*Fractures in Welded Ships.* (J. Tutin, Metal Progress, Vol. 44, No. 3, Sept., 1943, pp. 448, 468-470.)
436	15935	G.B.	*The Scope of Welding.* (C. W. Brett, Metal Treatment, Vol. 10, No. 34, Summer, 1943, pp. 131-132.)
437	15940	G.B.	*Electronically Controlled Welding Assembly of Steel Auxiliary Fuel Drop Tanks for Fighter and Bomber Planes.* (M. W. Coker, Machinery, Vol. 63, No. 1,618, 14/10/43, pp. 421-424.)
438	16041	G.B.	*Fabricating Welding Quality Elektron. I—Protection and General Handling.* (W. K. B. Marshall, Metal Industry, Vol. 63, No. 18, 29/10/43, pp. 274-276.)
439	16166	Germany ...	*The Effect of Welding Faults on the Static and Dynamic Strength of Welded Joints of Steel St. 52 with Notes on the Limits of Fault Detection by X-Ray Examination.* (H. Koller and E. Klein, Schiff und Werft, Vol. 44-24, No. 17-18, September, 1943, pp. 257-261.)
440	16168	Germany ...	*The Welding of Cast Iron (Abstract).* (Schiff und Werft, Vol. 44-24, No. 17-18, September, 1943, p. 269.)
441	16209	Germany ...	*Welding Cracks in Chromium-Molybdenum Structural Steels.* (From Stahl und Eisen, Vol. 62, No. 26, 25/6/42, pp. 540-545.) (A. Antonioli, Engineers' Digest, Vol. 4, No. 8, August, 1943, pp. 236-237.)
442	16234	G.B.	*Rightward or Leftward Welding Technique?* (W. Heiz, Sheet Metal Industries, Vol. 18, No. 199, November, 1943, pp. 1983-1986.)

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443	16292	U.S.A. ...	*Atomic-Hydrogen Welding Saves Aluminium Castings.* (Aviation, Vol. 42, No. 8, August, 1943, p. 181.)
444	16298	U.S.A. ...	*Welding of Aluminium Alloys (Data Sheet).* (Aviation, Vol. 42, No. 8, August, 1943, pp. 193-195.)
445	16371	U.S.A. ...	*G.E. Automatic Arc Welding Unit for the Welding of Magnesium and Aluminium.* (Automotive Industries, Vol. 89, No. 6, 15/9/43, pp. 46, 92.)
446	16586	Germany ...	*Various Types of Weld Cracks and Weld Sensitivity of Steels, with Methods of Testing.* (K. L. Zeyen, L.F.F., Vol. 20, No. 819, 16/10/43, pp. 231-241.)
447	16629	G.B.	*Fusion Welding of Wrought Aluminium Alloys—I.* (Metal Industry, Vol. 63, No. 21, 19/11/43, pp. 326-328.)
448	16637	Germany ...	*New Miniature Electric Arc Welding Appliances.* (Luftwissen, No. 7, Vol. 10, July, 1943, p. 202.)
449	16785	G.B.	*Building Up and Hard Surfacing by Welding.* (W. Andrews, Engineering, Vol. 156, No. 4,062, 19/11/43, pp. 418-419.)
450	16795	Germany ...	*Welding and Notch Sensitivity of Engineering Steels.* (Metallwirtschaft, Vol. 19, No. 48, pp. 1091-1094.)
451	16887	G.B.	*Fusion Welding of Wrought Aluminium Alloys—II.* (Metal Industry, Vol. 63, No. 22, 26/11/43, pp. 343-346.)
452	16897	G.B.	*Heavy Gauge Spot Welding.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, pp. 563-565.)
			Heat Treatment.
453	15151	G.B.	*The Heat Treatment of Aluminium Alloys.* (W. L. Morse, Aeronautics, Vol. 9, No. 2, September, 1943, pp. 34-36.)
454	15177	G.B.	*Electric Glue Heating.* (The Electrician, Vol. 131, No. 3,408, 24/9/43, pp. 297-299.)
455	15188	G.B.	*Finishing Electrolytic Plate. Effect of Momentary Melting by High Frequency Induction Heating.* (Mechanical World, Vol. 114, No. 2,960, 24/9/43, p. 349.)
456	15533	Germany ...	*Surface Hardening with Coal-Oxygen Gas.* (A. Strothmann, Gas, Vol. 15, No. 3, March, 1943, pp. 39-44.)
457	15610	Germany ...	*Hardening and Tempering of Steel Wire and Strip Manufacture.* (K. Appel, Gas und Electro Warme, Vol. 1,943, No. 3, June, 1943, pp. 52-56.)
458	15813	U.S.A. ...	*Erosion and Heat Treating of Gun Tubes.* (Metal Progress, Vol. 44, No. 3, Sept., 1943, p. 413.)
459	15927	G.B.	*Plane Hardening from the Metallurgical Viewpoint.* (M. L. Becker, Metal Treatment, Vol. 10, No. 34, Summer, 1943, pp. 71-81, 132.)
460	15932	G.B.	*Controlled Atmospheres for Heat Treatment Processes.* (S. V. Williams, Metal Treatment, Vol. 10, No. 34, Summer, 1943, pp. 111-121.)

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461	16213	Germany ...	*Heat Treatment of Steel from Rolling Temperature* (From Stahl und Eisen, Vol. 63, No. 20, 20/5/43, pp. 399-402.) (R. Schaefer and E. Langenbach, Engineers' Digest, Vol. 4. No. 8, August, 1943, pp. 244-245.)
462	16260	G.B.	*Electrostatic High Frequency Heating—II.* (Machinist, Vol. 87, No. 16, 7/8/43, p. 100E.)
463	16266	G.B.	*Warpage Corrected by Flame (Oxyacetylene Torch).* (C. W. Hale, Machinist Vol. 87, No. 16, 7/8/43, p. 91.)
464	16316	Germany .	*New Heat Treatment for the Improvement of Modern Steels.* (Stahl und Eisen, Vol. 62, No. 51, Dec., 1942, pp. 1067-1073.) (O. Kukla and others, Engineers' Digest, Vol. 4, No. 9, Sept., 1943, pp. 269-271.)
465	16326	G.B.	*Air-Conditioned Furnaces.* (Metal Industry, Vol. 63, No. 19, 5/11/43, p. 292.)
466	16382	G.B.	*Cooling of Steel Ingots (Abstract of Paper).* (E. F. Law and V. Harbord, Engineering, Vol. 156, No. 4,060, 5/11/43, p. 374.)
467	16383	G.B.	*The Physical Chemistry of Open Hearth Slags (Abstract).* (J. White, Engineering, Vol. 156, No. 4,060, 5/11/43, p. 374.)
468	16510	G.B.	*Thin Case Hardening with Radio-Frequency Energy.* (Electronic Engineering, Vol. 16, No. 189, Nov., 1943, p. 229.)
469	16536	G.B.	*Forging and Heat Treatment of Gun Barrels.* (Machinery, Vol. 63, No. 1,620, 28/10/43, pp. 483-486.)
470	16550	G.B.	*The Sintering Process.* (Mechanical World, Vol. 114, No. 2,965, 29/10/43, pp. 518-519.)
471	16620	G.B.	*Local Case Hardening.* (L. G. W. Palethorpe, Engineer, Vol. 176, No. 4,584, 19/11/43, pp. 403-404.)
472	16707	U.S.A. ...	*Preventing Armour Plate from Warping During Quenching ("Pressure Quench").* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 210.)
473	16985	G.B.	*A Vacuum Furnace.* (W. Ehrenberg and P. Ansbacher, Journal of Scientific Instruments, Vol. 20, No. 10, October, 1943, pp. 164-165.)
474	17054	Russia ...	*Bright Annealing of Steel Strip in Electrically Heated Bell-Type Furnace in a Russian Steel Mill.* (From Stahl, Moscow, No. 6, June, 1941, pp. 68-70.) (V. A. Sochinski and V. P. Gryaznov, Engineers' Digest, Vol. 4, No. 11, November, 1943, pp. 329-330.)
475	17084	Germany ...	*Induction Hardening of Crankshaft Journals.* (Der Deutsche Sportflieger, Vol. 10, No. 10, October, 1943, p. 165.)

Surface Coating and Plating.

476	15116	G.B.	*Re-Using Bearings.* (Sheet Metal Industries, Vol. 18, No. 198, October, 1943, p. 1758.)

ITEM NO.	R.T.P. REF.			TITLE AND JOURNAL.
477	15135	U.S.A.	...	*Chromium Plating and its Various Applications.* (F. P. Peters, Scientific American, Vol. 169, No. 3, September, 1943, pp. 112-114.)
478	15929	G.B. ...	...	*Factors Affecting the Influence of Nitriding on Fatigue Strength.* (W. E. Bardgett, Metal Treatment, Vol. 10, No. 34, Summer, 1943, pp. 87-101.)
479	15963	G.B. ...	...	*Plating or Loading Threaded Parts.* (Machinery, Vol. 63, No. 1,617, 7/10/43, p. 416.)
480	16047*	G.B. ...	...	*American Electroplating Developments.* (Metal Industry, Vol. 63, No. 18, 29/10/43, pp. 282-284.)
481	16105	U.S.A.	...	*Determination of Tin Coating Weights.* (G. H. Bendix and others, Industrial and Engineering Chemistry, Vol. 15, No. 8, 17/8/43, pp. 501-504.)
482	16261	G.B. ...	...	*Hard Chromium Plating for Journals.* (Machinist, Vol. 87, No. 16, 7/8/43, p. 101E.)
483	16310	G.B. ...	...	*Improving the Fatigue Strength of Machine Parts.* (Mech. Engg., Vol. 65, No. 8, August, 1943, pp. 553-563.) (S. O. Almen, Engineers' Digest, Vol. 4, No. 9, Sept., 1943, pp. 249-255.)
484	16311	G.B. ...	...	*Non-Destructive Measuring Methods for Anti-Corrosive Coatings.* (Maschinenbau (Betrieb), Vol. 22, No. 1, Jan., 1943, pp. 15-18.) (D. Schenk, *Engineers' Digest, Vol. 4, No. 9, Sept., 1943, pp. 255-257.)*
485	16319	G.B. ...	...	*Theory of the Potential and Technical Practice of Electro-Deposition.* (T.N. Bulletin 316, Aug., 1943, p. 61.) (Engineers' Digest, Vol. 4, No. 9, Sept., 1943, p. 274.)
486	16321	G.B. ...	...	*Plastic Treatment for Porous Castings.* (Engineers' Digest, Vol. 4, No. 9, Sept., 1943, p. 276.)
487	16358	U.S.A.	...	*Chemical Surface Treatment for Steel.* (F. C. Hirdler, Automotive Industries, Vol. 89, No. 6, 15/9/43, pp. 18-20, 84.)
488	16433	Germany	...	*Degreasing Metals Prior to Application of Organic and Inorganic Coatings.* (Metallwirtschaft, Vol. 19, No. 48, 20/11/40, p. 1102.)
489	16486	G.B. ...	...	*American Electroplating Developments (Papers at American Electroplaters' Convention).* (Metal Industry, Vol. 63, No. 20, 12/11/43, pp. 314-316.)
490	16623	G.B. ...	...	*Symposium of Papers on Reclamation of Worn Parts (Inst. of Mech. Eng. Meeting) (Discussion).* (Engineer, Vol. 176, No. 4,584, 19/11/43, pp. 407-408.)
491	16626	G.B. ...	...	*Symposium of Papers on Reclamation of Worn Parts (Inst. of Mech. Eng. Meeting). 1, Building Up and Hard Surfacing by Welding; 2, The Metal Spraying Process.* (W. Andrews and W. E. Ballard, Engineer, Vol. 176, No. 4,584, 19/11/43, pp. 412-414.)
492	16633	G.B. ...	...	*Preventing Corrosion of Zinc Coated Parts (Patent).* (Metal Industry, Vol. 63, No. 21, 19/11/43, p. 332.)
493	16708	U.S.A.	...	*Plating Problems.* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 210.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
494	16781	G.B.	*Reclamation of Worn Parts (Symposium of Papers at the Inst. of Mech. Engineers).* (Engineering, Vol. 156, No. 4,062, 19/11/43, pp. 413-414.)
495	16889	G.B.	*American Electroplating Developments (Papers at Electroplaters Convention) (Control of Plating Baths, Salvaging Rejected Parts, etc.).* (Metal Industry, Vol. 63, No. 22, 26/11/43, pp. 347-349.)
496	16946	G.B.	*Reclamation of Worn Parts—Electro-Deposition.* (A. W. Hothersall, Engineer, Vol. 176, No. 4,585, 26/11/43, pp. 423-425.)
497	17062	G.B.	*Reclamation of Worn Parts (Symposium of Papers Held at the Institution of Mechanical Engineers (Contd.).* (Engineering, Vol. 156, No. 4,063, 26/11/43, pp. 433-434.)
498	17067	G.B.	*The Repair of Worn or Over-Machined Parts by Electro-Deposition.* (A. W. Hothersall, Engineering, Vol. 156, No. 4,063, 26/11/43, pp. 428-440.)

Powder Metallurgy.

499	15642	Switzerland ...	*Metal Ceramics (Powder Metallurgy).* (W. Dawhl, Schweizer Archiv., Vol. 8, No. 3, March, 1942, pp. 95-96.)
500	15827	U.S.A. ...	*Powder Metallurgy: Its Products and Their Various Applications.* (W. D. Jones, Journal of the American Soc. of Naval Engineers, Vol. 35, No. 3, Aug., 1943, pp. 566-573.)
501	16673	U.S.A. ...	*Study of the Flammability of Powdered Metals.* (Industrial and Engineering Chemistry (News Edition), Vol. 21, No. 19, 10/10/43, p. 1632.)

Finishing, Grinding, Honing.

502	15123	G.B.	*Some Aspects of Metal Finishing—I.* (H. Silman, Sheet Metal Industries, Vol. 18, No. 198, Oct., 1943, pp. 1781-1785.)
503	15195	G.B.	*Grinding Finish (Use of "Scienol" for Abrasive Wet Grinding).* (Mechanical World, Vol. 114, No. 2,960, 24/9/43, p. 372.)
504	15814	U.S.A. ...	*Ordnance Standard Finishes.* (Metal Progress, Vol. 44, No. 3, Sept., 1943, p. 413.)
505	15941	G.B.	*Automatic Grinding of Carbide Tipped Tools.* (Machinery, Vol. 63, No. 1,618, 14/10/43, p. 427.)
506	16537	G.B.	*The Honing of Router Cutters.* (Machinery, Vol. 63, No. 1,620, 28/10/43, p. 486.)
507	16548	G.B.	*Reconditioning Files.* (Mechanical World, Vol. 114, No. 2,965, 29/10/43, p. 509.)

Bonding, Lapping.

508	16267	G.B.	*Machine Lapping (to obtain satisfactory seal at the joint face of the cylinder block assembly).* (Machinist, Vol. 87, No. 16, 7/8/43, pp. 92-93.)
509	16465	U.S.A. ...	*New Bonding Process.* (Ind. and Eng. Chem. (News Edition), Vol. 21, No. 18, 25/9/43, pp. 1550-1552.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
510	16490	G.B. ...	*Bonded Deposits on Economiser Heating Surfaces.* (J. R. Rylands and J. R. Jenkinson, Engineer, Vol. 176, No. 4,583, 12/11/43, pp. 392-393, 389.)

Pressing, Rolling, Drop Stamping, Extrusion and Pickling.

511	15793	G.B. ...	*Crushing of Turnings.* (Metal Industry, Vol. 63, No. 17, 22/10/43, p. 260.)
512	16327	G.B. ...	*Technique of Drop Stamping.* (Metal Industry, Vol. 63, No. 19, 5/11/43, pp. 293-294.)
513	16706	U.S.A.	*The Working of Metals in Presses—Review of Pressing Technique.* (F. P. Peters, Scientific American, Vol. 169, No. 5, Nov., 1943, p. 208.)
514	16793	Germany	*The Influence of the Type of Scale on the Pickling of Iron.* (J. Sittard, Metallwirtschaft, Vol. 19, No. 45, pp. 1008-1012.)
515	16972	Germany	*Grain Coarsening in the End Section of Extruded Al.-Cu.-Mg. Rods (Prevented by Stopping Extrusion Before Metal Situated in "Extreme Deformation of Zone" of Die is Ejected).* (K. Unkel, Aluminium, Vol. 25, No. 10, October, 1943, pp. 342-346.)
516	17041	Germany	*Power Consumption in the Rolling of Steel Shapes.* (From Stahl und Eisen, Vol. 63, No. 15, 15/4/43, pp. 295-301.) (M. Steffen, Engineers' Digest, Vol. 4, No. 11, November, 1943, pp. 308-310.)

Moulding and Casting.

517	15193	G.B. ...	*Centrifugal Casting. Details of Some Present-Day Methods.* (Mechanical World, Vol. 114, No. 2,960, 24/9/43, pp. 362-364.)
518	15835	U.S.A.	*The Strength of Cylindrical Dies.* (G. Sachs and J. D. Lubahn, Journal of Applied Mechanics, Vol. 10, No. 3, September, 1943, pp. A-147-A-155.)
519	15952	G.B. ...	*The Venting of Die Casting Dies.* (H. K. Barton, Machinery, Vol. 63, No. 1,616, 30/9/43, pp. 386-388.)
520	16328	G.B. ...	*Gas Holes in Brass Castings.* (Metal Industry, Vol. 63, No. 19, 5/11/43, p. 294.)
521	16540	G.B. ...	*The Die Casting of Screw-Threaded Components.* (H. K. Barton, Machinery, Vol. 63, No. 1,620, 28/10/43, pp. 497-500.)
522	16547	G.B. ...	*Die Casting of Magnesium Alloys.* (Mechanical World, Vol. 114, No. 2,965, 29/10/43, p. 508.)
523	16608	G.B. ...	*Transfer Moulding (Engineering Problems in the Process).* (M. Freund, British Plastics, Vol. 15, No. 174, November, 1943, pp. 318-321.)
524	16685	G.B. ...	*Developments in Rubber, Moulding (Use of Felt Core).* (Aircraft Engineering, Vol. 15, No. 177, Nov., 1943, p. 335.)
525	16790	Germany	*A New Die-Casting Zinc Alloy.* (A. Burkhardt and others, Metallwirtschaft, Vol. 19, No. 45, pp. 995-1001.)
526	16876	U.S.A.	*Centrifugal Casting of Bushings.* (Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 817-818.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
527	16877	U.S.A. ...	*Punch and Die—Newly Developed All-Plastic Punch and Non-Critical Metal Die.* (Mechanical Engineering, Vol. 65, No. 11, November, 1943, p. 818.)
			Machines and Tools.
528	15080	G.B.	*Tool and Cutter Grinder for Tool-Room Use.* (Engineering, Vol. 156, No. 4,055, 1/10/43, pp. 267-268.)
529	15221	Germany ...	*The Influence of Riveting Tools on the Driving of Heat-Treated Light Metal Rivets.* (Werkstatt und Betrieb, Vol. 75, No. 5, Aug., 1941, pp. 189-191.) (E. Von Rajakovics and A. Teubler, Engineers' Digest, Vol. 4, No. 7, July, 1943, pp. 197-199.)
530	15351	U.S.A. ...	*Autographic Load—Elongation Apparatus for Fibres.* (A. M. Sooking and H. A. Rutherford, Journal of Research, National Bureau of Standards, Vol. 31, No. 1, July, 1943, pp. 25-31.)
531	15559	Germany ...	*Tool for Cold Bending of Aluminium Tubes (Junkers).* (Der Flieger, Vol. 22, No. 7, July, 1943, p. 212.)
532	15798	U.S.A. ...	*Seamless Tube Mill Pierces Bullets for 75 mm. Gun Tubes.* (Metal Progress, Vol. 44, No. 3, Sept., 1943, pp. 414-419.)
533	15801	U.S.A. ...	*Improved Clamp for Sheet Metal Specimens.* (J. B. Burke, Metal Progress, Vol. 44, No. 3, Sept., 1943, p. 431.)
534	15918	U.S.A. ...	*Rapid Heating Gun for Explosive Rivets.* (Autom. and Aviation Ind., Vol. 89, No. 5, 1/9/43, p. 44.)
535	15945	G.B.	*Design of Formers for Gear Profile Grinding Machines.* (L. Astin, Machinery, Vol. 63, No. 1,618, 14/10/43, pp. 436-437.)
536	15951	G.B.	*Spindle Bearings for Machine Tools.* (Machinery, Vol. 63, No. 1,616, 30/9/43, pp. 381-382.)
537	15976	G.B.	*Precision Measuring and Inspection Equipment.* (Mechanical World, Vol. 114, No. 2,962, 8/10/43, pp. 417-419.)
538	16263	G.B.	*Special Tool for Riveting in Inaccessible Places.* (Machinist, Vol. 87, No. 16, 7/8/43, p. 86.)
539	16268	G.B.	*Water-Cooled Brazing Tongs.* (Machinist, Vol. 87, No. 16, 7/8/43, p. 94.)
540	16289	U.S.A. ...	*More Efficient Grinder for Carbide Tools.* (Aviation, Vol. 42, No. 8, August, 1943, p. 178.)
541	16369	U.S.A. ...	*Machine for Tube Bending.* (Automotive Industries, Vol. 89, No. 6, 15/9/43, pp. 42, 108.)
542	16370	U.S.A. ...	*A Pneumatic Drill with All-Plastic Housing.* (Automotive Industries, Vol. 89, No. 6, 16/9/43, p. 44.)
543	16484	G.B.	*Surface Replicas for the Light Microscope.* (V. J. Schaeffer, Metal Industry, Vol. 63, No. 20, 12/11/43, pp. 312-313.)
544	16557	G.B.	*A Wireless Sewing Machine for Thermo-Plastics.* (Machinery, Vol. 63, No. 1,621, 4/11/43, p. 507.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
545	16627	G.B. ...	*Pressure Die Casting Machine.* (Engineer, Vol. 176, No. 4,584, 19/11/43, p. 414.)
546	16871	Germany ...	*Simultaneous Anodic Oxidation of Large Numbers of Small Parts (Review of Device and Patents).* (E. Herimann, Aluminium, Vol. 25, No. 4, April, 1943, pp. 181-183.)
547	16914	G.B. ...	*Tool Reclamation—New Process for Tipping Tools.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, p. 398.)
548	17037	Germany ...	*Simple Device for the Cold Bending of Light Alloy Tubes (Junkers).* (Der Flieger, Vol. 22, No. 10, Oct., 1943, p. 308.)
549	17038	Germany ...	*Simple Device for the Rapid Removal of Burrs in the Flared End Section of Light Alloy Pipes (Junkers).* (Der Flieger, Vol. 22, No. 10, Oct., 1943, p. 308.)

C. Inspection.

Quality Control.

550	14842	G.B. ...	*Profile Inspection.* (Mechanical World, Vol. 114, No. 2,958, 10/9/43, p. 300.)
551	15828	U.S.A. ...	*Sampling and Quality Control.* (W. E. Deming, Journal of the American Soc. of Naval Engineers, Vol. 55, No. 3, August, 1943, pp. 573-579.)
552	16903	G.B. ...	*Stabilised Quality Control.* (H. Howell, Aircraft Production, Vol. 5, No. 62, Dec., 1943, pp. 579-584.)

Mechanical Testing.

553	15637	Switzerland ...	*Non-Destructive Testing.* (E. Brandenberger, Schweizer Archiv., Vol. 8, No. 5, May, 1942, pp. 157-165.)
554	15812	U.S.A. ...	*Testing Metal at Bullet Speeds.* (Metal Progress, Vol. 44, No. 3, Sept., 1943, p. 412.)
555	15930	G.B. ...	*Jominy End-Quench Test (for Evaluating the Capacity of Steel to React to Heat Treatment).* (Metal Treatment, Vol. 10, No. 34, Summer, 1943, pp. 102-104.)
556	16119	U.S.S.R. ...	*Approximation Method for Determining the Elongation of Metals.* (A. I. Mikhailov, Metal Industries Review, Vol. 19, No. 7, July, 1939, p. 71.)
557	16312	Germany ...	*Testing of Substitute Materials for Bearings and Gears of Machine Tools.* (Maschinenbau (Betrieb), Vol. 22, No. 1, Jan., 1943, pp. 19-24.) (W. Renthe, Engineers' Digest, Vol. 4, No. 9, Sept., 1943, pp. 258-261.)
558	16424	Germany ...	*A New Basis for the Evaluation of Engineering Materials (Theory Underlying Material Testing).* (W. Kuntze, Metallwirtschaft, Vol. 19, No. 48, 20/11/40, pp. 1073-1080.)
559	16631	G.B. ...	*British Standard Test Sieves.* (Metal Industry, Vol. 63, No. 21, 19/11/43, p. 330.)
560	16786	U.S.A. ...	*Analysis of Stretch-Forming Double-Curved Sheet Metal Parts.* (R. B. Glasco and N. O. Nyklestad, A.S.M.E. Preprint, Nov. 29-Dec. 3, 1943, pp. 1-8.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
561	16835	G.B. ...	... *The Control, Specialised Testing and Use of Some Modern Insulating Materials (with Discussion).* (A. R. Dunton, Journal Inst. Electrical Engineers, Vol. 90, No. 35, Pt. 1, November, 1943, pp. 463-473.)
562	16891	Germany	... *Researches on Quaternary Alloys (Development of t-X Diagrams on Sections Through a Polythermal Tetrahedron).* (A. Schrader and H. Hanenann, Zeitschrift fur Metallkunde, Vol. 35, No. 10, Oct., 1943, pp. 185-193.)
563	16977	Germany	... *Determination of Mg. in Al. Alloys of High Silicon Content (Effect of Size of Chips).* (J. Fischer, Aluminium, Vol. 25, No. 10, October, 1943, pp. 359-360.)
564	17069	U.S.A.	... *Measurement of the Damping of Engineering Materials During Flexural Vibration at Elevated Temperatures.* (C. Schabtach and R. O. Fehr, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-7.)

Chemical Analysis.

565	14737	G.B. ...	... *Atmospheric Corrosion Tests.* (Machinery, Vol. 63, No. 1,613, 9/9/43, p. 289.)
566	16767	U.S.A.	... *Bubble Bath for Iron Filings Test (Magnetic Powder Testing).* (Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 347-351.)
567	16802	G.B. ...	... *Development in Micro-Chemical Analysis.* (E. J. Vanghan, Nature, Vol. 152, No. 3,863, 13/11/43, pp. 555-556.)
568	16806	G.B. ...	... *Optical Methods of Chemical Analysis (Book Review).* (T. R. P. Gibb, Nature, Vol. 152, No. 3,863, 13/11/43, p. 552.)
569	16973	Germany	... *The Stress-Corrosion Test for Light Alloys (Review of Methods, including New Form of Clamp for Test Sample).* (P. Brenner, Aluminium, Vol. 25, No. 10, October, 1943, pp. 346-353.)
570	16976	Germany	... *Chemical Method for the Rapid Determination of Zinc in Al. Alloys Free from Cobalt and Containing Less than .1 per cent. Ni. (Two Hours).* (A. Staab and R. Kiby, Aluminium, Vol. 25, No. 10, October, 1943, pp. 358-359.)
571	17058	G.B. ...	... *The Salt Spray Corrosion Test.* (Engineering, Vol. 156, No. 4,063, 26/11/43, p. 426.)

Optical Analysis.

572	16351	G.B. ...	... *Optical Heterogeneity of Paper Sheet. Its Measurement and Significance.* (A. King and J. Levitin, Journal of the Society of Chemistry and Industry, Vol. 62, No. 10, October, 1943, pp. 170-173.)
573	16422	Germany	... *The Microscopical Determination of Thickness of Zinc Coatings on Screws and Complicated Parts.* (F. Fenner and L. Koch, Metallwirtschaft, Vol. 19, No. 45, 8/11/40, pp.1005-1007.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
574	16426	Germany ...	*Determination of Orientation of Al. Single Crystals by the Electron Microscope.* (H. Mahl, Metallwirtschaft, Vol. 19, No. 48, 20/11/40, pp. 1082-1085.)
575	16792	Germany ...	*A Practical Hint for the Microscopical Determination of the Thickness of Zinc (Galvanized) Coatings on Screws and Other Parts of Complicated Form.* (E. Fenner and L. Koch, Metallwirtschaft, Vol. 19, No. 45, pp. 1005-1007.)
576	16802	G.B.	*Electron Microscope Studies of the Capture of Airborne Particles of Single Fibres.* (E. F. Burton, Nature, Vol. 152, No. 3,862, 6/11/43, p. 540.)

X-Ray Analysis.

577	16909	G.B.	*Conveyor for X-Ray Inspection.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, p. 603.)
578	16527	G.B.	*X-Ray Crystallography Equipment.* (Electrical Times, Vol. 104, No. 2,713, 21/10/43, pp. 484-485.)
579	16804	G.B.	*X-Ray Analysis Group of the Institute of Physics.* (Nature, Vol. 152, No. 3,862, 6/11/43, pp. 542-543.)
580	16883	G.B.	*Screening Materials for Use in Industrial Radiography.* (G. H. S. Price, Metal Industry, Vol. 63, No. 22, 26/11/43, pp. 338-339.)
581	16894	Germany ...	*Micro-Structure Examination of Coarse Grained Crystalline Materials by Means of X-Ray Diffraction Diagrams (Sample Displacement Method).* (F. Regler, Zeitschrift fur Metallkunde, Vol. 35, No. 10, Oct., 1943, pp. 202-205.)

Electrolytic, Colorimetric, etc.

582	15618	Switzerland ...	*Cold Cathode Ray Oscillograph Applied to Structure Research and Absolute Measurements (Stress Distribution).* (G. Induni, Schweizer Archiv., Vol. 8, No. 2, February, 1942, pp. 35-44.)
583	15820	U.S.A. ...	*A Review of Spectrographic Analysis of Some Metals and Alloys.* (J. Sherman and J. W. Jenkins, Journal of the American Society of Naval Engineers, Vol. 55, No. 3, Aug., 1943, pp. 404-469.)
584	16661	U.S.A. ...	*Systematic Polarographic Metal Analysis (Characteristics of Arsenic, Antimony, Bismuth, Tin, Lead, Cadmium, Zinc and Copper, in Various Supporting Electrolytes).* (J. J. Lingane, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 9, 15/9/43, pp. 583-590.)
585	16974	Germany ...	*Electrolytic Method for the Rapid Determination of Zinc in Primary and Secondary Al. Alloys (Two Hours).* (A. S. Rainer and A. Zartmann, Aluminium, Vol. 25, No. 10, October, 1943, pp. 353-355.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
586	16975	Germany ...	*Colorimetric Method for the Rapid Determination of Secondary Al. Alloys by the Dithizon Method (Half Hour).* (H. Fischer and G. Leopoldi, Aluminium, Vol. 25, No. 10, October, 1943, pp. 356-357.)
587	17055	Germany ...	*Determination of Very Small Out-of-Balance Forces.* (From Elektrotechnischer Anzeiger, Berlin, Vol. 60, No. 6, 17/3/43, pp. 63-64.) (Engineers' Digest, Vol. 4, No. 11, November, 1943, p. 330.)

INSTRUMENTS.

Aircraft.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
588	15160	G.B.	*Pressure Vibration Analyser for Checking Roughness and Frequency in Fluid Motions (Fairey Patent).* (Aeronautics, Vol. 9, No. 2, September, 1943, p. 59.)
589	15516	U.S.A. ...	*A Weight and Balance Computer for Loading Planes.* (American Aviation, Vol. 7, No. 7, 1/9/43, p. 41.)
590	16591	Germany ...	*An Electrical Fuel Reserve Meter for Aircraft.* (R. Gerliroki and J. Zeyns, L.F.F., Vol. 20, No. 819, 16/10/43, pp. 263-267.)
591	16853	G.B.	*Tension Meters for Testing Fabric-Covered Control Surfaces and Control Cables.* (Crosby Warren, Flight, Vol. 44, No. 1,821, 18/11/43, p. 555.)
592	17026	U.S.A. ...	*Aircraft Instruments.* (Flying, including Industrial Aviation, Vol. 33, No. 4, Oct., 1943, pp. 198, 345-347.)

Meters, Indicators, Gauges.

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
593	15145	U.S.A. ...	*Humidity Indicator for Munition Crates.* (Scientific American, Vol. 169, No. 3, September, 1943, p. 132.)
594	15557	Germany ...	*The Employment of Blind Inspectors (Audio Gauges Used).* (Der Flieger, Vol. 22, No. 7, July, 1943, p. 210.)
595	15939	G.B.	*Apparatus for the Detection of Splits in Tungsten Wire.* (D. T. O'Dell, Journal of Scientific Instruments, Vol. 20, No. 9, Sept., 1943, p. 147.)
596	15958	G.B.	*Gauge Design and Dimensioning.* (Machinery, Vol. 63, No. 1,617, 7/10/43, pp. 404-406.)
597	16597	U.S.A. ...	*New Profile Meter.* (Automotive Industries, Vol. 89, No. 7, 1/10/43, p. 42.)
598	16659	U.S.A. ...	*The Mass Spectrometer as an Analytical Tool.* (A. W. Washburn and others, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 9, 15/9/43, pp. 541-547.)
599	16694	U.S.A. ...	*An Instrument for Recording Blow-by Gases in an Internal Combustion Engine.* (R. R. Proctor and others, S.A.E. Preprint, 4-5/11/43, pp. 1-3.)
600	16951	G.B.	*The "Talysurf" (Stylus Type Instrument for Measuring the Roughness of Surfaces).* (Engineer, Vol. 176, No. 4,585, 26/11/43, p. 434.)

ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
601	16978	Germany ...	*Compensated Caliper Gauge for Measuring the Wall Thickness of Long Tubes (Junkers).* (Aluminium, Vol. 25, No. 10, October, 1943, p. 362.)
602	16984	G.B.	*An Improved Transmission Dynamometer.* (A. E. Crawford and R. K. Dundas, Journal of Scientific Instruments, Vol. 20, No. 10, October, 1943, p. 163.)

Electrical.

603	15694	G.B.	*An Electrical Tube Gauge.* (E. Fawsset, Engineering, Vol. 156, No. 4,057, 15/10/43, pp. 301-302.)
604	16239	G.B.	*The Frequency Synthesizer (Abstract).* (H. J. Finden, Journal Inst. Electrical Engineers, Oct., 1943, pp. 447-450.)
605	16725	U.S.A. ...	*Thermal Electric Unit for Identifying Unknown Alloy Steels.* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 234.)
606	16772	U.S.A. ...	*Direct Reading Watt Meters for Use at Radio Frequencies.* (G. H. Brown and others, Procs. of the I.R.E., Vol. 31, No. 8, August, 1943, pp. 403-410.)

Electronic, Photo-Electric.

607	15401	Germany ...	*The German Army "Speech-on-Light" Signalling Apparatus.* (D. G. Hull, Electronic Engineering, Vol. 16, No. 188, October, 1943, pp. 185-187, 211.)
608	16585	Germany ...	*A Photo-Electric Extensometer with Very Small Working Base.* (E. Lehr and H. Granacher, Forschung, Vol. 7, No. 2, April, 1936, pp. 66-74.)
609	16662	U.S.A. ...	*Photo-Electric Photometer for Determining Carbon Disulphide in the Atmosphere.* (S. Silverman, Industrial and Engineering Chemistry (Analytical Ed.), Vol. 15, No. 9, 15/9/43, pp. 592-595.)
610	16773	U.S.A. ...	*A Wide Band Oscilloscope.* (E. D. Cook, Procs. of the I.R.E., Vol. 31, No. 8, August, 1943, pp. 410-419.)
611	16787	U.S.A. ...	*Electronic Instrumentation in the Textile Industry (Application of the Photo Tube).* (S. T. Hess, A.S.M.E. Preprint, Nov. 29-Dec. 3, 1943, pp. 1-6.)
612	16982	G.B.	*A Recording Micro-Photometer for the Examination of X-Ray Diffraction Films.* (H. R. Ronnebeck, Journal of Scientific Instruments, Vol. 20, No. 10, October, 1943, pp. 154-161.)
613	16983	G.B.	*An Electronic Voltmeter for High Voltages.* (W. Ehrenberg and H. Hirsch, Journal of Scientific Instruments, Vol. 20, No. 10, October, 1943, pp. 161-163.)

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614	15348	G.B.	*Industrialization in China.* (Nature, Vol. 152, No. 3,857, 2/10/43, p. 380.)

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615	15419	U.S.A. ...	*Production Control (as Practised at Consolidated Vultee Aircraft Corp.).* (W. V. McClung, Mechanical Engineering, Vol. 65, No. 10, Oct., 1943, pp. 727-731.)
616	15424	U.S.A. ...	*Skill and Effort Rating.* (H. R. Nissley, Mechanical Engineering, Vol. 65, No. 10, October, 1943, p. 746.)
617	15787	G.B.	*The Future of the Chemical Industry.* (Lord McGowan, Chemistry and Industry, Vol. 62, No. 43, 23/10/43, pp. 402-406.)
618	16339	G.B.	*Industry and Society (I).* (Nature, Vol. 152, No. 3,860, 23/10/43, pp. 458-460.)
619	16386	G.B.	*The Future of the Chemical Industry.* (Lord McGowan, Engineering, Vol. 156, No. 4,060, 5/11/43, pp. 377-378.)
620	16493	G.B.	*Piecework and Payment by the Hour.* (Engineer, Vol. 176, No. 4,583, 12/11/43, p. 387.)
621	16538	G.B.	*Pre-Production Planning.* (D. Tiranti, Machinery, Vol. 63, No. 1,620, 28/10/43, pp. 487-489.)
622	16569	G.B.	*A Clocking Chart for Simplifying Bonus Calculation.* (Machinery, Vol. 62, No. 1,621, 4/11/43, p. 524.)
623	16601	U.S.A. ...	*System of Employee Counselling Adopted at Douglas Aircraft Co. (Industrial Relations).* (A. C. Galbraith, Automotive Industries, Vol. 89, No. 7, 1/10/43, pp. 19, 76-78.)
624	16671	U.S.A. ...	*Revision and Expansion of Operating Standards in the Chemical Industry.* (W. Von Pechmann, Industrial and Engineering Chemistry (News Edition), Vol. 21, No. 19, 10/10/43, pp. 1621-1625.)
625	16866	U.S.A. ...	*The Continuing Need for the Conservation of Resources.* (H. Coonley, Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 785-788.)
626	16868	U.S.A. ...	*Production Paces the War.* (C. E. Wilson, Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 792-794.)
627	16870	U.S.A. ...	*The Management Aspects of Safety Engineering.* (F. E. Faast, Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 802-804.)
628	16871	U.S.A. ...	*Management Problems in Judging Quality Conformance in the Inspection Function.* (J. M. Juran, Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 305-308.)
629	16874	U.S.A. ...	*Governmental Adjustment of Labour Disputes.* (W. R. Maclaurin, Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 812-813.)
630	16913	G.B.	*Unskilled Labour. Part II—Hints for Increasing Output.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, pp. 595-598.)
631	17008	U.S.A. ...	*Buying Our Warplanes (Procurement Division of Wright Field).* (Flying, including Industrial Aviation, Vol. 33, No. 4, Oct., 1943, pp. 126-129, 357.)

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632	17011	U.S.A. ...	*Planes by the Thousands (the Planning of American Production).* (Flying, including Industrial Aviation, Vol. 33, No. 4, Oct., 1943, pp. 132-133, 312-316.)

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ITEM NO.	R.T.P. REF.		TITLE AND JOURNAL.
633	15328	G.B.	*Scientific Research in Post-War Britain.* (Engineer, Vol. 176, No. 4,578, 8/10/43, p. 285.)
634	15423	U.S.A. ...	*Training Women for Engineering Tasks.* (E. D. Howe, Mechanical Engineering, Vol. 65, No. 10, October, 1943, pp. 742-744.)
635	15696	G.B.	*Research: A General Survey.* (O. W. Roskill, Engineering, Vol. 156, No. 4,057, 15/10/43, pp. 303-305.)
636	15698	G.B.	*Testing Laboratory for Insulating Materials.* (Engineering, Vol. 156, No. 4,057, 15/10/43, pp. 307, 310.
637	15703	U.S.A. ...	*American Research Progress.* (Aeroplane, Vol. 65, No. 1,690, 15/10/43, p. 432.)
638	15784	G.B.	*Scientific Research in Post-War Britain.* (Engineer, Vol. 176, No. 4,580, 22/10/43, p. 317.)
639	15788	G.B.	*The Education and Training of Aeronautical Engineers.* (Journal of the Royal Aero. Society, Vol 47, No. 394, October, 1943, pp. 318-375.)
640	15880	G.B.	*Research: A General Survey (Contd.).* (O. W. Roskill, Engineering, Vol. 156, No. 4,058, 22/10/43, p. 325.)
641	16123	G.B.	*Research: A General Survey.* (O. W. Roskill, Engineering, Vol. 156, No. 4,059, 29/10/43, pp. 343-345.)
642	16201	G.B.	*Science and Industry.* (Engineering, Vol. 156, No. 4,059, 29/10/43, pp.351-352.)
643	16337	G.B.	*Association of Special Libraries—Annual Conference, Sept. 18-19.* (Nature, Vol. 152, No. 3,860, 23/10/43, pp. 480-481.)
644	16572	G.B.	*Research: A General Survey.* (O. W. Roskill, Engineering, Vol. 156, No. 4,061, 12/11/43, p. 385.)
645	16577	G.B.	*Engineers and Planning (Presidential Address to the Institution of Civil Engineers).* (D. Anderson, Engineering, Vol. 156, No. 4,061, 12/11/43, pp. 394-396.)
646	16703	U.S.A. ...	*National Registry of Rare Chemicals (Assists Research Workers in Quest of Rare Chemicals).* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 204.)
647	16709	U.S.A. ...	*The Rôle of Mathematics in Engineering (the Training of Mathematicians, etc.).* (F. P. Huddle, Scientific American, Vol. 169, No. 5, Nov., 1943, pp. 211-213, 235.)
648	16778	Australia ...	*Scientific Research in Australia.* (Engineering, Vol. 156, No. 4,062, 19/11/43, pp. 403-404.)
649	16796	G.B.	*Educational Reconstruction (V).* (Nature, Vol. 152, No. 3,862, 6/11//43, pp. 517-519.)

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650	16797	G.B. ...	... *The Future of Technical Colleges.* (Nature, Vol. 152, No. 3,862, 6/11/43, pp. 519-520.)
651	16798	G.B. ...	... *A Technologist Looks at the Future.* (C. R. Burgh, Nature, Vol. 152, No. 3,862, 6/11/43, pp. 523-525.)
652	16803	G.B. ...	... *An International Information Council.* (A. F. C. Pollard, Nature, Vol. 152, No. 3,862, 6/11/43, pp. 541-542.)
653	16805	G.B. ...	... *Educational Reconstruction (VI).* (Nature, Vol. 152, No. 3,863, 13/11/43, pp. 545-548.)
654	16810	G.B. ...	... *The University in Modern Life.* (Nature, Vol. 152, No. 3,863, 13/11/43, pp. 548-550.)
655	16811	G.B. ...	... *Educational Reconstruction (IV).* (Nature, Vol. 152, No. 3,861, 30/10/43, pp. 485-486.)
656	16812	G.B. ...	... *Industry and Society (II).* (Nature, Vol. 152, No. 3,861, 30/10/43, pp. 486-488.)
657	16816	G.B. ...	... *Industry, Research and Education in Great Britain.* (Nature, Vol. 152, No. 3,864, 20/11/43, pp. 579-581.)
658	16818	G.B. ...	... *New Zealand Department of Scientific Research (17th Annual Report,* 1941-1942). (Nature, Vol. 152, No. 3,864, 20/11/43, pp. 603-604.)
659	16838	G.B. ...	... *Industry and Research. Report of the F.B.I. Industrial Research Com.* (The Federation of British Industries, October, 1943.)
660	16867	U.S.A.	... *The Engineer as Planner.* (R. E. Flanders, Mechanical Engineering, Vol. 65, No. 11, Nov., 1943, pp. 789-791.)
661	16918	U.S.A.	... *The Future of Aeronautical Research (Prospects of Tailless Aircraft).* (Inter. Avia., No. 882-883, 31/8/43, p. 13.)
662	17039	G.B. ...	... *British-American Engineering Collaboration.* (H. P. Vowles, Engineers' Digest, Vol. 4, No. 11, November, 1943, pp. 305-306.)
663	17057	Australia	... *Scientific Research in Australia (Contd.).* (Engineering, Vol. 156, No. 4,063, 26/11/43, pp. 424-425.)
664	17061	G.B. ...	... *University Entrance Scholarships (Report) (R).* (Engineering, Vol. 156, No. 4,063, 26/11/43, p. 433.)

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665	15155	G.B. ...	... *The Tharratt Method of Production Illustration.* (O. J. Chayie, Aeronautics, Vol. 9, No. 2. September, 1943, pp. 46-53.)
666	15418	U.S.A.	... *Thermo-Elastic Forming of Aeroplane Parts (Use of Thermo-Setting Laminates).* (W. I. Beach, Mechanical Engineering, Vol. 65, No. 10, October, 1943, pp. 719-723.)
667	15420	U.S.A.	... *Modern Methods in Aircraft Welding.* (N. F. Ward, Mechanical Engineering, Vol. 65, No. 10, October, 1943, pp. 732-736.)
668	15601	Germany	... *Inertia Transmission for Blind Riveting.* (Der Flieger, Vol. 22, No. 4, April, 1943, p. 112.)

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669	15704	G.B.	*Select Committee's Report on Aircraft Production.* (Aeroplane, Vol. 65, No. 1,690, 15/10/43, p. 433.)
670	15718	U.S.A. ...	*Systematic Stock-Keeping of Non-Productive Items (Keeping Inventory of Small Parts, etc.).* (F. M. Reck, Aero Digest, Vol. 43, No. 2, August, 1943, pp. 179-181.)
671	16177	G.B.	*Drop Stamping Sheet Metal Aircraft Parts.* (Machinery, Vol. 63, No. 1,619, 21/10/43, p. 464.)
672	16542	U.S.A. ...	*The Manufacture of Jettison Tanks for Aircraft (High Output Methods Developed by Lockheed).* (Mechanical World, Vol. 114, No. 2,965, 29/10/43, pp. 494-497.)
673	16556	U.S.A. ...	*Machining Parts for Flying Fortresses—Some Boeing Production Methods.* (Machinery, Vol. 63, No. 1,621, 4/11/43, pp. 505-507.)
674	16596	U.S.A. ...	*Design for Production (Production Methods on Small Assemblies).* (J. S. Haldeman, Automotive Industries, Vol. 89, No. 7, 1/10/43, pp. 40-41.)
675	16606	U.S.A. ...	*Cycle Welding Applied Successfully to Aeroplane Sub-Assemblies (New Bonding Technique).* (Automotive Industries, Vol. 89, No. 7, 1/10/43, pp. 33, 94.)
676	16607	U.S.A. ...	*Heat Treating Problems in Aviation.* (M. E. Tatman, Automotive Industries, Vol. 89, No. 7, 1/10/43, pp. 34, 35, 69.)
677	16635	U.S.A./G.B....	*Aircraft Production Methods in the U.S.A. and Great Britain.* (H. Todter, Luftwissen, Vol. 10, No. 7, July, 1943, pp. 187-197.)
678	16636	Germany ...	*The Weibel Process of Electric Welding in Aircraft Construction (Indirect Resistance Method).* (F. Helbing, Luftwissen, Vol. 10, No. 7, July, 1943, pp. 198-201.)
679	16686	G.B.	*Geodetic Construction. Wellington Bombers in Various Stages of Production (Photos).* (Aircraft Engineering, Vol. 15, No. 177, Nov., 1943, p. 336.)
680	16744	U.S.A. ...	*Engineering Fundamentals of Aircraft Finishing (Protective Coatings, Wood Finishing, etc.).* (A. L. Johnson and J. J. Oudhoff, Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 159-175, 249.)
681	16746	U.S.A. ...	*How Consolidated Builds the Coronado.* (Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 182-189, 250.)
682	16748	U.S.A. ...	*Lofting Problems of Streamline Bodies (Part 17).* (C. M. Hartley and R. A. Liming, Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 193-197.)
683	16751	U.S.A. ...	*Overseas Shipment of Spares and Maintenance Parts.* (Aero Digest, Vol. 43, No. 6, Sept., 1943, p. 202.)
684	16752	U.S.A. ...	*Three-Dimensional "Visuals" Save Production Time by Simplifying Drawings.* (L. S. Sanders, Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 205-207, 267.)

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685	16754	U.S.A. ...	*Rotary Machine Speeds Curving of Propeller Blade Fairings.* (Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 215, 280-282.)
686	16755	U.S.A. ...	*Air Conditioning and Refrigeration in the Aviation Industry.* (L. W. Clifford, Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 217-219.)
687	16756	U.S.A. ...	*Use of Dry Ice for Testing (Dry Ice Immersed in Methyl Alcohol for Aircraft Laboratory Test Purposes).* (Aero Digest, Vol. 43, No. 6, Sept., 1943, p. 222.)
688	16760	U.S.A. ...	*Weighing Data as Applied to Structural Analysis.* (J. C. Reams, Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 243-247.)
689	16762	U.S.A. ...	*Many Production Innovations in Ford, Pratt and Whitney Engine Plant.* (F. M. Reck, Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 256-260.)
690	16768	U.S.A. ...	*Double Spinner for Use in Small Drill Press Cuts Bearing Production Time.* (Aero Digest, Vol. 43, No. 6, Sept., 1943, p. 351.)
691	16899	G.B.	*Shaping Metal Airframe Parts (Drop Hammer, Rubber Die and Stretch Pressing Equipment at a de Havilland Factory).* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, pp. 566-571.)
692	16902	G.B.	*Application of the Sub-Assembly Principle in the Airspeed Oxford.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, pp. 575-578.)
693	16905	G.B.	*Pantograph Machining — Drilling and Routing Machine for Continuous Operation.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, pp. 587-588.)
694	16907	G.B.	*Machines for Die Casting—New Low Temperature High Pressure Equipment.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, pp. 599-600.)
695	16916	G.B.	*Repairs on Site—Expediting the Return of Aircraft to Service by Organised Working Procedure.* (C. Davis, Aircraft Production, Vol. 5, No. 62, Dec., 1943, pp. 601-603.)
696	16921	G.B.	*Aircraft Production in G.B. (Estimated at 3,000 Machines a Month, including More than 400 Bombers).* (Inter. Avia., No. 882-883, 31/8/43, pp. 16-17.)
697	16925	U.S.S.R. ...	*Aircraft Production in the U.S.S.R. (Front Line > 16,500 per Year—German Opinion).* (Inter. Avia., No. 882-883, 31/8/43, p. 22.)
698	16926	U.S.A. ...	*Japanese Aircraft Production > 6,000 per Year—American Opinion).* (Inter. Avia., No. 882-883, 31/8/43, p. 22.)
699	16937	France ...	*Aircraft Production in France Under German Occupation.* (Aeroplane, Vol. 65, No. 1,696, 26/11/43, p. 605.)
700	17086	G.B.	*Infra-Red Heating Used in the Manufacture of Mosquito Fuselages (Photo).* (Der Deutsche Sportflieger, Vol. 10, No. 10, October, 1943, p. 166.)

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			General Production Methods.
701	15119	G.B. ...	... *Graphic Dimension Translation for Drawings.* (J. E. Hyler, Sheet Metal Industries, Vol. 18, No. 198, October, 1943, p. 1769.)
702	15984	G.B. ...	... *Broach Rifling.* (Mechanical World, Vol. 114, No. 2,964, 22/10/43, pp. 478-479.)
703	16057	U.S.A.	... *Thin Case-Hardening Effected by Ultra High Frequency Oscillators.* (Scientific American, Vol. 169, No. 4, Oct., 1943, p. 183.)
704	16070	G.B. ...	... *Ink v. Pencil Tracings.* (G. Stevens, Engineering, Vol. 155, No. 4,059, 29/10/43, p. 355.)
705	16173	G.B. ...	... *Screw Thread Tapping Data.* (Machinery, Vol. 63, No. 1,619, 21/10/43, p. 455.)
706	16178	G.B. ...	... *The Production of Form-Reliever Milling Cutters.* (H. G. Taylor, Machinery, Vol. 63, No. 1,619, 21/10/43, pp. 466-467.)
707	16272	U.S.A.	... *Functional Design in War Products.* (G. W. Walker, Service Engineering, Vol. 1, No. 1, Winter, 1943, p. 1.)
708	16325	G.B. ...	... *Fabricating Welding Quality Elektron. II—Working.* (W. K. B. Marshall, Metal Industry, Vol. 63, No. 19, 5/11/43, pp. 290-292.)
709	16344	Germany	... *Saving Material and Labour in the Mass Production of Electric Apparatus.* (Maschinenbau (Betrieb), Vol. 22, No. 1, Jan., 1943, pp. 5-7.) (H. Schlaegel, Engineers' Digest, Vol. 4, No. 10, October, 1943, pp. 284-286.)
710	16478	G.B. ...	... *Costs in Moulding Production—the Influence of Batch Quantity.* (W. M. Halliday, Plastics, Vol. 7, No. 78, Nov., 1943, pp. 509-514.)
711	16534	G.B. ...	... *Line Production of Cutter Grinders.* (Machinery, Vol. 63, No. 1,620, 28/10/43, pp. 477-480.)
712	16549	G.B. ...	... *Shell Forging on Bulldozers—Details of the Pierce and Draw, Single-Stroke and French Extrusion Processes.* (W. Trinks, Mechanical World, Vol. 114, No. 2,965, 29/10/43, pp. 510-513.)
713	16559	G.B. ...	... *Refrigeration of Coolant Used in High Speed Grinding.* (Machinery, Vol. 63, No. 1,621, 4/11/43, p. 511.)
714	16562	G.B. ...	... *Securing Fine Surface Quality.* (H. J. Wills, Machinery, Vol. 63, No. 1,621, 4/11/43, pp. 513-515.)
715	16592	U.S.A.	... *Castings Poured on Mechanised Conveyor at Chevrolet Magnesium Foundry.* (J. Geschelin, Automotive Industries, Vol. 89, No. 7, 1/10/43, pp. 36-38, 90-92.)
716	16602	U.S.A.	... *Production of Rubber Mountings for Vibration Control.* (J. Geschelin, Automotive Industries, Vol. 89, No. 7, 1/10/43, pp. 20-24, 94.)
717	16603	U.S.A.	... *Forging an 84 lb. Connecting Rod for Diesel Engine.* (Automotive Industries, Vol. 89, No. 7, 1/10/43, pp. 26-27.)

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718	16710	U.S.A. ...	*Photo-Electric Register Control—Industrial Applications.* (J. Markus, Scientific American, Vol. 169, No. 5, Nov., 1943, pp. 214-216.)
719	16712	U.S.A. ...	*Electronic Testing of Gunpowder to Ensure Uniformity in Production Runs.* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 216.)
720	16713	U.S.A. ...	*New Packaging Methods for Supply Deliveries to War Fronts.* (S. M. Spencer, Scientific American, Vol. 169, No. 5, Nov., 1943, pp. 217-219.)
721	16758	U.S.A. ...	*New Method of Making Metal Drop Hammer Dies (Use of Cerrobend).* (H. G. Groehn, Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 229-231.)
722	16834	Germany ...	*Aluminium and Magnesium in the Electrical Industries (Organisation and Structure of the German Aluminium Industry).* (B. J. Brajnikoff, Light Metals, Vol. 6, No. 70, November, 1943, pp. 568-570.)
723	16875	U.S.A. ...	*Forming Operations on 75 mm. Steel Cartridge Shell from Bar to Finished Case.* (Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 815-817.)

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724	14947	G.B.	*Industrial Degreasing Agents.* (H. P. Quadland, Metal Industry, Vol. 63, No. 14, 1/10/43, p. 220.)
725	15314	U.S.A. ...	*Threaded Inserts for Holding Parts Together.* (Flying and Industrial Aviation, Vol. 33, No. 3, September, 1943, p. 112.)
726	15429	G.B.	*Press Tool Setting Equipment.* (Mechanical World, Vol. 114, No. 2,961, 1/10/43, p. 390.)
727	15537	Italy ...	*Away with the Mixer?* (From Materie Plastiche, Vol. 21, 1942, p. 124.) (Plastics, Vol. 7, No. 77, Oct., 1943.)
728	15730	U.S.A. ...	*Some Facts Concerning Band Saws.* (H. J. Chamberland, Aero Digest, Vol. 43, No. 2, August, 1943, pp. 232-234, 305.)
729	15800	U.S.A. ...	*The Rôle of Tool Steel in the War Effort.* (S. C. Spalding, Metal Progress, Vol. 44, No. 3, Sept., 1943, pp. 425-430.)
730	15834	U.S.A. ...	*On Cutting and Hobbing Gears and Worms.* (D. W. Dudley and H. Poritsky, Journal of Applied Mechanics, Vol. 16, No. 3, September, 1943, pp. A-139-A-146.)
731	16131	U.S.A. ...	*Industrial Applications of Adjustable Speed Electronic Motor Drive.* (K. Henney, Scientific American, Vol. 169, No. 4, Oct., 1943, pp. 166-168.)
732	16174	G.B.	*A Flexible Machine Loading System.* (G. R. Pryor, Machinery, Vol. 63, No. 1,619, 21/10/43, pp. 457-460.)
733	16269	G.B.	*Redesigned Gears Cut Production Costs.* (T. Addison, Machinist, Vol. 87, No. 16, Oct., 1943, p. 96.)

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734	16544	G.B. ...	... *Shaved Gears—Methods of Overcoming Heat Treatment Expansion and Stress-Raising Cutter Marks.* (Mechanical World, Vol. 114, No. 2,965, 29/10/43, p. 507.)
735	16545	G.B. ...	... *Improved Drill Guard.* (Mechanical World, Vol. 114, No. 2,965, 29/10/43, p. 507.)
736	16558	G.B. ...	... *The Production of Slab Tools for Form Turning.* (Machinery, Vol. 63, No. 1,621, 4/11/43, pp. 508-510.)
737	16560	G.B. ...	... *Design of Formers for Gear Profile Grinding Machines.* (W. A. Taplin, Machinery, Vol. 63, No. 1,621, 4/11/43, p. 511.)
738	16561	G.B. ...	... *A Gear Design Problem.* (J. Stoney, Machinery, Vol. 63, No. 1,621, 4/11/43, p. 511.)
739	16563	G.B. ...	... *Tungsten Carbide Riveting Punch.* (Machinery, Vol. 63, No. 1,621, 4/11/43, p. 515.)
740	16564	G.B. ...	... *Important Savings in Punch and Die Materials (Use of All-Plastic Punch and a Zinc Base Die).* (Machinery, Vol. 63, No. 1,621, 4/11/43, p. 515.)
741	16565	G.B. ...	... *Improved Wire-Working Machines.* (Machinery, Vol. 63, No. 1,621, 4/11/43, pp. 516-519.)
742	16566	G.B. ...	... *Drill Jig for a Small Bracket.* (Machinery, Vol. 64, No. 1,621, 4/11/43, p. 519.
743	16567	G.B. ...	... *Tools for a Pressed Steel Collar.* (Machinery, Vol. 63, No. 1,621, 4/11/43, pp. 520-523.)
744	16568	G.B. ...	... *Drill Jig for a Special Stop Bracket.* (Machinery, Vol. 63, No. 1,621; 4/11/43, p. 523.)
745	16594	U.S.A.	... *A New Blind Rivet (Preco).* (Automotive Industries, Vol. 89, No. 7, 1/10/43, p. 39.)
746	16634	G.B. ...	... *British Standard Test Sieves.* (Metal Industry, Vol. 63, No. 21, 19/11/43, p. 330.)
747	16738	U.S.A.	... *Tool and Operations Planning (Excerpts from Paper).* (W. Brainard, S.A.E. Journal, Vol. 51, No. 10, October, 1943, pp. 27-28.)
748	16750	U.S.A.	... *Hand Stoning Conserves Cutting Tools.* (Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 201, 267.)
749	16769	U.S.A.	... *New Device Facilitates Insertion of Rivets.* (Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 353-354.)
750	16904	G.B. ...	... *Light Portable Gun for Firing Explosive Rivets.* (Aircraft Production, Vol. 5, No. 62, Dec., 1943, p. 584.)
751	17006	U.S.A.	... *Developing the Tools for Accelerating U.S. Aircraft Output.* (Flying, including Industrial Aviation, Vol. 33, No. 4, Oct., 1943, pp. 119-121, 325-331.)
			Salvage.
752	15417	U.S.A.	... *Salvaging Aircraft Structures in Process of Manufacture.* (R. L. Schleicher, Mechanical Engineering, Vol. 65, No. 10, October, 1943, pp. 711-718.)
			Workers' Welfare.
753	16528	G.B. ...	... *Electrical Accidents.* (Electrical Times, Vol. 104, No. 2,713, 21/10/43, pp. 492-493.)

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754	16576	G.B. ...	... *Factory Accidents (Annual Report of the Chief Inspector of Factories*, 1942). (Engineering, Vol. 156, No. 4,061, 12/11/43, p. 392.)
755	16625	G.B. ...	... *Utilisation of Waste Heat from Industrial Operations.* (W. H. Dickinson, Engineer, Vol. 176, No. 4,584, 19/11/43, pp. 410-412.)
756	16630	G.B. ...	... *Exothermic Heating Pads (Their Possible Application in Industry in Providing a Controlled Temperature—Time Cycle, Heating of Airman's Clothing, etc.).* (Metal Industry, Vol. 63, No. 21, 19/11/43, pp. 329-330.)
757	16693	G.B. ...	... *Lighting in Public Buildings.* (Electrician, Vol. 131, No. 3,415, 12/11/43, p. 487.)
758	16701	U.S.A.	... *Factory Illumination—New Servicing Equipment.* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 201.)
759	16950	G.B. ...	... *Utilisation of Waste Heat from Industrial Operations (Contd.).* (H. W. Dickinson, Engineer, Vol. 176, No. 4,585, 26/11/43, pp. 432-434.)

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(MILITARY VEHICLES, TANKS, MOTOR CYCLES).

760	15307	U.S.A.	... *The Alaska Highway.* (K. H. Siddall, Flying and Industrial Aviation, Vol. 35, No. 3, September, 1943, pp. 54-56, 94-99.)
761	16274	U.S.A.	... *Service Tools for Field Replacement of American Transport Equipment.* (Service Engineering, Vol. 1, No. 1, Winter, 1943, pp. 6-11.)
762	16523	G.B. ...	... *Mobile Traffic Signal.* (Electrical Review, Vol. 133, No. 3,436, 1/10/43, pp. 447-448.)
763	16553	U.S.A.	... *Wright Powered M-3, M-4 and M-7 Tanks.* (Trade Winds, Vol. 7, No. 1, August, 1943, pp. 3-6, 16.)
764	16654	U.S.A.	... *Factors Involved in the Selection of Railroad Motive Power.* (R. T. Sawyer, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-3.)
765	16727	U.S.A.	... *War Transportation (Review of Papers given at the S.A.E. West Coast Transportation and Maintenance Meeting).* (S.A.E. Journal, Vol. 51, No. 10, October, 1943, pp. 17-19, 25.)
766	16728	U.S.A.	... *Lubricants for Ordnance, Combat and Motor Transport Vehicles (including Appendices I and II on Specifications).* (R. E. Jeffrey, S.A.E. Journal, Vol. 51, No. 10, October, 1943, pp. 345-349, 368.)
767	16733	U.S.A.	... *Dust Problems in Military Vehicle Operation.* (L. F. Overholt, S.A.E. Journal, Vol. 51, No. 10, October, 1943, pp. 381-384.)
768	16739	U.S.A.	... *Standardized Techniques of Automotive Maintenance (Reports of S.A.E. Vehicle Maintenance Committees).* (S.A.E. Journal, Vol. 51, No. 10, October, 1943, pp. 31-39, 44-45.)

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769	16783	G.B. ...	... *A New Era in Transport (Presidential Address to the Institute of Transport).* (Sir W. V. Wood, Engineering, Vol. 156, No. 4,062, 19/11/43, pp. 416-417.)
770	16860	G.B. ...	... *Miniature Motor Cycles for Airborne Troops.* (Flight, Vol. 44, No. 1,821, 18/11/43, p. 551.)
771	16953	G.B. ...	... *Folding Motor Cycle Dropped by Parachute.* (Aeroplane, Vol. 65, 19/11/43, p. 574.)
772	17047	G.B. ...	... *Rubberless Tyres. An Australian Invention.* (Engineers' Digest, Vol. 4, No. 11, November, 1943, p. 316.)

WIRELESS AND ELECTRICITY.

Radio Reception, Aerials, etc.

773	15347	G.B. ...	... *Radio Detection and Ranging (Radar).* (Nature, Vol. 152, No. 3,857, 2/10/43, pp. 391-392.)
774	15405	G.B. ...	... *Aerial Characteristics—II (Data Sheet).* (Electronic Engineering, Vol. 16, No. 188, October, 1943, p. 197.)
775	15783	G.B. ...	... *Radio and International Relations.* (Sir Stafford Cripps, Engineer, Vol. 176, No. 4,580, 22/10/43, p. 317.)
776	16513	G.B. ...	... *Aerial Characteristics—III. Effect of Ground Losses on Polar Characteristics (Data Sheets).* (Electronic Engineering, Vol. 16, No. 189, Nov., 1943, pp. 241-245.)
777	16775	U.S.A.	... *Some Aspects of Radio Reception at Ultra-High Frequency. Part I—The Antenna and the Receiver Input Circuits.* (E. W. Herold and L. Malter, Procs. of the I.R.E., Vol. 31, No. 8, August, 1943, pp. 423-438.)

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778	15691	G.B. ...	... *Telecommunication.* (Sir A. S. Angwin, Engineer, Vol. 176, No. 4,579, 15/10/43, pp. 310-311.)
779	15701	G.B. ...	... *International Telecommunications.* (Sir A. Stanley Angwin, Engineering, Vol. 156, No. 4,057, 15/10/43, pp. 316-317.)

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780	16113	G.B. ...	... *Overhead Line Vertical Loads (Mechanical).* (P. J. Ryle, Electrician, Vol. 131, No. 3,411, 15/10/43, pp. 376-378.)
781	16216	U.S.A.	... *Mobile Transformer Station for Agricultural Machines and Building Sites.* (G. Nabholz, Engineers' Digest, Vol. 4, No. 8, August, 1943, pp. 225-226.)
782	16241	G.B. ...	... *The High Pressure Gas-Filled Cable (Abstract).* (C. J. Beaver and E. L. Davey, Journal of Inst. of Electrical Engineers, Vol. 90, No. 34, Part I, Oct., 1943, pp. 452-455.)

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783	16243	G.B. ...	*The Ventilation of Sub-Stations.* (F. Favell and E. W. Connon, Journal of Inst. of Electrical Engineers, Vol. 90, No. 17, Part II, Oct., 1943, pp. 327-346.)
784	16376	G.B. ...	*The Design of Vibration Pick-Up Units.* (F. Postlethwaite, Engineering, Vol. 156, No. 4,060, 5/11/43, pp. 362-364.)
785	16517	G.B. ...	*Defects in Direct Disk Recording (Table).* (D. W. Aldous, Electronic Engineering, Vol. 16, No. 189, Nov., 1943, pp. 233-235.)
786	16524	G.B. ...	*The Need for Oil Conservators on Transformers.* (R. M. Charley, Electrical Times, Vol. 104, No. 2,711, 7/10/43, pp. 416-417.)
787	16525	G.B. ...	*Insulation Testing Laboratory.* (Electrical Times, Vol. 104, No. 2,711, 7/10/43, pp. 422-424.)
788	16526	G.B. ...	*Electrical Installations—Present and Future.* (Electrical Times, Vol. 104, No. 2,713, 21/10/43, pp. 479-481.)
789	16551	G.B. ...	*Process Electric Control.* (H. Seymour, Electrician, Vol. 131, No. 3,412, 29/10/43, pp. 423-424.)
790	16644	U.S.A.	*Maintenance of Hydro-Electric Generating Units.* (G. H. Bragg, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-5.)
791	16687	G.B. ...	*Electricity Applied to Disinfection.* (D. W. G. Jones, Electrician, Vol. 131, No. 3,415, 12/11/43, pp. 474-475.)
792	16688	G.B. ...	*Hollow Tube Transmission—Examination of Wave Guides in Electrical Communication.* (Electrician, Vol. 131, No. 3,415, 11/12/43, p. 476.)
793	16692	G.B. ...	*Post-War Electrical Appliances.* (G. A. T. Burdett, Electrician, Vol. 131, No. 3,415, 12/11/43, pp. 481-482.)
794	16771	U.S.A.	*Electric Communications, the Past and Present Illuminate the Future.* (L. Espenschied, Procs. of the I.R.E., Vol. 31, No. 8, August, 1943, pp. 395-402.)
795	16774	U.S.A.	*Use of Sub-Carrier Frequency Modulation in Communication Systems.* (W. H. Bliss, Procs. of the I.R.E., Vol. 31, No. 8, August, 1943, pp. 419-423.)
796	16776	U.S.A.	*Tubes Employing Velocity Modulation.* (R. I. Sarbacher and W. A. Edson, Procs. of the I.R.E., Vol. 31, No. 8, August, 1943, pp. 439-452.)
797	16782	G.B. ...	*The Accuracy of Numerical Harmonic Analysis.* (R. G. Manley, Engineering, Vol. 156, No. 4,062, 19/11/43, pp. 414-415.)
798	16836	G.B. ...	*The Production of Hydrogen and Oxygen by the Electrolysis of Water.* (C. E. Bowen, Journal of Inst. of Electrical Engineers, Vol. 90, No. 35, Pt. I, November, 1943, pp. 474-485.)

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799	16837	G.B. ...	... *A Gas-Filled Cable System.* (B. Calvert, Journal of Inst. of Electrical Engineers, Vol. 90, No. 35, Pt. I, November, 1943, pp. 485-486.)
			Electronics.
800	15232	G.B. ...	... *High Crystal Harmonics for Oscillator Control.* (Nature, Vol. 152, No. 3,856, 25/9/43, pp. 363-364.)
801	15403	G.B. ...	... *Dust Cored Coils. Part III—Variation of Q with Frequency.* (V. G. Welsby, Electronic Engineering, Vol. 16, No. 188, October, 1943, pp. 191-194.)
802	15404	G.B. ...	... *Some Unusual Applications of the Cathode Ray Oscillograph (Calibration of Time Base Scale, Operation of Relay, Reverberation Characteristics of a Room, etc.).* (G. N. Patchett, Electronic Engineering, Vol. 16, No. 188, October, 1943, pp. 195-196.)
803	15407	G.B. ...	... *High Frequency Therapy—Part II.* (W. D. Oliphant, Electronic Engineering, Vol. 16, No. 188, October, 1943, pp. 206-208.)
804	16509	G.B. ...	... *The Design of a Cathode Ray Tube Amplifier.* (B. H. Hadfield, Electronic Engineering, Vol. 16, No. 189, Nov., 1943, pp. 226-229.)
805	16511	G.B. ...	... *Dust Cored Coils. Part IV—Equi-Q Charts.* (V. G. Welsby, Electronic Engineering, Vol. 16, No. 189, Nov., 1943, pp. 230-232.)
806	16512	G.B. ...	... *An Improved Low Frequency Analyser (for Electro-Encephalographic Research, etc.).* (W. G. Walter, Electronic Engineering, Vol. 16, No. 189, Nov., 1943, pp. 236-240.)
807	16515	G.B. ...	... *Emission Type Photo-Electric Cells.* (A. C. Lynch, Electronic Engineering, Vol. 16, No. 189, Nov., 1943, p. 250.)
808	16516	G.B. ...	... *High Frequency Therapy. Part III—Electrode Theory and Design.* (W. D. Oliphant, Electronic Engineering, Vol. 16, No. 189, Nov., 1943, pp. 252-255.)
809	16521	G.B. ...	... *Electrons—Future Possibilities.* (Electrical Review, Vol. 133, No. 3,436, 1/10/43, p. 425.)
810	16552	G.B. ...	... *Post-War Prospects in Electronics and Synthetics.* (Electrician, Vol. 131, No. 3,412, 29/10/43, pp. 425-426.)
811	16663	U.S.A.	... *A Sensitive Cathode Ray Volt Meter.* (Z. V. Harvalik, Review of Scientific Instruments, Vol. 14, No. 9, Sept., 1943, pp. 263-265.)
812	16689	G.B. ...	... *Industrial Radiography—Some Interesting Examples of the Application of X-Rays.* (Electrician, Vol. 131, No. 3,415, 12/11/43, pp. 477-478.)
813	16711	U.S.A.	... *Marine Gears Controlled During Balancing by Electronic Means.* (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 216.)
814	16753	U.S.A.	... *Maintenance of Electronic Control Devices.* (W. D. Cockrell, Aero Digest, Vol. 43, No. 6, Sept., 1943, pp. 211-213, 282-283.)

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815	16879	U.S.A. ...	*Industrial Electronics (Review of Papers Given at Conference on Industrial Electronics).* (Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 819-823.)

HEAT, LIGHT AND SOUND.

Heat Transfer, Absorption, etc.

816	15752	G.B.	*The Testing of Aircraft Thermometers.* (R. B. Brock, Aircraft Engineering, Vol. 15, No. 176, Oct., 1943, pp. 303-304.)
817	16331	G.B.	*Radiation Temperatures and the Welsbach Mantle.* (W. T. David, Nature, Vol. 152, No. 3,860, 23/10/43, p. 477.)
818	16520	G.B.	*Wartime Specifications for I.P. Thermometers (Special Supplement).* (Journal of the Inst. of Petroleum, Vol. 29, No. 237, Sept., 1943, pp. 1-11.)
819	16648	U.S.A. ...	*Theoretical Regenerative-Steam-Cycle Heat Rates.* (A. M. Selvey and P. H. Knowlton, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-12.)
820	16667	U.S.A. ...	*Simple Temperature Indicators (Tempil Pellets).* (Review of Scientific Instruments, Vol. 14, No. 9, Sept., 1943, p. 280.)
821	16813	G.B.	*Area Heating.* (Nature, Vol. 152, No. 3,861, 30/10/43, pp. 497-499.)
822	16814	G.B.	*District Heating in New York.* (Nature, Vol. 152, No. 3,861, 30/10/43, p. 500.)
823	16862	U.S.A. ...	*Steam Generation for Marine and Stationary Service in the United States,* 1933-1943. (E. G. Bailey, Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 770-772.)
824	16864	U.S.A. ...	*Aircraft Heating Systems—A Critical Comparison of Three Types of Heaters.* (W. W. Reaser, Mechanical Engineering, Vol. 65, No. 11, November, 1943, pp. 775-780.)
825	17072	U.S.A. ...	*Distribution of Heat Absorption and Factors Affecting Performance of Twin Branch 2,500 Psi Boiler.* (F. G. Ely and L. B. Schueler, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-8.)
826	17073	U.S.A. ...	*Heat Transfer to Water-Cooled Furnace Walls.* (H. Kreisinger and R. C. Patterson, A.S.M.E. Preprints, Nov. 29-Dec. 3, 1943, pp. 1-7.)

Fluorescent Lamps, After-Glow, etc.

827	15349	G.B.	*Initiation of Glow Discharges.* (J. D. Craggs and J. M. Meek, Nature, Vol. 152, No. 3,857, 2/10/43, pp. 386-387.)
828	15406	G.B.	*Fluorescent Lamps. Survey of Old and Recent Developments—Part II.* (R. Neumann, Electronic Engineering, Vol. 16, No. 188, October, 1943, pp. 202-205.)
829	15641	Switzerland ...	*Raman Spectroscopy Applied to Science and Engineering.* (W. Bedert, Schweizer Archiv., Vol. 8, No. 3, March, 1942, pp. 90-95.)

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830	15760	G.B. ...	... *Lighting and Safety.* (Metal Industry, Vol. 63, No. 16, 15/10/43, p. 249.)
831	16514	G.B. ...	... *Fluorescent Lamps. A Survey of Old and Recent Developments—Part III.* (R. Neumann, Electronic Engineering, Vol. 16, No. 189, Nov., 1943, pp. 247-250.)
832	16522	G.B. ...	... *Public Lighting.* (Electrical Review, Vol. 133, No. 3,436, 1/10/43, pp. 431-432.)
833	16666	U.S.A.	... *High Speed Flashlight.* (Review of Scientific Instruments, Vol. 14, No. 9, Sept., 1943, p. 278.)
834	16770	G.B. ...	... *The Visual Spectrophotometry of Glasses, with Special Reference to Low Absorptive Glasses.* (T. H. Wang, Philosophical Magazine, Vol. 34, No. 237, October, 1943, pp. 684-699.)
835	16800	G.B. ...	... *Afterglow in High Pressure Gaseous Discharges.* (Nature, Vol. 152, No. 3,862, 6/11/43, pp. 538-539.)
836	17060	G.B. ...	... *Emergency Lighting Equipments.* (Engineering, Vol. 156, No. 4,063, 26/11/43, p. 432.)

Sound Measurement and Supersonics.

837	16492	G.B. ...	... *Supersonic Waves to Detect Defects in Motor Tyres.* (Engineer, Vol. 176, No. 4,583, 12/11/43, p. 394.)
838	16986	G.B. ...	... *A Simple Method of Measuring the Wave-Length of Sound in Free Air.* (E. G. Knowles, Journal of Scientific Instruments, Vol. 20, No. 10, October, 1943, p. 165.)

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839	16664	U.S.A.	... *An Inexpensive Stroboscope for High Speed Photography.* (S. Silverman and W. H. Warhus, Review of Scientific Instruments, Vol. 14, No. 9, Sept., 1943, pp. 273-275.)
840	16665	U.S.A.	... *A Camera for Stereoscopic Microradiography.* (G. L. Clark and R. W. Eyler, Review of Scientific Instruments, Vol. 14, No. 9, Sept., 1943, pp. 277-278.)
841	16717	U.S.A.	... *High Speed Camera* (8,000 *Frames a Second*). (Scientific American, Vol. 169, No. 5, Nov., 1943, p. 222.)
842	16829	G.B. ...	... *Diagrams on Metal Surfaces by Photography (Kodak Process).* (Light Metals, Vol. 6, No. 70, November, 1943, p. 559.)
843	16886	G.B. ...	... *Photographic Layout Methods.* (A. H. Tiltman, Metal Industry, Vol. 63, No. 22, 26/11/43, p. 342.)
844	16963	G.B. ...	... *Photographic Layout Methods.* (Aeroplane, Vol. 65, No —, 19/11/43, p. 591.)
845	17021	U.S.A.	... *Photo Reconnaissance.* (Flying, including Industrial Aviation, Vol. 33, No. 4, Oct., 1943, pp. 191, 340-342.)

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METEOROLOGY (ICE FORMATION, VAPOUR TRAILS).

846	16083	U.S.A. ...	*Device for Study of Ice Formations.* (American Aviation, Vol. 7, No. 8, 15/9/43, p. 26.)
847	17030	Germany ...	*Vapour Trails.* (Der Flieger, Vol. 22, No. 10, Oct., 1943, pp. 286-287.)

PHYSIOLOGY AND AVIATION MEDICINE.

848	15234	G.B.	*Drinking Water from Sea Water.* (Petroleum Times, Vol. 47, No. 1,204, 18/9/43, pp. 494-496.)
849	15402	G.B.	*An Electronic Stimulator for Use in General Physiology.* (R. H. Thorp and D. Robinson, Electronic Engineering, Vol. 16, No. 188, Oct., 1943, pp. 188-190.)
850	15992	U.S.A. ...	*A New Method of Making Sea Water Drinkable.* (J. Amer. Med. Ass., Vol. 122, No. 8, 18/6/43, p. 515.) (Bulletin of War Medicine, Vol. 4, No. 2, 1943, p. 108.)
851	16819	G.B.	*Researches on Penicillin.* (Nature, Vol. 152, No. 3,864, 20/11/43, pp. 604-605.)
852	16821	Russia ...	*Physiological Basis of Camouflage (Russian Publication).* (Nature, Vol. 152, No. 3,864, 20/11/43, pp. 605-606.)
853	17015	U.S.A. ...	*Aviation Medicine.* (Flying, including Industrial Aviation, Vol. 33, No. 4, Oct., 1943, pp. 160-161, 213-218.)

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854	15335	G.B.	*On the Dimensions of Physical Magnitudes. (Third Paper: Electric and Magnetic Magnitudes.)* (H. Dingle, Philosophical Magazine, Vol. 34, No. 236, Sept., 1943, pp. 588-599.)
855	16172	G.B.	*Length of Chord Common to Two Circles.* (Machinery, Vol. 63, No. 1,619, 21/10/43, p. 454.)
856	16314	G.B.	*Determination of Friction Moment of Gyroscopes.* (Z.V.D.I., Vol. 86, No. 35-36, Sept., 1942, pp. 552-553.) (F. Gottwald, Engineers' Digest, Vol. 4, No. 9, Sept., 1943, pp. 262-263.)
857	16589	Germany ...	*A Simple Deduction of the Crocco Vortex Theorem from the Law of Conservation of Energy.* (K. Oswatitsch, L.F.F., Vol. 20, No. 819, 16/10/43, p. 260.)
858	16807	G.B.	*Significance and Development of Hamilton's Quaternions.* (H. T. Piaggio, Nature, Vol. 152, No. 3,863, 13/11/43, pp. 553-555.)
859	16817	G.B.	*The New Algebras and Their Significance for Physics and Philosophy.* (E. T. Whittaker, Nature, Vol. 152, No. 3,864, 20/11/43, p. 603.)
860	16981	G.B.	*Notes on Some Recent Developments in Hygrometry.* (J. H. Awbery, Journal of Scientific Instruments, Vol. 20, No. 10, October, 1943, pp. 153-154.)