

# MANN EGERTON & Co.Ltd

CONTRACTORS TO H.M. ADMIRALTY, WAR OFFICE,  
AND AIR MINISTRY.

Designers and  
Manufacturers of Proved  
Efficiency of all Types of  
**AIRCRAFT**

HEAD OFFICE AND WORKS

**AIRCRAFT WORKS, NORWICH**

---


SPECIAL DEPARTMENT  
for the manufacture of  
AIRCRAFT ACCESSORIES

(Strainers, Bolts and Nuts, etc., etc.)

177, CLEVELAND ST., LONDON, W.1.

# MANN EGERTON & Co.Ltd

LONDON NORWICH IPSWICH BURY ST. EDMUNDS.

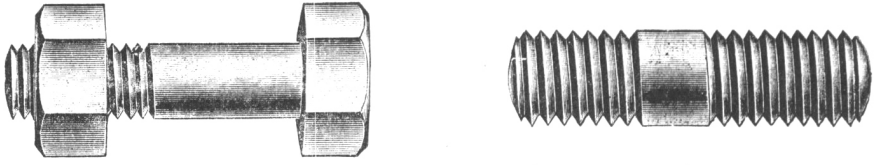


GLENDOWER AIRCRAFT  
CO., LTD.,  
54, SUSSEX PLACE, SOUTH KENSINGTON,  
LONDON, S.W. 7,  
AND KEW.

—Constructors of Aircraft.—  
CONTRACTORS TO THE AIR BOARD.

*Telephone—KENSINGTON 7066-7.  
Telegrams—  
"GLENACELLE, SOUTHKENS, LONDON."*

**A. BEEBEE,  
FALLING'S HEATH,  
WEDNESBURY**



**HIGH CLASS BOLTS, NUTS,  
STUDS, SCREWS, WASHERS, ETC.**



BEING wholly engaged upon production for the British and Allied Governments, we regret that we are unable for the present to execute any orders for private purposes.

Established  
1897.

Victoria Road, Willesden Junction, N.W. 10.

Godbolds.

THE " **B-Z** " 9-Cylinder  
220 H.P.  
**PATENT ROTARY AERO-ENGINES**  
(1918 Type).

Combine in a simple and reliable form all the essential requirements of the most up-to-date AERO ENGINES.

**THE OUTSTANDING ADVANTAGES are:**

1. **Maintaining Power through Wide Range of Altitudes.**—Simple mechanical scavange and 25 per cent. greater suction volume and high volumetric efficiency result in 30 to 35 per cent. advantage.
2. **Safety. (A unique feature).**—It is **Impossible** for the B-Z (1918) Engines under any circumstances to **back-fire**.
3. **Starting Facility.**—Permit Pilot to start engine slow with complete safety and greatest ease, and to increase speed necessary for flight after he has taken his seat.
4. **Flexibility.**—Any given speed from 350 revs. to maximum without miss-firing or back-firing.
5. **Economy.**—Saving of 30 to 40 per cent. in oil consumption, made possible by perfect mechanical redistribution of oil under pressure.
6. **Reliability.**—Lubricating oil never reaches sparking plug, and perfect regularity of firing is maintained.
7. **Simplicity.**—The only "complete" engine with one valve per cylinder. Easy to manufacture, assemble and maintain. No inlet valves or piping, all connecting rods the same shape and length, fewest number of different parts.

**Simplicity of Design means Greater Output.**

For full particulars apply to:—

**THE ZEITLIN ENGINE CO.,**  
222, STRAND, W.C. 2.

Phone: City 1136.

Wire: Zeitlineng, Estrand, London.

Telephone 1550 Mid.

# MUSGROVE & GREEN, Ltd.

**BROMSGROVE STREET,**

**BIRMINGHAM.**

AIRCRAFT SHEET METAL  
— SPECIALISTS. —

Contractors to H.M. Government.

# WHITEHEAD AIRCRAFT, Ltd.

CONTRACTORS TO H.M. GOVERNMENT.

==  
**:: Aeroplane ::**  
**Manufacturers.**  
==

WORKS:

**TOWNSHEND TERRACE,**

Telephone:  
RICHMOND 1865.

**RICHMOND, SURREY.**



STUART TURNER, LTD.,  
**PRECISION ENGINEERS.**

*Contractors to the British and Allied Governments.*

MANUFACTURERS OF  
**SMALL AEROPLANE PARTS**

OFFICE AND WORKS : HENLEY-ON-THAMES.

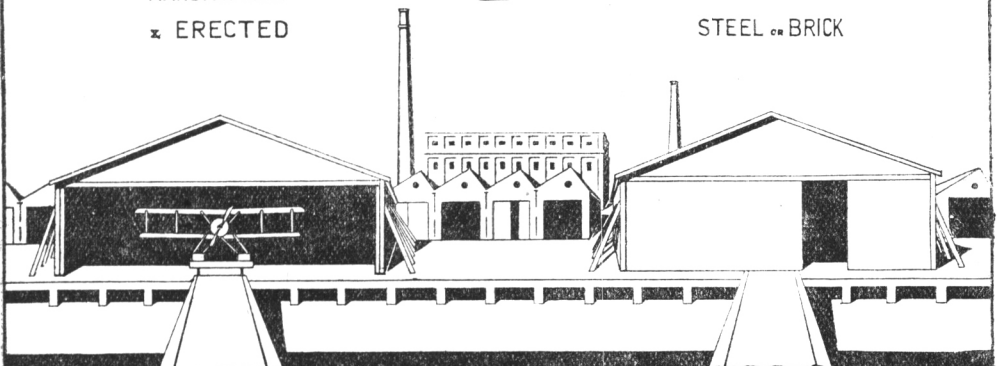
**HANGARS , ERECTING & DOPE SHOPS**

AND  
AIRCRAFT BUILDINGS OF EVERY DESCRIPTION

DESIGNED  
MANUFACTURED  
& ERECTED



IN TIMBER  
CONCRETE  
STEEL OR BRICK



**T.W.PALMER & CO**

**MERTON ABBEY IRONWORKS  
LONDON S.W. 19**



# BULPITT & SONS, LTD.,

Swansea Works, BIRMINGHAM.

MANUFACTURERS OF NAVAL AND MILITARY WAR STORES.

## Engineers & General Machinists



AUTOMATIC & CAPSTAN MACHINE WORK.

SHEET METAL WORKERS,

COPPERSMITHS, SPINNERS & ACETYLENE WELDERS

Of all Classes of Metal.

MACHINED CASTINGS IN GUN-METAL, PHOSPHOR

BRONZE, MANGANESE BRONZE, Etc.

*'Grams: "DOCLMACY-OX, LONDON."*

# AUTO-RADIATORS LTD.

CONTRACTORS TO H.M. GOVERNMENT.

MANUFACTURERS OF

RADIATORS, TANKS, COWLS,

AND ALL CLASSES OF

SHEET METAL PARTS

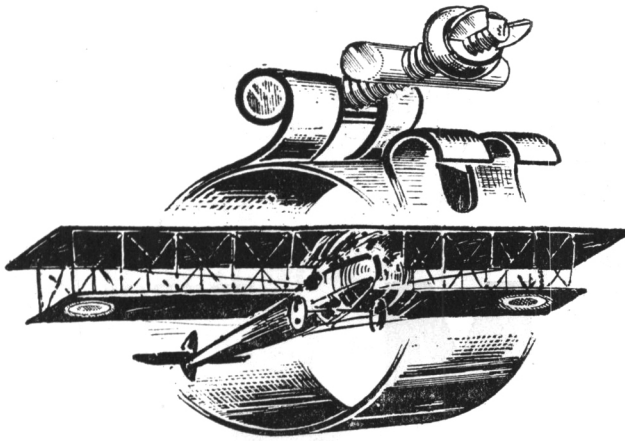
FOR

AIRCRAFT.

TO A.I.D. INSPECTION.

MANETTE STREET, CHARING CROSS ROAD,  
LONDON, W. 1.

*'Phone: REGENT 2362.*



on  
a  
**TERRY  
Hoseclip**

—you can depend for accuracy of measurement, and high gradeness of quality—and in the TERRY range you can get any patterns you need—cupped, flat sections, or grooved.

**We invite your orders for all kinds of WAR WORK.**

HERBERT TERRY & SONS  
LTD.,

The Spring & Press  
Work  
Specialists,  
Redditch,  
Eng.



# FINDLAY'S SPECIAL MOTOR METAL.

No. 1.



Samples  
Free.

## THE APPROVED BEARING ALLOY FOR AERO ENGINES.

WE SUPPLY METAL IN INGOTS.

We line under pressure to close limits Steel and Gun Metal Shells. Perfect Adhesion & Bell Ring. Freedom from Air Holes. Compact and Dense Metal Structures.

We supply Die Cast Bearings and Bushes to limits '001.  
Oil Holes and Oil Grooves cast in.

**GLACIER ANTI-FRICTION METAL CO., LTD.,** Telephone: Willesden 1882.  
**WALDO ROAD, WILLESDEN JUNCTION, N.W.10.**

**P** **FOR**  
**U** **AERO ENGINES.**  
**M**  
 MANUFACTURED BY  
**THE M**  
**SELSDON P**  
**AERO & ENGINEERING CO., L<sup>D</sup>.**  
**1, ALBEMARLE STREET,**  
**PICCADILLY, W.1.** **S.**

**ASPINALL'S ENAMELS, PAINTS AND VARNISHES.**  
**WATERPLANE, AEROPLANE AND AIRSHIP SPECIALITIES.**

ECCSHELL GREY ENAMEL FOR FUSELAGES. WIRE ENAMELS. AIR DRYING AND STOVING ENAMELS.	WOODWORK COPAL VARNISH FOR SPARS, RIBS AND STRUTS. AIR DRYING AND STOVING VARNISHES.
---	--


**ASPINALL'S ENAMEL LTD.,**  
 Varnish Works: MITCHAM. NEW CROSS, LONDON, S.E.  
 ESTABLISHED 1885.

**RUBERY, OWEN & Co**

DARLASTON Telephone 87 Three Lines.

SOUTH STAFFS Telegrams: "Roofs, Darlaston"

**AEROPLANE ACCESSORIES**



ENGINE PLATES.  
EYEBOLTS.  
STRAINERS.  
BOLTS AND NUTS.  
COLD DRAWN  
STEEL TUBES.

PATENT RELEASE  
CEARS FOR  
AEROPLANES.  
FOX'S PATENT  
WIRE BENDING  
PLIERS.

**AEROPLANE ENGINE BEARERS.**

LATEST DESIGNS.

8 YEARS' EXPERIENCE.

HUNDREDS OF BEARERS  
: DELIVERED WEEKLY. :

CATALOGUE and PRICES FREE.



**DIE CASTINGS.**

**A**ERONAUTICAL  
ASSEMBLISTS  
SHEET METAL WORK A SPECIALITY.

FINDINGS MARKINGS  
ENGRAVING  
AND ALL UP-TO-DATE  
REQUISITIONS  
OF COMPONENT PARTS

**H. B. SALE, LIMITED,**  
AVIATION DEPT., SUMMER LANE,  
**BIRMINGHAM.**

TELEPHONE: CENTRAL 361 (2 LINES).  
TELEGRAMS: "SALE," BIRMINGHAM.



BRAND

**FLUXES**

**For Oxy-Acetylene Welding.**

Manufactured from reliable formulæ and under control of a recognised  
Oxy-Acetylene Welding Expert.

**FLUXES FOR**

**CAST IRON, MEDIUM & HARD STEELS, COPPER, BRASSES,  
BRONZES, STEEL CASTINGS, and ALUMINIUM and its ALLOYS,**  
etc. **SILICATED CAST IRON RODS "made to specification."**

ALL PASS A.I.D. TESTS.

Price List and information on any class of Welding on application to  
**The DISTRICT CHEMICAL Co., Ltd.,**  
**1, Fenchurch Avenue, London, E.C.3.**

**When Ordering Your  
Next Glasses have  
them made of . . .**

## **Anti-Glare Protective Glass**

Prepared from the formula of  
Sir WILLIAM CROOKES, O.M., F.R.S.,  
in his Research Laboratory in 1917.

**MANUFACTURED BY F. MELSON WINGATE**

FOR

**The Anti-Glare Glass Co.,**

AND

**Ltd.,**

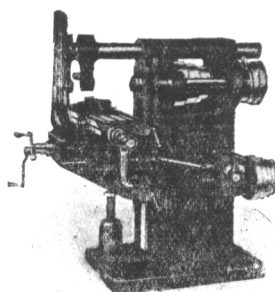
**Melson Wingate, Ltd.,**

**Manufacturing Opticians,**

**30, WIGMORE STREET,  
LONDON, W.1.**

## **THE FORD-SMITH PLAIN MILLING MACHINE.**

— — — — —  
EMBODIES BEST PRACTICE  
**For Heavy Duty Milling.**



SOLE IMPORTER—

**W. EDWARD STOREY,**

M.I.MECH.E.,

**3, ARUNDEL STREET, LONDON, W.C. 2.**

## **THE "LIQALL" SAFETY PETROL FILLER.**

***INVALUABLE FOR AEROPLANES.***

NO WASTE—PERFECT ECONOMY BOTH OF PETROL AND TIME—  
FREEDOM FROM ACCIDENT RISK—ABSOLUTE CLEANLINESS.

***Various Types, with or without Flexible Steel Extension Tube, Can  
Opener, Etc.***

PATENTEES AND MANUFACTURERS—

**THE SAFETY PETROL FILLER CO., LTD.,**

**BEDFORD PLACE, NORTHAMPTON.**

# **ORIENTAL**

**for TUBES—**

When you require Steel Tubes for Aircraft  
work consult us—we are specialists in the manufacture of  
Seamless Steel Tubes and can offer you the highest quality tubes at keenest prices.  
Send us your inquiries—we can effectively meet your needs

**ORIENTAL TUBE Co., Ltd., West Bromwich, B'ham.**

Telegrams: "Tubes, West Bromwich."

Telephone: 45 West  
Bromwich.



Telegrams—Bits, B'ham.

Telephone—355 Northern.

ESTABLISHED 1800.

# R. COOPER & SONS L<sup>D</sup>.

10 YEARS' EXPERIENCE IN

THE MANUFACTURE OF

AIRCRAFT

METAL

DETAIL FITTINGS, COMPONENTS,

TANKS,

EXHAUST PIPES, COWLINGS, ETC.

**40, High Street, Aston New Town, BIRMINGHAM.**

Y.E.S.  
TELEGRAMS:  
"YES, LEEDS."

Y.E.S.  
TELEPHONE:  
3927 CENTRAL.

## Y.E.S. 'EATONIA CAST' PHOSPHOR BRONZE.

THE ONLY CONSISTENTLY HOMOGENEOUS  
CASTINGS PRODUCED.

AS SPECIFIED BY THE R.A.F. AND LEADING DESIGNERS  
AND BUILDERS OF

### AERO ENGINES.

ALL SPECIFICATIONS OF R.A.F. UNDER A.I.D. INSPECTION.  
ALSO  
SPECIFICATIONS OF R.N.A.S.

**YORKSHIRE ENGINEERING SUPPLIES, LTD.,**  
**UPPER WORTLEY ROAD, WORTLEY, LEEDS.**

SOLE PRODUCERS AND SELLERS.

Y.E.S.

Y.E.S.



**'CROID'**

Used by the  
Aeronautical  
Constructors in the  
British Isles and by the Allies.

Adopted by H.M. ADMIRALTY,  
AIR MINISTRY, etc.

"Extra" Strength for Class I. Work.  
"Standard" Strength for Class II. Work.

**THE STRONGEST GLUE IN THE WORLD**  
USED COLD.


THE IMPROVED LIQUID GLUES CO., LTD., Great Hermitage St. & Bushell St., London, E.1.  
**CONTRACTORS TO H.M. AIR-BOARD, ETC.**

Contractors to H.M. ADMIRALTY and WAR OFFICE.

**INTEGRAL PROPELLERS**

(L. CHAUVIERE.)

HOLD THE **WORLD'S RECORDS**



AND ARE UNIVERSALLY RECOGNISED AS **THE BEST**

MAXIMUM EFFICIENCY combined with PERFECT WORKMANSHIP.

*Prices and Particulars from—*

THE INTEGRAL PROPELLER COMPANY, LTD.,  
EDWARE ROAD, THE HYDE, HENDON, LONDON, N.W.9.

**CHAMBON LIMITED.**

CONTRACTORS TO H.M. GOVERNMENT,  
208-210, Tower Bridge Road, LONDON, S.E.1.

Telephones: HOP 2819 & 1712.      Telegrams: "CHAMBONTEB BERM, LONDON."      WORKS: PARIS & LONDON.

***Engravings of all descriptions, Steel Stamps, Marks, Brands, etc.***

***Mathematical Dividing and Engraving.***

***Gauges, Jigs & Small Work or Tools of Great Accuracy.***

QUICK DELIVERIES.      **CASTINGS**      KEEN PRICES.

ALUMINIUM,      PHOSPHOR BRONZE,      GUN-METAL,  
MANGANESE BRONZE,      BRASS, ETC.,

TO ANY SPECIFICATION.

CUPRO-NICKEL BILLETS.      ANTI-FRICTION METALS.

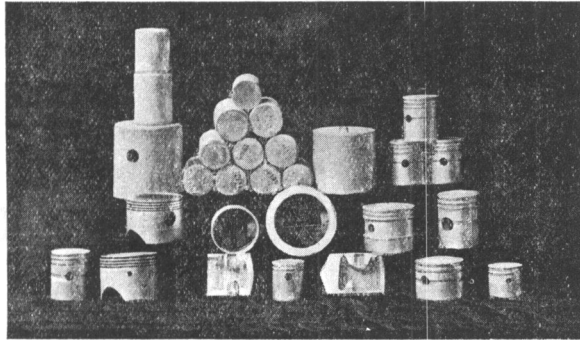
**T. M. BIRKETT & SONS, Ltd., HANLEY, STAFFS.**

TELEPHONE: No. 284.      CONTRACTORS TO THE ADMIRALTY, WAR OFFICE, ETC.  
GRAMS: "BIRKETT. HANLEY."

# ALUMINIUM CASTINGS.

Messrs. ROWLAND HILL & SONS, Ltd.

CRANK CASES,  
GEAR BOXES,  
PISTONS, &c.  
FOR  
AEROPLANE  
AND OTHER  
WORK.



ALLOYS MIXED  
TO SUIT  
CUSTOMER'S  
REQUIREMENTS.

STANDARD  
ALLOY.

VIRGIN METAL  
ONLY EMPLOYED.

ADDRESS ALL ENQUIRIES TO:— SALES REPRESENTATIVES:

## E. T. WHITE & CO.,

ENGINEERS,

5120

1, ALBEMARLE STREET,  
PICCADILLY, W.1.

TELEPHONE: REGENT 5931.

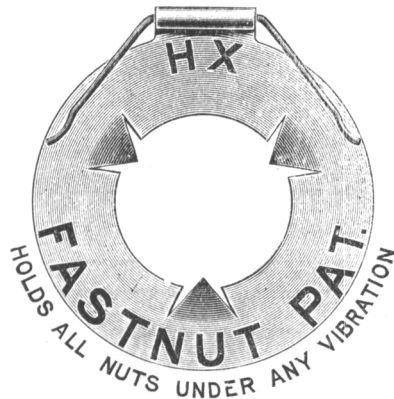
TELEGRAMS: "AUTOMETAL,  
WESTCENT, LONDON."

# WHY WASTE TIME

# Fitting Split Pins ?

ONE FIRM USING  
OVER  
**200,000**  
A MONTH.

**SAMPLES FREE.**



SPECIFIED AND USED  
by the  
**WAR OFFICE**  
and  
**ADMIRALTY.**

WE DEVELOP AND  
PURCHASE GOOD  
MECHANICAL PATENTS.  
**AGENTS WANTED.**

## **FASTNUT** WASHERS Are Safer & Require No Fitting.

WE WILL SUPPLY ANY QUANTITY **FREE** FOR USE ON A  
GUARANTEE OF GIVING US ONE-HALF THE **AMOUNT WE SAVE.**

### **FASTNUT, 159/161, Great Portland Street, W.1.**

TELEPHONE: CENTRAL 12214.

TELEGRAMS: FASNUT CENT LONDON.

## **CONTRACTORS TO THE BRITISH GOVERNMENT.**

BIRMINGHAM { TELEPHONE: EDGBASTON 364.  
TELEGRAMS: "SYRINGES, BIRMINGHAM." } LONDON { TELEPHONE: LONDON WALL 904.  
TELEGRAMS: "MYSTOCULT AVE, LONDON." }

ESTABLISHED 1865.



**W. T. FRENCH & SON,**  
General Brassfounders and Sheet Metal Workers,  
LADYWOOD, BIRMINGHAM.

London Office and Showroom:

SPENCER HOUSE, SOUTH PLACE & WILSON STREET, LONDON, E.C.2.

Enquiries Solicited for—

PETROL TANKS, PETROL COCKS, PUMPS, LATHE  
and MACHINE BRASS WORK, PRESS WORK, Etc.

## **WILLIAM MOSS, FOR AIRCRAFT FITTINGS.**



Telephone: GERRARD 6731.

Telegrams: AIROBILMOS. PHONE.

52, HIGH STREET, NEW OXFORD STREET, W.1.

(Facing Tottenham Court Road.)

## **JAMES PUTMAN, Southern Works, AYLESBURY,**

Manufacturer of Aero Hangars and  
every Description of Canvas Work.  
*Seven and a half Acres of Workshops.*

Contractor to Air Board, War Office, Admiralty,  
Ministry of Munitions & H.M. Office of Works.

'Phone: 57 Private Branch Exchange.  
Telegrams: "Putman," Aylesbury.

**TAPES, WEBS,  
CORDS &  
THREADS,  
FOR  
AIRCRAFT  
WORK**



**JOHN MACLENNAN  
& Co**

30, Newgate St., London, E.C. 1  
Phone. CITY 3115. (and at Glasgow.)

Contractors to H.M. Government.

QUOTATIONS WITH SAMPLES BY RETURN.

**GENUINE CASTOR OIL**  
IS THE ONLY SAFE LUBRICANT  
**FOR AIRCRAFT.**

**“NESTOR”  
SOLUBLE OIL**

USED ON WAR SERVICE FOR SCREWING  
AND BORING PURPOSES.

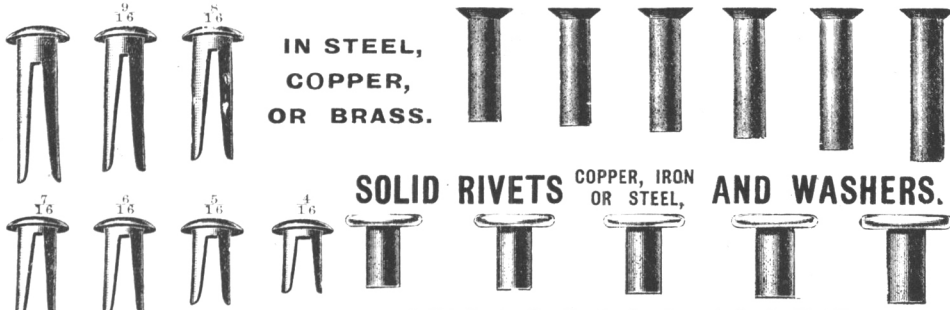
“NESTOR” Brand is acknowledged to be the  
strongest, most economical and efficient miscible  
oil in every respect, proof of which is the great  
demand for it from Munition Firms in all  
parts of the United Kingdom and allied countries.

**MOTOR OILS, ETC.**

THE  
**RELIANCE LUBRICATING OIL COMPANY,  
Limited,**  
19 & 20, WATER LANE, GREAT TOWER ST.,  
LONDON, E.C. 3.

Telephone No.: 5891 Avenue.  
Telegraphic Address: “SUBSTRAL, LONDON.”  
A.B.C. Code used, 5th Edition.

**BIFURCATED & TUBULAR RIVETS**

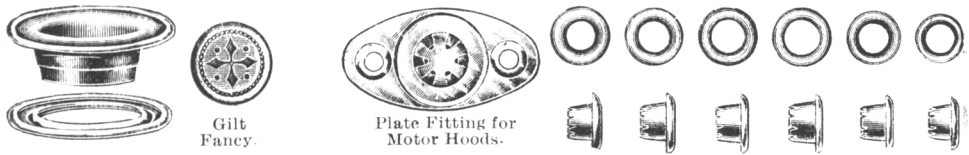


IN STEEL,  
COPPER,  
OR BRASS.

**SOLID RIVETS** COPPER, IRON  
OR STEEL, **AND WASHERS.**

Bullet Heads, Cup Heads, Countersunk Heads, Flat Heads.

**AEROPLANE EYELETS.** **PUSH BUTTONS.** **TURN BUTTONS.** **EYELETS.**



Gilt Fancy. Plate Fitting for Motor Hoods.

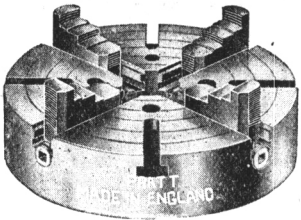
Roller Buckles, Sack and Sail Eyelets, Boot Eyelets, Lacing Hooks,  
Push Buttons, Escutcheon Pins, Cotter Pins, Motor Hood  
Turn Buttons, and other Metal Novelties.

PRICES, SAMPLES AND FULL PARTICULARS BY WRITING.

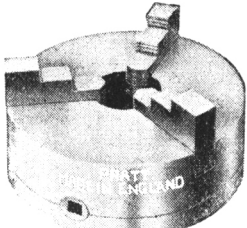
**THE BIFURCATED & TUBULAR RIVET Co., Ltd., AYLESBURY, BUCKS,  
and 235, Upper Thames Street, London, E.C. 4.**



**BRITISH MADE**



**INDEPENDENT 4-JAWED CHUCKS.**



**3-JAW GEARED SCROLL CHUCKS.**

MANUFACTURED BY  
**F. PRATT & CO., LTD.,**  
 EAGLE IRONWORKS,  
**HALIFAX, ENGLAND.**

Telegrams: "PRATT, HALIFAX." Telephone: No. 161.

USERS OF AIRCRAFT  
 KNOW THAT

**EXPERIENCE**

IS AN  
 ADVANTAGE  
 IN  
 AIRCRAFT CONSTRUCTION.

CONTINUALLY  
**SINCE**  
**1907**

**James H. Randall & Son**  
 (J. H. Randall & J. E. Randall)

HAVE MANUFACTURED  
**TANKS,**  
**RADIATORS,**  
**PIPES, &c.,**  
 FOR AIRCRAFT.

GREEN ST. WORKS,  
 PADDINGTON GREEN,  
 LONDON, W.2.

TELEPHONE 6340—1 Padd. ESTABLISHED 1851.

**Aeroplane, Kite and Balloon Cordage**  
 TO ADMIRALTY AND WAR OFFICE SPECIFICATIONS.

**KENYON'S P.I. COTTON ROPE**

*ALL SIZES. BREAKING STRAIN GUARANTEED. List on Application.*

**WM. KENYON & SONS, Ltd.,**  
**DUKINFIELD, CHESHIRE.**

Telephone 494 ASHTON.  
 Telegrams "KENYON, DUKINFIELD."

Branch Works at Walton-le-Dale, Preston, and Armentieres, France.

**AMABESTINE**



We can make *any* joint of *any* shape and of *any* thickness at the shortest notice on the premises to your blue print or template.

**WALLACH BROS. L<sup>TD.</sup>,**  
**49, TABERNACLE STREET**  
**LONDON, E.C.2.**

COMPRESSED ASBESTOS. FIBRE JOINTING. Telephone 3796 London Wall.

TELEPHONE 575. **BURT BROTHERS,** TELEGRAMS: "STEWPAW."  
**BIRMINGHAM.**  
 ESTABLISHED 150 YEARS.  
 Manufacturers of Every Description of  
**NON-FERROUS SHEET METAL WORK.**  
**FLOATS. FIRE-CONTROL GEAR. CLIPS. VENTILATORS. HOODS, ETC.**  
 Stampings, Drawings to 24in. diam. × 12in. deep, Spinnings to 50in. diam.

**BRIGHT** Cold Rolled for All Purposes **STEEL**  
 Drawn Hexagon and Round  
 Tele<sup>grams</sup> "OCTAGON."  
 phone CENTRAL 1869-1870.  
**BRITISH ROLLING MILLS, LIMITED,**  
 Cliveland Street, **BIRMINGHAM.**

**BILLINGTON & NEWTON, Ltd.,**  
 LONGPORT, STAFFORDSHIRE.  
**Non-Ferrous Alloy Manufacturers,**  
 PHOSPHOR TIN, PHOSPHOR COPPER,  
 PHOSPHOR BRONZE, MANGANESE BRONZE,  
 AND COPPER HARDENED ANTI-FRICTION METALS.

**— J. & R. WHYTE, —**  
 WIRE GAUZE IN ALL MESHES AND IN ALL METALS,  
 SPECIALISTS IN  
**Wire Brushes for Shell Cleaning, Foundry Use,**  
**Boiler Tube Cleaning, etc.**  
 - - **Wire Work of all kinds.**  
 CONTRACTORS TO WAR OFFICE, ADMIRALTY, INDIA OFFICE, Etc.  
**MILNBANK WORKS, ALEXANDRA PARADE, GLASGOW.**

# C. G. SPENCER & SONS, Ltd.

BALLOON MANUFACTURERS  
AND  
AERONAUTICAL ENGINEERS.

Works: **HIGHBURY, CLAPTON and HACKNEY.**

KITE BALLOONS, PARACHUTES, ROPES, FABRICS, EYELETS,  
FUSILAGE BAGS, ETC.

First in 1835. Foremost ever since.

Head Office: **56a, Highbury Grove, London, N.5.**

Telegrams: "AERONAUT, LONDON."

'Phone: 1893 DALSTON.

## The "GOVERNOR"

IS THE ONLY CRAMP WORTH NOTICE.

We make it from 2½ to 10"

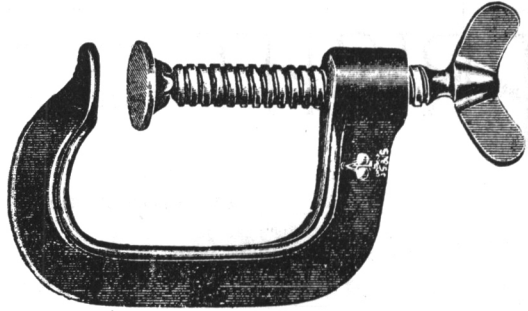
And every first class Dealer sells it.

Write us for details.

Largest Stock of Small Tools in the Kingdom.

**JOHN SHAW & SONS**

**WOLVERHAMPTON LIMITED,**



**WOLVERHAMPTON.**

## MUNITION OVERALLS for Men and Boys. JACKETS AND OVERALLS

In Bluette, Dungaree, Blue and Brown Denims, etc.

## FOR WOMEN WORKERS. OVERALLS, TUNICS, TROUSERS, AND CAPS

In Khaki and Blue Drill (Service Colours). WHOLESALE ONLY.

These Garments give the strictest utility combined with smartness that it is possible to produce. Absolutely protecting the wearer from the dirt and grease; they are indispensable.

Made by **WM. SUGDEN & SONS,**  
**W.L.B. Mills, CLECKHEATON.**

'Phone: 315 and 316.

'Grams: "Sugden, Cleckheaton 315."



Telephone No. 119.

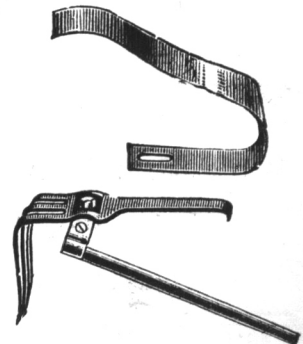
Established 1884.

## ROBERT MATHER

(HARRY MATHER, Proprietor).

MAKER OF ALL KINDS OF  
SPRINGS FOR EVERY  
- CLASS OF TRADE. -

**GARR SPRING WORKS,**  
**RAMSBOTTOM, NEAR MANCHESTER.**





**THE . . .**  
**SIBERIAN & GENERAL**  
**TRADING Co. Ltd.**

HOLD LARGE STOCKS OF

# PLYWOOD

IN VARIOUS WOODS, SIZES AND THICKNESSES,  
**SUITABLE FOR AIRCRAFT WORK.**

**Boards can be supplied**  
**already passed by A.I.D.**

---

LARGE STOCKS IN ENGLAND.

---

**Quotations given for Large Quantities to**  
**arrive.**

---

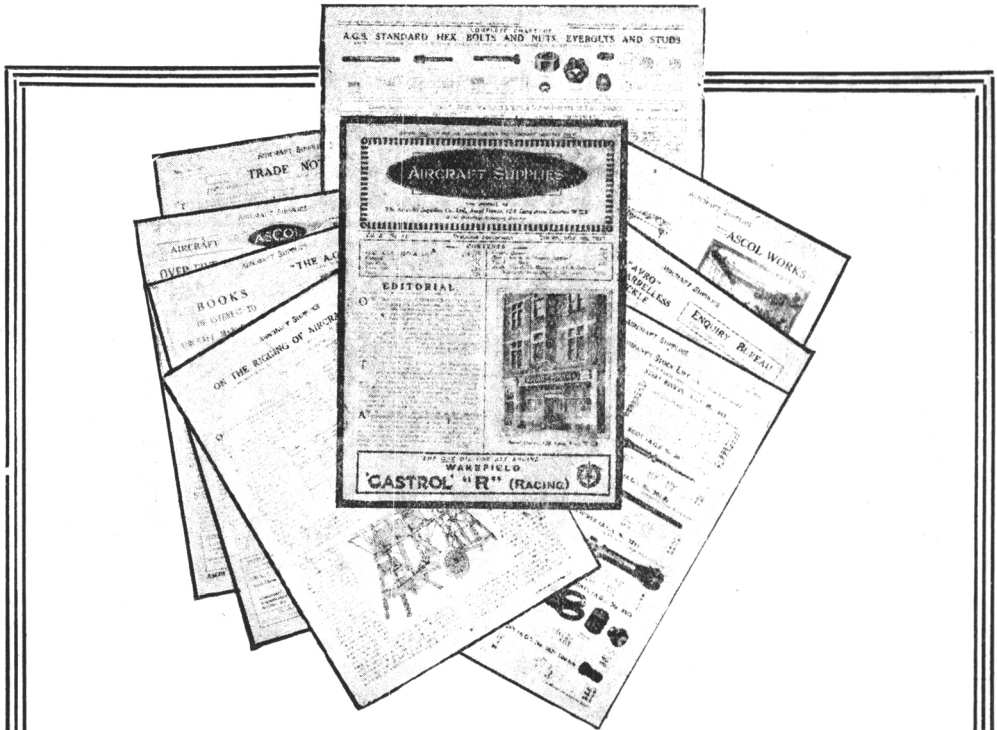
**Head Office: 33, Bishopsgate, London, E.C. 2.**

---

Warehouse :  
1-3, LEONARD ST.,  
CITY ROAD, E.C.

Telephone :  
LONDON WALL 3877.

Telegrams :  
WOLOSEY, LED, LONDON.



Invaluable information for Aircraft Manufacturers is contained in  
**“AIRCRAFT SUPPLIES”**  
 our Fortnightly House Journal.

The first issue of a new volume (Vol. 3) appeared on Thursday, Jan. 3rd, and contained, in addition to the usual complete Illustrated Stock List, Current Prices, Details of New Items, Enquiry Bureau, etc., etc., an extremely interesting and instructive article by G. H. Mansfield. Copies will be sent free on

receipt of application on business stationery.

We have over five million parts actually in stock, from a tiny screw to a complete unit. Deliveries without delay. Send us your requirements and let us quote you by return.

**THE  
 AIRCRAFT SUPPLIES  
 COMPANY LTD**

**CONTRACTORS TO THE AIR BOARD.**

ASCOL HOUSE, 125, LONG ACRE, LONDON, W.C.2.  
 Representatives in Birmingham, Manchester, Leeds, Belfast, Northern Counties and Scotland, South Coast and the London District.

Managing Director—  
 G. H. MANSFIELD.

WORKS—  
 Little James St.

Telephone—  
 Gerrard 276.

Telegrams—  
 "Upeast, Rand," London.



# MANN EGERTON & Co.Ltd

CONTRACTORS TO H.M. ADMIRALTY, WAR OFFICE,  
AND AIR MINISTRY.

Designers and  
Manufacturers of Proved  
Efficiency of all Types of  
**AIRCRAFT**

HEAD OFFICE AND WORKS

**AIRCRAFT WORKS, NORWICH**

---

SPECIAL DEPARTMENT  
for the manufacture of  
**AIRCRAFT ACCESSORIES**  
(Strainers, Bolts and Nuts, etc., etc.)  
177, CLEVELAND ST., LONDON, W.1.

# MANN EGERTON & Co.Ltd

LONDON NORWICH IPSWICH BURY ST. EDMUNDS.



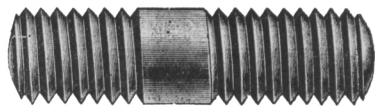
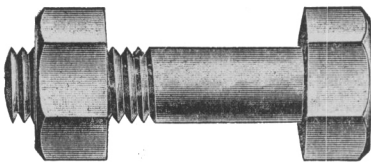
GLENDOWER AIRCRAFT  
 CO., LTD.,  
 54, SUSSEX PLACE, SOUTH KENSINGTON,  
 LONDON, S.W. 7,  
 AND KEW.

—Constructors of Aircraft.—

Telephone—KENSINGTON 7066-7.  
 Telegrams—  
 "GLENACELLE, SOUTHKENS, LONDON."

CONTRACTORS TO THE AIR BOARD.

# A. BEEBEE, FALLING'S HEATH, WEDNESBURY



HIGH CLASS BOLTS, NUTS,  
 STUDS, SCREWS, WASHERS, ETC.

**THE . . .**  
**SIBERIAN & GENERAL**  
**TRADING Co. Ltd.**

HOLD LARGE STOCKS OF

# PLYWOOD

IN VARIOUS WOODS, SIZES AND THICKNESSES,  
**SUITABLE FOR AIRCRAFT WORK.**

**Boards can be supplied  
already passed by A.I.D.**

---

LARGE STOCKS IN ENGLAND.

---

**Quotations given for Large Quantities to  
arrive.**

---

**Head Office: 33, Bishopsgate, London, E.C. 2.**

---

Warehouse :  
1-3, LEONARD ST.,  
CITY ROAD, E.C.

Telephone :  
LONDON WALL 3577.

Telegrams :  
WOLOSEY, LED, LONDON.





Invaluable information for Aircraft Manufacturers is contained in  
**“AIRCRAFT SUPPLIES”**  
 our Fortnightly House Journal.

The first issue of a new volume (Vol. 3) appeared on Thursday, Jan. 3rd, and contained, in addition to the usual complete Illustrated Stock List, Current Prices, Details of New Items, Enquiry Bureau, etc., etc., an extremely interesting and instructive article by G. H. Mansfield. Copies will be sent free on

receipt of application on business stationery.

We have over five million parts actually in stock, from a tiny screw to a complete unit. Deliveries without delay. Send us your requirements and let us quote you by return.

**THE**  
**AIRCRAFT SUPPLIES**  
**COMPANY LTD**

**CONTRACTORS TO THE AIR BOARD.**

**ASCOL HOUSE, 125, LONG ACRE, LONDON, W.C.2.**  
 Representatives in Birmingham, Manchester, Leeds, Belfast, Northern Counties and Scotland, South Coast and the London District.

Managing Director—  
 G. H. MANSFIELD.

WORKS—  
 Little James St.

Telephone—  
 Gerrard 276.

Telegrams—  
 “Upcast, Rand,” London.



# THE "GUARDIAN ANGEL" PARACHUTES.



For Life Saving uses on the Training Grounds : and for special Naval and Military operations. Open automatically, and dropped from Aeroplanes, always carry their man within  $2\frac{1}{2}$  seconds. Open instantaneously, and bring their man safely to the ground from any height above 200 feet. All the Airman has to do is to jump overboard, everything else is done for him automatically. Pilots can in the last resort charge enemy Aeroplanes with every prospect of their own safety. Non-spinning Shock-Absorber Slings, taking all shocks off the Parachutist and Parachute. Aviator's Harness, to carry safely a wounded or insensible man. Instant release on landing. Standardised in every detail, air and waterproof, they can be carried continuously for six months. These Parachutes are under static and kinetic control in all the phases of their action. There is no possibility of the entanglement of their rigging in the fiercest air current. These Parachutes can be dropped with absolute safety from Aeroplanes flying at any speed. These Parachutes reduce free-fall to its minimum, thus preserving the Airman's nerves. Adapted for use with every type of Aircraft, kite and free balloons, airships and aeroplanes. Special adaptations made for special purposes : they are adaptable to every kind of purpose. These Parachutes are sealed to prevent tampering : the seals are broken  
 only in the act of usage.

---

RELIABILITY, first—RELIABILITY, second—  
RELIABILITY ALL THE TIME.

---

**The Company's Entire Output is being  
Taken by the Air Board.**

---

## E. R. GALTHORP'S AERIAL PATENTS,

LIMITED

ELDON STREET HOUSE, ELDON STREET,  
LONDON, E.C.2.

Telephones (2 lines) London Wall 3266 & 3267. Telegraphic Address : "Savemalivo-Ave-London."



**Contractors to the Admiralty and Air Board.**



# THE CENTRAL AIRCRAFT COMPANY,

**DESIGNERS AND CONSTRUCTORS  
OF AIRCRAFT.**

**Office and Works:  
KILBURN, N.W.6.**

**Telegrams: AVIDUCTION, PHONE, LONDON.  
Telephone: HAMPSTEAD 4403, 4404.**

**CONTRACTORS TO THE ADMIRALTY.**

# SHORT BROTHERS, AEROPLANE WORKS ROCHESTER, KENT, AND FLYING GROUNDS— EASTCHURCH, ISLE of SHEPPEY.

**Telephones:—**

9, EASTCHURCH.  
627, CHATHAM.  
378, REGENT (London Office).

**Telegraphic Addresses:—**

"FLIGHT," EASTCHURCH.  
"SEAPLANES," ROCHESTER.  
"TESTED, PHONE," LONDON.