

## SHORT & MASON, Ltd.

Scientific Instrument Manufacturers,

ANEROID WORKS, MACDONALD ROAD, WALTHAMSTOW,



LONDON, E.17.

ESTABLISHED 1864.

Manufacturers of Aneroid Barometers and Barographs for Aeronautical Purposes.

Contractors to War Office, Admiralty, India Board, Meteorological Office, Canadian and S. African Governments, Australian Commonwealth, &c.

'Grams: "DOCIMACY-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.



To A.I.D.
Approved
Specifications.

Prompt
Deliveries
from Stocks.

Telephones-BATTERSEA

PUTNEY 86.

COLOR

JOS. FREEMAN, SONS & CO., LTD.,

ARNISH

Manufacturers since 1776,

WANDSWORTH, S.W. 18.

Telephone 1550 Mid.

## MUSGROYE & GREEN, Ltd.

BROMSGROVE STREET,

BIRMINGHAM.

## 

Contractors to H.M. Government.

## SALMSON AERO-ENGINES,

CANTON-UNNÉ SYSTEM.

DUDBRIDGE IRON WORKS LIMITED,
Telephone: 7 Stroud.
Telegrams: "Humridge, Cainscross."

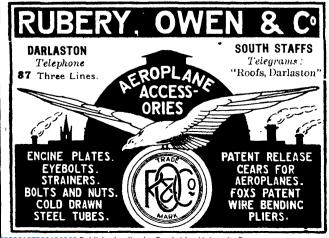
STROUD, GLOS.

London Office: -97, VICTORIA STREET, S.W. 1.

Telephone: 7026 Victoria.

Telegrams: 7026 VICTORIA, LONDON.

NOTE.—The Dudbridge Iron Works, Ltd. are the Sole Concessionaires for the British Empire for Salmson Engines.



## CONTRACTORS TO ADMIRALTY & WAR OFFICE.

WE MAKE BOLTS & NUTS, EYEBOLTS AND STRAINERS FROM  $3^{M/M}$  TO  $12^{M/M}$  DIA., OR LARGER IF REQUIRED. ENGINE BEARERS FOR GOVERNMENT MACHINES, VARIOUS DESIGNS. TUBULAR RUDDERS & ELEVATORS. STEEL RIBS AND CONTROL LEVERS.

WRITE FOR OUR ILLUSTRATED BOOKLET No. 3a FOR 1916, FREE.

#### A Coat that Defies the Wildest Weather

For the extreme conditions that the aviator is called upon to face—sudden changes of temperature—heavy rains—blizzards—THE BURFRON offers such ample security that it leaves every other flying coat "in the cart."

The fatal defect of all previous coats has been the openings in front, through which it was an easy matter for wet or cold to penetrate. The

## BURFRON

winds round the figure without openings anywhere to admit rain or wind, and is held together securely by one button at the neck.

A belt has two advantages; (1) It snugs down the coat in cold weather; and (2) gives it a smart Service appearance.

THE BURFRON is made in the Burberry material chosen by Sir Ernest Shackleton for all his Polar Expeditions, and to make security doubly sure, and to maintain the warmth essential to comfort during long flights, it is lined with proofed wool, or thick Camel Fleece.

Complete R.N.A.S. and R.F.C. Kits in 2 to 4 Days or Ready for Use.

BURBERRYS Haymarket S.W.1. LONDON.

Bd Malesherbes PARIS and Agents in Naval Stations.



## The "BOWSER" Cane Aeroplane Seats

(Made under the A.I.D. to A.G.S. Drawing, 264.)

SUPPLIED TO THE ROYAL AIRCRAFT FACTORY, AND THE LEADING AIRCRAFT MANUFACTURERS.

MANUFACTURED BY-

EDWARD BOWSER, 50, Park Lane, LEEDS.

Tel. No.: CENTRAL 3473.

London Representative: Mr. HARRY LOYEDAY, 67, New Oxford Street, W.C.1.

## ASPINALL'S ENAMELS, PAINTS AND VARNISHES.

WATERPLANE, AEROPLANE AND AIRSHIP SPECIALITIES.

ECCSHELL CREY ENAMEL FOR FUSELACES.
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.

### **AIRCRAFT** FITTINGS.

## CABRIEL & Co.

Manufacturers of Aeroplane Fittings in Brass, Copper, Gun Metal Bronze and Clarus Aluminium.

Castings supplied either machined complete or in the rough.

Sheet Metal Work in Brass, Copper, Steel, Tin or Aluminium, including Spinnings, Stampings and Pressings.

Tube Bending and Capstan Work a Speciality.

Contractors to Admiralty, War Office, Ministry of Munitions, H.M. Air Board, Royal Aircraft Factory and Crown Agents for the Colonies.

"Telegraphic Address: 4 & 5, A.B. ROW, BIRMINGHAM.

Telephone: Central **1223**.

#### FERRO-SILICON, FERRO - CHROME, FERRO-VANADIUM.

FERRO-PHOSPHORUS, FERRO-TITANIUM, FERRO-TUNGSTEN. FERRO-MOLYBDENUM, NICKEL. COBALT, ALUMINIUM. SILICO-MANGANESE, ETC.

#### FLUOR - SPAR.

CHROMIUM METAL. MANGANESE METAL. CUPRO-VANADIUM, CUPRO-MANGANESE, ALUMINIUM MANGANESE.

PHOSPHOR-TIN.

PHOSPHOR-COPPER.

#### COPPER - ALLOYS.

A. E. DUNSTAN,

Bank Chambers, FARGATE, SHEFFIELD.

Telegrams: "CONCAVE, SHEFFIELD." Telephones: 3543 & 4899.

Code---ABC 5th Edition.

THE . .

## COWPER-COLES AIRCRAFT Co., Ltd.

(Government Controlled Establishment),

SUNBURY-ON-THAMES.

Telephone: SUNBURY 37.

## 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-

SAFETY PETROL FILLER CO., BEDFORD PLACE, NORTHAMPTON.

#### CONTRACTORS TO THE BRITISH COVERNMENT.

BIRMINGHAM (TELEPHONE: EDGBASTON 364. LONDON TELEPHONE; LONDON WALL 904. TELEGRAMS: "SYRINGES, BIRMINGHAM."

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.

## **TERRY**

for

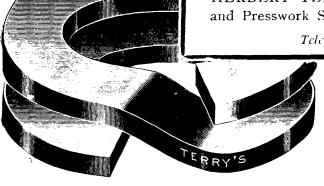
#### All Kinds of Washers.

UR Washer Department is one of the best equipped in the world. We have the capacity for producing any pattern—in any metal—any finish—any quantity—all high grade quality—and accurate to size.

War Work First-We will help you if we can.

HERBERT TERRY & SONS, Ltd., The Spring and Presswork Specialists, REDDITCH England.

Telephone No. 61 Redditch.





WE have more than 60 highly organised Departments making Springs and Presswork.

#### JOHN LEVICK, LIMITED,

METAL SPINNING WORKS,

ALMA STREET, ASTON, BIRMINGHAM.

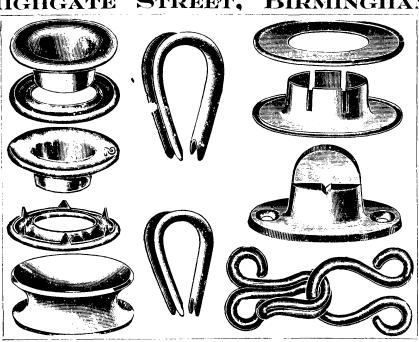
MANUFACTURERS OF

HIGH-CLASS SPINNINGS IN ALL METALS. SPECIALITIES FOR AIRCRAFT APPLIANCES, MANŒUVRING VALVES, GEAR CASES, ETC., ETC.

Telegrams: "Levick, Birmingham" National Telephone No. 340 Central.

#### HERBERT, KERSHAW & CO., LTD., HIGHGATE WORKS, HIGHGATE STREET, BIRMINGHAM.

Contractors to H.M. War Office and Admiralty.



Telegrams: "Duplex,"

Birmingham.

Telephone: Midland 511 (2 lines).

**SPECIALITIES** 

**FOR** 

AIRCRAFT.

Heart Shaped Thimbles (all sizes used by Government). Eyelets and Rings, Spur Teeth Grommets, Hooks and Eyes. Turn Buttons and Eyelets, Round Thimbles,

Heart Shaped Thimbles for Kite Balloons.

PRICES ON APPLICATION. ----

## "NIEUPORT"

AND -

## General Aircraft Company, Ltd.

Contractors to H.M. Government.

REGISTERED OFFICE AND WORKS:

LANGTON ROAD, CRICKLEWOOD, LONDON, N.W.2.

Telephone (3 lines):

WILLESDEN 2455.

Telegrams:

NIEUSCOUT, CRICKLE, LONDON

## 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.

## JOHN REMER & Co.,

14. DALE STREET LIVERPOOL.

SPECIALISTS IN

### AIRCRAFT TIMBERS.

English Ash, Hickory,

Black Walnut,
Silver Spruce,
Mahogany,
3-ply

'Phone: 7000 Central.

::::

Telegrams: "Remcoy, Liverpool."

Boards.

Telephones  $\{5892\}$  Holborn.

. . . THE . . . ,

## BRITISH RADIUM CORPORATION,

LIMITED.

#### MANUFACTURERS OF

### Luminous Radium Compound

#### to Government Specification.

1A Quality—each 5 grams certified by the National Physical Laboratory.



MINE:

WORKS:

Offices:

ST. IVES.
CORNWALL.

ELMERS END,

44 Bedford Row,

KENT.

LONDON, W.C.

DIE CASTINGS.



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

SHEET METAL WORK A SPECIALITY.

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 or any class of Welding on application to

The DISTRICT CHEMICAL Co., Ltd.,

1, Fenchurch Avenue, London, E.C.3.

## 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.

#### 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, CLASCOW.

#### BILLINGTON & NEWTON, Ltd.,

LONGPORT, STAFFORDSHIRE.

#### Non-Ferrous Alloy Manufacturers,

PHOSPHOR TIN, PHOSPHOR COPPER,
PHOSPHOR BRONZE, MANGANESE BRONZE,
AND COPPER HARDENED ANTI-FRICTION METALS.

#### CHAMBON LIMITED.

CONTRACTORS TO H.M. GOVERNMENT,

208=210, Tower Bridge Road, LONDON, S.E.I.

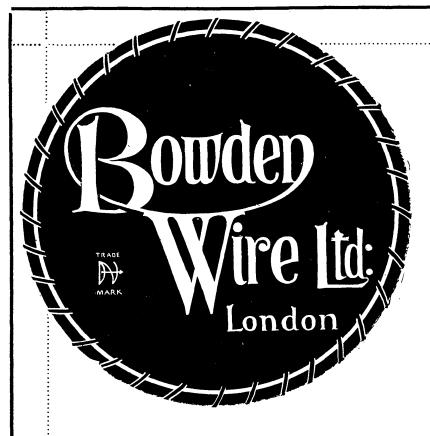
Telephones: HOP **2819** & **1712**. Telegrams: "CHAMBONTED BERM, LONDON."

PARIS & LONDON.

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

Mathematical Dividing and Engraving.

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



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.

## AIRSHIPS, LTD.,

Manufacturers of Airships and Kite-Balloons.

CONTRACTORS TO THE ADMIRALTY.

London Office: 47, VICTORIA STREET, S.W.1.

Works: HIGH STREET, MERTON and HENDON.

Spars, Ribs, Struts, Etc.

Complete Planes, ===\*

Ailerons, Elevators.

CENTRAL AIRCRAFT CO., 179, High Road, KILBURN, N.W.6.



Contractors to H.M. ADMIRALTY and WAR OFFICE.

## INTEGRAL PROPELLERS

WORLD'S
RECORDS



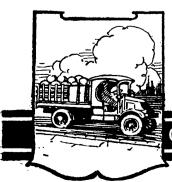
AND ARE
UNIVERSALLY
RECOGNISED AS
THE BEST

MAXIMUM EFFICIENCY combined with PERFECT WORKMANSHIP.

Prices and Particulars from-

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





## R.W.COAN \*\*Fluminium Soundry\*\* 219, GOSWELL RD. LONDON, E.C.

TELEGRAMS, KRANKASES, ISLING, LONDON.

TELEPHONES. 3846 CITY 4879 CENTRAL

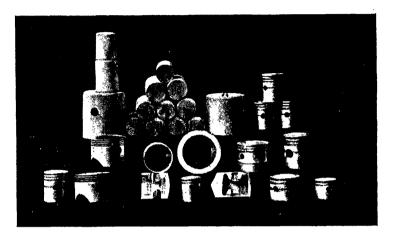
Contractor to H.M. Government



## ALUMINIUM CASTINGS.

HILL & SONS, Ltd.

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



ALLOYS MIXED TO SUIT CUSTOMER'S REQUIREMENTS.

**STANDARD** ALLOY.

VIRCIN METAL ONLY EMPLOYED.

ADDRESS ALL ENQUIRIES TO :-

SALES REPRESENTATIVES:

WHITE & CO.,

ENGINEERS.

5120

WINDSOR HOUSE, KINGSWAY,

TELEPHONE: REGENT 5931.

LONDON, W.C.2.

TELEGRAMS: "AUTOMETAL WESTCENT, LONDON."

## WHY WASTE TIME 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.

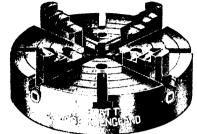
WE WILL SUPPLY ANY QUANTITY FREE FOR USE ON A GUARANTEE OF GIVING US ONE-HALF THE AMOUNT WE SAVE.

FASTNUT, 159/161, Great Portland Street,

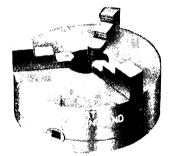
https://doi.org/10.1017/S239818730545PHONGisheGENTRAYCal422144e University Press

TELECRAMS: FASNUT, CENT. LONDON.





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.

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 WINCATE

The Anti-Glare Glass Co.,

Melson Wingate, Ltd.,

Manufacturing Opticians,

30, WIGMORE STREET, LONDON. W.1.

AERO ENGINES.

OIL, AIR, WATER, PETROL.

MANUFACTURED BY

https://doi.org/10.1017/

SELSDON
AERO & ENGINEERING CO., L.

IMPERIAL HOUSE, KINGSWAY, W.C. 2. S



#### **CENUINE 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,

19 & 20, WATER LANE, CREAT TOWER ST., LONDON, E.G. 3.

Telephone No.: 5891 Avenue.
Telegraphic Address: "Subastral, London."
A.B.C. Code used, 5th Edition.

## HYDROGEN

Manufactured in England. Guaranteed Constant Purity, 99%

OBTAINABLE IN CYLINDERS FROM STOCK IN LARGE :: OR SMALL QUANTITIES FROM THE WORKS OF ::

#### THE BRITISH OXYGEN Co., Ltd.

LONDON: Elverton Street, Westminster, S.W.1.

Tunnel Avenue, East Greenwich, S.E. 10.

BIRMINGHAM: Saltley Works, Birmingham.

CARDIFF: East Moors.

MANCHESTER: Great Marlborough Street, Manchester.

NEWCASTLE-UPON-TYNE: Shields Road, Walker Gate,

Newcastle-upon-Tyne.

GLASGOW: Rosehill Works, Polmadie, Glasgow. SHEFFIELD: Celtic Works, Saville Street, Sheffield.

SYDNEY. N.S.W.

#### WILLIAM MOSS,

#### FOR AIRCRAFT FITTINGS.

Telephone: GERRARD 6731.

Telegrams: AIROBILMOS, PHONE.

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

(Facing Tottenham Court Road.)

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

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

#### FOR WOMEI 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.

SUGDEN by WM. W.L.B. Mills, CLECKHEATON.

'Phone: 315 and 316.

'Grams: "Sugden, Cleckheaton 315."

QUICK DELIVERIES.

#### CASTINGS

KEEN PRICES.

Phosphor Bronze, Manganese Bronze, ' Brass, Etc.,

GUN-METAL.

TO ANY SPECIFICATION.

CUPRO-NICKEL BILLETS.

ANTI-FRICTION METALS.

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

ELEPHONE: No. 284. ELEGRAMS: "BIRKETT, HANLEY."

CONTRACTORS TO THE ADMIRALTY, WAR OFFICE, ETC.

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

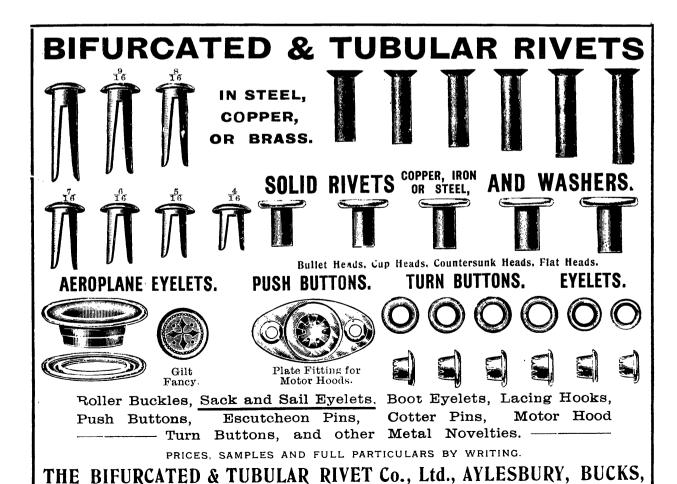
Telegrams: "Tubes, West Bromwich." Telephone: 45 West Bromwich.



# B.G.L. Metal Components for Aircraft

Tanks, Exhausts, Fins, Rudders Empennages, Spar Boxes Sockets, Wiring Plates & Levers

The Birmingham Guild Ltd. Great Charles St., Birmingham



and 235, Upper Thames Street, London, E.C. 4.

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.

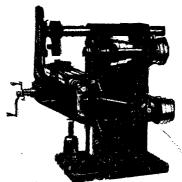
CREEN ST. WORKS,

TELEPHONE PADDINCTON CREEN, 6340—1 Padd. LONDON, W.2.

ESTABLISHED 1851.

## THE FORD-SMITH PLAIN MILLING MACHINE.

For Heavy Duty Milling.



**DELIVERY--**

No. 2 Size FROM SHIPMENT NOW EN ROUTE

No. 3 , EX-STOCK AT WORKS.

SOLE IMPORTER-

#### W. EDWARD STOREY,

M.I.MECH.E.,

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

## 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.,
Telephone 494 ASHTON.
Telegrams "Kenyon, Dekinfield." DUKINFIELD, CHESHIRE.

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

#### BURT BROTHERS, TELEGRAMS: "STEWPAN."

BIRMINGHAM.

(0

ESTABLISHED 150 YEARS.

Manufacturers of Every Description of

#### NON-FERROUS SHEET METAL WORK.

FLOATS.

FIRE-CONTROL CEAR.

CLIPS.

VENTILATORS.

HOODS, ETC.

Stampings, Drawings to 24in. diam. × 12in. deep, Spinnings to 50in. diam.

#### BRITISH ROLLING MILLS, Ltd.,

Cliveland Street. BIRMINGHAM.

Telephone: Central 1869, 1870 P.B. Ex.

Telegrams: "Octagon."

BRIGHT ROLLED STEEL FOR AEROPLANE PARTS COLD IN STRIPS, COILS, AND SHEETS.

SPECIAL QUALITY STEEL FOR DEEP STAMPING AND DRAWING.

#### Aeroplane Steel Sheets and High Grade Steels

TO THE ADMIRALTY AIR DEPARTMENT AND ROYAL AIRCRAFT FACTORY - SPECIFICATIONS. -

Sheets in Stock Passed and Stamped by the Royal Naval Air Service, and Aeronautical Inspection Department.

#### NICKLIN BERNARD

Iron and Steel Warehouse.

Telegraphic Address: "Bernico, Birmingham."

Telephone No.: SMETHWICK 224.

SMETHWICK, BIRMINGHAM.

### THOMAS HILLS MOTOR FITTINGS CO.

SPECIALISTS IN

#### AIRCRAFT SHEET METAL WORK

COWLING.

TANKS.

WELDING, ETC.

PREMIER WORKS, Temple Street, WOLVERHAMPTON.

## 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.

### To AIRCRAFT MANUFACTURERS

All Component Parts for Sea and Land Planes, with unique Wood-working plant, having large stocks of Timber and command of finest grade Silver Spruce, would be willing to undertake anything calculated to help designers, suppliers and builders of Aircraft Machines.

#### JOSEPH EVANS & CO., LIMITED,

LIVERPOOL STREET MILLS, BIRMINGHAM.

#### Telephone - 2881 & 3984. THE BLACK SEA TIMBER CO. Telegrams+"Threeply, Huil." Proprietor-James Hurwite, Russia PLYWOOD MANUFACTURERS AND IMPORTERS. NEAR PARAGON HULL. COLLIER ST., All prices are quoted per 100 Sq. Ft. nett, Cash against Transfer, and are subject to alteration by us according to market fluctuations. 3-PLYWOOD SPECIFICATION. LONDON. Ex 3 m/m BIRCH, 1st Q at 85/-1 Package of 30 Boards 25 " 30 " 4 m/m ALDER, 1st Quality, at 95/-27 Packages of 20 Boards, 60 x 46 3 Boards ... 58 x 31 1st Quality, 58 x 30 .. ... . . . $50 \times 50$ 10 56 x ≥6 ••• . . . ... 20 56 x 30 60 x 45 $50 \times 50$ • • • ٠, . . . 11 20 17 60 x 44 8 ••• $54 \times 36$ 11 30 $48 \times 48$ ,, •• ,, 6 20 60 x 12 52 x 31 6 30 ... ••• ... 45 x 45 ... 48 x 36 20 4 m/m ALDER, 2nd Quality, at 85/-39 Packages of 20 Boards 48 x 48 • • • ,, ,, ... 5 m/m BIRCH, 1st at 120/-40 20 20 59 x 45 1st Quality, ,, 59 x 44 3 2 48 x 48 59 x 43 ... 72 x 34 216 Boards ... 20 61 x 38 51 x 39 ... 20 30 $2\overline{3}$ 58 x 43 ... 66 x 34 20 ,, 5 14 41 x 32 72 x 32 ... 72 x 32 ,, 20 $\frac{95}{25}$ 11 x 32 ., . . 4 ", " " " " 72 x 30 6 m/m BIRCH, 1st Quality, at 130/-123 Boards " " 60 x 36 ·)() 10 $51 \times 51$ 25 44 x 31 4 m/m BIRCH, 2nd Quality, at 95/-25 25 25 14 x 30 43 x 29 ,, ,, 7 Packages of 25 Boards 6 ... 25 ... ,, ,, $50 \times 50$ 13 x ,, ,, 4 m/m ALDER, 2nd Quality, at 85/12 Packages of 20 Boards 61 x 45 $48 \times 48$ $\frac{55}{25}$ 42 x 95 42 x 29 40 x 39 3 m/m ALDER, 1st Quality, ,, ,, 18 at 85/-4 Packages of 35 Boards ï 30 4 m/m BIRCH, 1st at 100/-45 x 40 47 x 38 1st Quality, ,, ,, 12 20 58 x 46 •• 47 x 36 ,, ٠, 6 $48 \times 48$ 15 25 60 x 36 $47 \times 10$ 314 Boards ,, ... 20 17 60 x 31 $52 \times 45$ ••• . . . . . 3 m/m ALDER, 2nd Quality, at 75/-3 m/m ALDER, 2nd Quality, at 75/-13 Packages of 35 Boards 48 x 38 60 x 32 ••• ... 60 x 30 31 Packages of 25 Boards 444 x 364 3î 48 x 38 $58 \times 36$ ... EX GLOUCESTER. 3 m/m BIRCH, 2nd Quality, at 80/-47 Bundles of 30 Boards 50 x 50 68 " 30 " 45 x 45 $4~\mathrm{m/m}$ BIRCH, 2nd Quality, 3 m/m BIRCH, 2nd Quality, at 80/at 95/-93 Packages of 30 Boards 48 x 48 45 x 45 35 Packages of 25 Boards 48 x 48 ,, \*\* 45 x 45 24 30 45 x 45 ,, ].; $\frac{25}{25}$ $45 \times 45$ ,, $50 \times 50$ 4 m/m BIRCH, 2nd Quality, at 95/-50 25 37 $48 \times 48$ 3 $\mathrm{m/m}$ BIRCH, 2nd Quality, at 80/-25 Boards 50 x 50 25 , 48 x 48 2.5 $45 \times 45$ 183 Bundles of $48 \times 48$ 37 ,, 115 Packages of 30 Boards 50 x 50 25 45 x 45 $48 \times 48$ Ex HULL. ... 57 x 44 ... 61 x 42 ... 60 x 42 7 m/m BIRCH,1st Quality, at 135/-9 Boards ... ... 4 m/m BIRCH, 1st Quality, 137 ,, ... at 100,-86 1 Package of 16 Boards 59 x 46 ... 8 Boards $60 \times 49$ 3 m/m BIRCH, 2nd Quality, at 80/-4 m/m BIRCH, 2nd Quality, at 95/-1047 60 x 48/49 ٠, ... 36 $60 \times 18$ ,. ... • • • 88 Boards ... 60 x 42 ... ... 6 Packages of 25 Boards 6 $59 \times 47$ • • • 48 x 48 ,, 60 59 x 47 60 x 48 48 x 48 50 x 50 ٠, 1 ... 59 x 45 ...57/58 x 44 16 30 158 ... 60 x 48 ... ••• 15 25 ... ,, 420 ٠, ... 4 m/m BIRCH, 2nd Quality, at 95/-3 m/m BIRCH, 1st Quality, at 85/-3 m/m ALDER, 1st Quality, at 85 -... 60 x 48/49 39 Boards ... 115 Boards ... 60 x 41 60 x 48 60 x 40 61 x 41 61 x 42 82 Boards ••• ••• ••• ,, ... . . . . . ... 48½ x 38½ 1987 24 ••• ... ••• ... ... ••• 2255 59 x 47 60 x 49 ... • • • ... 687 $4\hat{8}$ 5 m/m BIRCH, 1st Quality, 60 x 48 60 x 42 ... 58 x 48 ... ••• ••• ... 3 m/m BIRCH, 1s at 85/-... . . . at 120/-1st Quality, 75 ••• ••• ... 9 Boards... 373 61 x 49 • • • ••• 6 Packages of 30 Boards ,, 50 x 50 100 ,, ... ••• $60 \times 48/49$ 1 $61 \times 40$ ••• • • • 48 x 48 $58 \times 47$ " ... ••• ... . . . m/m ALDER, 1st Quality, at 95/-60 x 41 53 50 59 x ,, ... . . . ... ... 59 x 48 $59 \times 45$ 425 Boards 60 x 52 ... ... ••• ... 3 $\mathrm{m/m}$ ALDER, 2nd/Quality, at 75 -28 58 8 60 x 46 ••• х ... ... ,, ... ... 47 58 x 47 60 x 40 58 x 45 58 x 44 ... ---••• ... ••• ••• 53 x 48 1 Package of 37 Boards 553 x 383 ,, ... 52 x 45 510 ••• ... • • • **HARDWOOD** SPECIFICATION. MEDIUM NICARAGUAN MAHOGANY BOARDS. Ex HULL 290 Pieces 1 inch. Prices on application. SELECTED MAHOGANY BOARDS. 1 Piece 1 x 12½ x 20 1 ,, 1 x 16 x 14 1 Piece 1 x 7 x 14 1 , 1 x 6 x 11 1 Piece 1 x 4½ x 12 1 ,, 1 x 11½ x 13 Prices on application.

#### PUBLICATIONS OF THE SOCIETY.

EDITED BY W. BARNARD FARADAY, LL.B.

## THE AERONAUTICAL SOCIETY ANNUAL REPORTS, 1866-93.

| 1866 | 1st Annual  | Report              |           |         | Out of Print |
|------|-------------|---------------------|-----------|---------|--------------|
| 1867 | 2nd ,,      | ,,                  |           |         | ,,           |
| 1868 | 3rd ,,      | ,,                  |           |         | 10/-         |
| 1869 | 4th ,,      | ,,                  |           |         | 10/-         |
| 1870 | 5th ,,      | ,,                  |           |         | 10/-         |
| 1871 | 6th ,,      | "                   |           |         | 10/-         |
| 1872 | 7+1, "      |                     |           |         | 10'-         |
| 1873 | 8th         | "                   |           |         | 10/-         |
| 1871 | Orb. "      | ,,                  |           |         | Out of Print |
| 1875 | 10:15       | ,,                  |           |         | 7/6          |
| 1876 | 11435       | "                   | •••       |         | 7/6          |
| 1877 | 19.15       | ,,                  |           | •••     | Out of Print |
| 1878 | 1345 "      | "                   | •••       |         | 7/6          |
| 1879 | 1.14%       | ,,                  | •••       |         | 7/6          |
|      | 1505        | ,,                  |           | • • •   | 7/6          |
| 1880 |             | **                  | • • • •   | • • • • |              |
| 1881 | 16th "      | ,,                  |           | • • • • | 7/6          |
| 1882 | 17th ,,     | . "                 | 4. :::    |         | 7/6          |
| 1883 | 18th   Anny |                     | ts m o    | ne į    | Out of       |
| 1884 |             | ume                 |           | )       | Print        |
| 1885 | 20th   Anny |                     | ts in o   | ne į    | 7/6          |
| 1886 | -21st∫ vol  | ume                 |           | }       | 7/0          |
| 1887 | 1           |                     |           | )       |              |
| 1888 | 22nd Repo   | rt in one           | volume    | ١, (    | 7. 6         |
| 1889 | ( Lina Nepa | 16 111 (/11)        | · Critine | ´ (     | 7.0          |
| 1890 | ,           |                     |           | ,       |              |
| 1891 | )           |                     |           | )       |              |
| 1892 | 23rd Repo   | rt in on <b>e</b> ' | volume    | , (     | 7/6          |
| 1893 | )           |                     |           | )       |              |
|      |             |                     |           |         |              |

The Basis of Modern Aëronautical Science.



The "Aeronautical Journal," the Official Organ of this Society, is the premier scientific periodical dealing with Aeronautics.

It was founded in 1897 and has appeared since, quarterly.

Henceforward the Journal will be published monthly on the 21st of each month.

Price 2/6 per issue, 2/9 post free. Annual Subscription, 30/-Back Numbers can still be obtained

at the offices of the Society.

#### THE AERONAUTICAL CLASSICS, 1910-11.

- No. I. AERIAL NAVIGATION. By SIR GEORGE CAYLEY, Bart (1809). (With Portrait and Biography).
- No. 2. AERIAL LOCOMOTION. By F. H. WENHAM (1866). (With Portrait and Biography).
- No. 3. THE ART OF FLYING. By Thomas Walker (1810). (With Foreword).
- No. 4. THE AERIAL SHIP. By Francesco. Ana (1670). (With Portrait and Biography).
- No. 5. GLIDING. By Percy S. Pilcher (1897), to which is added the Aëronautical Work of John . Stringfellow (b. 1799) (With Portraits and Memoir).
- No. 6. THE FLIGHT OF BIRDS. By G. A. BORBLLI (1680). (The First English Translation, especially made for this series).

Price Is. net each volume; or the Series of Six, bound in one volume of 310 pp. 7s. 6d. net.

"The Series of Classics . . . . are not only extremely interesting, but are of the highest value as enabling the reader to see the history of Aeronautics in true perspective. . . . Full of all the romance of great adventure."—The Field.

#### AERONAUTICAL REPRINTS.

- No. 1. STEELS USED IN AERO WORK. By W. H. HATFIELD, D.S.O., A.F.Ae.S., of the Brown-Firth Laboratory. Price 5s.
- No. 2. METHODS OF MEASURING AIRCRAFT PERFORMANCES. By Captain H. T. S. Tizard, R.F.C., A.F.Ae.S. Price 1s. 6d.
- No. 3. THE SCREW PROPELLER IN AIR. By M. A. S. RIACH, A.F.Ae.S. Price 2s. 6d.
- No. 4. THE AEROPLANE HIGH TENSION MAGNETO. By A. P. Young, A.M.I.E.E. Price 5s.

THE AERONAUTICAL SOCIETY OF GREAT BRITAIN, 7, ALBEMARLE STREET, LONDON, W.1.

#### THE SIBERIAN & CENERAL TRADING COMPANY

Limited,

1 & 3, Leonard Street, City Road, LONDON, E.C.2.

# PLYWOOD

... IN ALL ...

## Thicknesses and Qualities.

TELEGRAPH: "WOLOSEY," FINSQUARE, LONDON.

TELEPHONE: LONDON WALL 3577.

THE SIBERIAN & GENERAL TRADING COMPANY, Ltd.,

1 & 3, LEONARD STREET, CITY ROAD, LONDON, E.C.2.

## IMPERIAL LIGHT Ltd.

Oxy-Acetylene Welding Engineers,

123, Victoria St., London, S.W. 1.

TELEPHONE: 3540 VICTORIA (3 LINES).

TELEGRAMS:
"EDIBRAC, PHONE, LONDON."

## SUNFLOWER



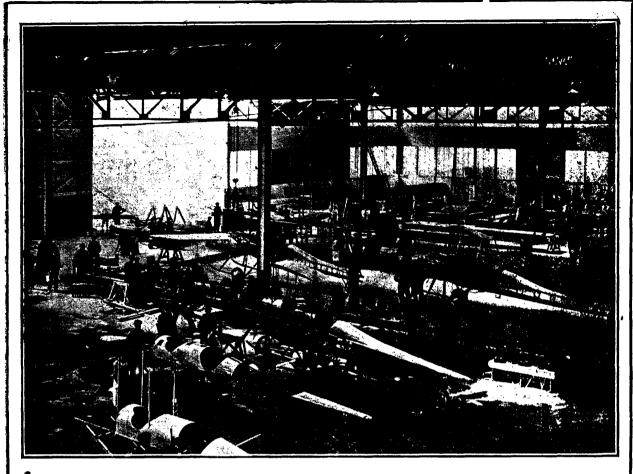
## FLUX

**FOR** 

# ALUMINIUM WELDING.

SC CONTO

WRITE FOR A SAMPLE.



VIEW IN ERECTING SHOP.

## Wm. BEARDMORE & Co., Ltd., NAVAL CONSTRUCTION WORKS, DALMUIR.

CONTRACTORS FOR ALL CLASSES

:: :: OF AIRCRAFT. :: ::

### C. G. SPENCER &



56a, Highbury Grove, London, N.

Telegrams: "AERONAUT, LONDON."

Telephone: DALSTON 1893

BALLOONS, AIRSHIPS, AEROPLANES,

Fabric, Propellers, Aeronautica and

Apparatus of every description

Price List of Passenger Balloons, Captive Advertising Balloons, Gold Beaters Skin Balloons (from 1/- each), Paper Fire Balloons (from 4d. each), and India Rubber Balloons (from 2/- per gross), One Stamp.

SPENCER BROTHERS,

Aeronauts to the Crystal Palace for Balloon Ascents,
Parachute Descents, Airship Flights,

45b, ABERDEEN PARK, HIGHBURY, LONDON, N. 5.

CONTRACTORS TO THE ADMIRALTY.

## SHORT BROTHERS,

**AEROPLANE** WORKS ROCHESTER, KENT,

FLYING **GROUNDS** EASTCHURCH, ISLE of SHEPPEY.

Telephones:-

9, EASTCHURCH.

627, Снатнам.

378, REGENT (London Office).

Telegraphic Addresses:-

"FLIGHT," EASTCHURCH.

"SEAPLANES," ROCHESTER.

"TESTED, PHONE," LONDON.