

Every Boy's IDEAL Airplane

Patented April 11, 1922

THE newest development in Model Aeroplane making and a decided advance over anything so far produced. A fabricated Model Airplane; every part made to fit correctly and lock together without use of nails, wire or wood glue.

Any boy; or girl either; can build and fly "EveryBoy's" Airplane. It's so easy to make that all boys can now have a flying Model Airplane without spending hours in tedious work to make it.

"EveryBoy's" Airplane is guaranteed to rise from the ground and fly in the air. Simple directions show every step in putting it together. Read the full description on page 13 and order yours now.



IDEAL Model Aeroplanes and Supplies

1925



IDEAL AEROPLANE & SUPPLY CO.

165-167 Spring Street

Corner of West Broadway

NEW YORK CITY

[C]OPYRIGHT, 1924, BY IDEAL AEROPLANE AND SUPPLY CO., INC. NEW YORK

DIRECTIONS FOR ORDERING

To insure prompt delivery and avoid unnecessary correspondence
READ and CAREFULLY FOLLOW directions on this page.

All Previous Prices are withdrawn with this issue, and present quotations are subject to advance when the cost of raw material necessitates.

OUR TERMS: CASH WITH ORDER. Transportation payable by purchaser and to be included in remittance.

REMITTANCES should be made by N. Y. Draft, Express or Post Office Money Order or Registered letter. Do not send money unregistered by regular mail. Out of town checks subject to a collection charge of 10c.

U. S. STAMPS (unused and in good condition) accepted instead of cash in amounts up to 50c. Canadian coin or stamps will not be accepted.

GOODS BY MAIL: We are not responsible for goods lost in the mail. For your own protection order mail goods insured.

INSURANCE FEE:—5c. FOR EACH \$5.00 VALUE.
(Wherever a specified mailing charge appears in catalog, the same includes packing as well as postage.)

ORDERS of \$1.00 OR BELOW, are subject to a **SERVICE CHARGE** of 10c. to cover the additional cost of handling these orders, EXCLUSIVE of packing and transportation.

FOR PACKING WOOD up to 3 ft. lengths. add 15c. additional.
" " " over 3 " " 50c. "

WOOD, METAL ROD, or TUBING, if ordered in longer than $1\frac{1}{2}$ foot lengths, must be sent by EXPRESS COLLECT.

Add the specified mailing charges to your remittance or order or shipment by EXPRESS COLLECT.

Add 25c. to all Canadian shipments, and to U. S. possessions.

Add 50c. for all foreign shipments.

These rules will be strictly enforced, and all orders reaching us in non-compliance will have to be returned at your expense.

ALL ORDERS RECEIVED IN FIRST MORNING MAIL SHIPPED WITHIN THREE DAYS, except goods made to order. When we cannot ship, we will write at once. If our customers do not get prompt delivery of their order, or response from us, it is proof that the same must have gone astray.

Address all inquiries to the INFORMATION BUREAU on a separate sheet. Enclose self addressed stamped envelope to receive proper attention.

We do not appoint any special agents. "Ideal" Aeroplanes and Flying Toys are sold by a number of department stores, toy and sporting goods dealers.

MAIL ORDERS for Supplies originating in Greater New York must be called for.

For Index of Contents, see page 48.

Model Aeroplane Supplies are NOT sold through dealers

A Personal Word About Ideal Model Aeroplanes—

AERONAUTICS—the Science of Flying—presents to young men to-day, opportunity to become great men to-morrow. Everyone with the least inclination in this direction should grasp this opportunity and begin this fascinating study.

IDEAL Instruction Drawings and Model Aeroplanes furnish an excellent start, and will save the experimenter much time and trouble. They furnish interesting, educational and inspiring pastime and will develop a true knowledge of the principles of Aeronautics. The satisfaction which follows the completion of an Aeroplane;—the thrill which comes, when the Model rises into the air and soars away, is one that will never be forgotten. Such experience is the finest inspiration for the later accomplishment of larger and better things along the same line.

You can build an "IDEAL" Model Aeroplane and in building and flying it, secure knowledge that will help you design and construct larger and more intricate flying machines, perhaps invent an entirely new one that will make you famous. But start right. Reap the benefit of our experience. Build an "IDEAL" Aeroplane; the simplest, easiest and most economical way to start.

"IDEAL" Aeroplanes are made in two principal types as follows:

REPRODUCTION MODELS

These are practically exact duplicates, scaled down from actual size, of the best-known types of man-carrying Airplanes. Even the control surfaces can be operated for flight. In fact these "Planes" embody every essential

feature of the large Aeroplanes of which they are models and are constructed in much the same manner, with the same parts and materials, only in miniature. Each type of Model Aeroplane is an authoritative copy of its original and when you select the particular Model Aeroplane you are going to build, you can be sure it will be a true Model of the real machine, and not a more or less inaccurate machine resembling the original in name only. Our Aeronautical Engineer, Mr. Montague Palmer, served the Aircraft Bureau of the United States Government during the War in designing and constructing the Aeroplanes used in the Army. His practical knowledge is authoritative and the "IDEAL" Models which are made under his direction are equally authentic and are not the result of guesswork.

In this issue of our catalog, we offer an entirely new Reproduction Model, THE SIX FOOT CURTISS TRAINING PLANE (JN4D-2). It is a faithful copy of the famous "ship", on which all American Aces trained, and has some interesting new construction features.

All "IDEAL" Scale Reduction Models are furnished in sealed Construction Outfits. Each Outfit contains all material necessary to build the Aeroplane, including perfect Scale Drawings and full directions, and are so simplified that any boy with the slightest mechanical ability can construct a miniature of a real Aeroplane that will rise from the ground or water by its own power and fly in the air. Furthermore, in building the Model, he will learn more about Aeroplanes than he could learn by reading any number of books.

On page 13, we present a modified form of Reproduction Model made on an entirely new and different principle. Making this machine eliminates all the time-taking work. It is called "EveryBoy's" Airplane because every boy can make one in one-tenth the time usually required to build the regular Models. Read the detailed description on page 13.

RACER MODELS

These are distinctly speed machines. They are not patterned after any type of large Aeroplane, though they fly on the same principle. Being built light, many features of the Scale Reduction Models purposely being omitted, they are capable of greater speed and longer and higher flights. The Cecil Peoli (See page 14) has been made to

fly 2,500 feet, almost half a mile. These Racing Models furnish splendid and exciting sport and also permit close study of wing forms, propellers and other features. In addition to the Cecil Peoli there is the "IDEAL" 3-foot Racer, which, while less elaborate, makes splendid flights. There is also the new IDEAL-O-PLANE Family, ranging in size from one to four feet. All IDEAL-O-PLANES excepting the 4 footers are sold complete, ready to fly. The Cecil Peoli and the "Ideal" 3-foot Racer are also sold in "knock-down" form, ready to assemble quickly.

"IDEAL" Model Aeroplanes are all propelled by their own power. Strands of the finest grade "live" Para rubber of various weights and sizes for the different models are furnished with each. This rubber is wound up by twisting. In the Racer Models, this is done with a Patented Winder included with each outfit. Our extensive experiments have demonstrated beyond all doubt the absolute superiority of this method of securing power. It is the safe, reliable and inexpensive method. All our Aeroplanes are guaranteed to fly with the power furnished with each.

It is continual striving for the best that has made "IDEAL" Model Aeroplanes and their Supplies superior in every particular. We guarantee everything to be exactly as represented, and you may have perfect confidence that any goods supplied by our Dealers or ourselves will prove satisfactory to you. The testimonial letters reproduced on page 47 are the best evidence of the satisfaction which Amateur Aviators secure thru the use of "IDEAL" Model Aeroplanes and Supplies.

More stores are becoming interested in "Ideal" Model Aeroplanes all the time, and are selling them. Ask your Toy or Sporting Goods store, or the Toy department of your department store, to get "IDEAL" goods for you.

Bank Reference: Chase National Bank, New York, N. Y.
Prince St. Branch

Also Dun's and Bradstreet's Mercantile Agencies.

IDEAL AEROPLANE & SUPPLY CO., Inc.

Established 1911.

NEW YORK, N. Y.

NO OUTDOOR SPORT MORE FASCINATING

"IDEAL" SCALE DRAWINGS

With Full Building and Flying Instructions

"IDEAL" Scale Drawings, with which are included complete Instructions for Building and Flying, are the secret of successful Model Building. They make Model Building easy; visualize the work, and show where and how every piece and part must go. They are superior to any others on the market, and are absolutely correct and accurate in every detail.

They are purposely made as simple as possible; yet wonderfully complete; and can be understood by any bright boy. Full printed Instructions are included with the Scale Drawings. They are furnished with each of the "IDEAL" Model Aeroplane Construction Outfits listed in this catalog.

	Scale	Price Postpaid
NAVAL CURTISS, 4 $\frac{1}{2}$ foot Model SEAPLANE (N C-4).....	Half Size	\$.25
DE HAVILLAND, 3 foot Model BATTLEPLANE (De H-4).....	"	.25
CURTISS, 3 foot Model TRAINING PLANE (JN4D-2).....	"	.25
CURTISS, 3 foot Model MILITARY TRACTOR.....	"	.25
BLERIOT, 3 foot Model MONOPLANE.....	"	.25
NIEUPORT, 3 foot Model MONOPLANE.....	"	.25
TAUBE, 3 foot Model MONOPLANE.....	"	.25
CECIL PEOLI, 3 foot Model CHAMPION RACER.....	"	.25

Set of Eight Drawings..... \$1.60 Postpaid

BLUE PRINTS

FULL SIZE Blue Prints, for either DE HAVILLAND, JN4D-2, BLERIOT, NIEUPORT, TAUBE, CURTISS MILITARY TRACTOR, 3 foot Models Postpaid each \$2.00

FULL SIZE Blue Print, 43x67 inches, for 4 $\frac{1}{2}$ foot Model N C-4 .. Postpaid \$3.00

HALF SIZE Blue Print for either CURTISS JN4D-2, CURTISS MILITARY TRACTOR or NIEUPORT 6 foot Models Postpaid, each \$3.00

"IDEAL" FORMING AND ASSEMBLING LAYOUTS

The difficult part of Model Building is shaping, or forming the wood and reed parts, and putting them together, or assembling them accurately. This has been made easy by the greatest recent improvement in Model Aeroplane making—the "IDEAL" Forming and Assembling Layout. This is a specially designed diagram over which the wood and reed is bent to the proper shape, with positive accuracy and no danger of breaking.

The Layouts are FULL SIZE and show the particular curve of each of the important parts. They need only be followed carefully to assure success. The Layouts also simplify assembling, as they contain full size diagrams of the various steps in the work.

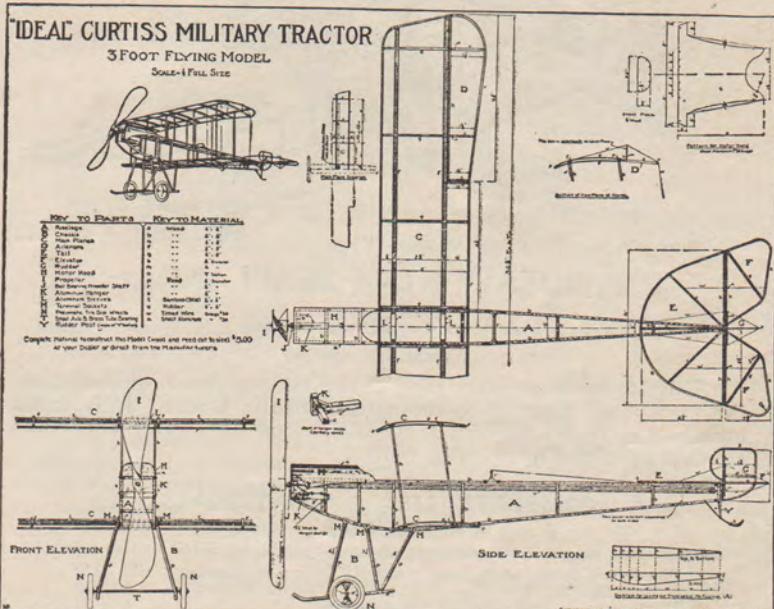
Forming and Assembling Layouts are also sold separately at 35c each, postpaid for the following Models: DE HAVILLAND, CURTISS MILITARY TRACTOR, BLERIOT, TAUBE and NIEUPORT Monoplanes, CURTISS TRAINING PLANE and N C 4 SEA PLANE.

When a Scale Drawing and a Forming and Assembling Layout are ordered at the same time for the same Model, both will be supplied at the combined price of the two LESS 10c.

THAN RACING WITH "IDEAL" AEROPLANES

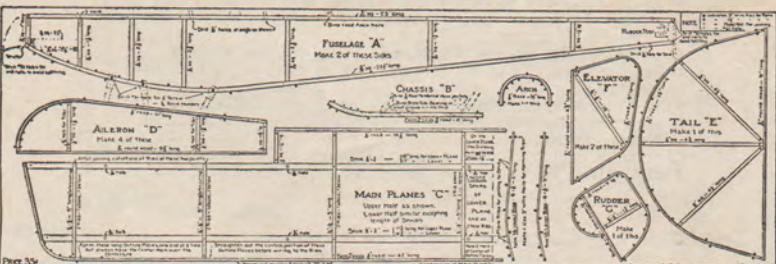
IDEAL SCALE DRAWINGS

THE SAFE GUIDE FOR MODEL BUILDERS



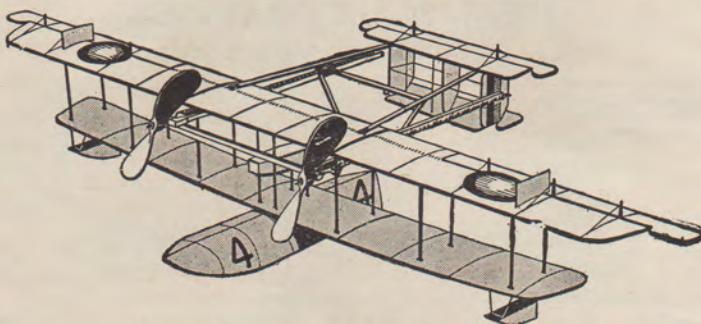
This is a greatly reduced reproduction of the Scale Drawing for the Curtiss Military Tractor.

IDEAL FULL SIZE FORMING & ASSEMBLING LAYOUT



This is a greatly reduced reproduction of the "IDEAL" Forming and Assembling Layout furnished with the Curtiss Military Tractor Construction Outfit.

"IDEAL" SCALE MODEL AEROPLANES



"IDEAL" NC-4 SEAPLANE

A 4½ Foot Flying Model

(Weight, 14½ ounces)

This Model is an exact copy of the famous American Seaplane, the first of all Aircraft to cross the Atlantic Ocean. It is easily built and is GUARANTEED TO RISE from the water and make a beautiful flight by its own power.

COMPLETE LIST OF MATERIALS

In Knocked Down Form

When ordering single items, delivery charges should be added to list price.

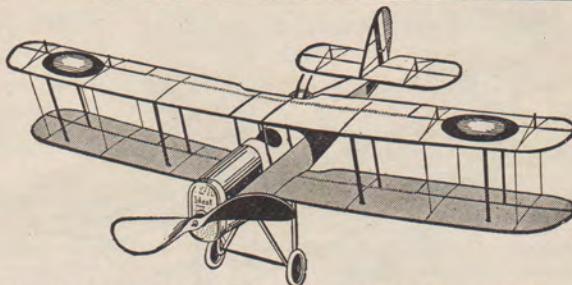
Wood and Reed, cut to proper size, including stamped-out ribs	\$2.50
2 Ball Bearing Propeller Shafts No. 1, hooks formed .....	.30
2 Aluminum Propeller Hangers No. 1 .....	.36
2 HAND CARVED WOODEN PROPELLERS, 10 in.....	2.00
4 oz. can Bamboo Varnish .....	.60
5 sheets Bamboo Paper No. 2 .....	.75
Small Can Ambroid .....	.15
1 pair Rubber Motors .....	.90
1 Set of six Aluminum Braces, 8 Aluminum Sleeves, $\frac{1}{8}$ x $\frac{3}{4}$ (4 regular, 4 bent), one pair Aluminum Masts and 2 Propeller Stops .....	.78
1 envelope with 3 Terminal Fittings No. 3, 1 Terminal Fitting No. 5, 2 Rear Rubber Hooks with Nuts, 4 Strap Fittings No. 1 .....	.78
1 pc. Sheet Aluminum No. 34, 4-in. x $\frac{6}{8}$ -in., for Nacelle.....	.10
1 envelope with 48 $\frac{1}{8}$ -in. Screws, 2 $\frac{3}{8}$ -in. Screws, & 2 washers .....	.25
1 small Spool Wire and 1 pkg. Nails .....	.14
1 set of tools, comprising screw-driver and drills.....	.30
1 American Insignia Sheet in colors .....	.10
4 Numerals No. 4 .....	.05
Concise Working Drawing and Building Instructions.....	.25
FULL SIZE Forming and Assembling LAYOUT .....	.35
	\$11.66

Special Price, Complete, ready to assemble..... \$10.00

50c. extra for Pacific Coast States

At IDEAL Dealers in your city or state, or direct from us, postpaid, where we have no such Dealer.

ARE ABSOLUTELY GUARANTEED TO FLY



"IDEAL" DE HAVILLAND BATTLE PLANE

A Three Foot Flying Model of the Famous De H-4
(Weight, 10½ ounces)

An exact scale Model, 1/14 full size, of the Famous Liberty Motored Airplane that fought the battles in the World War and which now carries Uncle Sam's Mail. This is an exclusive "IDEAL" Model, has a miniature stamped aluminum radiator, aluminum and veneer engine and cockpit cowlings, veneer fuselage covering, colored insignias, aluminum disc wheels, stamped-out Ribs, ball bearing propeller shaft and other "IDEAL" fittings.

The miniature gun outfit from which miniature airplane guns and mount can be made and mounted over the rear cockpit, gives the Model a real "ready to fight" appearance.

Guaranteed to rise from the ground BY ITS OWN POWER and FLY. Build this Model DE HAVILAND and have the very latest land and mail 'plane—the round the world flyer.

COMPLETE LIST OF MATERIALS

In Knocked Down Form.

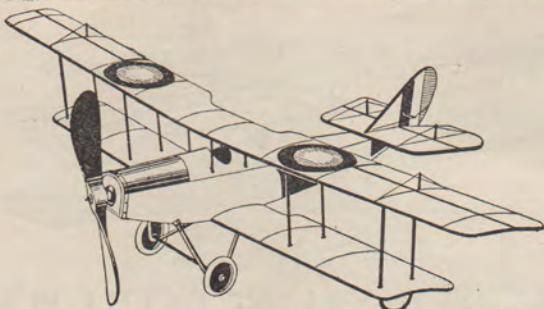
When ordering single items, delivery charges should be added to list price

Wood and Reed, cut to proper size (144 pieces), including stamped-out Ribs, formed Center Spars, Rudder Post and Tail Skid	\$2.25
Material and directions for Miniature Airplane guns.....	.35
Ball Bearing Propeller Shaft, No. 1, Hook formed.....	.65
Aluminum Propeller Hanger, No. 1 .....	.18
HAND-CARVED WOODEN PROPELLER, 12 in.....	1.10
1 Set pure Para Rubber for DE HAVILLAND .....	.55
2 oz. Can Bamboo Varnish and 2 Sheets Bamboo Paper No. 2 .....	.65
2 "IDEAL" Stream Line Rubber Tired Disc Wheels, 2 in....	.90
Special Threaded 6 in. Axle with Nuts and Brass Tube B'ing .....	.25
8 Aluminum Sleeves $\frac{1}{8}$ x $\frac{3}{4}$, 4-Terminal Fittings No. 2.....	.72
Small spool Wire No. 34, 2 Doz. $\frac{3}{8}$ in. screws, 1 pkg. Nails..	.26
2 pcs. Sheet Aluminum, $3\frac{1}{2}$ x4 and $3\frac{1}{2}$ x $\frac{3}{4}$ .....	.15
2 pcs. Ideal Veneer, 2 ply for fuselage, 3 ply for cowling.....	.25
1 Miniature Radiator .....	.50
1 Set of Tools, comprising screw-driver and drills .....	.30
1 American Aero Insignia Sheet in Colors .....	.10
Concise Working Drawing and Building Instructions.....	.25
FULL SIZE Forming and Assembling LAYOUT .....	.35

Special Price, Complete, ready to assemble..... \$7.50

50c. extra for Pacific Coast States

At IDEAL Dealers in your city or state, or direct from us, postpaid, where we have no such Dealer.



"IDEAL" CURTISS TRAINING PLANE

A Three Foot Flying Model of the Famous JN4D-2

(Weight 8 $\frac{1}{4}$ ounces)

This is an exact Scale Model, 1/14 full size, of the JN type machines, so well known all over the country as to require no introduction. This is the Plane most usually seen in the air.

The last word in Scale Model Construction. Planes are demountable and are built of stamped-out Ribs which insure rapid and uniform construction. The new fuselage nose construction and special nickel-brass hanger combine quick assembly and strength.

Equipment includes a miniature stamped aluminum radiator, aluminum and veneer cowling, colored insignias, aluminum pneumatic-tired disc wheels, ball bearing propeller shaft and other exclusive "IDEAL" fittings. Guaranteed to rise FROM THE GROUND and FLY UNDER ITS OWN POWER.

COMPLETE LIST OF MATERIALS

In Knocked Down Form

When ordering single items, delivery charges should be added to list price
Wood and Reed cut to size (116 pieces), including stamped-

our Ribs, formed Center Spars, Rudder Post, Nose Struts and Tail Skid

HAND CARVED WOODEN PROPELLER, 10" 1.00

2 Stream Line Rubber Tired (pneumatic) Disc Wheels 2"90

Pure Para Rubber for Motive power45

1 Ball Bearing Propeller Shaft No. 1 (Hook formed)65

1 Special Propeller Hanger No. 518

1 Axle with Nuts and Brass Tube Bearing25

1 Miniature JN4D-2 Aluminum Radiator30

3 Sheets Bamboo Paper No. 2 and 4 oz. Can Bamboo Varnish 1.05

8 Aluminum Sleeves, $\frac{1}{8}$ x $\frac{1}{4}$, 4 Terminal Fittings No. 272

2 Pieces Sheet Aluminum 3" x 4" and 1-15/16" x 4 $\frac{1}{2}$ "15

1 Piece 3 Ply veneer 3" x 6 $\frac{1}{2}$ "05

1 Set of Special Tools, comprising Screw-driver and Drills.. .30

1 Spool No. 34 Wire, 2 Doz. $\frac{1}{4}$ " Screws, 1 Pkg. Model Nails.. .26

1 American Aero Insignia Sheet in Colors10

Concise Working Drawing and Building Instructions..... .25

FULL SIZE forming and Assembling LAYOUT..... .35

\$8.96

Special Price Complete, ready to assemble..... \$7.00

50c extra for Pacific Coast States

AT IDEAL Dealers in your city or state, or direct
from us, postpaid where we have no Dealer.

A NEW "IDEAL" SIX-FOOT MODEL OF THE CURTISS TRAINING PLANE JN4D-2

A Scale Model, 1/7 Full Size of this Famous Airplane.
(Weight 2 $\frac{3}{4}$ lbs.)

In response to the demand for a larger model we have finally perfected a 6 foot CURTISS TRAINING PLANE Construction Outfit which is just as complete as our standard 3 foot Outfits. All the wood and reed parts are cut to length and the special wood parts are furnished already formed.

The metal parts are also ready formed and like the wood parts are made proportionately heavier and just as accurate.

Because of the size of the parts, this model is even more easily assembled than our 3 foot size. It makes a wonderfully realistic model and the addition of an aluminum cockpit cowling adds wonderfully to its appearance.

This is an ideal machine for all kinds of Aeronautical experimental work such as the testing out of safety devices, aeronautic stabilizers, etc.

Because of its size it more nearly simulates real Airplane construction and brings home to the builder a better conception of this important work than would the reading of a great many books.

The complete material is listed below but we strongly urge that the entire outfit be purchased to save trouble and money and extra carrying charges.

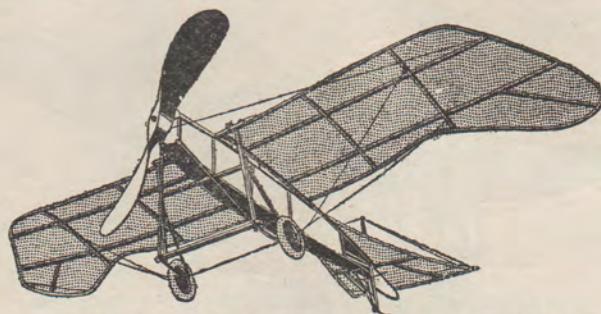
Wood and Reed, cut to size (121 pieces)	\$3.50
34 hand made, one piece Ribs	5.00
2 Nose pieces, 1 Tail Skid, 1 Rudder Post, 4 Center Spars.....	1.25
1-20" Hand Carved Wooden Propeller	5.00
2 4" Pneumatic Tired Disc Wheels.....	2.50
1 skein 3/16" Flat Rubber	3.00
2 8 oz. cans of Bamboo Varnish	2.20
12 sheets Bamboo Paper No. 1.....	1.56
3 pieces No. 34 Aluminum 6in. x 8 in., 4 x 9 in., 6 x 13 in.....	.30
1 Aluminum Radiator	1.00
1 Ball Bearing Propeller Shaft No. 3, with hook.....	1.00
1 Propeller Hanger No. 6.....	1.00
1 $\frac{1}{8}$ " Axle with brass tube re-enforcing.....	.50
12 Aluminum Sleeves 8, 3/16 x $\frac{1}{4}$, 4, $\frac{1}{4}$ x $\frac{1}{4}$	2.40
4 Terminal Brass Fittings No. 4.....	.60
42 Screws, 36, $\frac{3}{4}$ in., 6, $\frac{3}{8}$ in.....	.25
1 large spool of No. 30 ga. Wire, and 1 package Model Nails $\frac{3}{4}$ in. x No. 18.....	.40
1 $\frac{1}{4}$ size Blue Print and "Directions.....	3.00
	\$34.46

Special Price, Complete Entire Outfit of Materials ready to
assemble

F. O. B. New York.

*The directions for the 3 ft. JN4D-2 Model are furnished
with this Outfit, for the reason that the process is similar,
the only difference being in the dimensions and other un-
important details that are correctly shown on the Blue Print.

NO OUTDOOR SPORT MORE FASCINATING



**"IDEAL" TAUBE MONOPLANE
A THREE FOOT FLYING MODEL**

(Weight, 7 ounces)

This model is a PERFECT MINIATURE of the famous German and Austrian Military Machine that played such an important part in early part of the great WAR, and of which so much had been written at that time.

The interesting contour of wings and tail, bear a striking resemblance to a DOVE and give it its name. Capable of withstanding severe shocks, equipped with our new Disc Wheels, and the usual set of refined "Ideal" Fittings, this Model is guaranteed to RISE FROM THE GROUND BY ITS OWN POWER and FLY beautifully.

That the constructor can possibly make no mistake, we furnish all parts ready to use. We have done all the difficult work. You need only put them together.

COMPLETE LIST OF MATERIALS

In Knocked Down Form.

When ordering single items, delivery charges should be added to list price	
Wood and Reed, cut to proper size (68 pieces) including Rear Mast with Rubber Hook attached.....	\$1.15
Ball Bearing Propeller Shaft.....	.60
Aluminum Propeller Hanger, No. 1.....	.18
HAND-CARVED WOODEN PROPELLER, 12 in.....	1.10
1 set of pure Para Rubber for Taube Monoplane.....	.50
1 sheet Bamboo Paper, No. 2, and 2 oz. Can Bamboo Varnish.....	.50
2 "Ideal" Stream-Line Rubber Tired Disc Wheels, 2 in.....	.90
1 envelope with 2 Terminal Fittings, No. 1; 4 small Eyelets, 4 Hooks for Main Planes and 3 Aluminum Sleeves.....	.35
1 envelope with 12 Screws, 12 Screw Eyes.....	.12
Special Steel Axle, Sheet Aluminum and Aluminum Mast.....	.25
Small Spool 32 gauge Wire and Model Making Nails.....	.14
1 set of Tools, comprising, Screw driver and drills.....	.30
Concise Working Drawing and Building Instructions.....	.25
FULL SIZE Forming and Assembling LAYOUT.....	.35
	\$6.69

Special Price, Complete, ready to assemble..... \$5.00

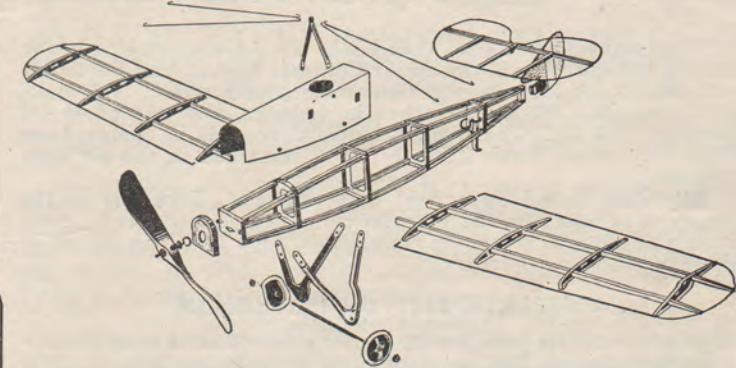
50c extra for Pacific Coast States.

At IDEAL Dealers in your city or state, or direct
from us, postpaid where we have no such Dealer.

THAN RACING WITH "IDEAL" AEROPLANES

Every Boy's
**IDEAL
Airplane**

Patented April 11, 1922



GUARANTEED TO FLY IN THE AIR

A new development in model making that simplifies the work and gets the Airplane into the air in one-tenth the usual time. "Every Boy's" Airplane can be put together quickly without special skill or experience; without nailing, gluing or wiring wood parts.

Our recently invented bulkheads with special locking and spacing device, eliminate all the hard work. No steaming and bending of reed or wood. Just slip the bulkheads into position, lock them and the fuselage is made. The picture above shows how easily all parts are assembled. Nothing to solder, wire or nail. Easily followed directions accompany Airplane—you can't go wrong!

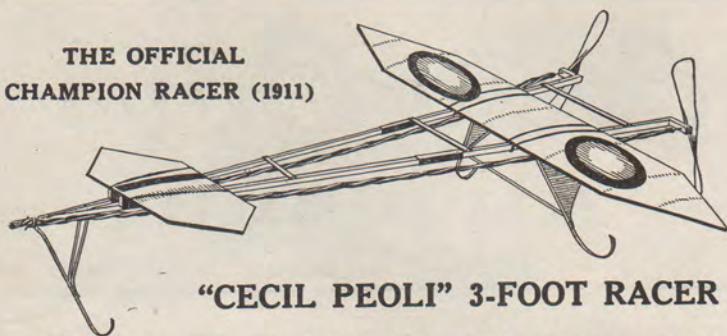
This is a graceful Monoplane type machine; 3½ feet wing spread, strong and sturdy in construction. Weight 10¾ oz. Made largely of Aluminum and will not suffer from shocks incident to trial flights. Equipped with 10 in. carved propeller, pneumatic-tired disc wheels, aluminum engine cowling, aluminum ribs bulkheads and landing gear. Pure para rubber motive power.

"Every Boy's" Airplane complete, ready to assemble..... \$6.00

(50c. extra for Pacific Coast States)

See cover for Photo of completed Model.

"IDEAL" MODEL AEROPLANES AND RACERS



THE OFFICIAL
CHAMPION RACER (1911)

"CECIL PEOLI" 3-FOOT RACER

This is the very model that broke all American records for distance and duration in the air, at Contests held at Van Cortlandt Park, New York City, August 19th and September 16th, 1911, making a flight of 1,691 feet 6 inches in distance, and one of 48 4/5 seconds in the air. These are the official records in competition. Unofficially it has flown 2,500 feet, and remained in the air over a minute.

Everyone should fly one of these models. Take one to the country with you. Its the greatest sport ever experienced. Both young and old will enjoy the remarkable, high and long flights of this remarkable aeroplane.

COMPLETE LIST OF MATERIALS

In Knocked Down Form.

When ordering single items, delivery charges should be added to list price.

Wood (Spruce), Reed and Bamboo, cut to proper size and Formed, the frame pieces beveled and the extension sticks fitted with Aluminum Sleeves (44 pieces).....	\$1.50
1 Sheet Bamboo Paper, No. 1.....	.13
2 oz. can Bamboo Varnish.....	.35
1 pair Combination Rubber Hooks and Propeller Shafts, No. 1	.40
1 PAIR HAND-CARVED "PEOLI" RACING PROPELLERS, 6 1/4 in.	1.60
1 set of Peoli Rubber Motors with skein hooks attached.....	.75
"Ideal" Patent Friction Winder, No. 2.....	.60
Yoke, Escutcheon Pins and Rubber Bands.....	.10
Special Piercing Tool .....	.06
American Aero Insignia Sheet in Colors .....	.10
Detailed Drawing, Building and Flying Instructions.....	.25
	\$5.84

Special Price, Complete, ready to assemble \$4.50

25c Extra for Pacific Coast States.

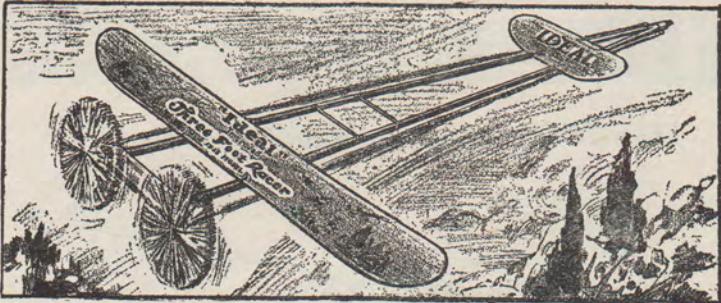
At IDEAL Dealers in your city or state, or direct from us, postpaid where we have no such Dealer.

COMPLETE CONSTRUCTED CECIL PEOLI RACER, guaranteed to fly OVER 800 feet, packed with planes detached, including a Patent Friction Winder, No. 2.
(Weight, 4 oz. \$12.00)
With "Ideal" Gear Winder instead of Friction Winder \$12.50

Express at purchaser's expense.

The facsimile signature of Cecil Peoli appears on each authentic plan and direction sheet.

ARE ABSOLUTELY GUARANTEED TO FLY



"IDEAL" IMPROVED THREE FOOT RACER

The Final Word in "Ideal" Flyers

This Racer is not a flimsy toy; it is an ABSOLUTELY GUARANTEED Three Foot Aeroplane, competition size, that will make records for you.

So wonderfully constructed that it can be put together in less than 15 minutes, ready TO FLY OVER 600 FEET.

Beautiful in appearance, it is substantially made of thoroughly tested material. (See description of outfit.) Rubber bands are not used to hold the Planes to the frame; our new Patented Spring Plane Fasteners are an added advantage.

The Planes and improved Propellers are quickly attached and detached, and Aluminum Sleeves permit the frame to be pulled apart, so that the whole Racer can be carried in a small package. Weight 4 ounces.

This "IDEAL" Improved Three Foot RACER Outfit

Contains the parts listed below, all of which can be duplicated by your dealer or by us at prices given, plus postage.

Complete frame, consisting of 1 "V" frame already shaped with eye hooks and aluminum noseing, 2 extension sticks, fitted with aluminum sleeves, 3 thin pieces spruce, to glue on planes.....	.75
2 Patent Spring Fasteners for Main Plane.....	.15
1 Patent Spring Fastener for Small Plane with Saddle.....	.15
(In outfit these are already attached in position to frame.)	
1 Aluminum Propeller Gear.....	.30
2 Aluminum Rod Braces, drilled, and 1 pkg. 6 1/4 in. Screws.....	.15
1 pair improved 6 in. Fibre Racing Propellers, special pitch, hooks bent, and solid Brass Bearings in place.....	.90
1 set of Rubber Motors, with skein hooks attached.....	.75
1 set Fibre Planes (1 large, 1 small).....	.35
1 No. 2 "Ideal" Patent Friction Winder .....	.60
1 detailed illustrated direction sheet.....	.10

Special Price, Complete, ready to assemble..... \$3.00

25c Extra for Pacific Coast States.

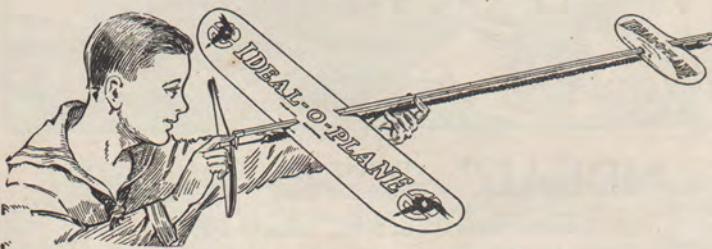
At IDEAL Dealers in your city or state, or direct from us, postpaid where we have no such Dealer.

"IDEAL" MODEL AEROPLANE SUPPLIES

IDEAL-O-PLANE

TRADE MARK REGISTERED

The Newest Idea in Racing Aeroplanes



Patented April 25, 1920

To the boy who wants a Racing Aeroplane that will fly with the best of them; that is ready for the field when he gets it; that is a thoroughly reliable and practical flyer in every feature; and that is so simple in construction that its cost is below that of any other worth-while Aeroplane—we say—get an "IDEAL-O-PLANE"!

The newest development in Racing Aeroplanes. They fly far, fast, and high. Real sport awaits the boy with an IDEAL-O-PLANE. It will equal any Aeroplane made for boys, and outdo most of them in distance, height and speed. Made of best possible materials; red fibre planes, aluminum propeller gear; fibre propellers; pure Para rubber motors.

Made in Two Styles and Many Sizes

Single Propeller Type	Double Propeller Type
No. 18—18 in. long...\$.90 Each	No. 180—18 in. long...\$1.75 Each
" 24—24 " "... 1.25 "	" 240—24 " "... 2.25 "
" 30—30 " "... 1.75 "	" 360—36 " "... 3.75 "

These prices include Packing and Postage

See opposite page for description of IDEAL-O-PLANE No. 480. The Largest Racing Aeroplane ever made.

Each IDEAL-O-PLANE is packed in a handsome box with full directions for flying. They are ready to fly in a couple of minutes.

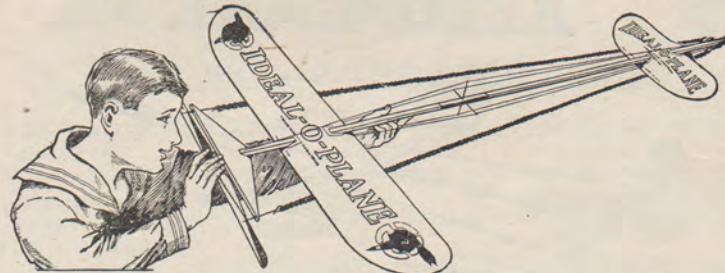
ASK YOUR DEALER FOR AN IDEAL-O-PLANE

ARE THE STANDARD SUPPLIES OF THE U. S.

IDEAL-O-PLANE

TRADE MARK REGISTERED

The Largest Racing Aeroplane Ever Made



No. 480--FOUR FOOT RACER

Patented April 25, 1920

This four foot IDEAL-O-PLANE represents an entirely new idea in Racing Aeroplanes. Its simple construction makes possible a very large flyer at a minimum cost, and the size; 4 foot from tip to tail; will appeal to every boy. This is a tremendously powerful flyer. Its trial flights have been unusually satisfactory, and for the youthful aviator who wants speed and distance, combined with perfect flight, this large "IDEAL-O-PLANE" will be his first choice.

Flights of 1,000 ft. to 1,800 ft. are easily obtained with this flyer at altitude of about 100 ft. It has to be seen in action to be thoroughly appreciated as its flight is a wonderful and inspiring sight.

Strength and ruggedness is another important feature. This method of construction is new and original with us; basic patents covering all the essential features have been granted. Simplicity is its keynote; one stick, two fibre planes, two propellers, one propeller gear, rubber motors, and a winder complete the outfit. It can be put together and launched in three minutes.

Complete IDEAL-O-PLANE No. 480; in box, ready for flight in three minutes \$6.50

At IDEAL Dealers in your city or state, or direct from us, postpaid where we have no such Dealer.

ASK YOUR DEALER FOR AN IDEAL-O-PLANE

See opposite page for full description of other IDEAL-O-PLANES

YOU CAN LEARN THE ART OF AERONAUTICS

BLUE BIRD RACING AEROPLANE



The Famous, Swift Flighted Blue Bird

A handsome, graceful, 22 inch flyer, GUARANTEED TO FLY. Will mount to a height of 100 feet or more and make flights of over 300 feet.

Flexible frame with main plane cut from our indestructible fibre. Designed by a well known engineer to attain automatic stability.

Equipped with rear plane of burnished aluminum and twin propellers running on brass bearings. Only pure para rubber is used for motive power.



Complete outfit is packed in attractive box with our Patent Multiple Winder and our special Foot Gear, by use of which it is possible for one person ALONE to hold and wind the BLUE BIRD at the same time.

So simple to operate that any boy can do it by following the clear instructions. An intensely interesting and instructive Racer, thoroughly practical in every particular.

Price, Complete, securely packed..... \$1.50

Postage extra at three pound rate. Ask your Postmaster.

Save transportation by purchasing from your dealer.

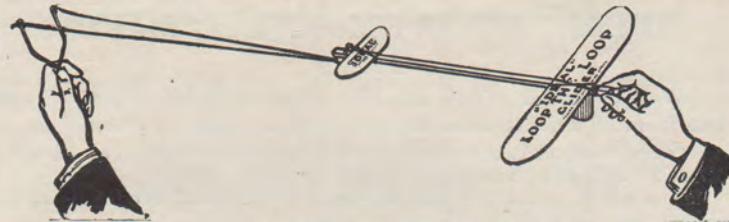
BLUE BIRD PARTS—(For repairs only)

Rubber strands, per set.....	.30c	Propellers, per pair .....	.35c
Main Stick, with noseing.....	.12c	Main Fibre Plane .....	.25c
Rear Aluminum Plane.....	.20c	Brass Plane Holder .....	.15c

Main Stick, with Rear Plane, Noseing and Plane Holder Attached, 50c

Add 10c. extra for packing main sticks and postage at pound rate.

BY CONSTRUCTING "IDEAL" SCALE MODELS



"IDEAL" LOOP THE LOOP GLIDER

This remarkable Aerial Toy is one of the most popular ever conceived.

Its operation is extremely simple, requiring no winding-up. Simply shoot it into the air with a sling furnished and it will soar away like a bird, making a large Loop and gliding gracefully to the ground.

It affords fun for the entire family. It can be operated by a five year old child in whose hands it is absolutely safe. It is very light and travels quite slowly.

Made of durable material it will survive all the knocks it may receive. The wings are made of hard, stiff Fibre or Bass Wood and are held by Patent Spring Fasteners from which they can be readily removed. "Ideal" Loop the Loop Gliders must not be confused with weak card board Gliders which hardly survive the first few flights.

Price, including sling, Fibre Planes..... 30c

Price, including sling, Bass Wood Planes..... 50c

Postage extra at pound rate

PATENTED

ARROW-PLANE

TRADE MARK REG.



These Airplanes will do all the stunts a big airplane will do—loop, come back, fly straight-away, spiral and everything. They are scientifically designed by one of America's greatest model airplane flyers and what's more, we will wager you will have a lot of fun with them. As an advertising novelty, they are used by many large concerns. We have a special proposition for those who can use a hundred or more at one time.

Postpaid for only 11 cents each.

NO OUTDOOR SPORT MORE FASCINATING

"IDEAL" WOOD FOR MODEL MAKING

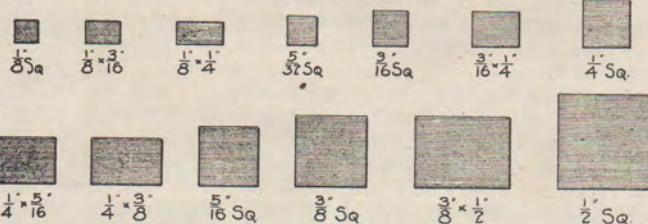
BASS

Well Seasoned Wood, specially selected, straight grained and free from all defects, same as used in all our own Products.

"Ideal" Wood is a thoroughly dependable material for building Models. It is cut true, is rigid and of good quality.

The most useful size for the framing of small Models is $\frac{1}{8}$ in. square and $\frac{1}{8} \times \frac{1}{4}$ in. for the main spars on wings.

The jointing may be done by means of the various articles illustrated in this catalogue, or may be screwed together, fastened with glue or fine brads, or bound together with wire. The pieces are easily fastened together, even by the most inexperienced. A strong and light Model can be built up in this way.



Prices for three foot lengths.

$\frac{1}{8}$ in. sq.....	4 cts. per length	$\frac{1}{4}$ in. sq.....	7 cts. per length
$\frac{3}{16} \times \frac{1}{16}$ in.....	5 " " "	$\frac{1}{4} \times \frac{1}{16}$ in.....	8 " " "
$\frac{1}{8} \times \frac{1}{4}$ in.....	5 " " "	$\frac{1}{4} \times \frac{3}{8}$ in.....	8 " " "
$\frac{5}{16}$ in. sq.....	6 " " "	$\frac{1}{8}$ in. sq.....	10 " " "
$\frac{3}{8}$ in. sq.....	6 " " "	$\frac{3}{8}$ in. sq.....	10 " " "
$\frac{1}{8} \times \frac{1}{4}$ in.....	7 " " "	$\frac{3}{8} \times \frac{1}{2}$ in.....	12 " " "
$\frac{1}{2}$ in. sq.....	15 cts. per length		

NOTE.

We reserve the right to substitute 35 inch lengths, as full three foot lengths are not always obtainable.

Packing Charge, for Wood up to 3 ft., 15c.

Six foot lengths are double the price and are subject to a packing charge of 50c.

When we are ordered to ship wood by mail, it must be cut to 1 1/2 ft. lengths and is so sent at purchaser's risk only.

Postage has to be added at pound rate. Ask your Postmaster.

Lengths over 1 1/2 foot by express only.

LESS THAN 50c. WORTH OF WOOD IS NOT SOLD.

TEE SECTION

This is an excellent section for Model building and one that is commonly used in bridge construction. It combines great lightness with resistance to bending in any direction.

Price per foot.....12 cents; 6 inches.....8 cents.

Either $\frac{1}{8} \times \frac{1}{8}$ in. or $\frac{1}{8} \times \frac{1}{4}$ in. carried in stock.

THAN RACING WITH "IDEAL" AEROPLANES

"Ideal" Wood for Model Making—Continued

SILVER SPRUCE

It is an established fact that Spruce has been found by severe tests to be the "Ideal" Wood for the man-carrying Aeroplanes. Consequently we are making a specialty of it for the Model Builder, as it is the strongest and lightest wood obtainable for the purpose. On account of present scarcity and expense we can only list a few sizes.



Sold only in three foot lengths.

Size	Price	Size	Price
$\frac{1}{8} \times \frac{1}{8}$ in.....	5c per length	$\frac{1}{8} \times \frac{1}{8}$ in.....	7c per length
$\frac{1}{8} \times \frac{1}{16}$ in.....	5c " " "	$\frac{1}{8} \times \frac{1}{4}$ in.....	9c " " "
$\frac{1}{8}$ in. sq.....	5c " " "	$\frac{1}{8} \times \frac{1}{2}$ in.....	12c " " "

SPECIAL SIZES IN TWO FOOT LENGTHS ONLY.

As used on Cecil Peoli Racer.

$\frac{1}{8} \times \frac{1}{4}$ in., per length, 5c $\frac{1}{8} \times \frac{1}{2}$ in., per length, 8c
Add 15c. packing charge. Order by express.

ROUND WOOD

For the body of a Model (FUSELAGE); the small, round sticks will make good, strong uprights for Biplanes.

Size $\frac{1}{16}$ in. $\frac{1}{8}$ in. $\frac{1}{4}$ in.
Price per 3 ft. length..... $3\frac{1}{2}$ c. 4c.

Add 15c. packing charge. Order by express.

Small Round Sticks, $\frac{1}{16} \times 12$ in....10c doz.; $\frac{1}{8} \times 12$ in....10c. doz.

ROUND REED

For construction of wing frames, shock absorbers and skids; may easily be bent by hand or steamed into any shape.



Size $\frac{1}{8}$ in. $\frac{1}{4}$ in. $\frac{1}{2}$ in. $\frac{3}{8}$ in.

Price per length 8c. 9c. 14c. 10c. 15c.

$\frac{1}{8}$ in., $\frac{1}{4}$ in. and $\frac{1}{2}$ in. sold in Six Foot Lengths only.

$\frac{1}{8}$ in. and $\frac{3}{8}$ in. sold in Three Foot Lengths only

SPLIT BAMBOO (FLAT)

For Skids, Ribs and Shock Absorbers. In one foot lengths only.

$\frac{1}{8} \times \frac{1}{4}$ in. per dozen lengths..... 20c

$\frac{1}{8} \times \frac{1}{8}$ in. per dozen lengths..... 10c

Postage, 3c per Dozen Lengths

IDEAL PROPELLERS.

Although simple in construction, the Propeller is an extremely vital part of an Airplane and as much care is devoted to its design as is given the Airplane itself. The main factors entering into the design of any Propeller, are the number of revolutions it is to make, the speed of the Airplane it is to propel, and the thrust necessary to carry that Airplane through the air.

It cuts its way through the air in the same manner that the cutting edges of a drill cut into wood or metal, and in reality each blade of the Propeller or screw, as it is often termed, acts like an Airplane wing; and as a wing of an Airplane lifts up by being drawn horizontally through the air, so do the Propeller blades pull forward by being thrown around in a circular path.

Owing to the fact that the speed at which the Propeller revolves varies from nothing at the hub to a maximum at the tip, the blades must be twisted or warped to keep the pitch more uniform. When the pitch is exactly uniform throughout the entire length of the blade, the Propeller is called a "true screw".

IDEAL PROPELLERS are the result of many years experience with models of all kinds and are of two general types, the STANDARD, and the RACER.

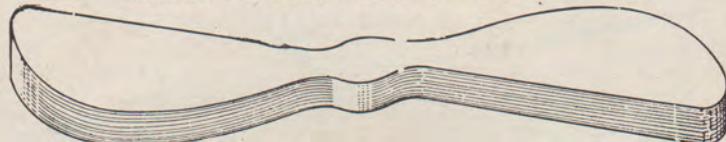
The **STANDARD PROPELLER** is that found most suited for scale models with proportionately heavy motors. For each diameter, the best average pitch is used. This type has a heavy hub to fit our Ball Bearing shafts and is generally used as a Puller.

The **RACING PROPELLERS** are higher pitched and are made of pine, and are light enough to withstand ordinary damage in landing. They are generally used as pushers. The **CECIL PEOLI** is a special type of RACING PROPELLER used first on the PEOLI RACER and now recommended on all models requiring higher thrust than the usual RACING PROPELLERS. Our blanks are perfectly cut and in conjunction with our Propeller Carving Directions, make Propeller carving easy.

IDEAL PROPELLERS are carefully balanced and finished, and can be depended upon to do the work required, if properly selected.

Illustrated Instructions on Propeller Carving...10 cents, postpaid

IDEAL PROPELLER BLANKS



"STANDARD"

Size	Poplar	Mahogany
6 in.	\$0.12	\$0.14
7 in.	.13	.17
8 in.	.15	.20
9 in.	.18	.25
10 in.	.22	.30
12 in.	.25	.35
14 in.	.40	.65
16 in.	.65	1.00
18 in.	.85	1.25
20 in.	1.25	1.75
24 in.	1.75	2.25

Transportation extra at pound rate up to 14 in.
Blanks over 14 in. for express shipment only.



"RACING"



"CECIL PEOLI"

"RACING" AND "CECIL PEOLI"

Cut From White Pine

5 and 6 in.	Price per pair	25c.—	by mail,	6c. extra.
7 "	"	30c.—	"	7c. "
8 "	"	35c.—	"	7c. "
9 "	"	40c.—	"	8c. "

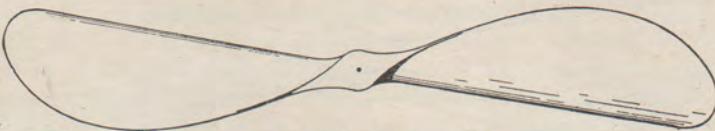
In ordering, specify the kind required.

Special blanks as per your own design made to order—5c per inch additional.

*Curved edge entering, or cutting
edge on propellers.*

"IDEAL" MODEL AEROPLANE SUPPLIES

"IDEAL" PROPELLERS



"STANDARD"

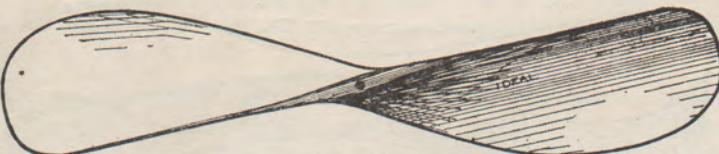
Especially Designed for Scale Models.

Do not try to save money on your propellers, as your success in flying a model depends on same. Our propellers are not the cheapest and should not be compared with some placed on the market which are made unscientifically. The consequent loss of dynamic thrust will not compensate for the small amount saved in cost. No similar propeller of equal pitch can compare with the "IDEAL" for price and efficiency.

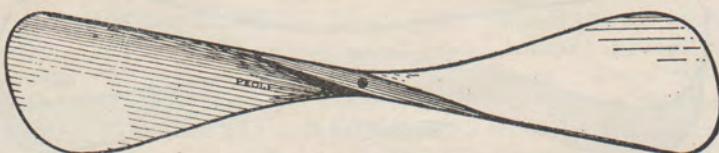
Propellers, 16 in. and larger, are made to order only.

All Standard Propellers are made Right Hand.. Left Hand propellers are made to order at an additional charge of 10c.

Size	Price
6 in....	\$0.60
7 in....	.70
8 in....	.80
9 in....	.90
10 in....	1.00
12 in....	1.10
14 in....	1.50
16 in....	2.50
18 in....	3.50
20 in....	5.00
24 in....	6.50



"RACING"



"CECIL PEOLI"

Made of special kiln dried White Pine.

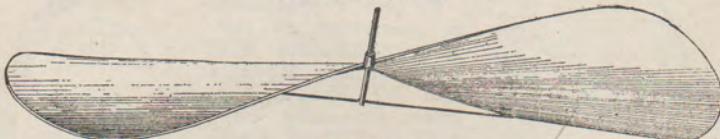
5 in.....	\$1.50 per pair	7 in.....	\$1.75 per pair
6 in.....	1.60 " "	8 in.....	2.00 " "
9 in.....	\$2.25 per pair		

Packing charge on all Propellers, 10c.

Transportation extra. By mail at your risk. Express is the safest.

ARE THE STANDARD SUPPLIES OF THE U.S.

**"IDEAL" FIBRE RACING PROPELLERS
HEAVY TYPE**



The most substantial and efficient fibre propeller. Made of hard fibre, hub reinforced with aluminum and with $\frac{1}{8}$ in. diameter shafts attached with brass bushings. True pitch for high speed Models. Rigid and unbreakable. For use with any of our solid turned bearings.

Sold in pairs only—to push.

6 in.	.....	Per Pair	60c.
7 "	.....	" "	75c.
8 "	.....	" "	90c.

Same with shafts already hooked and bearings in place.

6 in.	.....	Per Pair	90c.
7 "	.....	" "	\$1.05
8 "	.....	" "	1.20

Postage 4c extra per pair.

LIGHT TYPE



Sold in pairs only—to push.

Steel Shaft with Hook

3 in.	.....	Per Pair	17c.
4 "	.....	" "	25c.
5 "	.....	" "	35c.
6 "	.....	" "	45c.

Postage, 2c extra per pair

MAHOGANY and LAMINATED PROPELLERS

Any size or style TO ORDER ONLY at the following prices.

MAHOGANY

LAMINATED

6 to 10 in.	15c per inch	6 in. to 8 in.	30c per inch
12 to 18 in.	25c " "	9 in. to 12 in.	40c " "

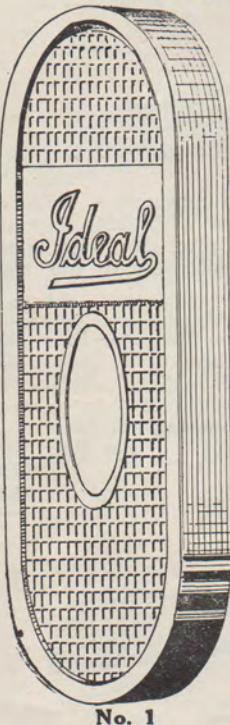
Larger sizes quoted on application.

WOOD FOR LAMINATING PROPELLERS

Mahogany and Maple, $\frac{1}{8}$ in. x $1\frac{1}{2}$ in. x 14 in. each 7c.

YOU CAN LEARN THE ART OF AERONAUTICS

"IDEAL" MINIATURE RADIATORS



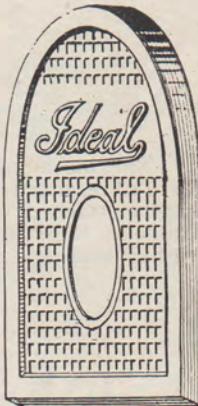
Perfect reproduction in miniature of Airplane Radiators that will give any Model a real life like appearance, especially when used with sheet Aluminum or Veneer cowling.

They are stamped from bright Aluminum and indented to simulate a real Radiator.

A large hole is provided to clear the propeller shaft and bearing.

No. 1—De Havilland Type..... $3\frac{1}{2}$ in. high
 $2\frac{1}{8}$ in. wide Wt. $\frac{3}{2}$ oz.....50c.

No. 2—JN4D-2 Type..... $2\frac{1}{2}$ in. high
 $1\frac{1}{8}$ in. wide Wt. $\frac{1}{2}$ oz.....30c.



No. 2

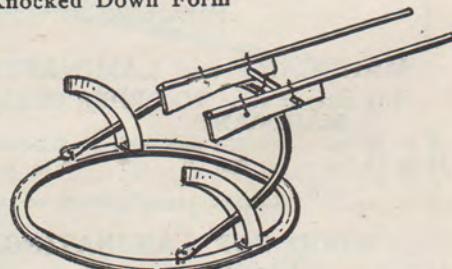
Postage 2c

IDEAL MINIATURE AIRPLANE GUNS

In Knocked Down Form

Gives your Model a real business like look. Can be raised or lowered just like the real guns. Just right for Models.

Complete Material, Wood Reed and Aluminum, with Illustrated Directions for making, postpaid35c.



BY CONSTRUCTING "IDEAL" SCALE MODELS

"IDEAL" WOOD RIBS.



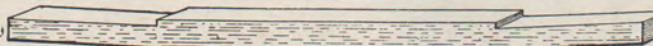
Made of Veneer, $\frac{1}{8}$ in. thick. Slots for $\frac{1}{8}$ in. x $\frac{1}{4}$ in. spars. Slip spars through, and wing structure is ready for outline piece.

No. 1—Packages of 20—4 in. long for JN4D-2.....50c

No. 2—Packages of 18—4 $\frac{1}{2}$ in. long for De H-4.....50c

No. 3—Packages of 26—5 in long for NC-4.....75c

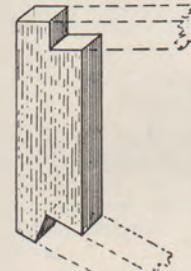
"IDEAL" CENTER SPARS



Correctly formed to give the proper camber to the Planes. Planes are attached by use of $\frac{1}{8}$ in. x $\frac{1}{4}$ in. sleeves.

No. 1 Set of 4—3 $\frac{1}{2}$ in. long for JN4D-2.....15c

No. 2—Set of 4—3 $\frac{3}{8}$ in. long for De H-4.....15c



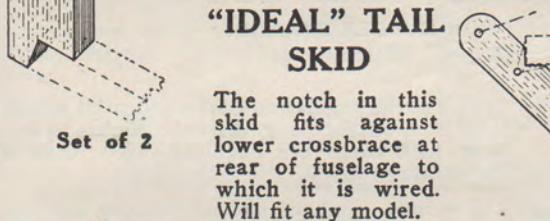
Set of 2

"IDEAL" FUSELAGE NOSE STRUTS

A compact and simple nose construction for the fuselage. Ideal for use with No. 5 Nickel Brass Hangers.

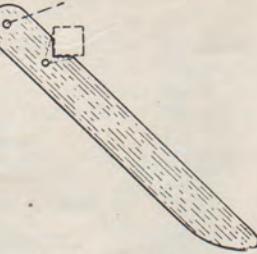
Set of 2 10c

"IDEAL" TAIL SKID



The notch in this skid fits against lower crossbrace at rear of fuselage to which it is wired. Will fit any model.

Price 10c



"IDEAL" RUDDER POST

Just right to form the tail end of Fuselage and to secure rear end of rubber motor. Made of Tee Section with Rubber Hook firmly attached.

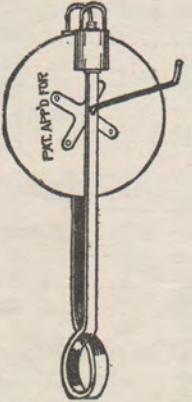
Price for either—JN4D-2 or Nieuport, each, 10c

Price for either—De Haviland or Taube each 15c



"IDEAL" PATENT FRICTION WINDER

Patented, June, 1913.



This is the Patent Winder used for "cranking up" the rubber motors on most of our twin Propeller racer models. It is the most practical Winder for the small size racers. It is also designed for use with the larger, high powered ones, when but medium length flights are desired.

The Winder is light and durable and will give perfect satisfaction.

Ratio 4 to 1. Winds up both propellers at once in one eighth of the time it would take to wind by hand.

Price, postpaid 60c.

"IDEAL" GEAR WINDER FOR RUBBER STRANDS



This is the regulation contest form of winder and is used for long distance flights where over 1,000 turns are required. (200 turns of the winder.)

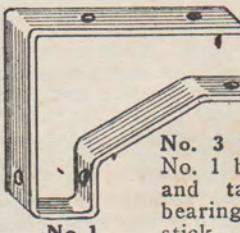
It is neat, compact, smooth running and substantial. Guaranteed to give equal turns per skein on twin propeller models.

The hooks shown in illustration are now replaced by direct pull prongs, which make the winder stronger and more practical. A gear idler is also added to insure a uniformly smooth operation.

Price complete 90c.

Postage extra at pound rate.

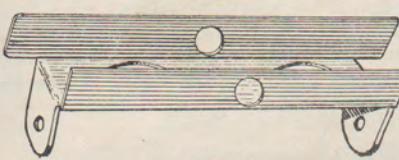
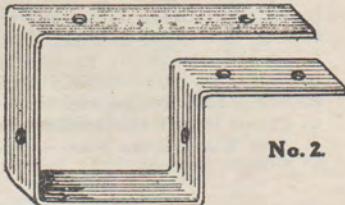
PROPELLER SHAFT HANGERS



No. 1 is similar to No. 1 but is lighter and takes No. 5 bearing. Fits $\frac{1}{4}$ in. stick 9c

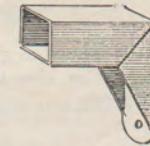
No. 4 is similar to No. 1 but takes No. 2 Ball Bearing shaft and fits a $\frac{3}{8}$ in. stick 30c

No. 1..... 18c
No. 2..... 12c



No. 5

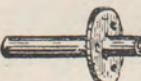
This Hanger is ideal for use with our Fuselage Nose Struts making a simple and very rigid Fuselage end construction. The latest design for Scale Models. Made of Nickleed Brass. 18c



These Racer Hangers are light, simple and efficient. No fastening required fits end of Motor stick. No special bearings required. Use washers for thrust.

No. 10 for $\frac{1}{2}$ sq. Wood 6c
No. 11 for $\frac{1}{8}$ sq. Wood 8c
No. 12 for $\frac{1}{4}$ sq. Wood 10c
No. 13 for $\frac{1}{16}$ sq. Wood 12c

SOLID TURNED BEARINGS



Nos. 1 & 2



No. 3



No. 4



No. 5

These Bearings are turned out of solid brass and are very strong, durable and extremely light.

No. 1—For $\frac{1}{16}$ in. shaft each 12c No. 2—For $\frac{1}{8}$ in. shaft, ea. 15c
No. 3—“ $\frac{1}{16}$ “ “ 8c No. 4—For $\frac{1}{16}$ in. shaft, ea. 8c
No. 5—“ $\frac{1}{16}$ “ “ 6c

Postage 1 cent each extra.

"IDEAL" BALL BEARING PROPELLER SHAFTS

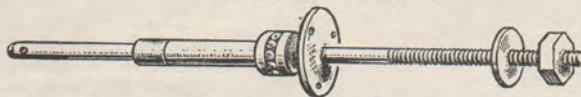
This is a perfect miniature Ball Bearing Shaft, made precisely like the Ball Bearings used on large machines. The most exacting tests have shown it to fully meet all requirements of a non-friction shaft. Really it is a wonderful mechanical device. It is perfectly constructed, is extremely strong and durable, has solid turned bearings, and the finest Steel Balls and races. The flange is drilled for brads to hold the Propeller. The end of the Shaft is threaded and supplied with nut and washer, to make it doubly secure. The flange and upper ball bearing case is one solid piece of brass, is not soldered and cannot break.

Our Ball Bearing Shaft reduces friction to a minimum, and there results an increase in speed and a greater propeller efficiency.



No. 1.— $\frac{1}{8}$ in. steel shaft, furnished straight and can be bent to any size hook desired. Weight, $\frac{1}{3}$ oz. Price, 60c
No. 1.—With hook already formed

By mail 2 cents extra.

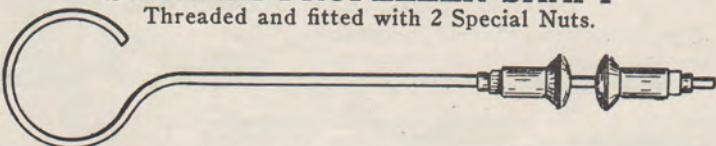


No. 2.— $\frac{1}{8}$ in. steel shaft, drilled on end to receive wire or hook for rubber strand. Weight $\frac{1}{2}$ oz.....Price, 75c
By mail 2 cents extra.

No. 3.— $\frac{1}{8}$ in. steel shaft, for 14 to 24 in. Propellers; the motor end is flat and drilled for Rubber Hook.....Price, 90c
By mail 2 cents extra.

SIMPLEX PROPELLER SHAFT

Threaded and fitted with 2 Special Nuts.



This shaft is very simple in construction but has great tensile strength. It grips the Propeller hard and works very easily. The Shaft is made of steel and will stand a great stress. Can be used with our No. 1 solid Turned Bearing.

Size, 4 inches.

Weight, $\frac{1}{6}$ oz.

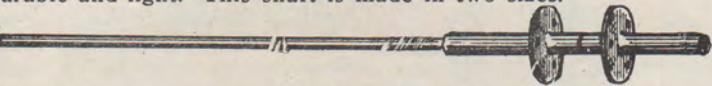
By mail 2 cents extra.

Price, 20c

ARE ABSOLUTELY GUARANTEED TO FLY

"IDEAL" PROPELLER SHAFT and BEARING.

This combination is used for the same purposes as our Ball Bearing Shaft, where a less expensive article is required. It is complete and ready to fit any wooden Propeller. It is strong, durable and light. This shaft is made in two sizes.



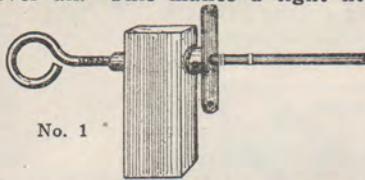
No. 1.— $\frac{1}{8}$ in. steel shaft and solid turned bearing. Shaft is furnished straight and can easily be bent to any desired hook Price, 35c



No. 2.— $\frac{1}{8}$ in. steel shaft and solid brass bearing. Shaft is drilled on end to receive wire or hook for rubber strand Price, 40c

"IDEAL" COMBINATION SHAFTS, BEARINGS AND BLOCKS.

These shafts are especially designed for Racing Models, and are to be attached to the end of your Fuselage sticks by first coating the sticks and blocks with Ambroid Cement then binding around with thread and applying another coating of Ambroid over all. This makes a tight fitting joint.



No. 1

No. 1, with Metal plate (a solid turned bearing No. 5 set into the block) —press your Propeller on to the shaft and fasten with 2 small brads.

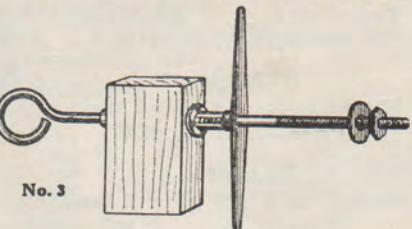
Price 40c per pair

No. 3, This shaft has our solid turned brass bearing No. 3 set into the block, has a brass flange, silver soldered, to turn over on each side of the Propeller to insure against slippage. The Propeller end of the shaft is threaded and has washer and nut.

This is the handiest and best all around Propeller shaft for use on Racing Models.

Price, 50c per pair.

Postage 2c. extra for each pair.



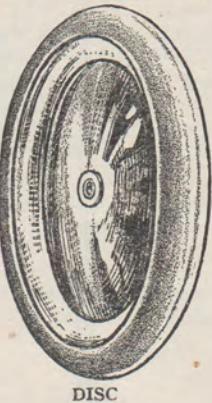
No. 3

"IDEAL" MINIATURE Rubber-Tired WHEELS**STREAM-LINE DISC WHEELS**

These beautiful wheels are the latest in the Model world and are faithful miniatures of those now widely used on standard Aeroplanes. Discs are of burnished aluminum, hubs are of brass, and tires of high grade rubber,—pneumatic on the 2 and 4 inch. Durably and neatly built, they run absolutely true and are very light in weight.

All sizes furnished for $\frac{1}{8}$ in. axle, excepting the 4 in., which is made for $\frac{5}{16}$ in. axle.

Size	Hub	Approximate Weight	Price
1 in.	$\frac{1}{4}$ in.	$\frac{1}{6}$ oz.	\$0.20 each
$1\frac{1}{2}$ "	$\frac{5}{16}$ "	$\frac{1}{4}$ "	.30 "
2 "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	.45 "
4 "	$\frac{7}{8}$ "	$2\frac{1}{2}$ "	1.25 "

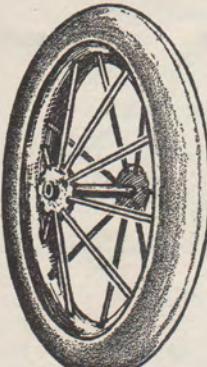
**WIRE SPOKE WHEELS**

These wheels are made of the best material procurable, are correct proportioned, and run absolutely true. Rims, spokes and hubs are of brass, nickel finished, and the tires, which with exception of the $1\frac{1}{2}$ in. size, are pneumatic, are of high grade white rubber.

All sizes are furnished for $\frac{1}{8}$ in. axle, excepting the 4 in., which is made for $\frac{5}{16}$ in. axle.

Size	Hub	Approximate Weight	Price
$1\frac{1}{2}$ in.	$\frac{1}{2}$ in.	$\frac{1}{3}$ oz.	\$0.40 each
2 "	$\frac{3}{4}$ "	$\frac{1}{2}$ "	.55 "
$2\frac{1}{2}$ "	$\frac{3}{4}$ "	$\frac{5}{8}$ "	.65 "
3 "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	.75 "
4 "	1 "	$1\frac{1}{8}$ "	1.40 "

Postage, 2c. extra per wheel.



WIRE SPOKE

We can furnish the 2, $2\frac{1}{2}$, and 3 in. Wire Spoke Wheels for $\frac{5}{16}$ in. Axle also at an additional cost of 15 cents each. (Made to order only.)

Extra Rubber Tires up to $2\frac{1}{2}$ in. 15 cents, 3 in. 20 cents, 4 in. 30 cents.

WOODEN WHEELS

Drilled to take $\frac{1}{8}$ Axle

Sizes, $1\frac{1}{2}$ in., 2 in.....6c each
Postage 1c.

AXLES

Made of best quality Steel Rod.



$\frac{1}{8}$ in. Axle, threaded, with Nuts complete,
Up to 6 in. 12c. From 7 to 10 in. 15c. From 11 to 15 in. 22c.



$\frac{5}{16}$ in. Axle, threaded, with Nuts complete,
Up to 6 in. 17c. From 7 to 10 in. 23c. From 11 to 15 in. 30c.
Postage 2c. extra.

ALUMINUM SLEEVES

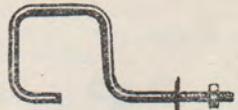
These form the most practical and rapid method for joining Model sticks together, so that they can be easily taken apart. For example: A 3 foot Model can be carried in a $1\frac{1}{2}$ foot package.

Accurately machined and made of a gauge, giving suitable strength for the size of wood to be joined.

No.	To fit	Wood	Price, 18c. per pair
No. 2	"	$\frac{1}{8} \times \frac{1}{8}$ in.	12c. "
No. 3	"	$\frac{1}{8}$ in. sq.	12c. "
No. 4	"	$\frac{1}{8}$ in. rd.	12c. "
No. 5	"	$\frac{5}{8}$ in. sq.	30c. "
No. 6	"	$\frac{5}{16}$ in. sq.	25c. "
No. 7	"	$\frac{1}{4}$ in. sq.	20c. "
No. 8	"	$\frac{1}{16} \times \frac{1}{2}$ in.	50c. "

REAR RUBBER HOOK

This hook is used to attach the rubber strands in the rear of the machine. By means of washer and nut, it can be readily attached and detached. Made of hard brass.



Price, 12 cents. Without thread and nuts, 6 cents.
Postage 1c.

NO OUTDOOR SPORT MORE FASCINATING

"IDEAL" NIEUPORT RUNNING GEAR



While designed for our Nieuport, to prevent a lot of unnecessary wiring and glueing, it can also be used for a running gear for Models of one's own design. Now cast from special metal and is more rigid and absolutely true. Nickel plated.

No. 1, incl. a $\frac{1}{8}$ in. axle, threaded with nuts, for 3 ft. Models.... \$0.90
No. 2, " a $\frac{1}{8}$ in. " " " " 6 ft. " ... 1.75

By mail, 4 cents extra.

(For Rubber Tired Wheels see Index.)



"IDEAL" WING SOCKETS.

For attaching reed outline pieces of demountable Monoplane Wings to Fuselage. Attached to Fuselage with screws. Made of best brass nickel plated.

No. 1, for 3 ft. Models, to hold $\frac{1}{2}$ in. Reed or Rd. Wood,
per set of 4..... \$.20
No. 2, for larger Models, to hold $\frac{1}{2}$ in. Reed or Rd. Wood,
per set of 4..... .60

By mail, 2 cents extra.



They are indispensable for fastening ribs, chassis, struts, etc., to the beams and give a very neat appearance to a Model. Nickel plated.



No. 1, for $\frac{1}{8}$ in. Rd. Wood or Reed, per set of 6.. \$.24
No. 2, " $\frac{1}{8}$ in. " " " " " 2.. .12

FOR LARGER MODELS



No. 3, for $\frac{1}{8}$ in. Rd. Wood or Reed, per set of 6... \$.48
No. 4, " $\frac{1}{8}$ " " " " " 2... .30

FOR V CONNECTIONS

No. 5, " $\frac{1}{8}$ " " " each 15
Postage Extra.



"IDEAL" STRAP FITTING

For attaching Motor sticks to struts or for joining 3/32 in. round wood or reed to any crosspiece. Brass, nickeled.
Price per set of 4..... 15c

THAN RACING WITH "IDEAL" AEROPLANES

TURNBUCKLES

These Turnbuckles are made upon the same principle as those used on large Aeroplanes. They are made of brass and will stand a great stress. Are indispensable in tightening of guy wires.



Turnbuckle No. 1, has $\frac{1}{4}$ in. pull and is used on small machines. Weight, 1-50 oz. Price..... 8 cents



Turnbuckle No. 2, is solid, has $\frac{3}{4}$ in. pull, right and left threads, and will stand a strain of 100 lbs. Weight, 1-30 oz.

Price..... 12 cents



Full Size

EYEBOLTS

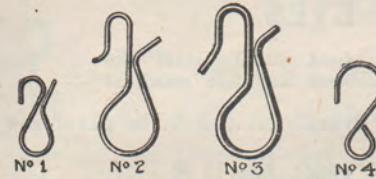
Made out of turned steel. Complete with nuts and washers. Price..... 12 cents

Letter Postage on Turnbuckles and Eyebolts.

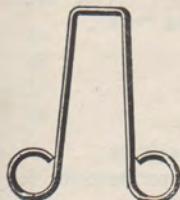
Under present conditions delivery of Turnbuckles and Eyebolts is not guaranteed.

HOOKS

JUST THE THING FOR LIGHT MODELS.



- No. 1. For rubber skeins on 1-ft. Racers per doz. 5c.
No. 2. For rubber skeins on 2-ft. Racers per doz. 10c.
No. 3. For rubber skeins on 3-ft. Racers per doz. 10c.
No. 4. For attaching Guy Wire on Models...per doz. 5c.
SPECIAL—Envelope containing 6 of each, 12c. Postage 2c.



YOKES.

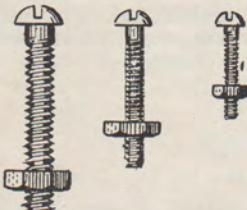
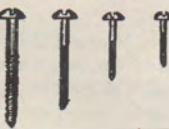
The simple fitting for the front of Racer Models to take the rubber hooks.

- No. 1 For 1-ft. Racers..... Per Doz 5c.
No. 2 " 2-ft. " " " " 10c.
No. 3 " 3-ft. " " and larger " " 15c.

SMALL SCREWS

Made of blued steel and have round heads. Specially adapted for use in our wood. Furnished in the following sizes:

- $\frac{1}{4}$ in. long, 6c per doz., 60c per gross.
- $\frac{3}{8}$ in. long, 7c. doz., $\frac{1}{2}$ in. long, 8c. doz.
- $\frac{5}{8}$ in. long, 10c. doz.



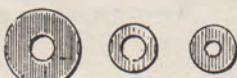
BOLTS

Our bolts are made of solid brass and supplied with nuts. Furnished in 3 sizes.

- $\frac{1}{8} \times \frac{1}{2}$... 6c. each.
- $\frac{1}{4} \times \frac{3}{4}$... 4c. each
- $\frac{1}{8} \times 1$... 4c. each

WASHERS

Our washers are made in various sizes and can be used for many purposes, and are very handy for use between Propeller Shaft and Beam to prevent friction.



Copper Washers,	$\frac{1}{8}$ in. inside,	$\frac{1}{4}$ in. outside,	6c. per doz.
"	$\frac{1}{8}$ "	$\frac{3}{8}$ "	10c. " "
Brass	$\frac{1}{8}$ "	$\frac{1}{4}$ "	6c. " "

SCREW EYES

Our screw eyes are made of best quality steel and brass and are neatly finished. These are the smallest obtainable.

Steel..... 6c. per dozen; Brass..... 15c. per dozen



MODEL MAKING NAILS

Our nails are put up in small envelopes and assorted sizes.

Price per package..... 8 cents; Postage..... 2 cents

Special Assortments for Our K. D. Outfits at Same Price.

State the Model you need them for.

BRASS NUTS

For own threads only.

$\frac{1}{8}$ in., $\frac{1}{4}$ in., $\frac{5}{8}$ in..... 3c. each

In ordering, please state whether for Axles or for Bolts or for Propeller Shafts.

MODEL AEROPLANE WIRE



This wire is used for stays, guys and to bind joints. Is useful for many other purposes. It will stand a great stress, although very light. Can be used in connection with our turnbuckles. Comes in four different gauges, 28, 30, 32, 34, in small or large spools.

Price for small size spool, any gauge..... 6c.
Postage 2c. extra.

Price for large size spool ($\frac{1}{4}$ lb.) any gauge.... 20c.
Postage at pound rate.

"IDEAL" WINDING RIG



This is necessary for all Model Flyers. It enables you to wind up your model without a helper, and permits you to give the rubber all the stretch possible. It is substantially and simply made, and folds up into a very small package. Just the thing to use with the Gear or Patent Friction Winder and when you go away to the country.

Price, Complete, ready to use 40c
Postage 5c. extra

For Winders see page 28.

SHEET ALUMINUM

Furnished in 6-ft. lengths, 12 inches wide. Cut to any size.

Gauge.	Thickness about	Price per sq. ft.	Price $\frac{1}{2}$ sq. ft.
34	1-160 in.	30c.	18c.
30	1-100 "	35c.	20c.
28	1-80 "	45c.	25c.
26	1-64 "	55c.	30c.
24	1-50 "	60c.	35c.
20	1-32 "	75c.	40c.
18	1-25 "	\$1.25	65c.
16	1-20 "	\$1.50	85c.

Transportation extra. Larger sizes quoted on application.
Extra charge for packing, up to 3 ft. lengths, 10c.; 6 ft. lengths, 25c.

SEAMLESS BRASS TUBING.



All our Tubing is very light, being made with a 1/64 in. wall.

Outside Dia.	Inside Dia.	Per Foot	Outside Dia.	Inside Dia.	Per Foot
1/8 in.	5/32 in.	15c.	5/16 in.	9/32 in.	24c.
3/16 in.	7/32 in.	17c.	7/16 in.	11/32 in.	25c.
1/4 in.	9/32 in.	18c.	9/16 in.	5/8 in.	28c.
5/8 in.	1/8 in.	20c.	5/8 in.	9/32 in.	30c.
1/2 in.	11/32 in.	22c.	11/16 in.	11/32 in.	35c.

SOLD IN 1/2, 1, 2 AND 3 FT. LENGTHS ONLY.

Transportation extra.

Orders for 1/2 foot lengths, 2/3 of above prices.

BRASS, ALUMINUM AND STEEL (Drill) RODS

These Rods have great Tensile strength and are very light. They are useful to experimenters for a great many different purposes, especially for Axles, Masts, Tripods, Hooks, Shafts, etc.

Size, Dia.	Brass for 3 ft. lengths	Steel (Drill Rod) for 3 ft. lengths	Aluminum for 3 ft. lengths
5/32 in.		7c.	
1/8 in.	6c.	7c.	8c.
5/16 in.	10c.	12c.	10c.
1/4 in.	14c.	20c.	18c.
3/8 in.	25c.	25c.	38c.
1/2 in.	35c.	40c.	45c.

Sold only in full lengths, but cut to one foot lengths for mail shipment.

Transportation extra.

STEEL BALLS FOR BALL BEARINGS

All quality, 5/32 in., per doz. 12c., postage 2c.

EYELETS

Very light and strong. Just the thing for Light Bearings in Aluminum or Wood or for finishing off holes in Aluminum or fibre. Used for tighteners on Monoplane guy wires.

Furnished in 1/8 in. only.....Price 10c per pkg.

"IDEAL" RUBBER STRANDS

Rubber is the simplest motive power for all scientific Models; and as the flying success of a large Aeroplane depends upon the quality of the motor, so you cannot hope to succeed in flying a model if inferior rubber is used.

PURE PARA RUBBER IS THE ONLY DESIRABLE MATERIAL. We handle only the very best qualities. It will stretch 7 times its normal length.

Extensive experiments have been made by our Engineering Department in an effort to devise a new medium for propelling Model Aeroplanes and Flyers. We are convinced that nothing as yet can replace a Rubber Strand Motor for the ordinary size Model. It delivers the maximum amount of power for its weight.

ALL RECORD FLIGHTS HAVE BEEN MADE WITH A RUBBER STRAND MOTOR.

Rubber is sold only in quantities listed below.

Rubber in special lengths for Construction Outfits and Flying Toys may be purchased at prices listed under each outfit.

(See Pages 6 to 16.)

FLAT RUBBER

This is the most desirable style, has one-third more power, and gives 25% more turns than the square rubber.

The 1/8 in. flat rubber is used for light Racing Models weighing from 1 1/2 to 2 1/2 oz. For heavier models the 5/16 in. Flat Rubber is more suitable and is used exclusively on all IDEAL Scale Models.

	Price per 50 ft.	Price per skein.
1/8 in. Flat	50c.	\$2.00
5/16 " "	85c.	3.00
(Full Skeins Contain About 200 Feet.)		
By mail add 3c. for each 50 ft., 10c. for full skeins.		

SQUARE RUBBER

No. 14 (known as 5/32 sq.)	Price per 50 ft.	Price per skein.
(Full Skeins Contain About 130 Feet.)		\$1.75
By mail add 3c. for each 50 ft., 10c. for full skeins.		

No. 8 (known as 1/8 sq.)	Price per 10 ft.	Price per skein.
(Full Skeins Contain About 135 Feet.)		\$6.00
By mail add 3 c. for each 10 ft., 10c. for full skeins. For Winders see Index.		

RUBBER TUBING

For covering ends of Rubber Hooks.

Price per foot, 10c. Per 1/2 foot, 6c.

"IDEAL" FABRIC FOR MODELS

FINE SILK.—We carry the finest grade of silk to be used in covering the wings. It is very light weight, yet will not tear or wear easily. Either white or blue. Blue is the most attractive. Weight $\frac{1}{4}$ oz. per yard.

Price per yard \$1.00 Per $\frac{1}{2}$ yard 55c
Postage, 2c. per yard.

"IDEAL" BAMBOO PAPER

The most popular fabric for use on Models. Stretches as tight as a drum when coated with Bamboo Varnish and becomes air-tight and water proof. Finishes like parchment.

No. 1.—Size of sheet 13 x 36 extra fine and clear 13 cts.
No. 2. " " " 24 $\frac{3}{4}$ x 33 $\frac{1}{2}$ clear and durable 15 "
No. 3. " " " 17 x 22 finest quality vellum 22 "

By mail, folded, 2c. extra per sheet.

"IDEAL" RICE PAPER

An extra light and strong covering used on the latest Racing Models. Made of Japanese tissue Fibre. When treated with Bamboo Varnish, it becomes impervious to air or water and dries as tight as a drum.

No. 1.—Size of sheet 12 x 18 in. per sheet 5, per dozen sheets 50c
No. 2. " " " 18 x 24 " " " 10c., " " " \$1.00
Postage 1c. for 3 sheets.

"IDEAL" SILK PAPER.

A splendid substitute for Zephyr Skin. Takes Bamboo Varnish and yields a fine semi transparent covering. Suitable for light models. Ideal for balloon building. When coated with Bamboo Varnish, it forms a strong, tight, skin like surface.

Size of sheet, 18 x 24 in.....each 25c.

"IDEAL" AMERICAN INSIGNIA SHEET

This sheet contains in full colors, the American Airplane Insignia for Planes and Rudder. 4 circles, 4 inch diameter and two Rudder Stripes Price 10c

Postage 1c extra

"IDEAL" WOOD VENEER

Conforming to Airplane practice as closely as possible, we now furnish Veneer for covering Fuselages and forming of Cowling etc. The wood has a beautiful grain and finish, and can be left natural or finished with shellac or Varnish. Glued to the frame when dampened, it stretches tightly when dry.

2 ply	size 10 x 30 inches	..... 20c
3 ply	size 10 x 30 inches	..... 45c

Postage Extra at pound rate.

FIBRE

A tough and durable material for the Planes of light Racing Types. No framework required.

No. 1.—Size of sheet 3 $\frac{1}{2}$ x 22 in.....	Price, each, 10c
No. 2.—Size of sheet 3 $\frac{1}{2}$ x 8 in.....	Price, each, 4c

By mail, 5c extra up to 3 sheets.



"IDEAL" BAMBOO VARNISH

PREPARED EXCLUSIVELY FOR US.

We desire especially to recommend this Varnish as being the best covering solution compound; it makes any fabric absolutely water and air proof and is the only varnish to be used in connection with "Ideal" Bamboo, Silk or Rice Papers. It can also be used as a quick drying mucilage to stick paper or fabric onto the Planes, Fuselage, etc.

Price for 2 oz. can..... 35c.

By mail 4c. extra.

Price for 4 oz. can..... 60c.

Price for $\frac{1}{2}$ pt. can..... \$1.10

By mail at pound rate.



Ambroid is waterproof. It is flexible and elastic. It is indispensable to the Model Aeroplane Maker for the wood and wing covering. Ambroid is ready for use and will set quickly.

IN AIRTIGHT CANS. THREE SIZES.

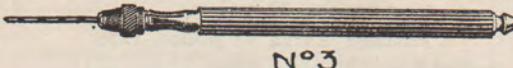
Small, 15c.	Medium, 30c.	Large, 60c
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Postage 3c., 5c. and 8c., respectively.

DRILL HOLDERS

A Drill Holder, containing a 1/32 in. (No. 61) Drill, is the most essential tool for a Model Builder.

When making models it is absolutely necessary to drill holes in the wood before nailing, otherwise the wood will split. Also essential for making holes, through which light pieces of wood, reed, etc., are wired together. The holder illustrated below, is for 1/32 in. (No. 61) Drills only, is the only one obtainable now, and shows a drill point inserted.



No. 3

No. 3 Grooved Metal Handle, 3 in. (to hold a 1/32" Drill).....30c.
1/32 (No. 61) Drill Points are extra. For prices of Drills, see below.
Postage, 2c. extra.

TWIST DRILLS

$\frac{1}{32}$ in. (No. 61) 10c. ea. $\frac{1}{16}$ in. 12c. ea. $\frac{3}{32}$ in. 13c. ea.
SPECIAL NOTICE—Drill Holders as well as Drill Points are at present very difficult to obtain and prices have advanced steadily. Hence the high present cost.
Postage extra.

COMBINATION DRILL HOLDER



Brass Handle. Adjustable Steel Chuck.

This is one of the most convenient tools for Model Aero Builders. Interchangeable ends accomodate the smallest drill obtainable up to and including $\frac{3}{32}$ in.

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(We reserve the right to substitute other styles if necessary.)

"IDEAL" WOOD PUNCH

(A good substitute for Drill Holders with small Drill Points)



Owing to increase in the cost of materials regular twist drills have greatly advanced in price and in looking for a cheaper article we have fortunately discovered this practical Wood Punch which is more durable for Wood and Sheet Aluminum, as it does not break easily, and which will serve almost every purpose of the small drill. It is the smallest Jewelers Screw Driver made, but especially tooled for its novel use.

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No. 3. For wood only, including 12 blades.....	50c.
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SCREW DRIVER

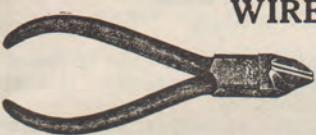


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Especially adapted for whittling Propeller Blanks. Made of finest grade steel and retain their keen edge for a long time.
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No. 1, 3 $\frac{1}{2}$ in.—\$1.00
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These wire cutters are made of the very best Steel and are very handy. We carry two sizes of this tool. No experimental kit is complete without one.

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Those unfamiliar with Model Aeroplane work and the advances made in Model Aeroplane construction will be surprised if they will visit a dealer in Model Aeroplane Supplies.

In addition to selected materials, such as woods, fibres, bamboo, rattan, metal, etc., they will find a great variety of dainty carved propellers, metal propellers, and fibre propellers for machines of every sort and size.

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ARE ABSOLUTELY GUARANTEED TO FLY

What Some Ideal Model Builders Say—

As soon as I received my "Every Boy's Ideal Airplane" on Christmas morning, I started to put it together. I put it together, and glued the paper on in exactly 3 hours. It looked dandy and I was sure it could fly. After dinner I took it to a field near by. I wound it up, set it on the ground and let it go. It rose from the ground as neat as any large Aeroplane. It flew for about 150 feet. The coming down part was the best. It skimmed gracefully along the ground for about 10 feet and then settled down. I am very much pleased with it and sometime expect to get another.

ALVIN T. ROWLAND,
543 E. Tulpehocken St., Philadelphia, Pa.

I have the complete models of the NC-4, the DeHavilland Battle Plane and the Nieuport Monoplane.

I am very much pleased with the models and recommend the "IDEAL" as the best and the most successful models made.

DONALD R. BLAIR
401 Harrison Ave., Charleston, Ill.

"I have just completed a JN4D-2 Training Plane from your set and I certainly think it is "IDEAL". Every time I take it out I have a crowd of admiring friends watching me sail it. I certainly am pleased. I have also constructed a Bleriot Monoplane from your materials.

CLYDE C. BALSLEY,
847 9th St., Santa Monica, Calif.

"I constructed the JN4D-2 you sent me for my boy, according to plans and he was very much delighted with it, but we had an accident. We gave her some trial spins and wound her up for a grand flight. There was a hound dog busy with a bone on the side of the aviation field about fifty feet away and paying no attention; like most people on the field. The plane took off with a rush, caught a gust of wind, did an Immelman turn and hit the pup just where his tail joins his spine. He lit out at twenty miles an hour, the Plane after him and disappeared from view. Hence the repairs to the Plane. But it was nothing to the nervous wreck of the dog.

Your Plane is so astonishingly like a real one that it requires that consideration and not to be viewed as a toy.

JOHN W. LEWIS,
Regents Mercantile Corp.,
Atascadero, Calif.

"I received a DeHavilland Model last Xmas and I am certainly pleased with it. It has flown over 60 feet and lit beautifully. Three cheers for the IDEAL.

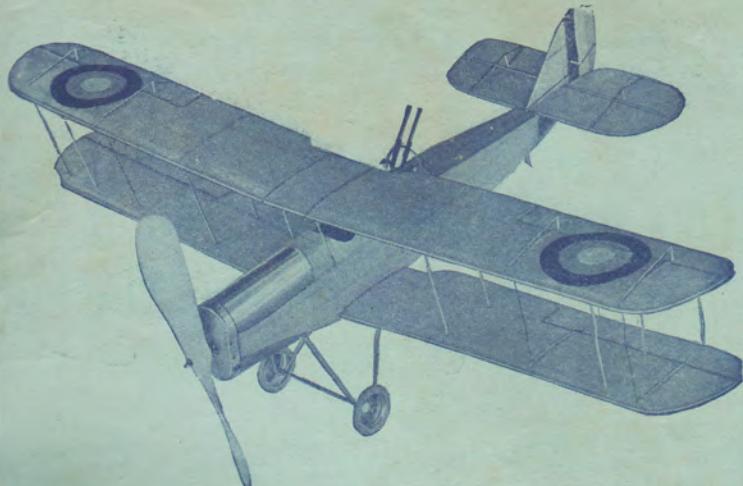
ROBERT GRAHAM,
650 Main St., Clarion, Pa.

"My model of a Bleriot Monoplane works perfectly. At its initial flight it flew over a space of 183 ft. This did not include its run on the ground.

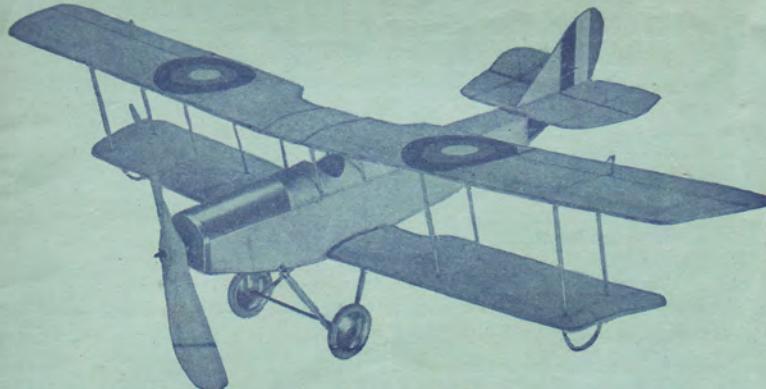
HENRY A. BRUENING,
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"IDEAL" DE HAVILLAND 4—BATTLE PLANE



"IDEAL" CURTISS J N 4 D-2—TRAINING PLANE

*These actual photographs of finished Models
show the rare excellence of IDEAL Products*