FOUNDED 1872

VOL. 150: NO. 1

POPULAR SCIENCE chanics & Handicraft MONTHI

EDITOR-Perry Githens

MANAGING EDITORS: Fred O. Newman, Volta Torrey

ART EDITOR: Robert Reid Macguire HOME & WORKSHOP EDITOR: Harry Walton

ASSOCIATE EDITORS: Alden P. Armagnac, Devon Francis, Robert Gorman, Hartley E. Howe, Martin Mann, Frank Rowsome, Jr., John F. Stearns, R. P. Stevenson

WASHINGTON EDITOR: Leon Shloss

WESTERN EDITOR: Andrew R. Boone (Los Angeles, Cal.)

ART DIRECTORS: Harry Samuels, Francis Sweeney ART ASSOCIATES: Eric Karminski, Jr., Stewart Rouse,

Frances Cooper (Production) STAFF PHOTOGRAPHERS: W. W. Morris, Hubert Luckett,

Robert F. Smith EDITORIAL ASSISTANTS: Carol Ennis, David McNamara, Lillian Thaleofeld, Saverio Rada, Ruth Westphal

PUBLISHER. Godfrey Hammond

JANUARY 1947

SCIENCE NEWS

Tiomic Race Track		
Birth of a Mesotron	75	
Birth of a Mesotron	75	
Aicrowave "Gun"	76	
Man-Made Snow You'll Hear from FM in '47	78	
1 1 1 1 4/	28	

SCIENCE AT WORK

Sizes Up Clouds	
ank Tester	
uilding Rolls with the Punch	79
ervants from the Laboratories	80
Viring Diplomats for Sound1	93
Vrap It Up!1	16
	21

PSM FEATURES

Picture of the Month.....

at 353 Fourth Avenue. New York 10, N. Y. Awilson, Raymond J. Brown, Stephen P. G., by Popular Science Publishing Co., Inc., and Stephen Dec. 28, 1918, at the Post of the state of the st

2 SCIENCE

SEE EV

Warsaw Chungking Coventry Cherbourg Sicily Tunis Bizerte

Libya El Alamein

Lighter "Icer" Hits the D "
Lighter "Icer" Hits the Rails
Port Blow Remover
Della
Latins
Behind the Signs 92
Behind the Signs
Britain Streamlines the Goods
For Fun-Loving Executives
How Water and Gas Meters W
How Water and Gas Meters Work
Table Magic. 168
Table Magic
Emulsions Prove Oil and Water Mix
AVIATION
1,700 m.p.h.?
1,700 m.p.h.? Gas Station in the Sky
Fastort Die Sky 81

Gas Station in 41
Gas Station in the Sky Fastest Primary Trainer Clocking a Black Streak
Clocking a Black Streak How Do They Know What Happen in Streak
How D Black Streak
Do There is
TOILITOD EL
Northrop Flying Wing (Pin-up) New Jobs for "George"
Newest A
Aeronca.

Torture Rack

AUTOMOBILES	male
Blowout	
Car Snowshoe	
Blowouts on Purpose Car Snowshoe Jenkins Tunes New Speed Machine. France's Postwar Cars Get the Most face	
France's D	
Get the Most from Synthetic Tube	
Gus Drops In for Di	
The state of the s	
Gus Drops In for Pie	·····.144
A REALIONS	-
Tractor Log 1	

oader ...

PHOTOGRAPHY

c. Godfrey Hammond, President ; F. W., Briggs, Secretary, En-3, 1879; additional entry as Graata, Printed in U. S. A. Yearly subscriptions to United Context States and the subscription of the subscription

An Invitation To Readers of This Magazine FROM THE PUBLISHERS OF THE FUNK & WAGNALLS New Standard ENCYCLOPEDIA

Flease Accept with our compliments Volume One of the New 1947 Edition-Now On Press!

[ALL WE ASK YOU TO PAY IS TEN CENTS TO COVER COST OF MAILING IT TO YOU]

WE are now on press with our new Winter 1947 Edition of the Funk & Wagnalls New Stand-

the Funk & Wagnalls New Stand-ard Encyclopedia. This latest edition, newly re-vised, we have allocated among the newspapers and magazines carrying our Winter advertising program. In accordance with this plan we have set aside 1500 sets for readers of this magazine and now invite you to become the owner of a set—making this extraordinary offer to enable you to become acquainted with the volumes before you decide to buy.

umes before you decide to buy. We want to send you Volume I with our compliments. Merely send us 10c to cover our mailing cost — more as evidence of your good faith than anything else. If, after examining Volume I, you want the rest of the 27-volume eft you may required to the soluce set, you may receive it at a ridicu-lously low price through our booka-week plan. If you want no fur-ther books, merely drop us a post-card saying so, and that ends the matter.

Some Facts About This Encyclopedia

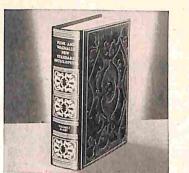
But first, we want to give you a few facts to interest you in taking the trouble to send for Volume I. The newest 1947 Edition contains over 52,000 articles. Compare this with any other encyclopedia in the world. You will find that it is at least 30% more than encyclo-pedias costing you up to four times as much as ours. Each volume is as up-to-date as

Each volume is as up-to-date as human ingenuity can make it. This edition has been revised to cover events of the past year, and each volume, as it goes to press, is brought up-to-the-minute. Our unique book-a-week delivery plan, bringing you the volumes as they come off the presses, makes it the most up-to-date of encyclopedias.

Easy-Reading, Handy Volumes

Editor-in-Chief of original edi-tion was Frank H. Vizetelly, editor of the Funk & Wagnalls New Standard Dictionary. Surrounded by a host of authorities, he brought this immense work into

Yet the books are so easy to Yet the books are so easy to read! Your children in school can use them with profit. Free of ab-



Copyright 1947, Unicorn Press

struse wording—and free also of fact-omitting brevity—this grand encyclopedia will serve you for years to come.

And in spite of their enormous contents, each volume can be held in one hand! Here is a new streamlined, usable set, handy for dolly references daily reference. Nor does the incredibly low

price we have set on the remaining volumes indicate the quality of materials and labor that went into them, as of course you will soon see for yourself.

Unique Book-a-Week Plan

Our plan gives you the books as quickly as they come off the presses.

Volume I is delivered to you immediately. Two weeks later, unless you cancel your reservation, the next two volumes are mailed to you. Two weeks after that the following two volumes are sent, and so on. You thus receive your volumes, freshly off the press, at the rate of a

Volume a week. You do not pay for any books in advance. We enbooks in advance. We en-close a bill with each two volumes which you pay within 5 days after receiv-ing the books. Considering the amazingly low price of the set, and the fact that you pay for it at the rate of only a book a week, our pay-as-you-go plan therefore puts no strain on any pocket-

book. How much are the volumes? Here's the surprise. You pay only \$1.39 for the De Luxe Binding, plus 11e mailing cost. The complus 11e maining cost. The com-plete set thus costs you only a small fraction of what other high grade encyclopedias would cost you-and we want only the opportunity to PROVE to you that ours is unexcelled for your use.

A Choice of Editions

<text><text><text><text><text>

UNICORN PRESS, Authorized Publishers Brooklyn 1, New York

I enclose 10¢ in coin or stamps, for which send me Volume I of the Winter 1947 Funk & Wagnalls New Standard Encyclopedia in edition checked below DE LUXE

LIBRARY Please also reserve balance of a set for me in same edition.

same edition. If I decide to cancel reservation after examining Volume I, I will write you saying so, and there will be no further obligation; otherwise you may send me two more volumes every two weeks, and I will pay within 5 days after receiving them, at the rate of \$1.39 per volume plus 11¢ mailing cost for De Luxe Edition (or \$1.89 per volume plus same mailing cost for Library Edition)—and that is all! Volume I is mine to keep in any event.

Name Address

City, Zone, State.



82

83

84

85

95

