

FIDELITY ELECTRIC CO.

A HISTORICAL PERSPECTIVE

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Fidelity Electric Company was founded in 1895 at Lancaster Pennsylvania and incorporated as the George C. Towle Manufacturing Company. The name was changed in 1913 to Fidelity Electric Company, Inc.

The first products manufactured were direct and indirect-current motors and electric fans. The company adapted their various motors to both stationary and oscillating fans as well as inventing and patenting the first electric-powered ceiling fan.

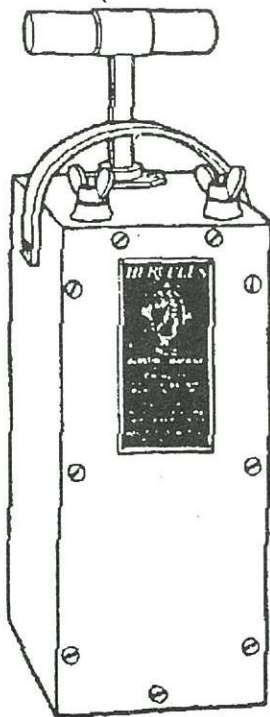


Fig. 1

BLASTING MACHINES

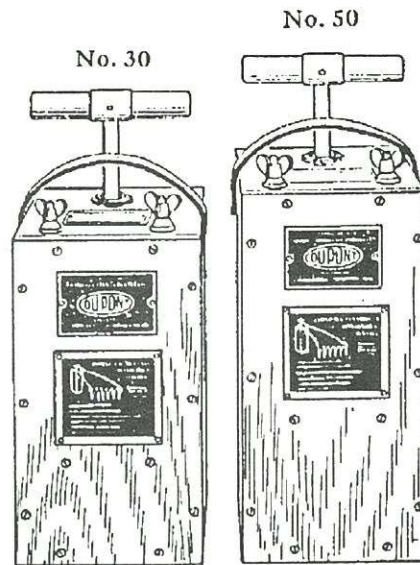


Fig. 2

The year was 1918 and Fidelity introduced its first blasting machine, a push-down model. (Figure 1.) This unit was of the series wound generator type and had a capacity of 10 blasting caps. It was during this period of time that Fidelity began supplying the major powder companies with blasting machines under such names as DuPont, Hercules, and Atlas. In addition 30 and 50 cap capacity machines were manufactured (Figure 2.). Later a 100 cap machine was added to the product line.

Fidelity continued making various motors and fans through out the 1920's. The year was 1929 and after

much research and development a hand held 10 cap blasting machine was introduced as a compact replacement for the much larger 10 cap push-down machine. It was a nickel-plated brass 10 cap capacity machine employing a twist motion to generate the electrical charge. (Figure 3.) What separated this machine from the earlier designs such as the Davis No. 1 hand held blaster was the use of a generator rather than a magneto to produce the electric current. The generator design allowed for greater shot firing capacity and reliability. Companies such as Hercules contracted with fidelity to produce this 10 cap unit for sale under the Hercules Powder Company name. An ad found in the March 1929 issue of *The Mining*

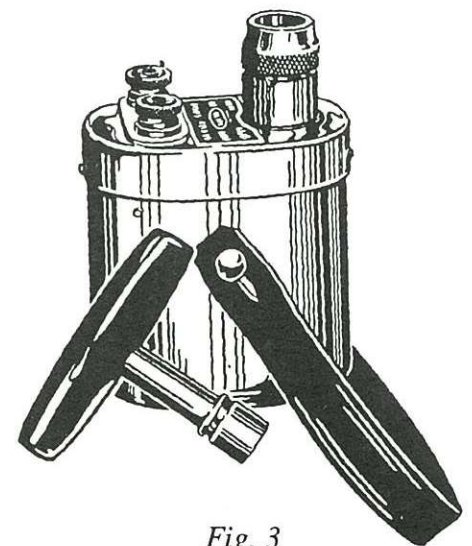
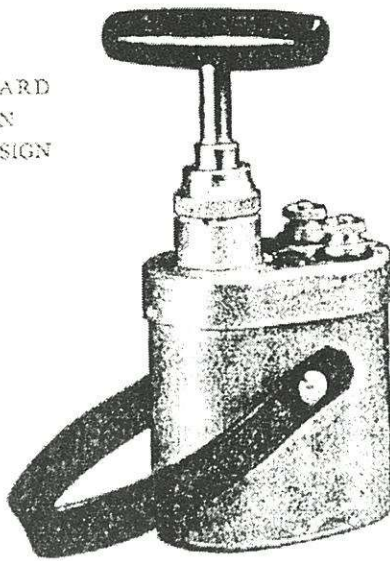


Fig. 3

A STEP FORWARD
IN AMERICAN
ELECTRICAL DESIGN



The New HERCULES 10-CAP BLASTING MACHINE

The new HERCULES 10-CAP BLASTING MACHINE represents the latest development in American electrical machine design.

These important features make the Hercules 10-Cap Blasting Machine of outstanding interest to users of explosives:

1. It is light, compact, and small enough to slip in a coat pocket. It weighs only 4 1/4 pounds.
2. It is of the dynamo type, therefore long and constant use entails no loss of power.
3. A six segment commutator, newly developed, assures an even, non-pulsating current.

4. Rated to fire ten electric blasting caps, connected in series, it has a power reserve of 100 per cent.
5. It is sturdy and simple—built to withstand rough handling and to meet every field test.

The new Hercules 10-Cap Blasting Machine is convenient for all blasting where from one to ten shots are fired at once. For larger hook-ups, the Hercules 1 to 50 Hole Capacity Machine, an efficient push-down generator, is recommended.

Write us for booklets on Hercules Blasting Supplies and Hercules Detonators.

For information on other explosives and blasting supplies, see pages 170 to 172 of the 1928 *Nineteen Months' Catalog*.

HERCULES POWDER COMPANY 914 King Street, Wilmington, Delaware

Gentlemen—
Please send me additional information about Hercules Blasting Supplies and Hercules Detonators.

Name _____ Company _____ Address _____

HERCULES POWDER COMPANY
INCORPORATED

Fig. 4

Congress Journal announced the introduction of this machine as a new 10 cap Hercules Blasting Machine (Figure 4.). In addition Atlas and DuPont contracted with Fidelity for these machines as well. On July 29, 1930 the Fidelity Electric Co. 10 cap hand held blasting machine received a patent from the United States Patent

Office, thereby benchmarking itself as a pioneer in the development of compact and reliable modern blasting machines.

The 1930's saw advances in the design and production of more efficient motors. One such innovation was that of a motor that would change the

pitch of an airplane propeller to increase maneuverability while the craft was in flight. This gave the U.S. Army Air Corps a decided advantage during World War II. The war years saw the inclusion of the hand held 10 cap blasting machine on all U.S. built tanks as an alternate means of manually firing the main gun in the event of a power failure.

After the war, the company continued to make motors, but began to produce a variety of electric generators for use in commercial and industrial applications. The manufacture of the push-down blasting machine product line continued with only minor internal and external changes. The 10 cap hand held units underwent major changes affecting both its appearance and internal construction (Figure 5.). The most noticeable change was the inclusion of a black anodized cast aluminum top replacing the earlier brass top.

All blasting machines are designed to initiate a specific number of electric blasting caps. In doing so the designers incorporated sufficient margin should the blaster not deliver its full electric charge. Given this margin, a blasting machine operating at peak performance will initiate a significant number of blasting caps beyond its stated rating given ideal operating conditions.

Modern Blasting Machines produced by Fidelity range in capacity from 10 caps for the hand held unit to 30, 50 and 100 cap push-down models. The following table summarizes the specifications for the standard blasting machines which have been made over the years by Fidelity.

Specifications of Blasting Machines Made by Fidelity

<u>Capacity</u>	<u>Activation</u>	<u>Case Dimensions</u>	<u>Height (*)</u>	<u>Weight</u>
10 Cap	Twist-Handle	3.5 x 4 x 5.5	8 in.	5.25 lbs.
10 Cap	Push-Down	5.5 x 7.25 x 9.75	13 in.	15 lbs.
20 Cap	Push-Down	6.5 x 8 x 11.25	14.25 in.	23 lbs.
30 Cap	Push-Down	6.5 x 8 x 11.25	14.25 in.	25 lbs.
50 Cap	Push-Down	6.25 x 8 x 13	16 in.	27 lbs.
100 Cap	Push-Down	7.5 x 9 x 12	17 in.	32 lbs.

(*) The height includes the top of the handle.

The hand held 10 cap model was made of nickel plated brass and the 30, 50 and 100 cap machines were housed in either a mahogany or oak wood case. It is felt that this listing covers all the standard Blasting Machines produced by Fidelity, however one could encounter special purpose machines produced for specific customers.

A 1935 Mine and Smelter Supply Co. catalog No. 92 listed a 20 cap Push-Down unit. A 1979 Fidelity brochure listed a 20 cap Push-Down Blasting Machine which was the same size as the 30 cap model, but weighed less than the 30 cap machine. Today Fidelity as in the past builds special Blasting Machines for various customers. One example is the current use by the United States Military and it's NATO

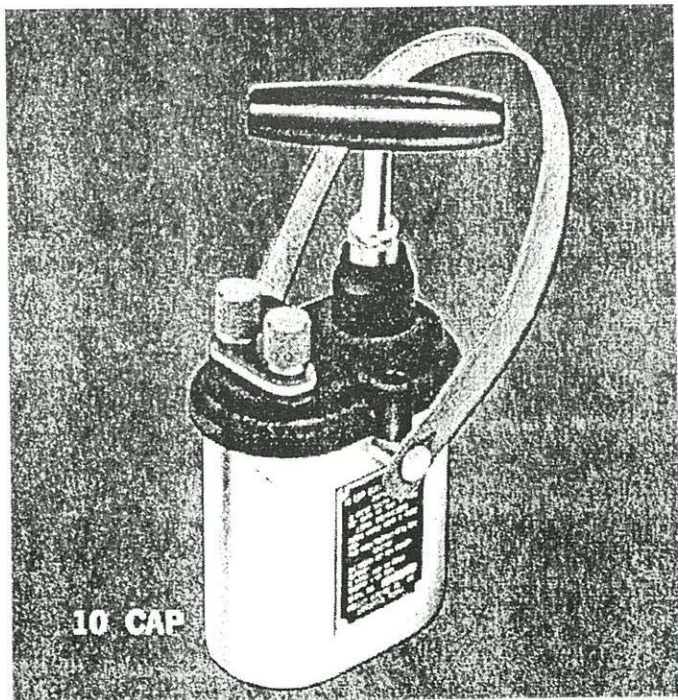


Fig. 5

Allies of the 10 cap hand held Blasting Machine on all tanks now in service as a main gun backup firing device.

At the present time Fidelity offers only the 10 cap hand held and 50 cap Push-Down Blasting Machines for sale.

In 1988 Fidelity Electric was purchased by the Klinge Corp., a Danish industrial company which eventually moved Fidelity from Lancaster to the

nearby town of York, Pennsylvania where a new and more modern manufacturing facility had been constructed.

This historical work on Fidelity Electric could not have been accomplished without the help of some very special people, first I would like to thank Mrs. Judie Ingersoll of Fidelity Electric for her tireless efforts at uncovering significant facts about the Company and assisting me in locating other people who could supply me with valuable information on the Company. Special thanks to Mr. Fred Suess and Mr. Jake Davis both former employees of Fidelity who provided valuable first hand information on the manufacture of the old Blasting Machines. One final note, if anyone knows of or has additional information on Fidelity or its products, I would appreciate hearing from you.

REFERENCES:

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