

(No Model.)

F. M. UNDERWOOD.
MUFFLER FOR ENGINES.

No. 552,085.

Patented Dec. 24, 1895.

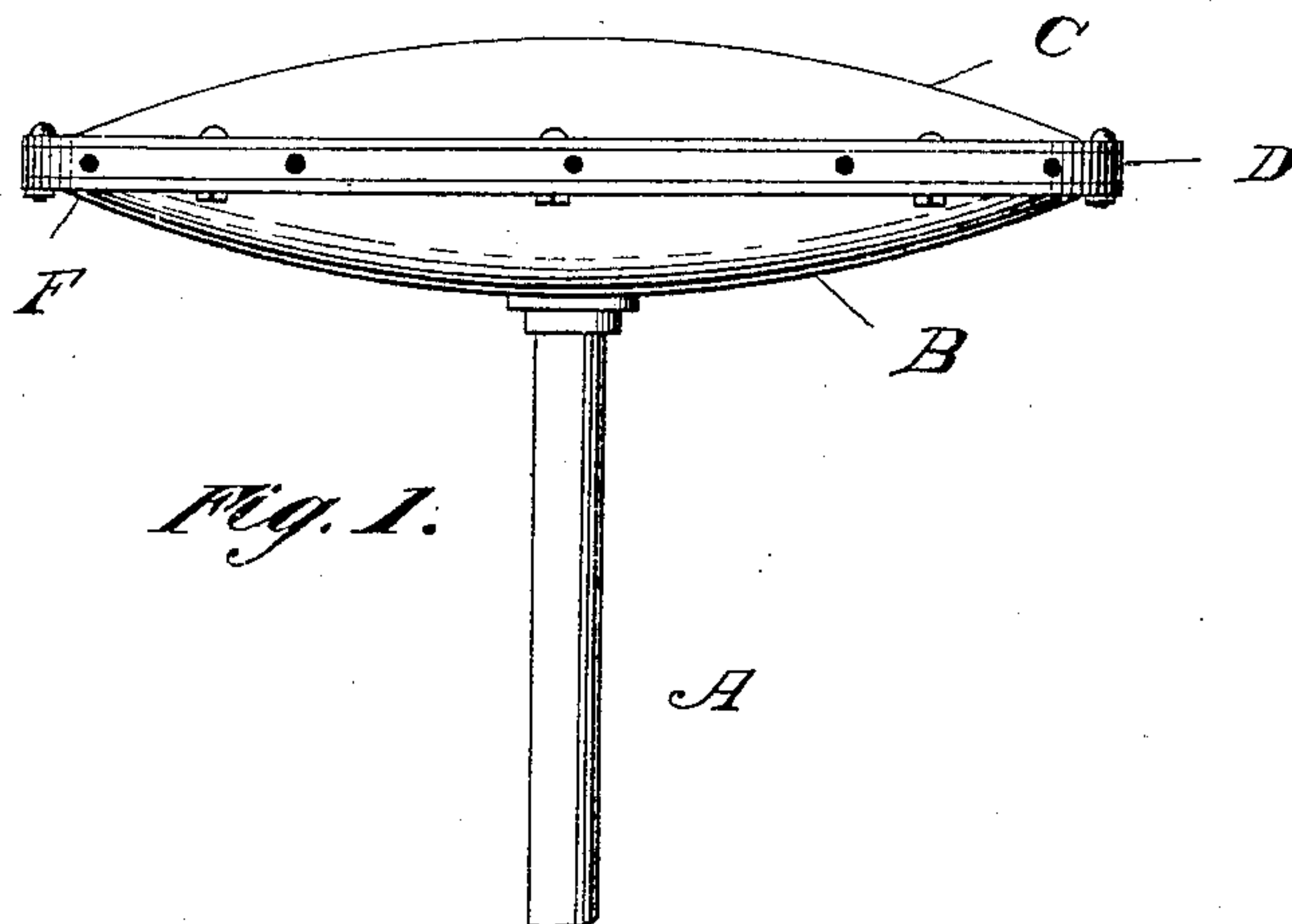


Fig. 1.

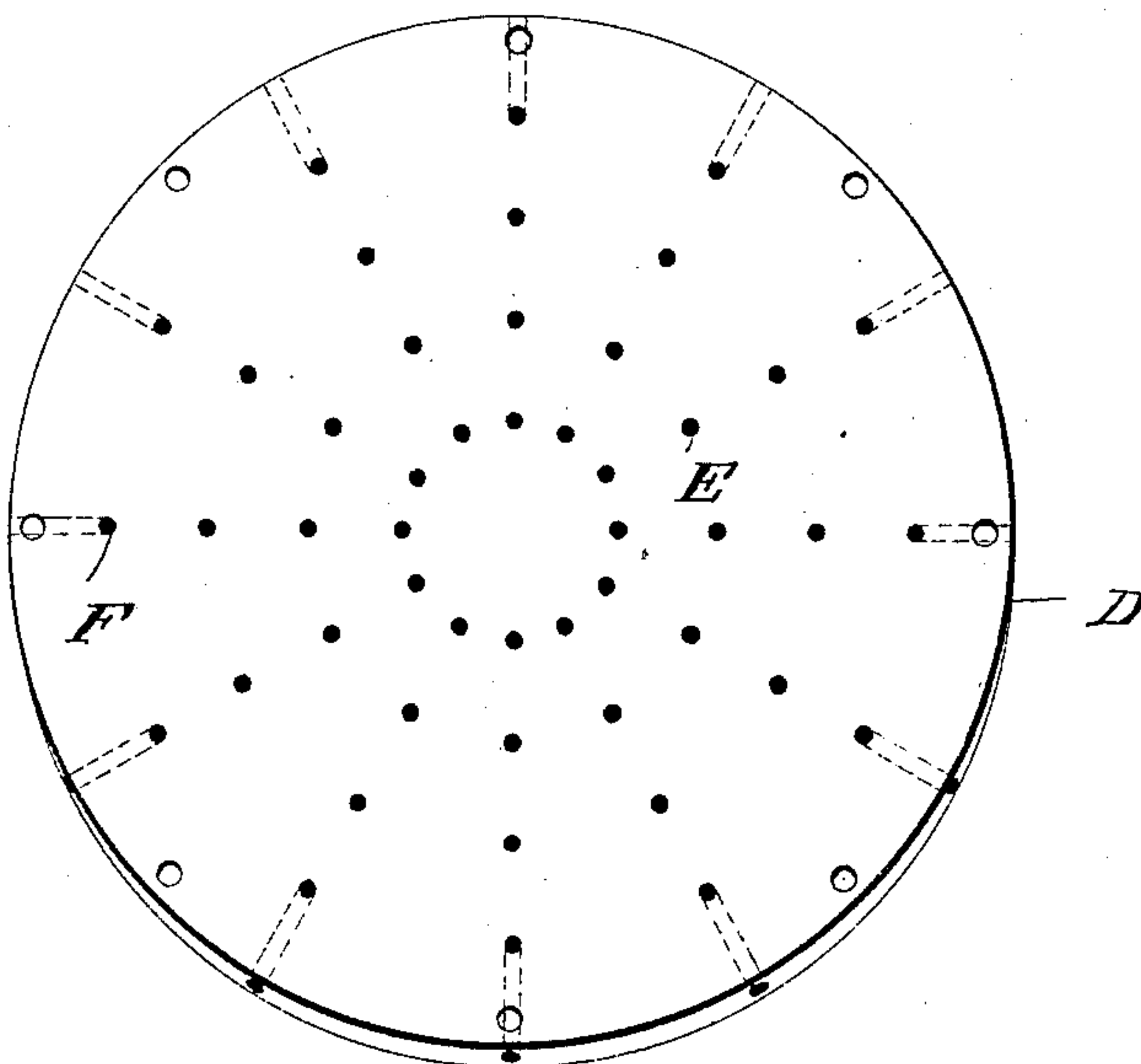


Fig. 3.

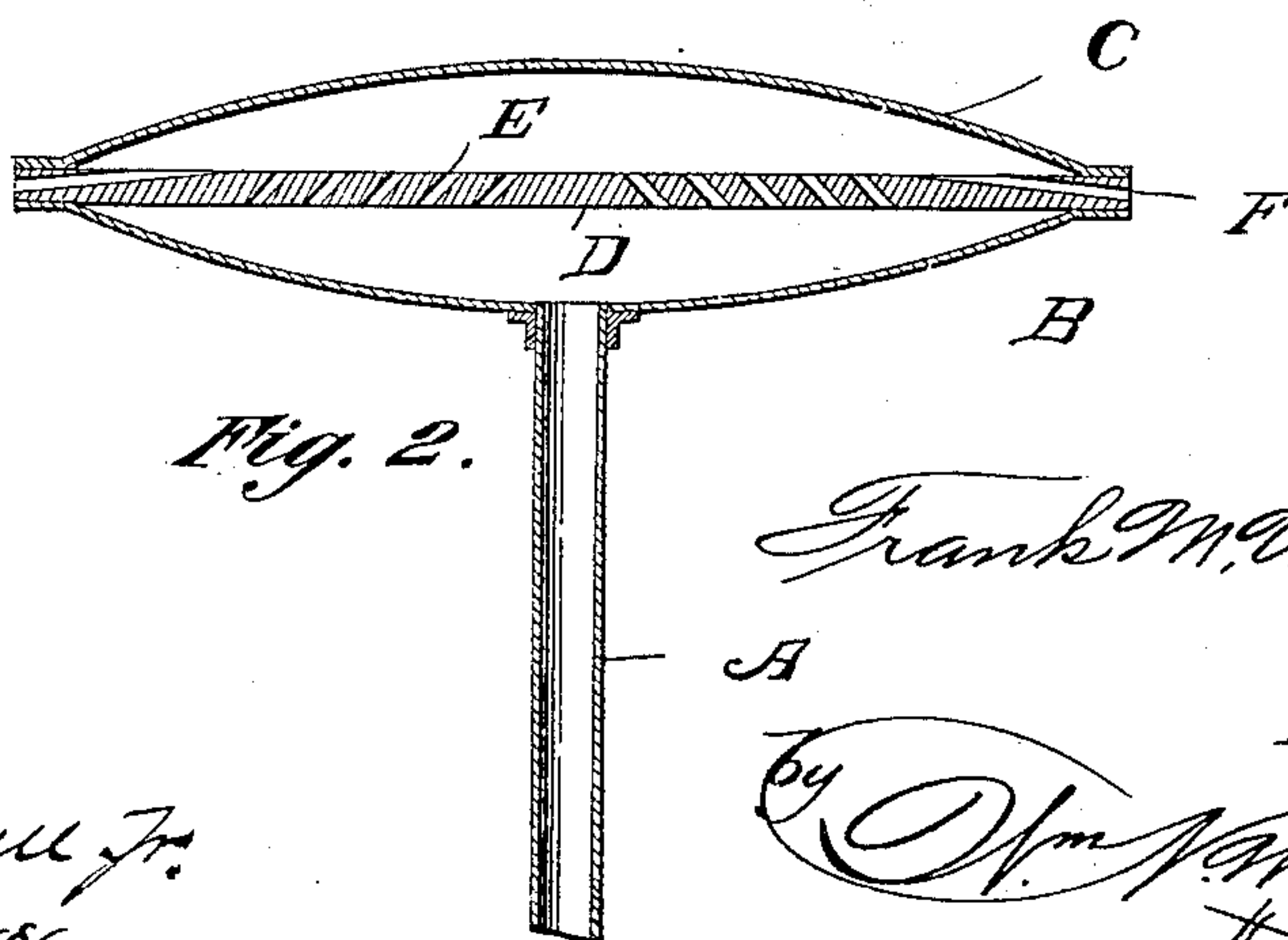


Fig. 2.

Attest.
Edw. S. Duvall, Jr.
D. P. Moore.

Frank M. Underwood.

Inventor:
by *D. P. Moore*
Atty.

UNITED STATES PATENT OFFICE.

FRANK M. UNDERWOOD, OF UPPER SANDUSKY, OHIO.

MUFFLER FOR ENGINES.

SPECIFICATION forming part of Letters Patent No. 552,085, dated December 24, 1895.

Application filed March 14, 1895. Serial No. 541,703. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. UNDERWOOD, a citizen of the United States, residing at Upper Sandusky, in the county of Wyandot and State of Ohio, have invented certain new and useful Improvements in Mufflers for Engines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in mufflers for gas, gasoline, or other engines.

In gas or gasoline engines in common or general use at each ignition or firing of the charge of gas and upon the exhaust of each stroke of the piston a loud report is made which is unpleasant and annoying and is a defect which I aim to remedy by my present invention.

The object of my invention is the provision of an extremely simple device which can be attached to the exhaust-pipe at a very small expense and which will entirely muffle or deaden the report of the charge and thus prove a desirable and practical acquisition to all gas or gasoline engines.

To attain the desired object the invention consists of a muffler embodying novel features of construction substantially as disclosed herein.

In order that the peculiar construction and operation of my device may be readily understood and its numerous advantages be fully appreciated, I invite attention to the accompanying drawings.

Figure 1 represents a side elevation of a muffler constructed in accordance with and embodying my invention. Fig. 2 represents a vertical central sectional view thereof, and Fig. 3 represents a perspective view of the muffling disk or plate detached.

In the drawings, the letter A designates the exhaust-pipe attached to the engine in the well-known manner and leading to the lower disk-plate B, between which and the upper dished or concaved plate C is secured the muffling disk or plate D. In this disk or plate, which is of peculiar construction, are

embodied the essential features of my invention. This disk is preferably made of wood or any other suitable material which will have a naturally deadening or muffling effect and is provided with the inwardly-inclined openings, bores or passages E extending in a series through the body thereof and has the deeply-inclined exit or discharge openings F which extend from the top of the disk through the same to the circumference or periphery of the disk. From this construction it is evident that the exhaust passing into the pipe strikes against the muffling-disk, is carried through the same by the inclined openings in the body of the disk and escapes through the openings in the edges and will thus entirely muffle or deaden the sound, but will not in any manner affect the steady and even running of the engine.

I claim—

1. In a muffler the combination with the exhaust pipe of the casing consisting of an upper closed section having an opening to admit the exhaust pipe, and a deadening or muffling disk secured between the two sections of the casing and provided with inlet and outlet openings for the entrance and escape of the exhaust.

2. In a muffler the combination of the casing having an opening to receive the exhaust pipe, the muffling or deadening disk secured in the casing and having openings to allow the entrance of the exhaust and also openings leading to the outer air to allow the escape of the exhaust.

3. In a muffler, the combination of the casing having the opening to receive the exhaust pipe, the muffling disk secured between the sections of the casing and having the inclined openings in the body thereof to allow the entrance of the exhaust and the oppositely inclined openings leading to the outer air to allow the escape of the exhaust.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK M. UNDERWOOD.

Witnesses:

J. M. STEVENSON,
WARNER CLARK.