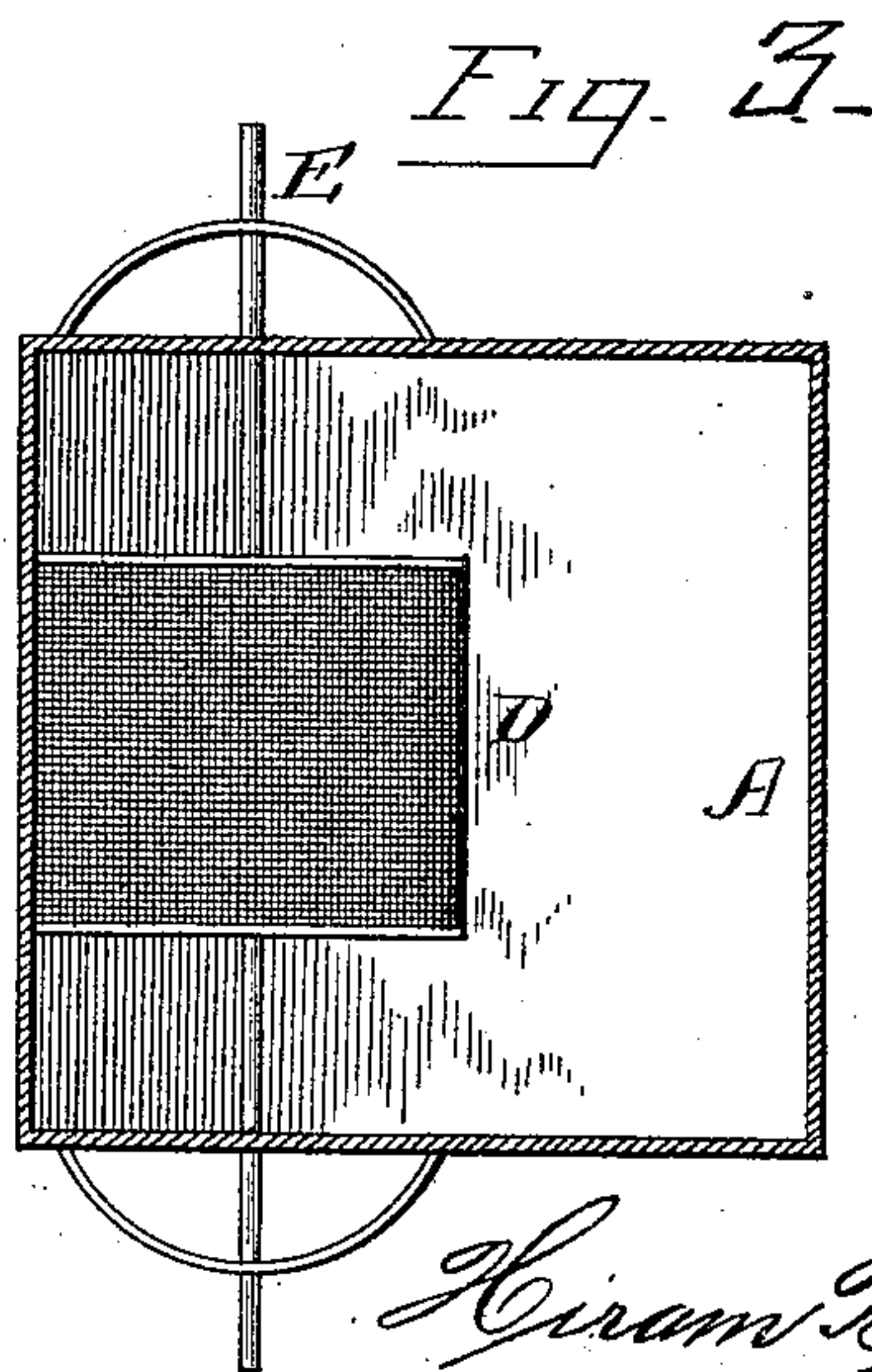
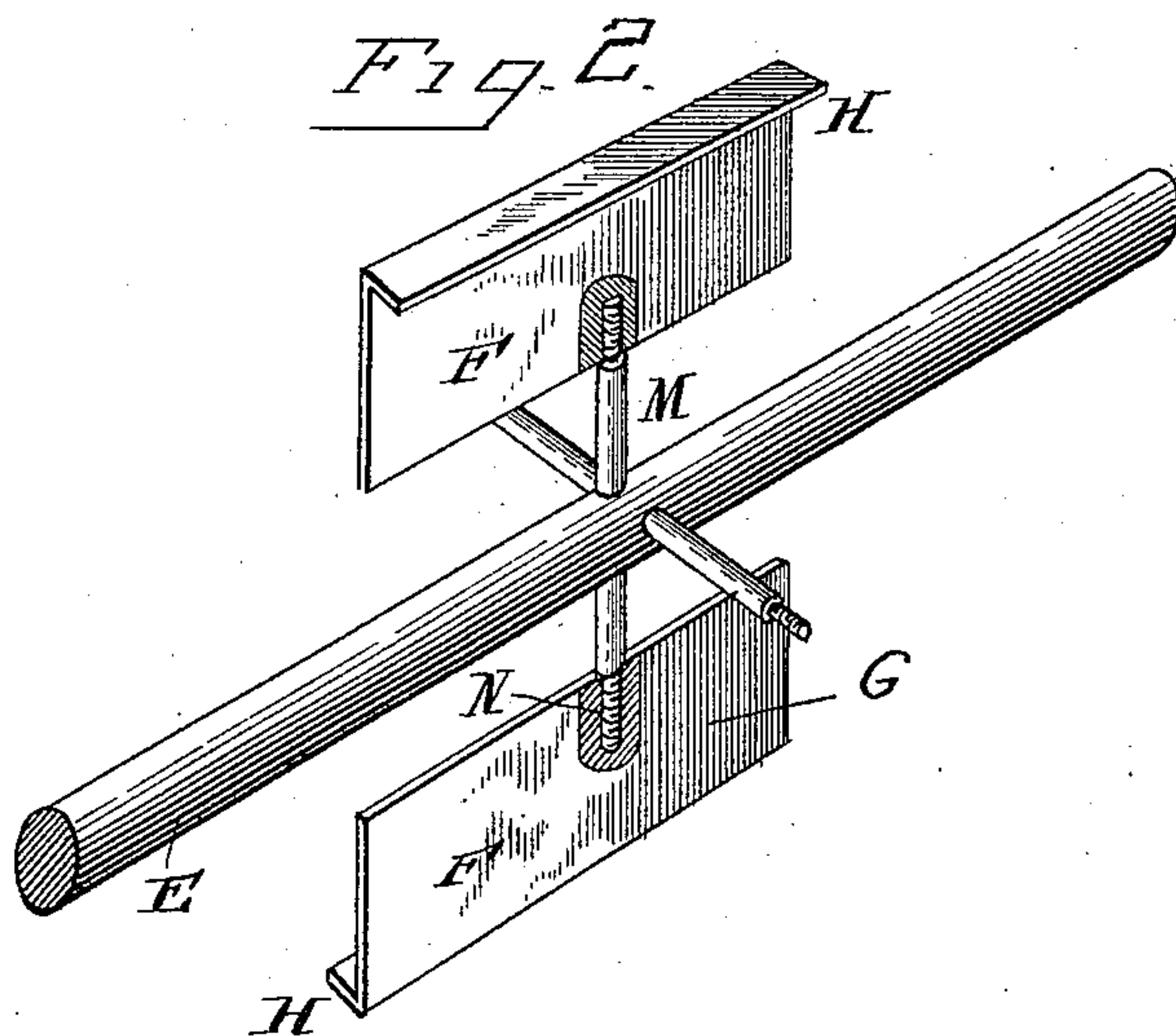
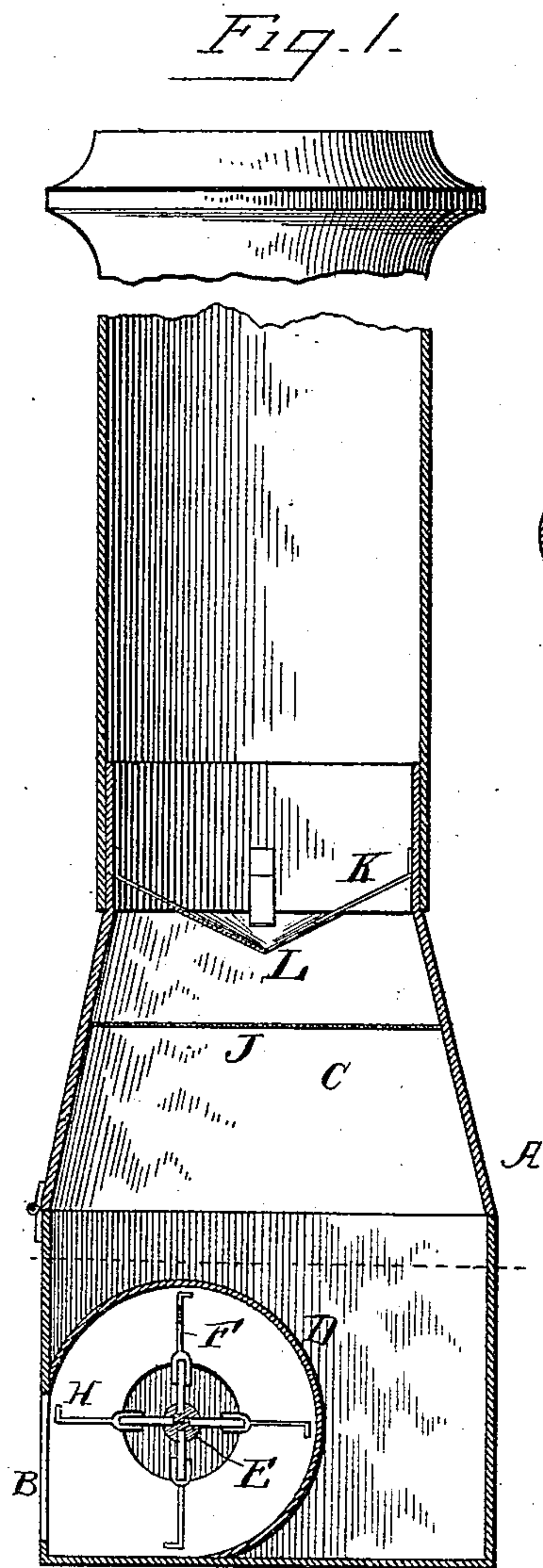


(No Model.)

H. BROOKINS.  
SPARK ARRESTER.

No. 451,219.

Patented Apr. 28, 1891.



WITNESSES:  
*J. B. McGivver.*  
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INVENTOR.  
*by J. M. Moore.*  
Attorney.



# UNITED STATES PATENT OFFICE.

HIRAM BROOKINS, OF NORTH MANCHESTER, INDIANA, ASSIGNOR OF ONE-HALF TO JOHN ULERY, OF SAME PLACE.

## SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 451,219, dated April 28, 1891.

Application filed January 2, 1891. Serial No. 376,442. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM BROOKINS, a citizen of the United States, residing at North Manchester, in the county of Wabash and State of Indiana, have invented certain new and useful Improvements in Spark-Arresters; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in spark-arresters; and the leading object of my invention is the provision of a device of this character, which will arrest all the sparks and prevent them from leaving the smoke-stack, and thus avoid the many and frequent fires caused by the sparks from the engine.

Another object of my invention is the provision of a spark-arrester which will permit easy access to all of its parts for the purpose of cleaning them and making repairs when needed.

Another object of my invention is the provision of a spark-arrester which will be of simple and durable construction, which will be inexpensive, and which will be thoroughly efficient for the intended purposes, thus embodying all the features required to render the device practical and useful.

To attain the desired objects the invention consists of a spark-arrester constructed substantially as herein illustrated, described, and specifically defined and distinguished by the claims.

Figure 1 represents a vertical section of a spark-arrester constructed in accordance with and embodying the features of my invention, and Fig. 2 represents a perspective view of the fan. Fig. 3 represents a horizontal section with the drum formed of screen material.

Referring by letter to the drawing, A designates the casing of my improved spark-arrester, which is in this instance of square or rectangular shape, but which may be of other suitable form if, desired, and the casing is

provided with the inlet-opening B for the smoke, sparks, or products of combustion, and to the casing is hinged the smoke-stack C, which is inclined and rounded, as shown. By this construction it will be seen that the interior of the device may be easily examined and cleaned and repaired, if necessary.

Adjacent to and communicating with the inlet B of the casing is the shell or drum D, and in this drum is mounted the shaft E, carrying a fan F, said shaft being driven from a suitable source, and the blades G of the fan are at their outer edges turned down, as at H, the purpose of which is to cause them to act upon the sparks like a scoop and prevent them from leaving the casing. This drum is made of metal or of screen material, as desired.

In the conical part of the stack I secure a screen J, the purpose of which is to catch sparks which may escape through the drum, and thus prevent them from leaving the stack, and above the screen is supported by the braces or arms K the inverted cone L.

From the foregoing description, taken in connection with the drawings, the operation and advantages of my invention will be readily understood and appreciated. The products of combustion enter the inlet of the casing, where the sparks are arrested by the fan and drop in the casing, and those escaping through the drum are caught by the screen and prevented from leaving the stack.

It will be seen that I provide a simple, durable, cheap, and efficient device, and as the advantages thereof will be readily understood and appreciated by all acquainted with such matters, further comment is unnecessary herein.

The fan-blades are attached to the driving-shaft by spokes or rods M, which have their ends threaded, as at N, to engage the shaft and blades. This construction allows the blades to be easily removed and attached.

I claim as my invention—

1. A spark-arrester consisting of a casing having an inlet, a drum adjacent to and communicating with said inlet, a shaft mounted in the drum and carrying a fan, a stack

hinged to the casing, and a screen and cone in the stack.

2. A spark-arrester consisting of a casing having an inlet, a drum communicating with  
5 said inlet, a shaft mounted in the drum, arms or spokes having their inner ends screwed into the shaft, blades having threaded sockets to receive the outer ends of the arms or spokes and having their outer edges bent at

an angle to the body, and a stack hinged to the casing.

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

HIRAM BROOKINS.

Witnesses:

W. H. RIDGLEY,  
M. H. WANUL.