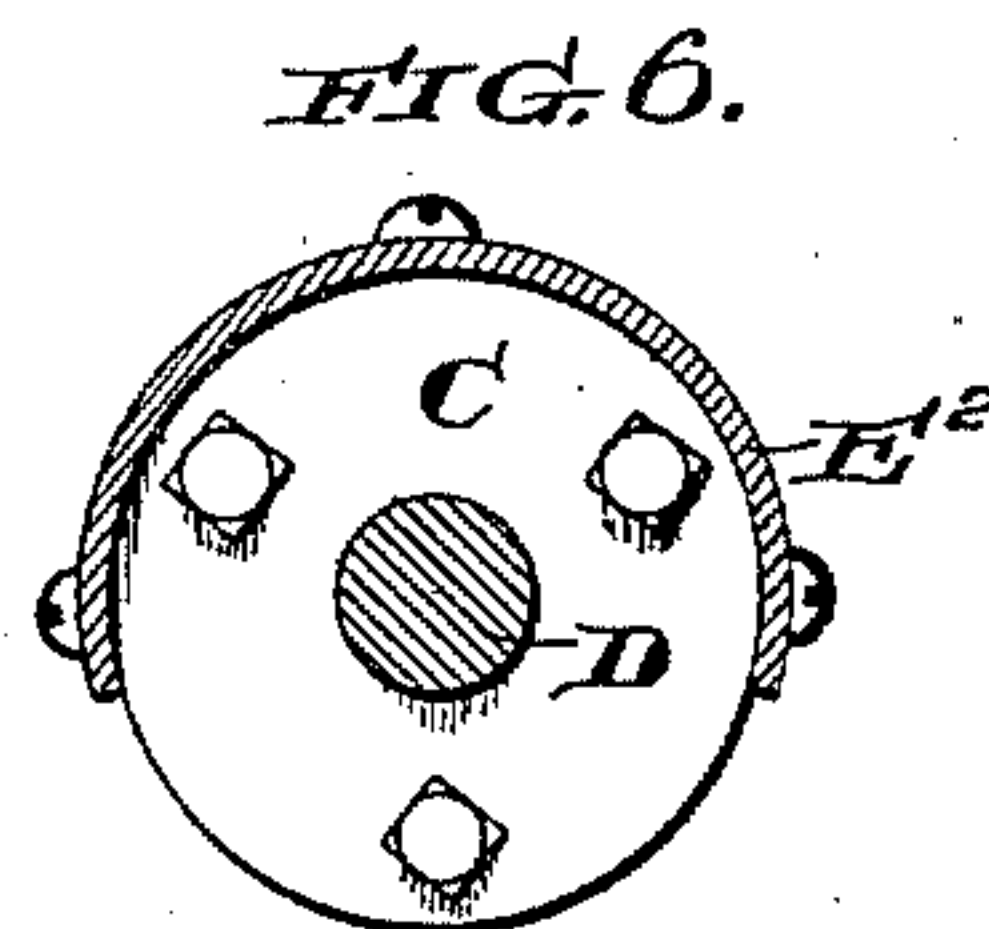
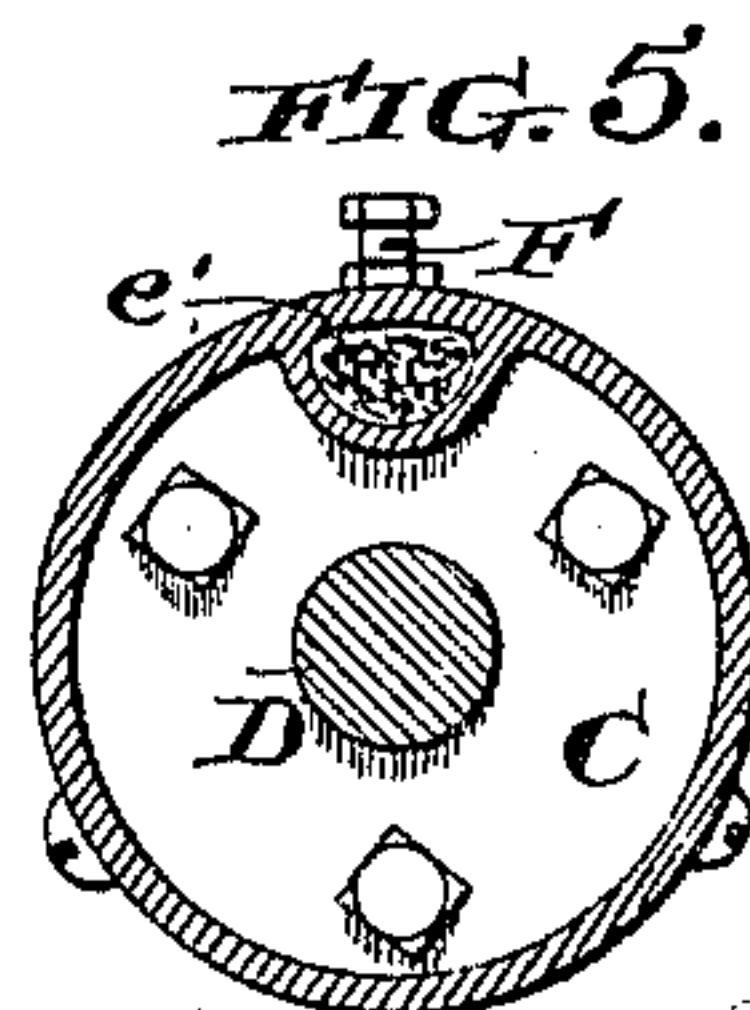
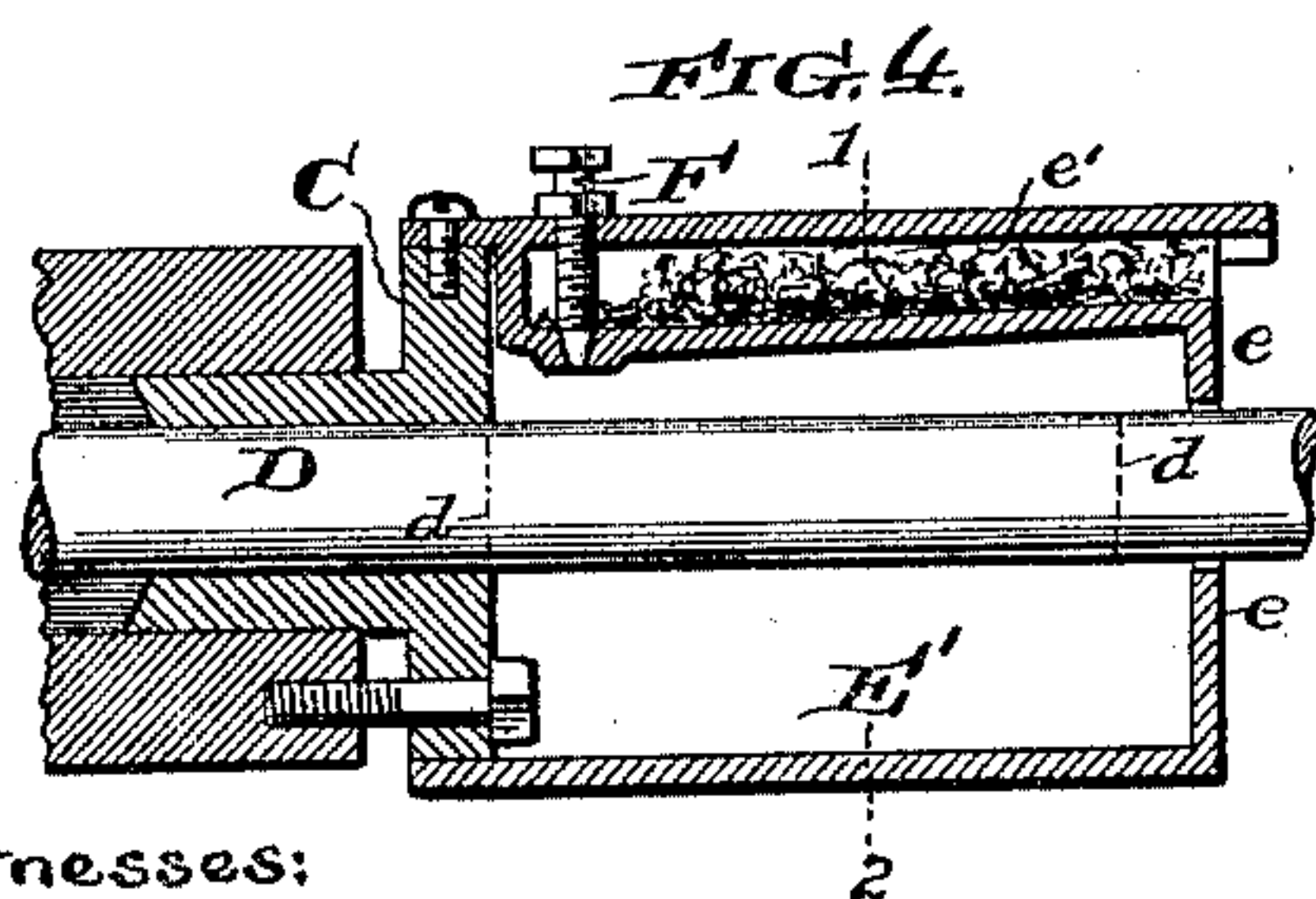
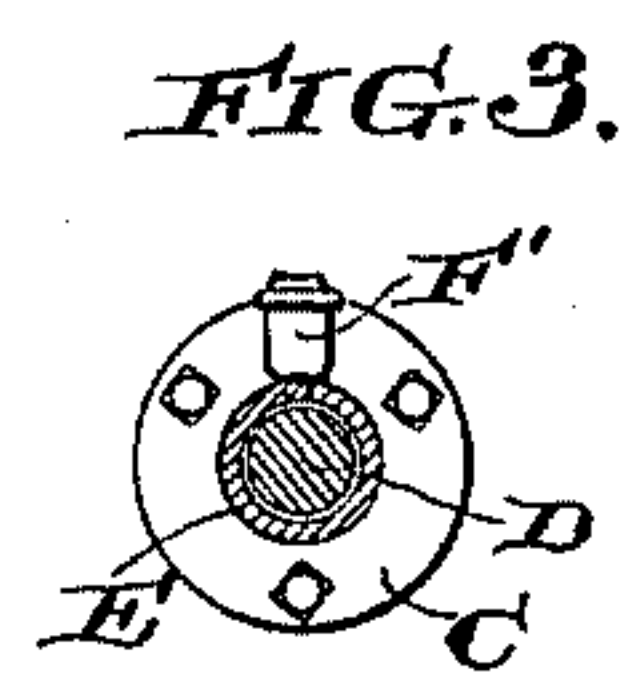
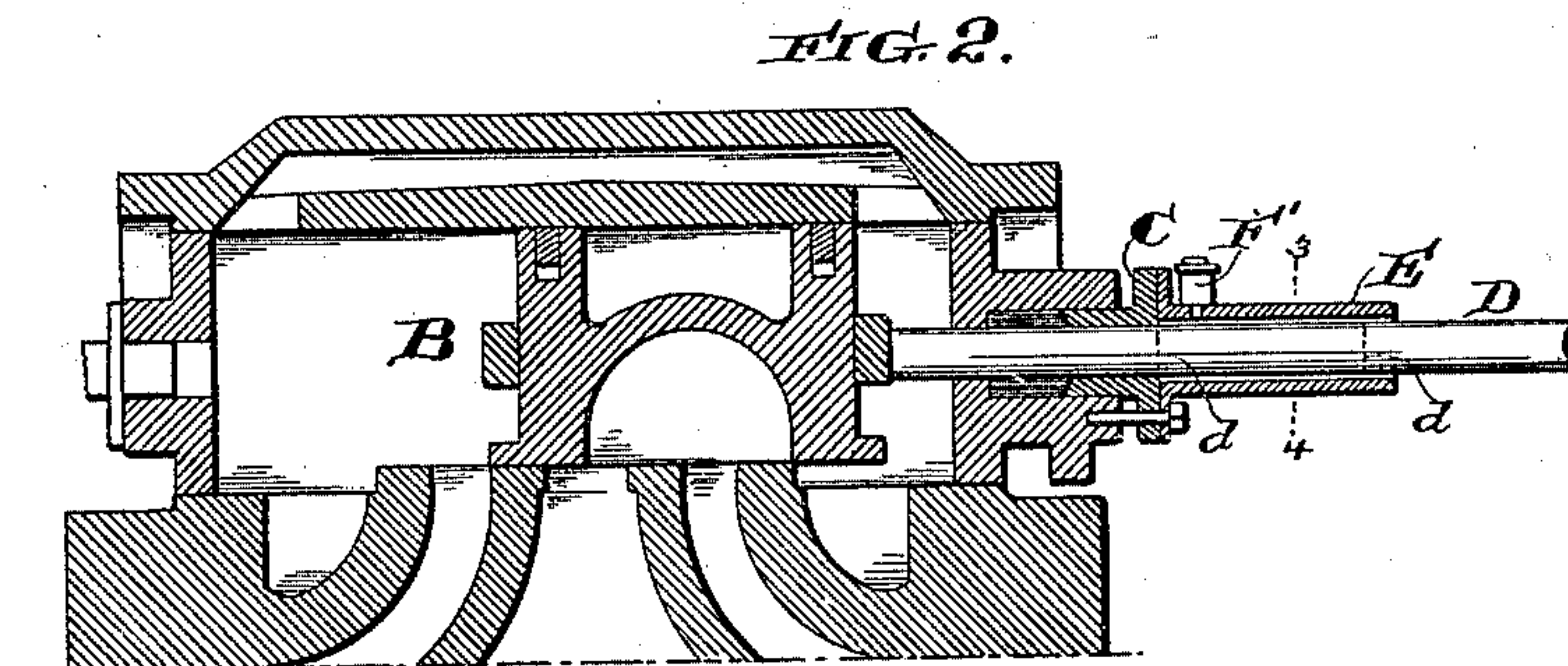
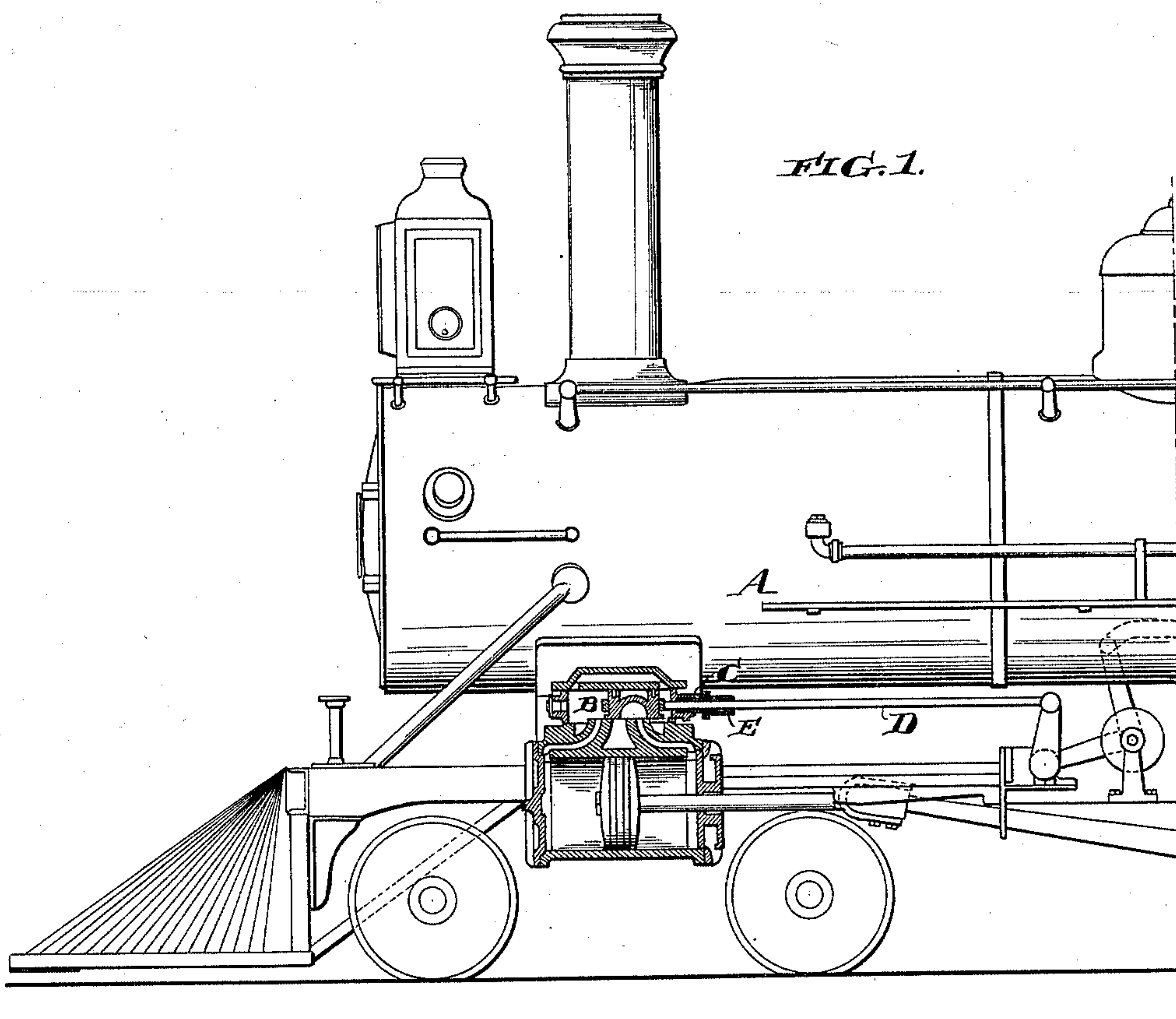


(No Model.)

D. A. REAGAN.
VALVE STEM SHIELD.

No. 509,681.

Patented Nov. 28, 1893.



Witnesses:
Henry D. Dwyer
Jesse Heller

Inventor:
Dominick A. Reagan
by his atty.
Francis T. Chambers

UNITED STATES PATENT OFFICE.

DOMINICK A. REAGAN, OF ALTOONA, PENNSYLVANIA.

VALVE-STEM SHIELD.

SPECIFICATION forming part of Letters Patent No. 509,681, dated November 28, 1893.

Application filed March 31, 1891. Serial No. 387,151. (No model.)

To all whom it may concern:

Be it known that I, DOMINICK A. REAGAN, of Altoona, county of Blair, State of Pennsylvania, have invented a certain new and useful Valve-Stem Shield, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a device for protecting that part of a valve-stem which, in its reciprocation, is alternately within and without the stuffing-box, and has for its objects the prevention of the deposit of dirt and grit upon the rod and the gradual working of such injurious matter into the stuffing-box and valve chamber.

My invention is particularly useful in locomotive engines although of value also in stationary engines, and although specially designed for use on valve-stems it is applicable and will sometimes be useful in connection with piston-rods.

My invention will be best understood as described in connection with the drawings in which it is illustrated and in which—

Figure 1 is an elevation of the front of a locomotive engine showing the steam chest, cylinder, and my protective device in section. Fig. 2 is an enlarged sectional view of the steam-chest, valve-rod, and protective device. Fig. 3 is a cross-sectional view on the line 3—4 of Fig. 2; Fig. 4 a longitudinal cross-section through the gland and protective device showing the latter in the form in which I prefer to use it. Fig. 5 is a cross-sectional view on the line 1—2 of Fig. 4; and Fig. 6 an end view partly in section showing a modified construction of my device.

A indicates the locomotive; B the steam-chest; C the stuffing-box gland; D the valve-rod, the space between the lines marked *d d* indicating that portion of the rod which, in its reciprocation, passes longitudinally within and without the stuffing-box.

E indicates the protective device which is secured directly or indirectly to the steam-chest in such a way as to extend over the rod D for a distance equal to its travel. Preferably it is bolted or otherwise secured to the gland C and made in the form of a sleeve

which will extend entirely around the rod D; as, however, the principal difficulty is found to arise from the grit deposited on the top of rod, it is sufficient in many cases to simply cover or protect the top of the rod; as, for instance, is indicated in Fig. 6 at E². I prefer to construct the shield or protector as is shown at E' Figs. 4 and 5 forming it into a cylinder of considerably larger diameter than the rod D and bending its outer edge in into an annular flange *e* which should approach close to the rod D. In the chamber thus formed around the rod I introduce lubricating oil through a passage *e'*, F indicating a regulating valve by which the supply of oil is controlled. It is advisable in any form of the protecting device to introduce the oil close to the face of the stuffing-box gland and in Figs. 2 and 3 I have indicated the oiler at F'.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a steam chest having a stuffing box, and a valve stem entering the chest through said box, of an open ended projecting shield extending out from the box and over the stem for a distance equal to the travel of the valve.

2. The combination with a steam chest having a stuffing box, and a valve stem entering the chest through said box, of an open ended projecting shield extending out from the box and inclosing the stem for a distance equal to the travel of the valve.

3. In combination with a steam-chest having a stuffing box and a valve-stem entering the chest through said box, a gland having a projecting shield secured thereto and extending over the stem for a distance equal to the travel of said stem.

4. In combination with a steam-chest and valve-stem entering the same, a protecting casing E' extending around said stem for a distance equal to its travel and having an inwardly-turned flange *e* at its end and an oil passage *e'* within it.

DOMINICK A. REAGAN.

Witnesses:

W. D. COUCH,
JAMES MORGAN.