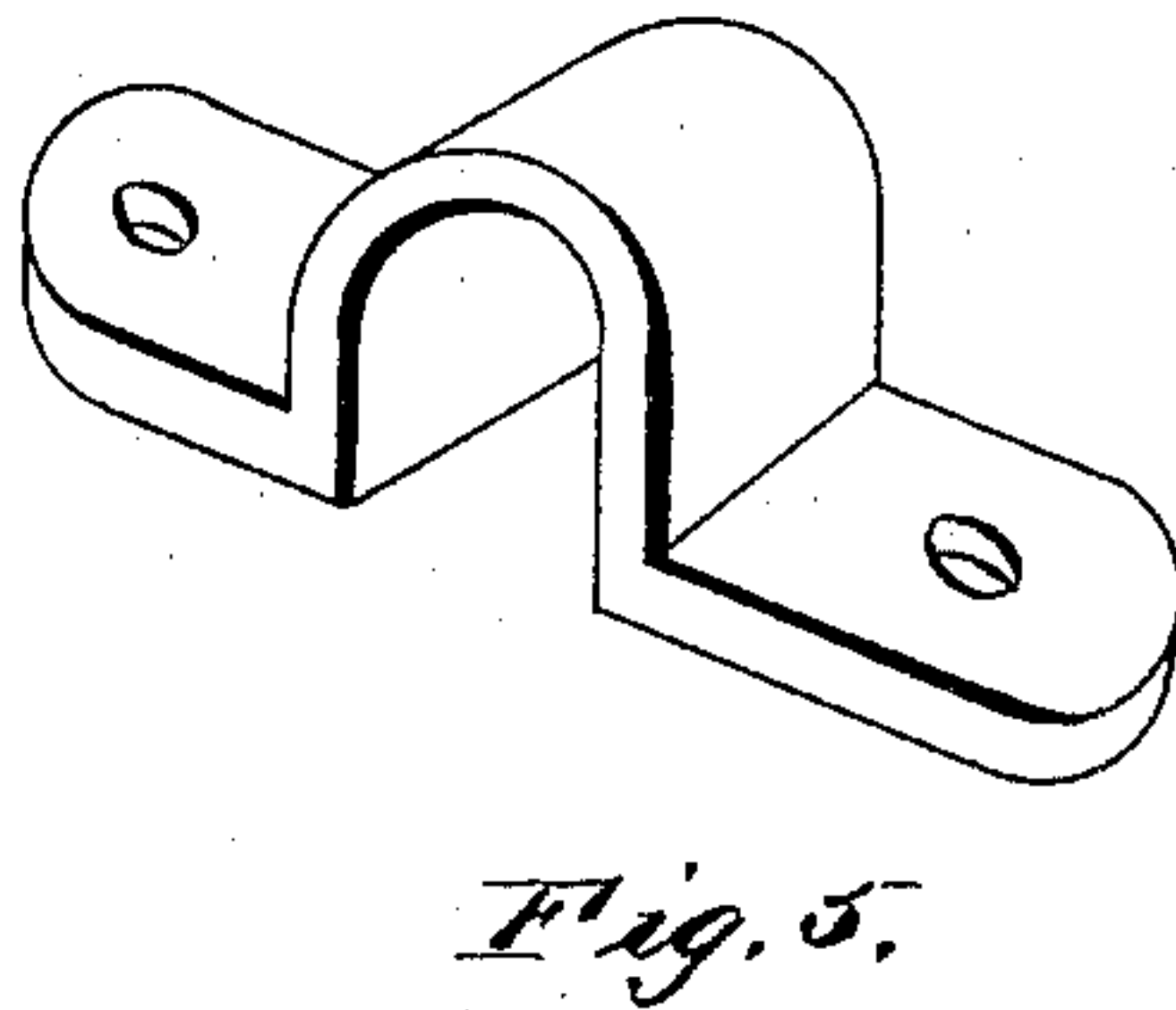
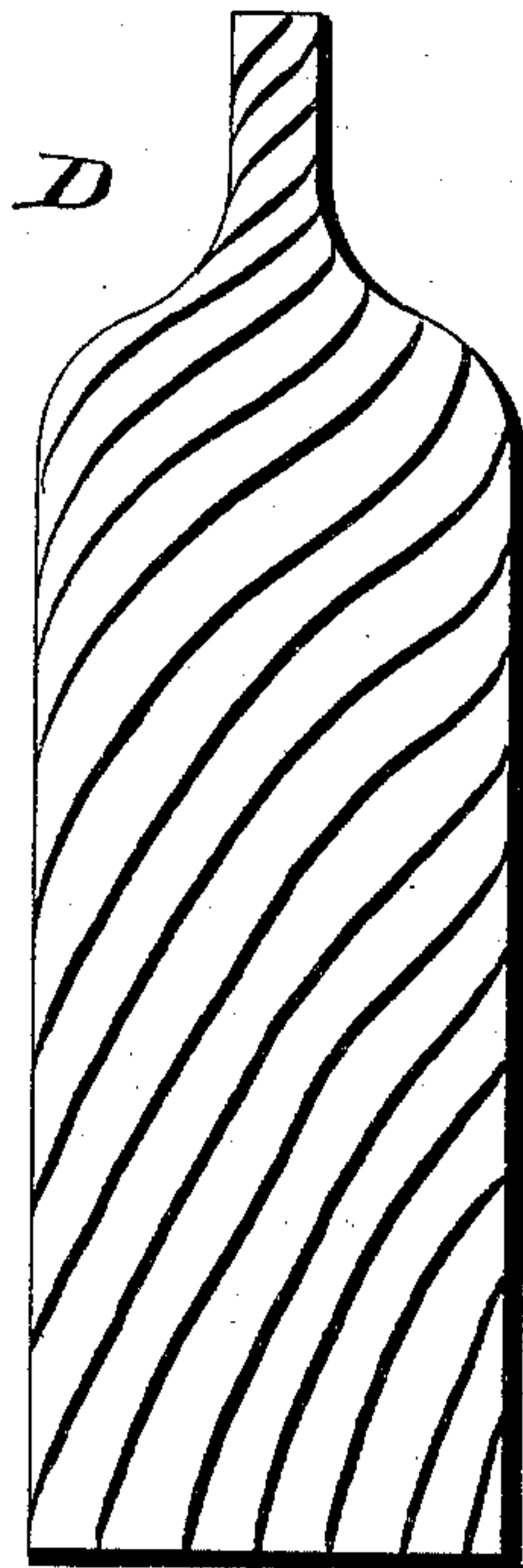
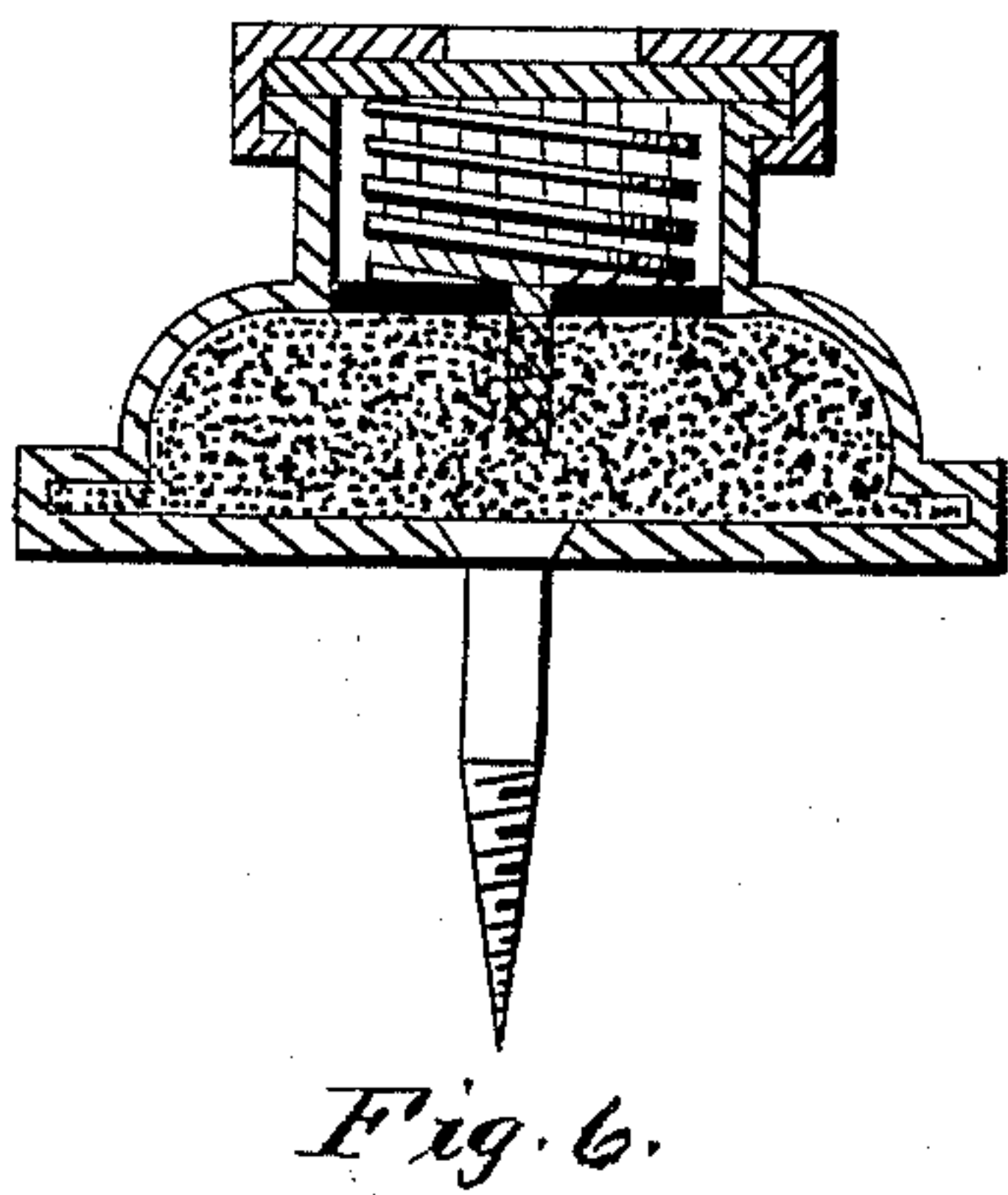
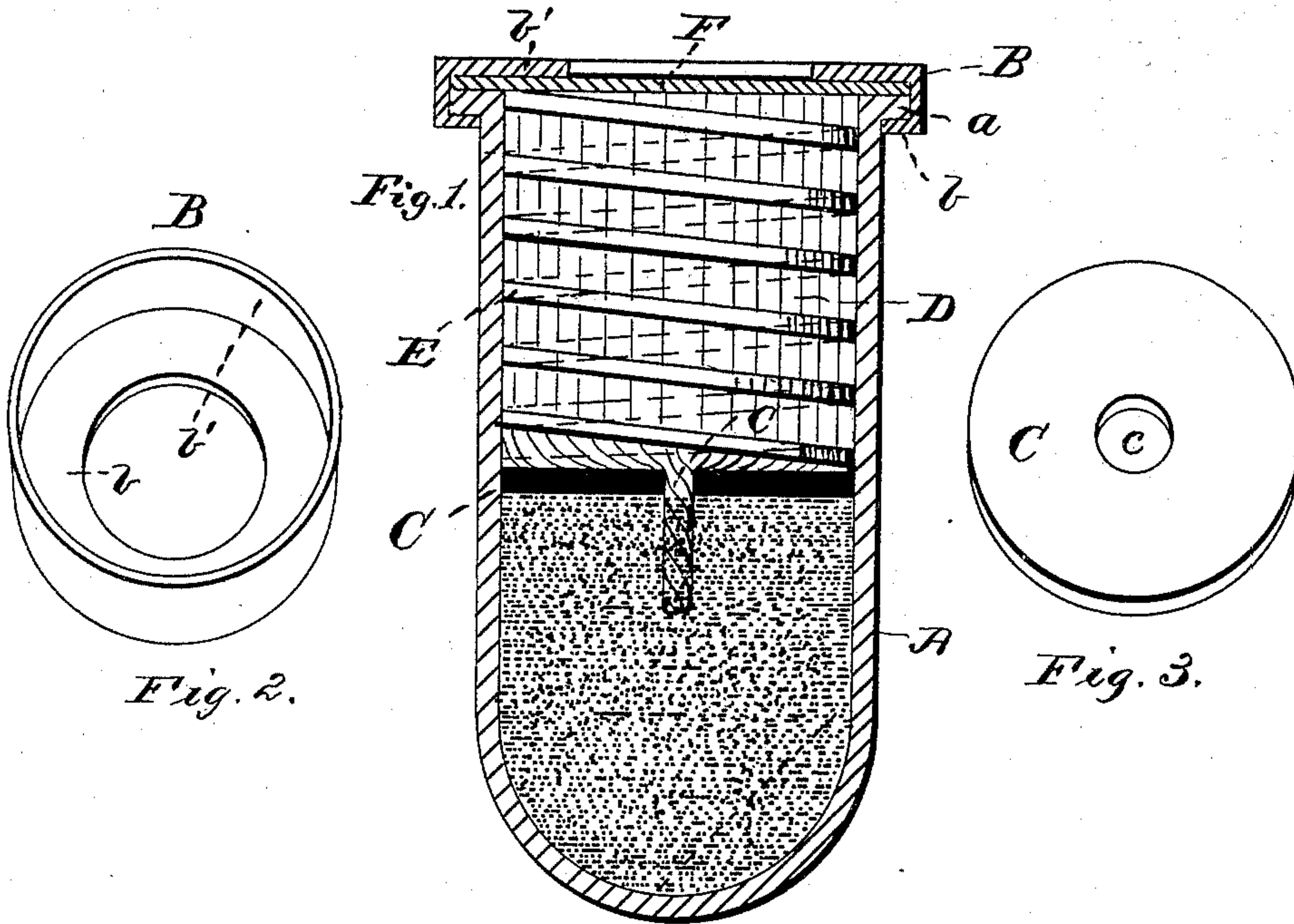


(No Model.)

J. T. TURNER.  
AUTOMATIC FIRE ALARM.

No. 436,617.

Patented Sept. 16, 1890.



Witnesses  
M. B. Harris  
W. H. Moffett

Fig. 4.  
By his Attorney  
John T. Turner  
Piggard & Co.



# UNITED STATES PATENT OFFICE.

JOHN TRUMBULL TURNER, OF SING SING, NEW YORK.

## AUTOMATIC FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 436,617, dated September 16, 1890.

Application filed April 4, 1890. Serial No. 346,542. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN TRUMBULL TURNER, a citizen of the United States, residing at Sing Sing, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Automatic Fire-Alarms; 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 has relation to automatic fire-alarms; and it consists in the construction and novel arrangement of parts, as hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the appended claims.

The objects of my invention are, first, to provide an automatic fire-alarm of simple and inexpensive construction; secondly, to provide a fire-alarm that may be placed below the floors or in the partitions of rooms in stores, dwellings, and factories or to be placed in or around the furniture, and, thirdly, to provide a fire-alarm with a metallic cap that will melt at a temperature of 212° Fahrenheit and cause an alarm by explosion, all as hereinafter set forth.

Figure 1 is a vertical section of a fire-alarm embodying my improvements; Fig. 2, a detail view of the fusible ring; Fig. 3, a detail view of the wad C; Fig. 4, an enlarged detail view of the fuse D. Fig. 5 is a detail view of the bracket. Fig. 6 is a modification of my automatic fire-alarm.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in all the figures, the letter A indicates a shell constructed of thin metal, paper, or the like closed at one end and provided at its opposite end with an annular flange *a*.

B designates a ring, L-shaped in cross-section, made of fusible metal or composition, and is designed to fit over the shell with its flange *b* resting against the flange *a*, as shown in Fig. 1.

C designates a wad or washer constructed of pasteboard and provided in its center with an opening *c*, for a purpose presently explained.

D designates a fuse constructed of loose cot-

ton or some light inflammable substance, one end of which is designed to be forced through the opening in the wad or washer C, as will hereinafter appear.

E designates a spiral spring located within the shell, one end of which is adapted to rest against the wad C and its opposite end against the cap F, said cap being held in position by the flange *b'* of the ring B, being pressed down upon said cap.

I do not desire to limit myself to the precise construction shown and described, as many minor changes may be made without departing from the spirit of my invention, and the shape of the automatic fire-alarm may also be changed—as, for instance, it could form the head of a nail for hanging pictures or made in the form of a rosette for window-blocks and other uses; and when desired to be placed about furniture of any description and constructed as shown in Fig. 1, I employ a bracket for securing said fire-alarm, as illustrated in Fig. 5.

The loading and operation of my improved automatic fire-alarm, taken in connection with the above description and accompanying drawings, may be briefly described as follows: The shell is half filled with rifle-powder and the wad C then placed in the shell and forced down against the powder. The fuse, which has been previously thoroughly impregnated with pulverized powder, refined saltpeter, or other highly-inflammable substance, is placed within the shell, one end of which is forced through the opening in the wad or washer, as shown in Fig. 1. The spiral spring is then placed in the shell, and the fuse, which remains above the wad, is entangled with the spiral spring. The cap is then forced down upon the flange *a* against the tension of the spiral spring and confined by clinching or bending of the flange *b'* down upon the cap, as shown in Fig. 1. This completing the loading or charging of my improved automatic fire-alarm, it may now be put in any desired place in a building or a piece of furniture, and when there is fire or flame enough to cause a heat of about 212° Fahrenheit the fusible ring will be melted and the cap F thrown out by the power of the spiral spring E, which, extending to its full length and carrying the highly-inflammable fuse with it,



will expose the latter to be ignited, the ignition being communicated directly to the powder below the wad C, which will explode with a report of loudness governed by the size of  
5 shell and quantity of powder.

It is intended that these automatic alarms, which can be constructed at a small cost, can be placed in all parts of a house or building.

Having thus fully described my invention,  
10 what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the shell, provided with an annular flange and a fusible ring engaging said flange, of an explosive substance  
15 confined therein by a cap, and the fusible ring, substantially as specified.

2. In an automatic fire-alarm, the combination, with the shell closed at one end, of an explosive substance confined therein, an in-

flammable fuse communicating with said explosive substance, and the coil-spring confined within the shell by a cap, substantially as described.

3. In an automatic fire-alarm, the combination, with the shell closed at one end, provided  
25 at its opposite end with an annular flange, the explosive substance confined therein by the wad C, provided with an opening, the fuse passing therethrough, and the coil-spring between the washers and the cap, of the fusible ring  
30 provided with a flange adapted to be forced down upon the cap, in the manner described.

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

JOHN TRUMBULL TURNER.

Witnesses:

ALONZO DRAPER,  
D. S. VAN WYCK.