

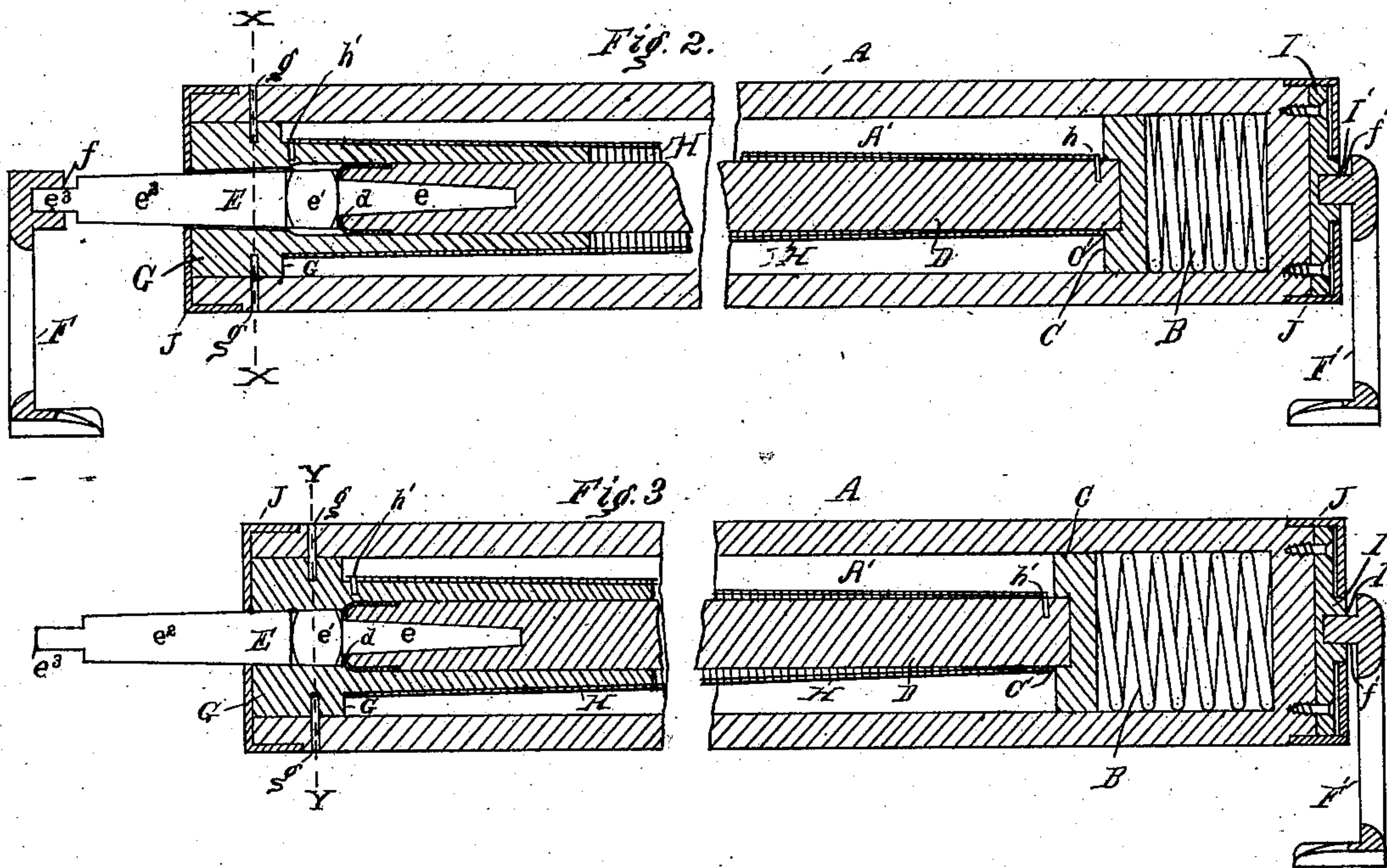
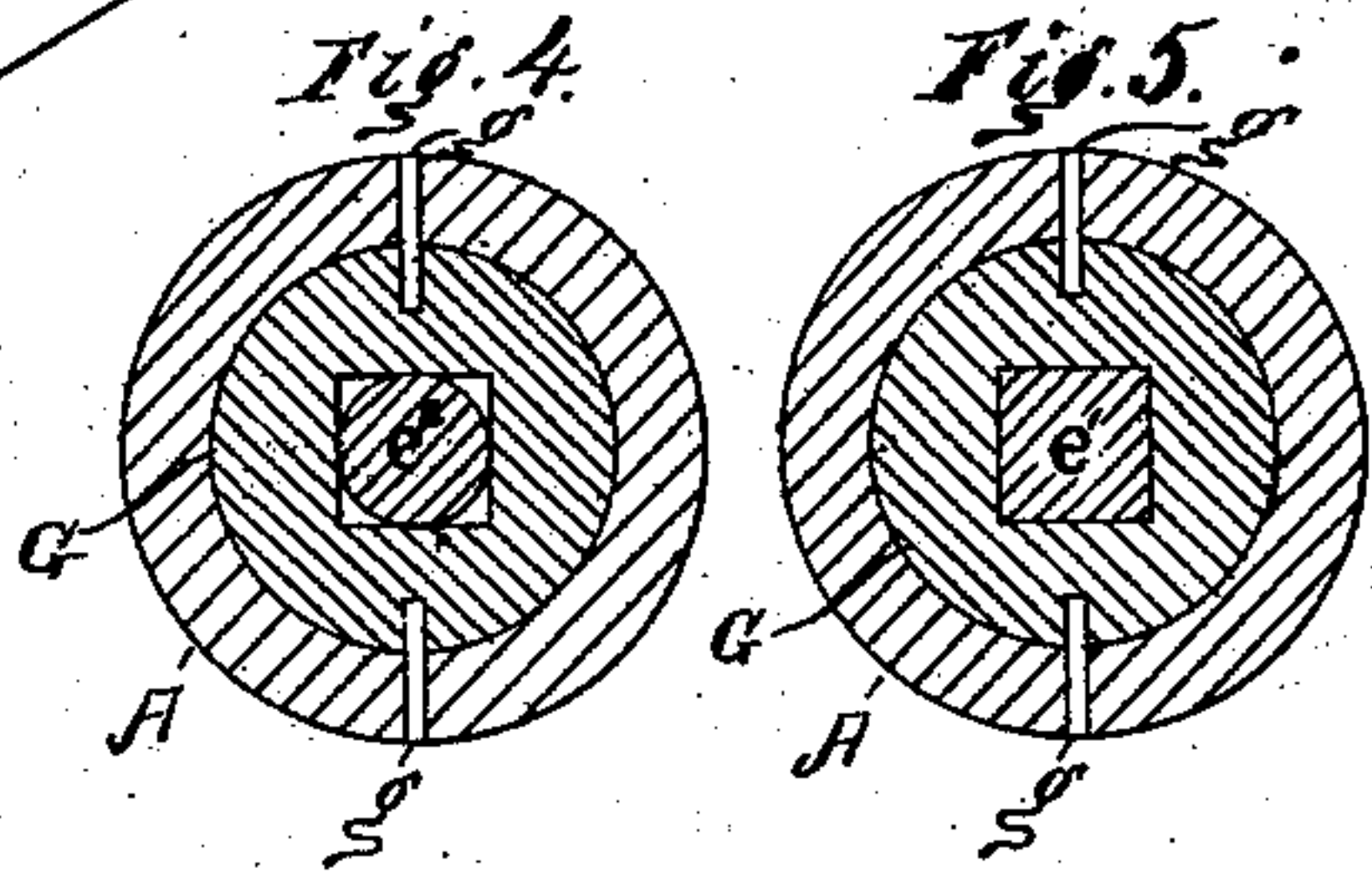
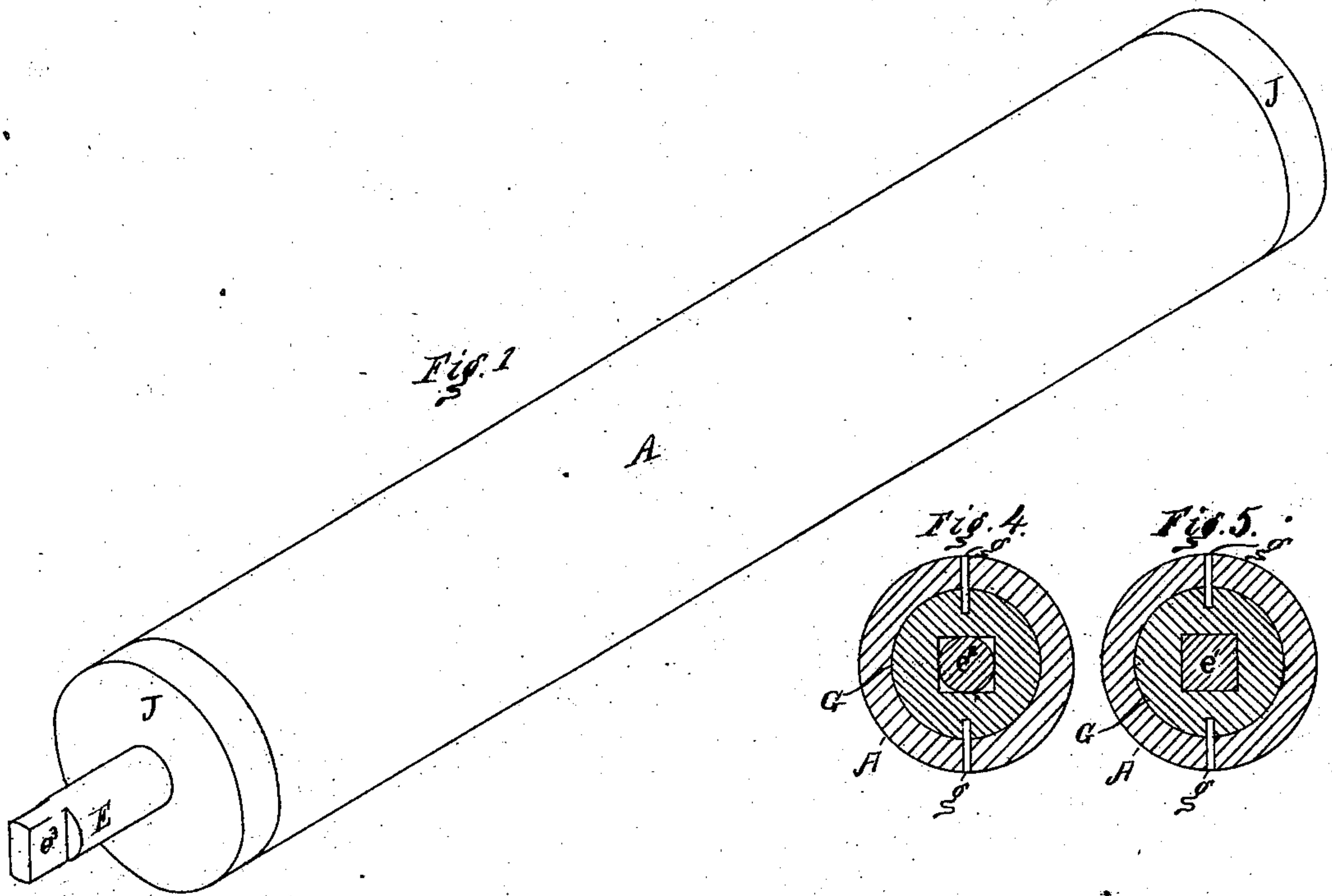
(No Model.)

M. E. GRAVES & P. C. GATES.

SPRING SHADE ROLLER.

No. 294,316.

Patented Feb. 26, 1884.



WITNESSES.

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UNITED STATES PATENT OFFICE.

MARSHALL E. GRAVES AND PRESCOTT C. GATES, OF LOWELL, MASSACHUSETTS, ASSIGNORS TO THE SHOREY SPRING BED AND SHADE ROLLER COMPANY, OF SAME PLACE.

SPRING SHADE-ROLLER.

SPECIFICATION forming part of Letters Patent No. 294,316, dated February 26, 1884.

Application filed September 3, 1883. (No model.)

To all whom it may concern:

Be it known that we, MARSHALL E. GRAVES and PRESCOTT C. GATES, citizens of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Spring Shade-Rollers, of which the following is a specification.

Our invention relates to an improved construction of spring shade-rollers.

In the accompanying drawings, Figure 1 is an oblique view of our improved roller. Figs. 2 and 3 are longitudinal central sections of the same, in Fig. 2 the same being in brackets and the spindle being crowded in to enable the roller to revolve on the spindle, in Fig. 3 the roller and spindle being locked together. Fig. 4 is a cross-section on the line X X in Fig. 2. Fig. 5 is a cross-section on the line Y Y in Fig. 3.

A is the barrel or roller proper, being a cylinder of wood or other suitable material, having a hollow, A', preferably cylindrical, extending from one end of the barrel to a sufficient distance to receive and contain the locking and rotating parts hereinafter named. Within the hollow A' is placed, first, a large spring, B, which nearly fills said hollow A', and against said spring a sliding circular piece or sliding bearing, C, having a round hole or depression, C', to receive the inner end of the spindle D E and allow it to turn freely in said hole C'. The spindle D E is preferably formed in two pieces, the main body D being in that case of wood for cheapness and lightness, and the point E being of metal for convenience of attachment and for strength and durability. The point E is not larger in its largest diameter than the body D, and is provided with means of attachment to the body D, which may be merely a tapering shank, e, driven into the outer end of said body D, the latter being prevented from splitting by a ferrule, d, placed over its end before the shank is driven in. Next to the shank e or other means of attachment the point E is square or angular in cross-section at e', and is thence cylindrical or tapering at e² to near the outer end, where it is flattened in the usual manner at

e³, to enter a hole, f, of corresponding shape, in the bracket F, to prevent the spindle from turning in the bracket when the roller is in use. A plug of wood, g, is at its outer end, and for a short distance—say for half an inch—therefrom, large enough to fill the barrel, and beyond this point it is reduced, and thence tapered to the inner end, as shown. The plug G is held in place by pins g g, and is provided with a longitudinal opening, which is of a shape and size to receive and fit the parts e' e² of the point of the spindle when the latter is crowded outward into the position shown in Figs. 3 and 5; but when the spindle is pushed into the barrel into the position shown in Figs. 2 and 4, the square part of the spindle is forced to where it may turn freely in the enlarged part of the bore or opening of the plug G.

The tension-spring H, which rotates the barrel on the spindle in the usual manner, is connected at one end, h, to the spindle, and at the other end, h', to the plug G. The tension-spring is wound conically, so that in winding up the spring by drawing the shade down the spring first becomes wound up at the small end, (the right end of the drawings,) so that the spring being of sufficient length, only a part of the spring is used ordinarily and the shade does not require a weighted slat or tassel.

The closed end of the barrel or a plate, I, secured thereto, is provided with an opening, I', which receives a stud, f', cast on the bracket F'.

A metallic cap, J, may be placed over each end of the barrel, as shown, to give a finished appearance to them. Of course when the roller is in position the brackets are set near enough to each other to crowd the part e' into the larger bore of the plug G.

The construction above described allows of cheapness, because the barrel may be bored out with a single tool, because the square part of the bore of the plug may be readily burned out with a hot iron after being bored, and because the peculiar shape of the tension-spring renders a weighted slat unnecessary.

We claim as our invention—

1. The combination of the hollow barrel, the spindle having a portion angular in cross-section

tion, means of imparting a longitudinal outward motion to said spindle, the plug secured within said barrel, and having a longitudinal central opening adapted to fit said spindle, and
5 thereby to prevent rotation of the same, as and for the purpose specified.

2. The combination of the hollow barrel, the spindle having a portion angular in cross-section, the locking-spring, the sliding bearing,
10 the plug secured within said barrel, and hav-

ing a longitudinal central opening, a portion of said opening being angular in cross-section to fit said spindle, and thereby prevent the rotation of the same, all constructed and arranged substantially as set forth.

MARSHALL E. GRAVES.
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Witnesses:

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