

No. 850,779.

PATENTED APR. 16, 1907.

G. A. PEACOCK.
AWL.

APPLICATION FILED JUNE 2, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

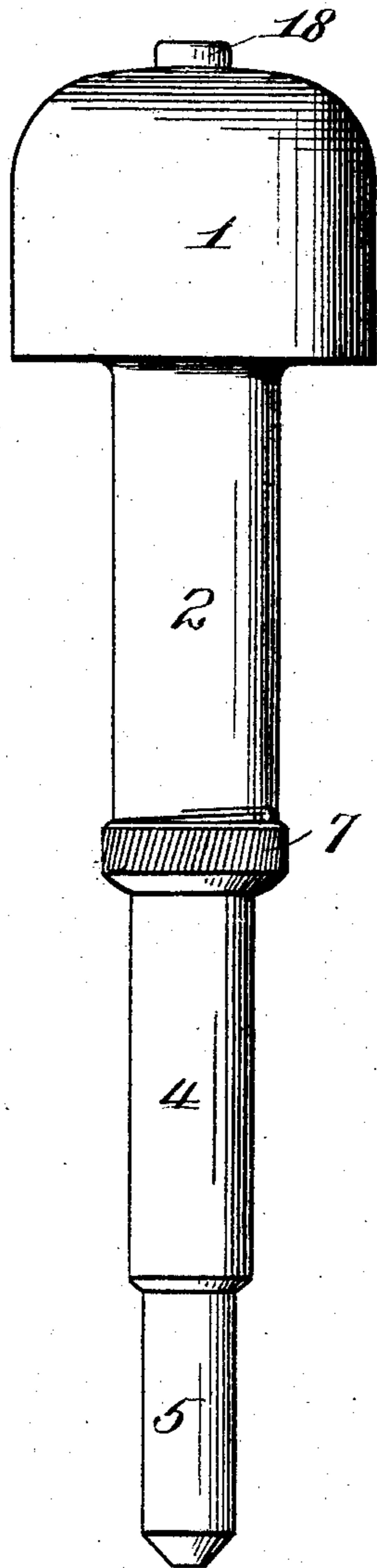
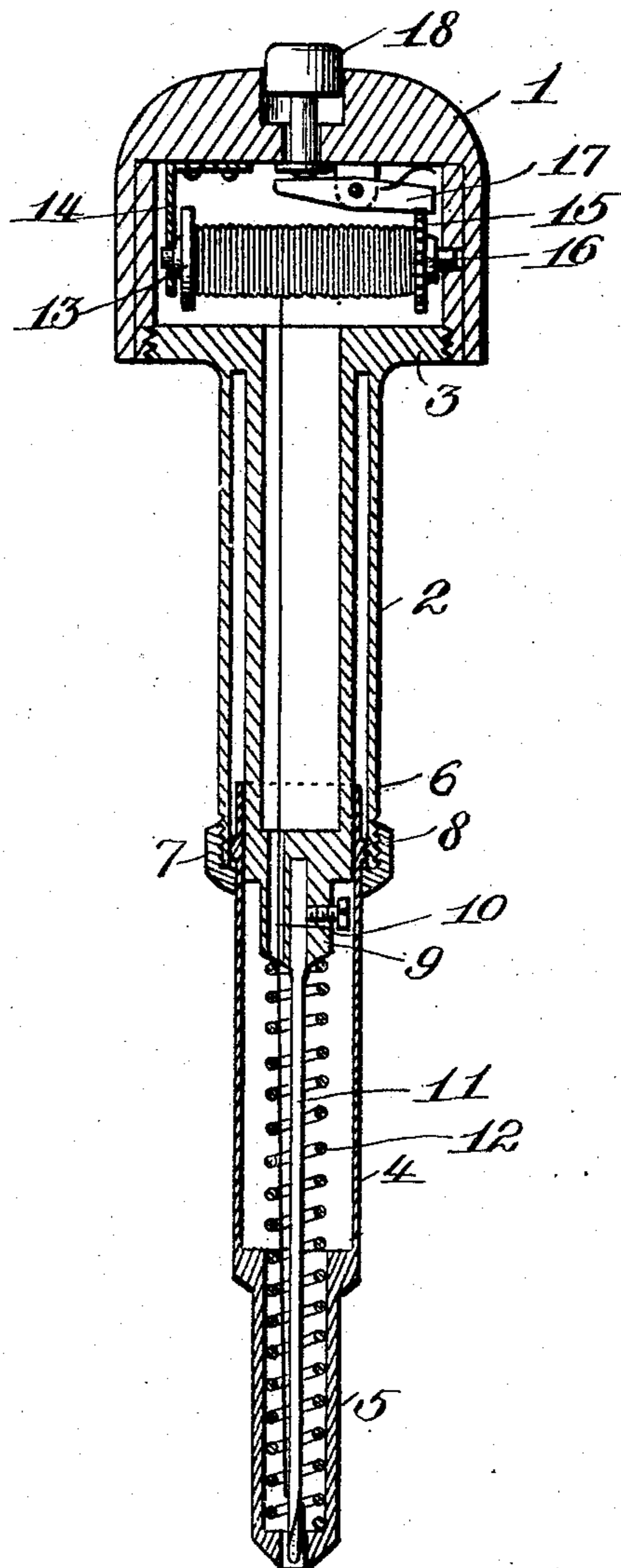


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

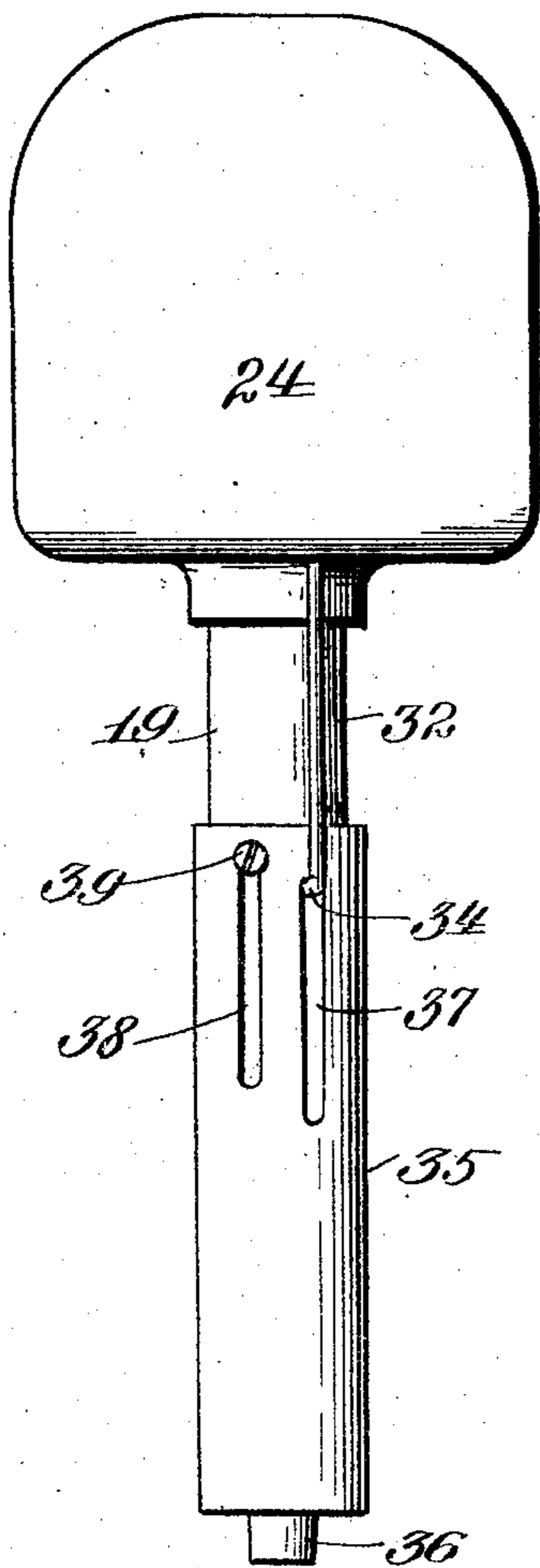
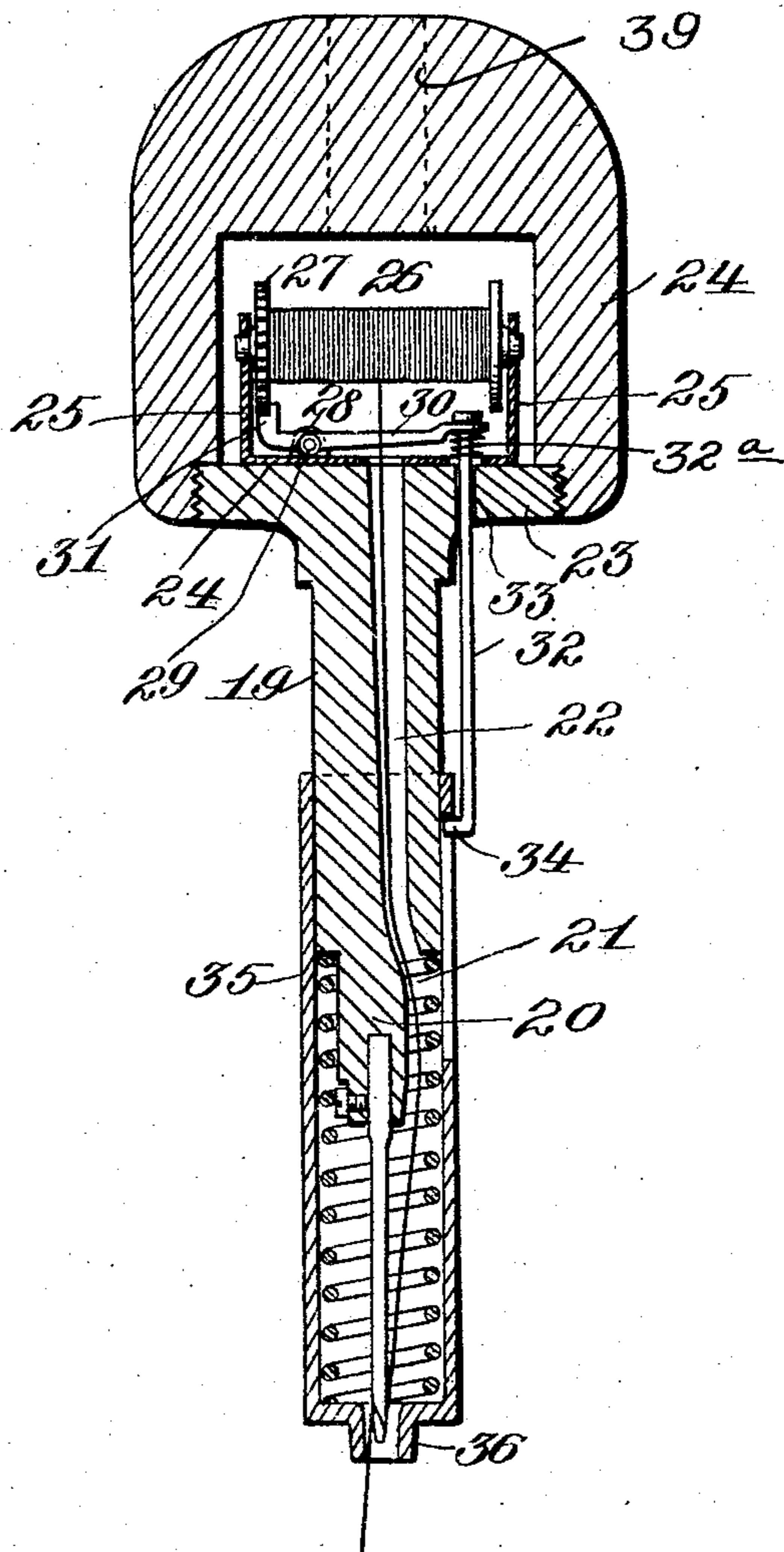


Fig. 4.



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UNITED STATES PATENT OFFICE.

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AWL.

No. 850,779.

Specification of Letters Patent.

Patented April 16, 1907.

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To all whom it may concern:

Be it known that I, GEORGE A. PEACOCK, a citizen of the United States, residing at Hanford, in the county of Kings and State of California, have invented new and useful Improvements in Awls, of which the following is a specification.

This invention relates to a harness-awl; and the objects of the invention are to facilitate hand-sewing of harness, leather, and other coarse substances, to safely protect the needle and reinforce the same while penetrating such substances and permit a withdrawal of the needle from the material penetrated by automatically-operating means, and to tighten thread while sewing without any tension other than is given by the awl itself.

With these and other objects and advantages in view the invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter set forth.

In the drawings, Figure 1 is a side elevation of an awl embodying the features of the invention. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is an elevation of a modified form of the awl. Fig. 4 is a longitudinal vertical section of the awl shown by Fig. 3.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The awl comprises a hollow handle composed of two parts, a hollow head 1 and a tubular shank 2, the shank having a flanged terminal 3, which is exteriorly screw-threaded and is removably fitted in the head 1. A needle-inclosing ferrule 4 is telescopically mounted in the shank 2 and has a reduced extremity 5, with an opening therein through which the needle projects in the operation of the awl. The end of the ferrule 4 opposite the reduced extremity 5 is fitted in the end 6 of the shank 2 opposite that having the flange 3, and the shank and ferrule are operatively connected by a screw-collar 7, removably applied to the end 6 of the shank, the end of the ferrule being provided with a circumferential rib 8, which bears against the inner surface of the shank. The maximum diameter of the ferrule at the point of location of the rib 8 is slightly less than the interior diameter of the shank, and hence the ferrule is free to move upwardly in the shank, but cannot be projected in the opposite direction beyond a

predetermined distance in view of the fact that the said rib will contact with the interior of the screw-collar 7.

The shank has a terminal needle-blade clamp 9, embodying an apertured projection having a set-screw therein, and extending through such projection is a thread-opening 10. The needle-blade 11 is secured in the terminal needle-clamp of the shank, and thereover is disposed a coiled spring 12, which bears at one extremity against the needle-clamp and at the opposite extremity against the free end of the reduced portion of the ferrule, the object of this spring being to return the ferrule to normal position after it has been pressed upwardly into the shank for the purpose of exposing the needle during the sewing operation, as will be more fully hereinafter set forth.

A thread-carrying bobbin 13 is rotatably held in the head 1, one end of said bobbin having bearing in the wall of the head and the opposite end engaging a spring-arm 14, which permits the bobbin to be removed and filled or replaced by another similar device when necessary. The one head 15 of the bobbin is peripherally notched or toothed, as at 16, and is normally engaged by one terminal of a stop lever or catch 17, having its opposite end in contact with a spring-actuated push-button 18, held in the center of the head and exteriorly engageable by the operator, so that when the awl is used the bobbin may be released at intervals to allow the thread to pay off or be fed to the needle, the tension on the thread being exerted by the awl itself owing to the normal locked condition of the bobbin. The thread is passed downwardly from the bobbin through the shank 2 and the thread-opening in the clamp-terminal of said shank to the eye of the needle and then outwardly through the opening in the reduced extremity of the ferrule.

In the modification of the device shown by Figs. 3 and 4 the feed of the thread is modified and is rendered automatic, and, furthermore, the details of arrangement of the shank and ferrule are slightly varied. The shank 19 in this instance is tubular and has a clamping-terminal 20, embodying a set-screw for holding the needle therein. The clamping-terminal is reduced, and extending therealong is a thread-groove 21, with which a thread-opening 22 communicates, said opening being bored through the shank 19. The shank 19 has a flange 23, which is screw-

threaded to movably engage the head 24, the latter being similar to the head heretofore described, and through the said flange the bore of the shank 19 continues. Secured
 5 on the flange 23 is a resilient plate 24, having angular terminals 25, between which a bobbin 26 is removably held, one head 27 of the bobbin being in the form of a ratchet-wheel. The plate 24 also has angular ears 28 at op-
 10 posite sides between the angular heads 25 and below the plane of the bobbin. In the said ears a trunnion-bar 29 is movably mounted and carries a catch-lever 30, hav-
 15 ing a nose 31, which is normally held in engagement with the ratchet-wheel 27, forming one head of the bobbin. The opposite extremity of this catch-lever has a pull or feed rod 32 connected thereto and freely
 20 movable through an opening 33 in the flange 23, the free end of the said feed-rod being hooked or deflected, as at 34. The feed-rod 32 is surrounded by a retractile spring 32^a, located between the adjacent portion of the
 25 plate 24 and the extremity of the lever 30, engaging said rod, the function of this spring being to retract the rod 32 and always nor-
 30 mally maintain the free end thereof in contact with the wall of the slot 37. A ferrule 35 is slidably and telescopically mounted over the shank 19 and has a lower reduced
 35 extremity 36, through which the needle is adapted to project, the said extremity being bored to give free movement of the needle therethrough. The opposite extremity of
 40 the ferrule or sleeve is formed with two longitudinal slots 37 and 38, the slot 38 having a limiting-screw 39 projecting therethrough and secured in the shank. The slot 37 is
 45 engaged by the deflected or hook terminal 34 of the feed-rod 32, so that when the awl is in operation the upward movement of the ferrule or sleeve over the shank will cause the said feed-rod to actuate the catch-lever
 50 so as to release the bobbin and permit the thread to pay off therefrom. The needle held in the shank is surrounded by a spring similar to that heretofore described and operative to restore the ferrule or sleeve to normal position, and as soon as pressure is re-
 55 lieved from the awl this ferrule or sleeve is automatically returned to its normal position by the said spring and simultaneously engages the feed-rod and sets the catch-lever in such position as to engage the ratchet-
 wheel forming one of the heads of the bobbin, and thus prevent the said bobbin from turning and hold the thread taut.

In both forms of the device the thread is held taut when the awl is withdrawn from
 60 the leather or other material being sewed, so as to permit the thread to be pulled as tight as desired and secure the parts of the harness or other plies penetrated by the needle.

In the two forms of the device it will be
 65 seen that the feed of the thread from the

bobbin is controlled by means of a catch-lever cooperating with one of the heads of the bobbin and actuated either by the feed-rod automatically moved by the ferrule or by the external engageable push-button. It will
 70 also be observed that all the parts are closed and are not liable to become broken or disarranged. To assist in threading the awl, particularly in the form shown by Figs. 3 and 4, an opening 39 is formed in the head for in-
 75 sersion of a suitable threading implement, the said opening being in alinement with the bore of the shank continued through the flange 23. This will obviate considerable
 80 annoyance in the threading operation, and the same structure may be adopted in the form of the device shown by Figs. 1 and 2.

From the foregoing description the operation of the improved awl will be readily understood. The reduced end of the ferrule
 85 or sleeve is applied to the work and a downward pressure is exerted on the head which forces the needle through the work and guides and reinforces it at the same time. The
 90 needle penetrates the work and carries the thread through the latter, one end being held in the first insertion until the succeeding insertion is completed, and so on through
 95 the whole series of stitches formed by the awl. As the awl is withdrawn the thread is
 tightened, and the stitch formed is firm and reliable.

It will be understood that changes in the proportions and dimensions of the several
 100 parts of the awl may be adopted to accommodate various applications thereof.

Having thus fully described the invention, what is claimed as new is—

1. A harness-awl comprising a tubular shank having a head and means for holding a
 105 needle, a ferrule movably applied to the shank, a needle secured to the shank and projectable through the ferrule, thread-carrying means held in the head and provided with mechanism for controlling the feed of the
 110 same, said mechanism consisting of a toothed device on one extremity of the thread-carrying means, a fulcrumed detent operative to hold the said carrying means against move-
 115 ment or to liberate said means to permit the thread to play off therefrom, and an exteriorly-projecting device engaging the detent and operative to release the latter from the thread-carrying means.

2. A harness-awl comprising a tubular
 120 shank having a head and means for holding a needle, a ferrule movably supported by the shank, a needle projectable through the ferrule, a thread-carrying bobbin removably
 125 disposed in the head, and mechanism for engaging a portion of the bobbin to prevent the latter from turning, said mechanism consisting of a toothed device on one end of the
 130 bobbin and a pivoted detent which may be released by exteriorly-projecting means and

operative to hold the bobbin against movement or to liberate said bobbin to permit the thread to play off therefrom.

3. In a harness-awl, the combination of a tubular shank having a head and also provided with means for holding a needle, a movable member engaging the shank, a needle held by the shank and projectable through the said member, means for automatically restoring the movable member to normal position, and thread carrying and feeding mechanism provided with an exteriorly-projecting releasing device, the thread being drawn taut by the operation of the awl.

4. In a harness-awl, the combination of a tubular shank having a head, a needle secured to the shank, a ferrule having a telescopic organization with respect to the shank and through which the needle is projectable, a thread-carrying bobbin removably mounted in the head, a catch device for cooperating with a part of the bobbin to limit the movement thereof, and exteriorly-projecting means for disengaging the catch device from the bobbin.

5. In a harness-awl, the combination of a tubular shank having a head, a needle se-

cured to the shank, a spring-actuated ferrule telescopically engaging the shank, the needle being projectable through the ferrule, and thread carrying and feeding mechanism disposed in the said head and including an intermediately-fulcrumed member exteriorly operative to release the thread.

6. A harness-awl, comprising a shank and head, a needle secured to the shank, a spring-actuated ferrule telescopically engaging the shank and normally inclosing the needle and provided with a reduced extremity operating as a stay and reinforce for the needle, the needle being projectable through one terminal of the ferrule, and devices for carrying and feeding thread to the needle, said devices including a movable member exteriorly operative to release the thread-carrying device and permit the thread to play off to the needle.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE A. PEACOCK.

Witnesses:

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H. T. HENDRICKS.