

J. LORENZEN.  
STROPPING MACHINE.  
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919,738.

Patented Apr. 27, 1909.

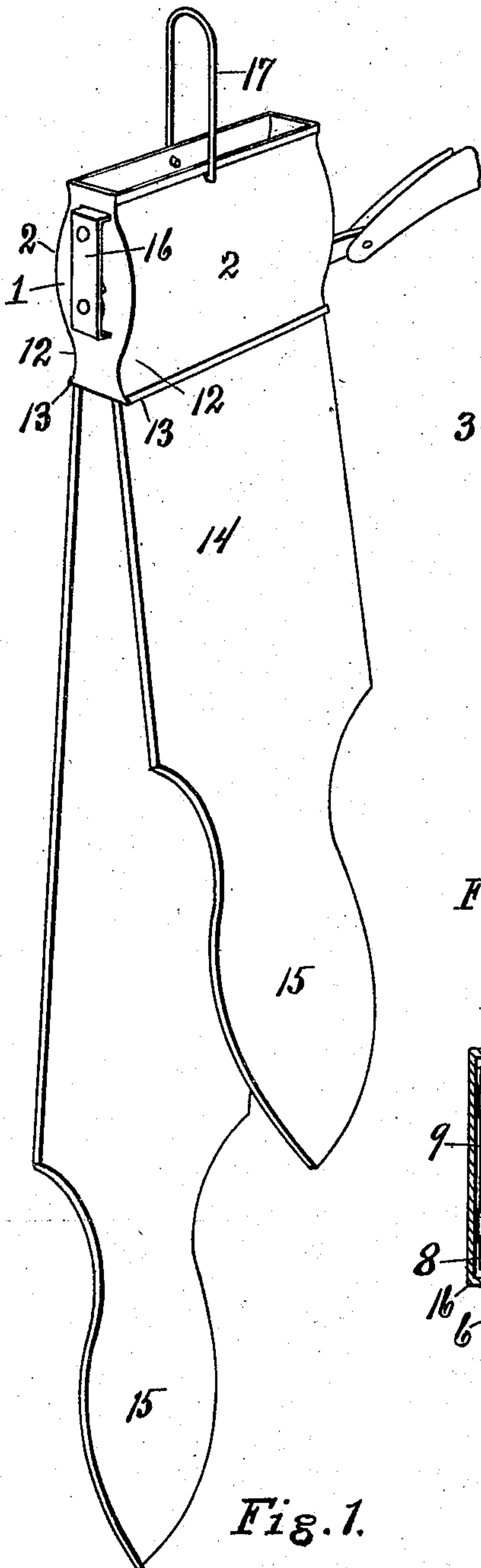


Fig. 1.

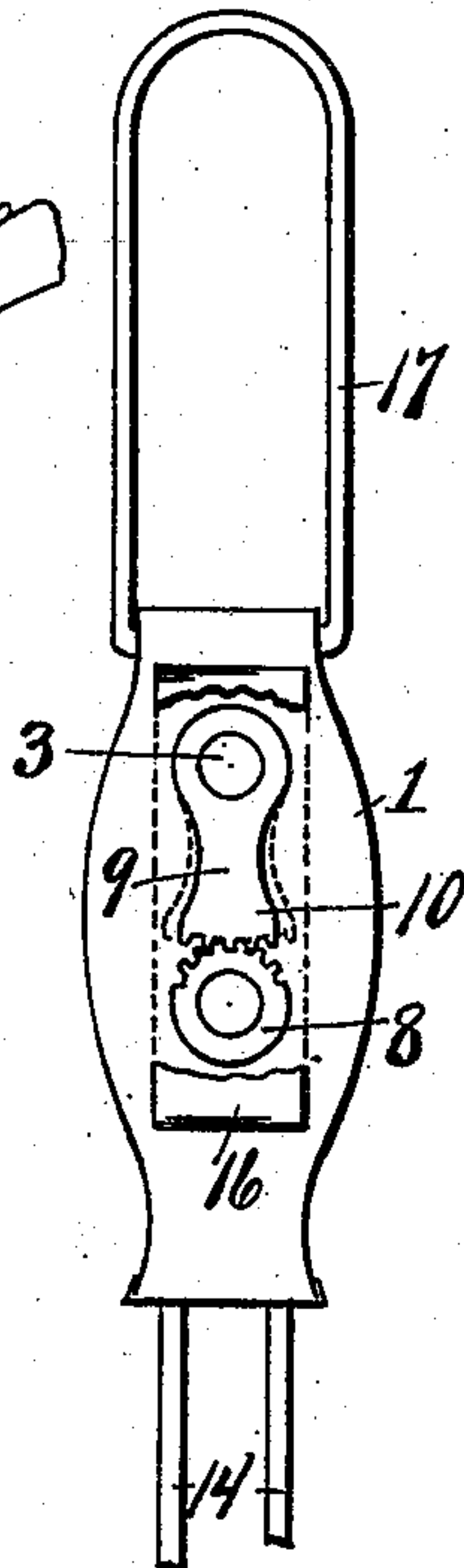


Fig. 2.

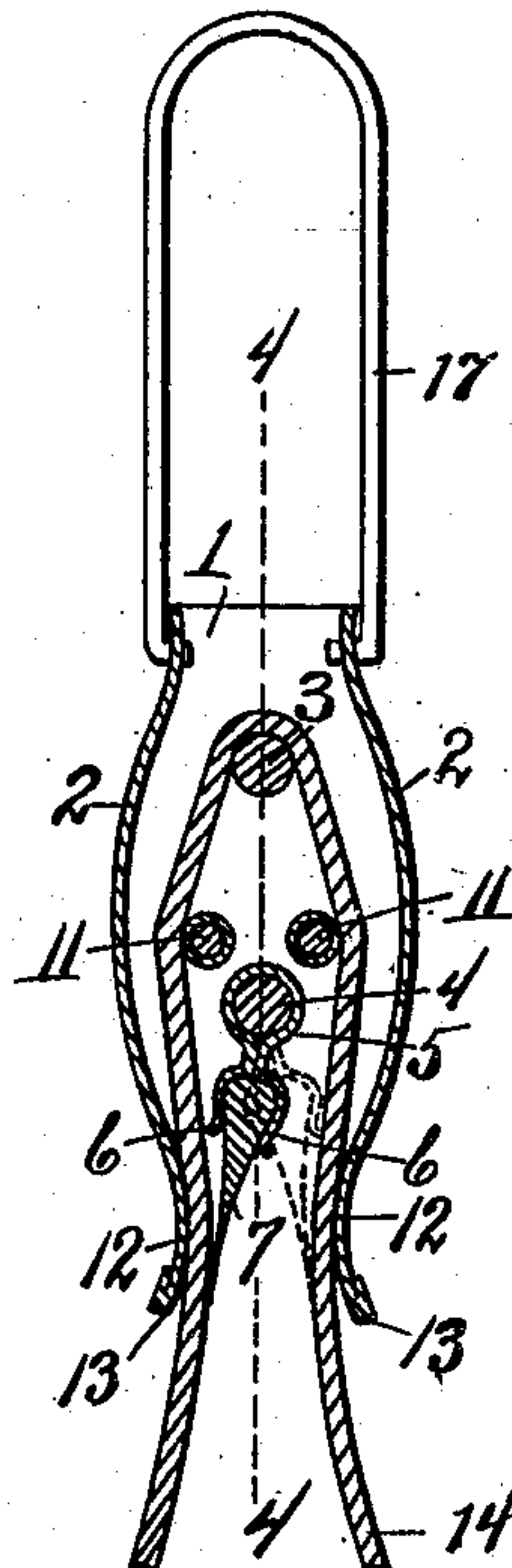


Fig. 3.

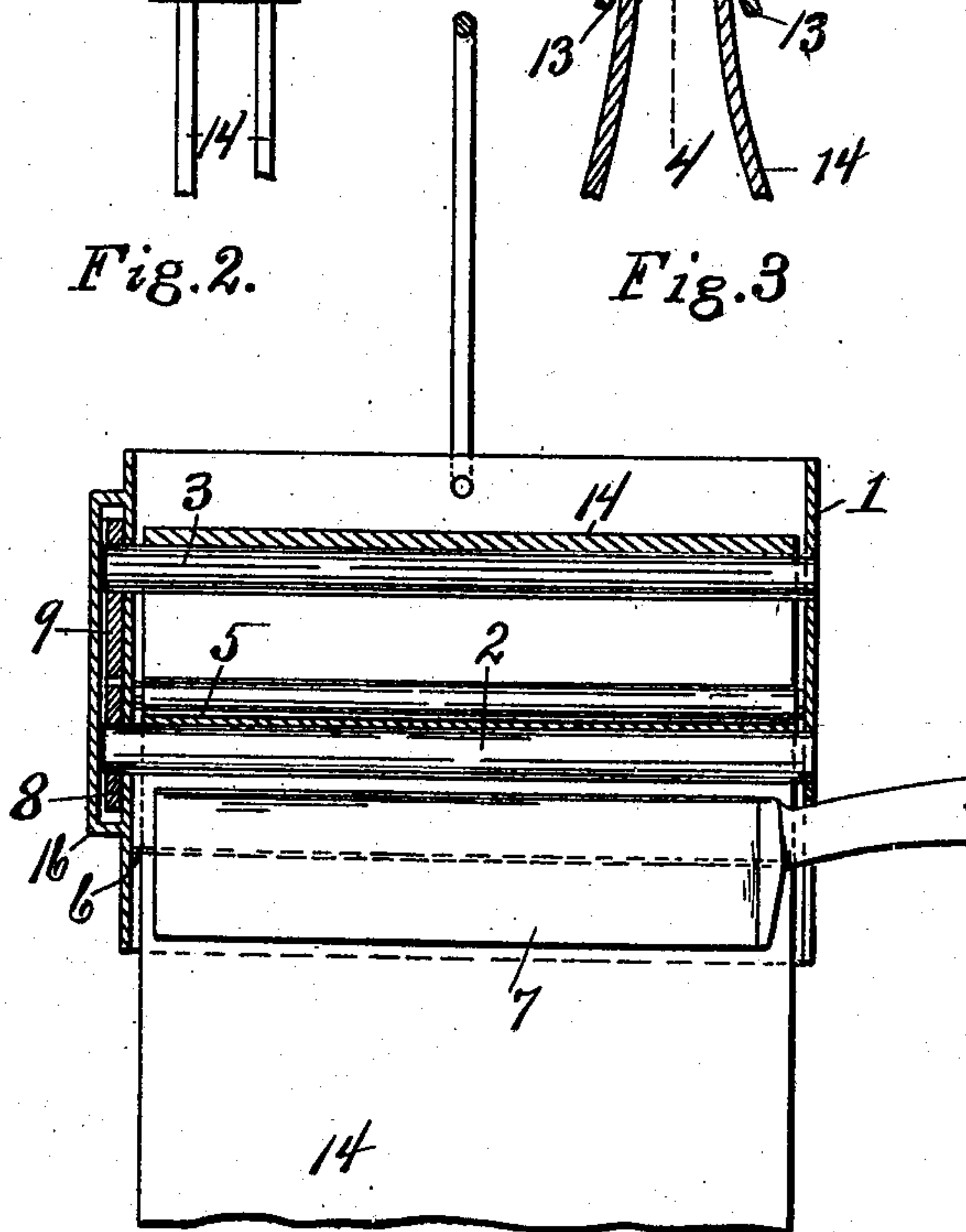


Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## STROPPING-MACHINE.

No. 919,738.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed May 17, 1907. Serial No. 374,153.

*To all whom it may concern:*

Be it known that I, JENS LORENZEN, a citizen of the United States, residing at Fremont, in the county of Sandusky, State of Ohio, have invented certain new and useful Improvements in Stropping-Machines; 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 figures of reference marked thereon, which form a part of this specification.

This invention relates to a stropping machine designed for stropping razor blades, and consists in the construction and arrangement of parts hereinafter fully set forth and claimed.

The object of the invention is to provide a simple, compact, and comparatively inexpensive stropping machine of symmetrical appearance, and wherein the arrangement is such as to spread the strop on each side of the razor holder in a manner to prevent contact of the strop therewith, whereby provision is made for insuring a perfect operation of the device without liability of nicking the strop, the relative association of parts being such as to present the blade to the moving strop in a position calculated to attain the best results, and to move the blade quickly from contact with the strop at the instant of its change from one position to the other.

The above object is attained by the device illustrated in the accompanying drawing, in which:—

Figure 1 is a perspective view of a stropping machine involving my invention, showing a razor in position therein. Fig. 2 is an end elevation of the apparatus. Fig. 3 is a central transverse section through the case and mechanism therein. Fig. 4 is a central longitudinal section therethrough as on line 4—4 of Fig. 3.

Referring to the characters of reference, 1 designates a metal case, preferably of brass, having closed ends and sides and open through the top and bottom, the opposed sides of the case swelling outwardly, as shown at 2. Passing longitudinally of the case and journaled centrally therein near the top is an actuating shaft 3. Also cross-

ing the case transversely and journaled at its ends therein is a razor holder consisting of a roller or shaft 4 embraced by a sleeve 5 which sleeve carries the longitudinally extending spring jaws 6 that depend below the shaft 4 and are adapted to receive the back of a razor blade 7, as clearly shown in Fig. 3, the tension of said spring jaws being sufficient to securely retain the blade in place during the operation of stropping. Upon the outer end of the shaft or roller 4 is a segmental pinion 8, and upon the outer end of the shaft or roller 3 is a crank arm 9 carrying a segmental rack 10 which meshes with the teeth of said segmental pinion. Crossing the case longitudinally within the swelled portion thereof above the razor holder and upon opposite sides of its center of oscillation, are the strop spreading rollers 11.

The swelled sides of the case converge near the bottom, as shown at 12, and then flare outwardly, as shown at 13, thereby providing a flaring mouth for the case.

The razor strop 14 is looped through the case over the actuating shaft 3, the opposite sides of the strop within the case passing over the spreading rollers 11 and extending through the mouth of the case on opposite sides of the razor holder, the sides of the strop lying against the inner face of the converging walls 12 of the case. The length of the strop is such as to enable it to be drawn longitudinally through the case by grasping the terminals 15 of the strop and drawing successively thereon in opposite directions, as will be well understood in the art. This longitudinal movement of the strop through the case will cause it to ride over the shaft 3 and rotate said shaft successively in opposite directions. As the shaft 3 is rotated, the crank arm 9 thereon will be swung causing the segmental rack of said arm to rotate the segmental pinion 8 of the roller or shaft 4 of the razor holder, in a direction opposite to that in which shaft 3 is rotated. The change of the direction of movement of the strop through the case will change the direction of rotation of the shaft 3 so that as said strop is drawn longitudinally in opposite directions the crank arm 9 will be vibrated and will impart a rocking movement to the razor holder, causing the blade to swing



from side to side, the arrangement being such that the blade will be swung against the side of the strop which is passing outwardly from the case, the change in the direction of movement of the strop operating to instantly swing the blade against the opposite side thereof, whereby a perfect honing of the blade may be accomplished.

It will be noted that because of the length of the crank arm 9, the slight rotary movement imparted to the shaft 3 by the travel of the strop thereover is multiplied in the sweep of said crank arm, thereby rocking the razor holder quickly upon its axis of oscillation so as to swing the blade from side to side instantly upon the change of direction in the travel of the strop.

The presence of the spreading rollers within the swelled portion of the case prevents the strop from dragging against the razor holder and causing undue friction between said parts likely to interfere with the proper movement of the razor holder and result in a nicking of the strop by contact with the blade of the razor when traveling in the wrong direction. It will also be evident that by curving the walls of the case outwardly a free passage through the case for the strop is afforded avoiding friction which would otherwise occur between the wall of the case and the strop.

On referring to Fig. 3 it will be noted that as the strop is drawn longitudinally through the case it conforms to the flaring wall at the mouth thereof and that the razor blade when swung into honing contact therewith lies more nearly flat with respect to said strop, preventing by this arrangement the drawing of the strop across the edge of the blade at too abrupt an angle and allowing the strop to conform more nearly to the contour of the blade.

Mounted on the end of the case over the crank arm carrying the segmental rack and the pinion meshing therewith is a housing 16 which protects said parts.

Attached to the top of the case is a hinged bail 17 which enables the stropping machine to be engaged over a hook to suspend it during the operation of stropping.

While I have shown this improved machine as applied to the stropping of ordinary razors, I wish it understood, however, that safety razors may be stropped in this machine by placing the blade of the safety razor in a specially formed tube, not shown, to receive it and inserting the tube between the jaws of the holder in the same manner that an ordinary razor blade is inserted.

Having thus fully set forth my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a stropping machine, the combination of a case having outwardly curved side walls, an actuating shaft journaled in the

case near its upper end, a razor holder journaled in the case near its lower end, a strop looped over the actuating shaft, the portions of said strop within the case lying in opposed relation, means within the outwardly curved sides of the case for separating the opposed portions of the strop and holding them away from the razor holder, the side walls of the case at the mouth flaring outwardly, the portions of the strop passing through said mouth lying against said flaring walls, and means connecting the razor holder with the actuating shaft to cause the edge of the blade carried by the holder to successively swing into contact with the portions of the strop lying against the flaring walls of said mouth.

2. In a stropping machine, the combination of a case having side and end walls, the side walls of the case at the mouth thereof flaring outwardly, an actuating shaft journaled in the case near its upper end, a razor holder journaled in the case near its lower end above the flaring walls of the mouth, a strop looped over the actuating shaft, the portions of the strop within the case lying in opposed relation and passing out of the mouth of the case over said flaring walls, and means connecting the razor holder with the actuating shaft to cause the edge of the blade in said holder to successively swing into contact with the portions of the strop lying against the flaring walls of said mouth.

3. In a stropping machine, the combination of the case having outwardly curved side walls, an actuating shaft journaled in the case near its upper end, a razor holder journaled in the case near its lower end, a strop looped over said actuating shaft, the portions of the strop within the case lying in opposed relation, means within the outwardly curved portion of the case for separating the opposed portions of the strop and holding them away from the razor holder, the side walls of said case near the mouth thereof converging to bring the portions of the strop within the case more nearly together on opposite sides of the razor blade, and means connecting the razor holder with the actuating shaft to cause the razor holder to swing from side to side as the strop is drawn longitudinally through the case in opposite directions.

4. A razor stropping machine, consisting of a case having closed ends and outwardly curved sides, an actuating shaft extending longitudinally of the case and journaled in the ends thereof, a rock shaft carrying a razor holder journaled in the ends of the case below the actuating shaft, separating rollers within the recesses of the case formed by the outwardly curved sides thereof and located between the actuating shaft and said rock shaft, a strop looped over the



actuating shaft within the case and engaged  
by said separating rollers, and means con-  
necting the rock shaft and the actuating  
shaft to cause the razor holder to swing  
5 from side to side as the strop is drawn  
longitudinally through the case in opposite  
directions.

In testimony whereof, I sign this speci-  
fication in the presence of two witnesses.

JENS LORENZEN.

Witnesses:

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