

E. G. MERGENTHALER.
SAFETY RAZOR.
APPLICATION FILED FEB. 16, 1910.

973,533.

Patented Oct. 25, 1910.

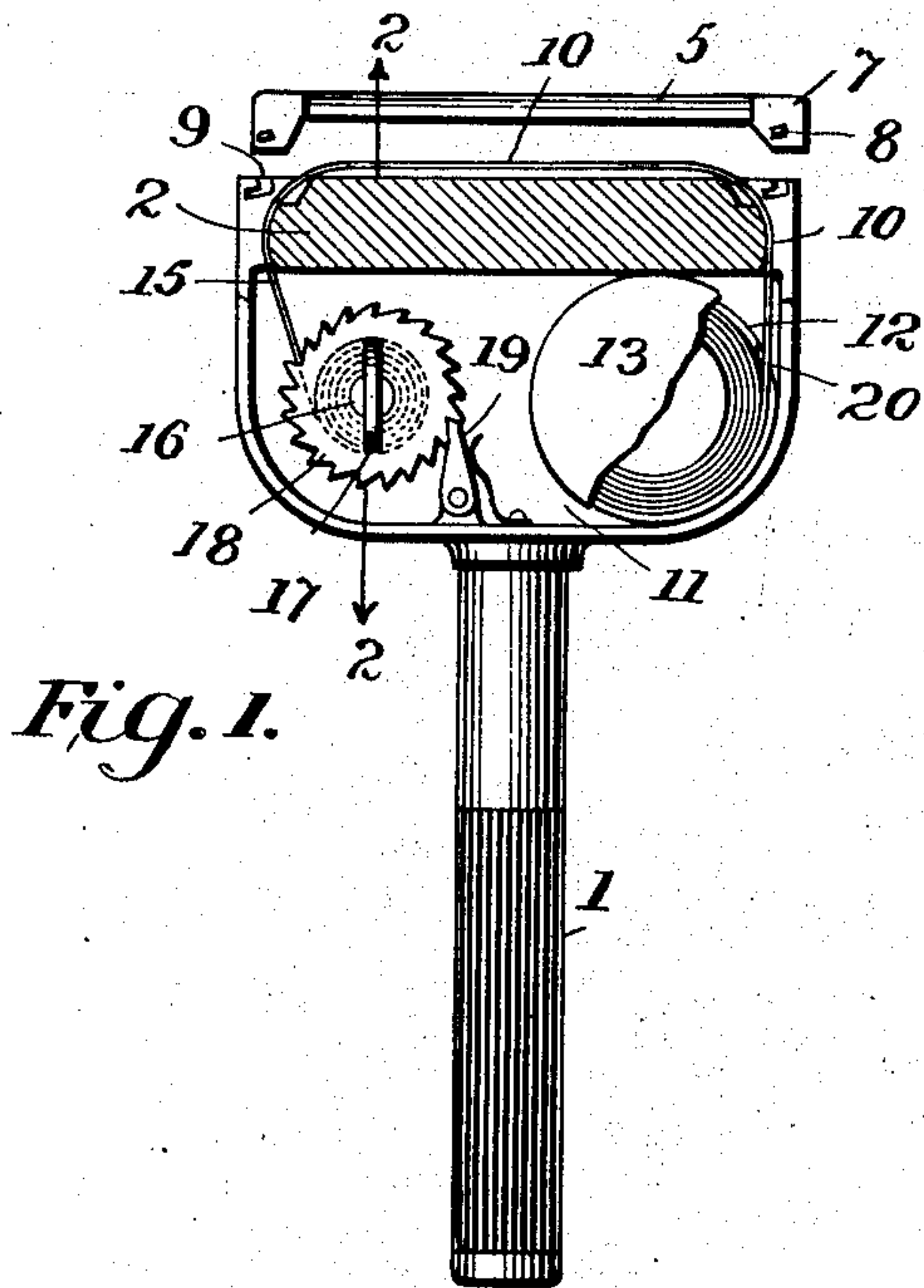


Fig. 1.

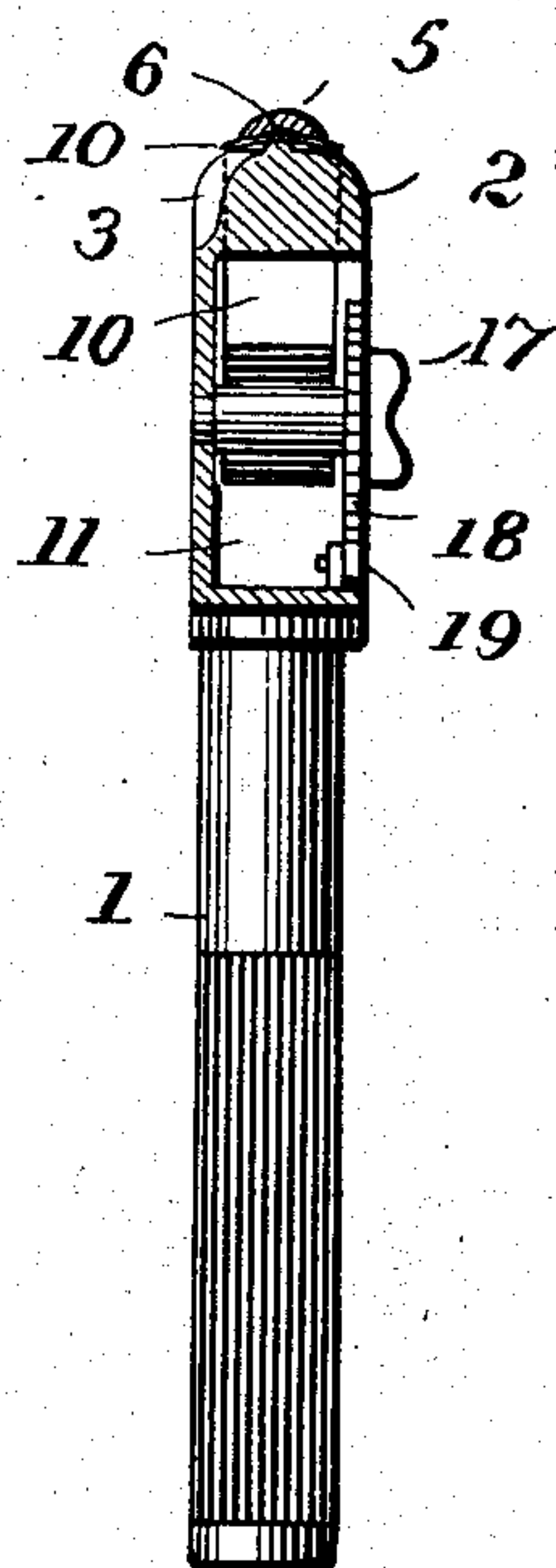


Fig. 2.

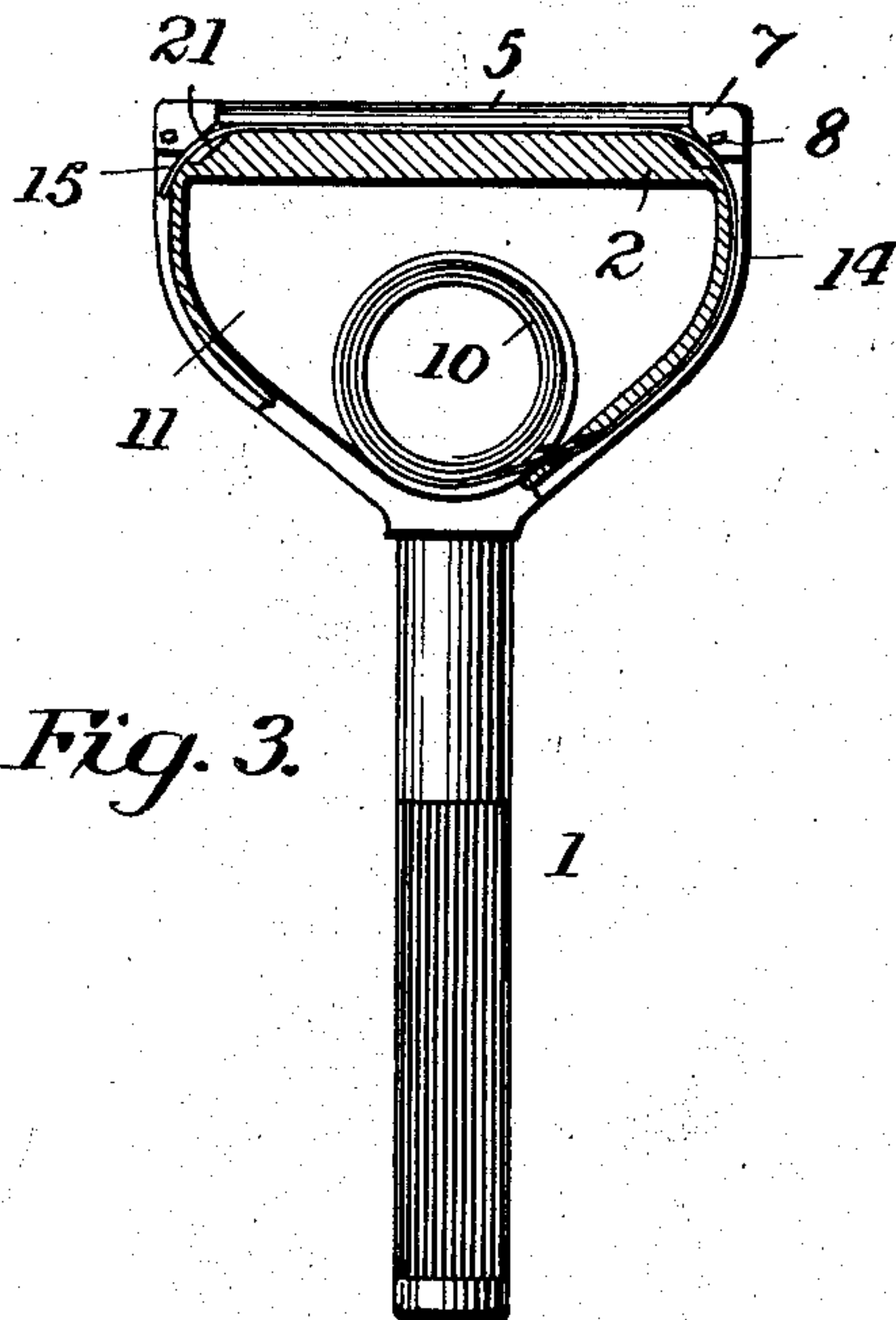


Fig. 3.

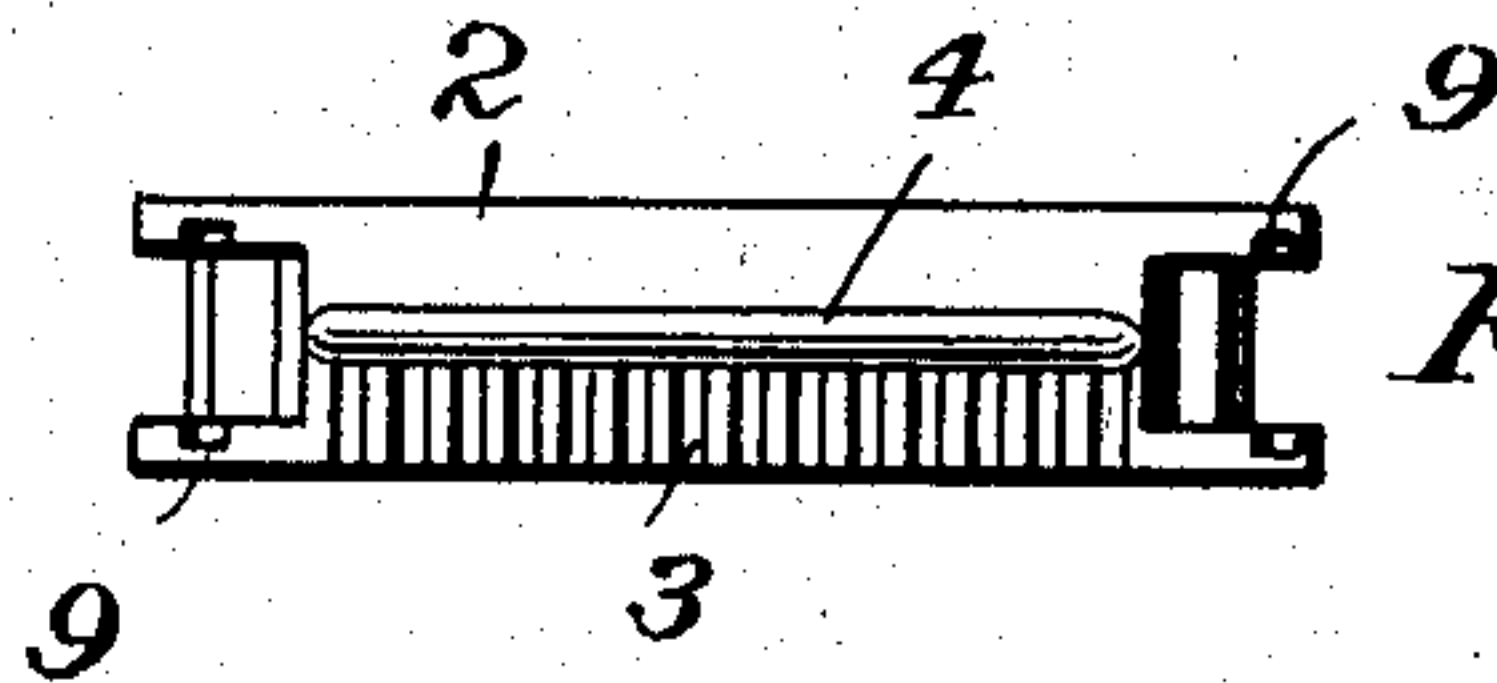


Fig. 4.

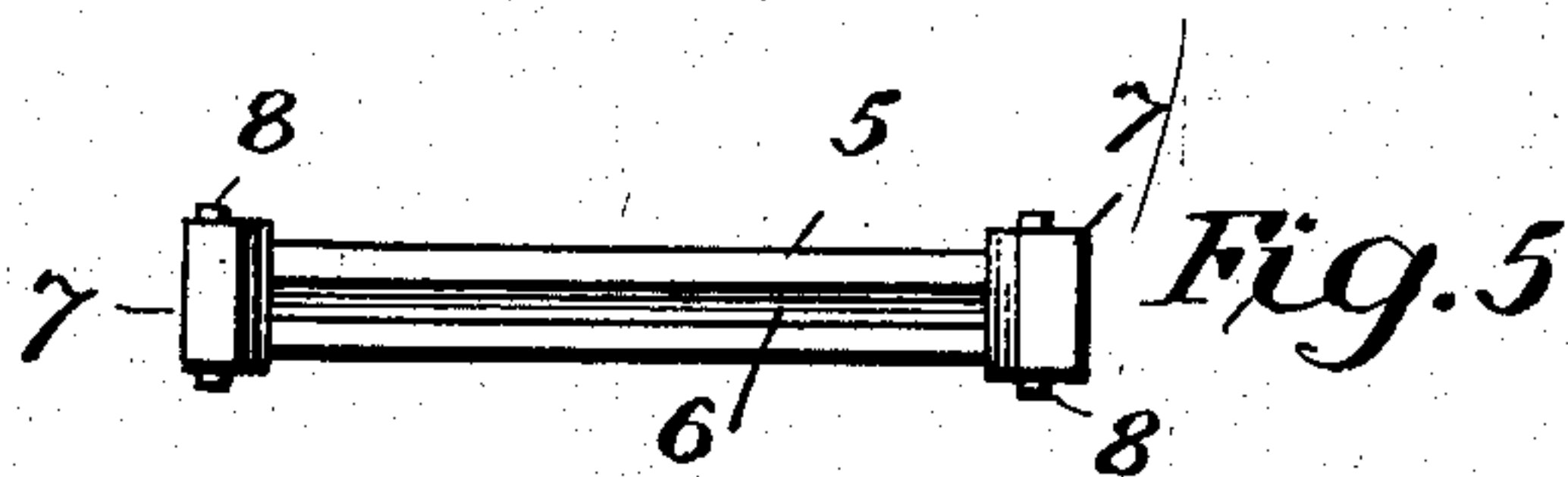


Fig. 5.

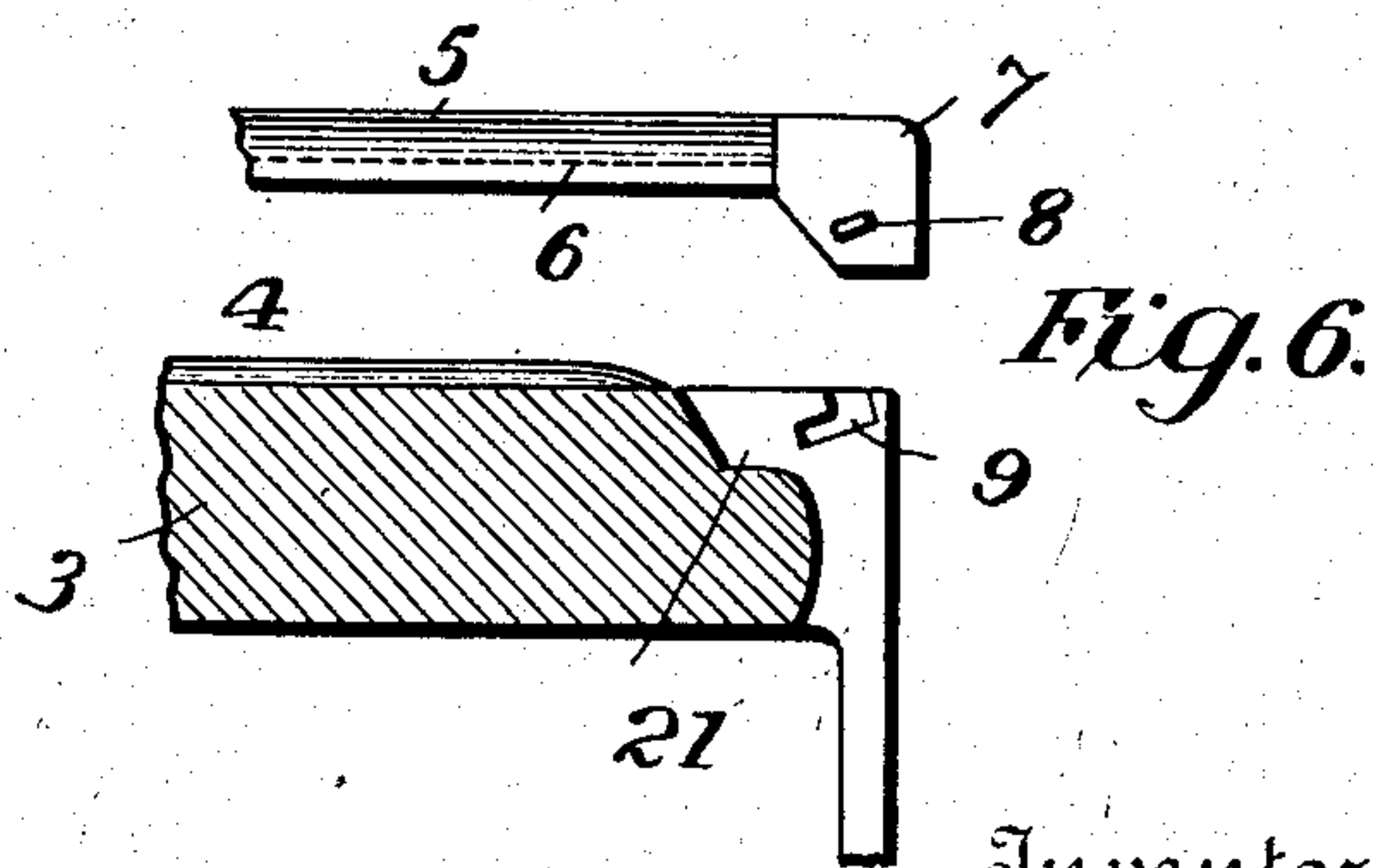


Fig. 6.

Witnesses

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SAFETY-RAZOR.

973,533.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EUGENE G. MERGENTHALER, a citizen of the United States, and resident of Baltimore, Maryland, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification.

This invention relates to safety razors, and has particular reference to the construction of the blade and its arrangement within the frame.

One of its principal objects is to avoid the inconvenience incident to removing one short blade and inserting another when the first blade becomes dull from use, as is customary at present. To this end I have provided a blade which may be retained in the frame in the shape of a continuous band wound into a coil so that it may be drawn progressively across the shaving portion of the frame, presenting new cutting edges for the purpose of shaving, without removing the blade from the frame.

Other objects and advantages of my construction will be apparent from the following description taken in connection with the accompanying drawings.

In the drawings,—Figure 1 is a view partly in section showing one embodiment of my invention; Fig. 2 is a sectional view on the line 2—2 of Fig. 1, looking in the direction indicated by the arrow; Fig. 3 is a view partly in section of a modified form of the device; Fig. 4 is a plan view with the clamping bar removed; Fig. 5 is a bottom plan view of the clamping bar, and Fig. 6 is a side view partly in section showing the means for securing the clamping bar in position on the frame.

As shown in these drawings, the frame which I use is provided with the ordinary handle 1, and with a guard portion 2 which may be of any ordinary form adapted to hold a thin blade in cutting position. I have shown it as provided with the usual rounded ribs 3 leaving depressions between them to take up the soap, and it is also preferably provided with a longitudinal rib 4 over which the flexible blade is slightly bent so as to give it the requisite rigidity, as is well known in the art. A clamping bar 5 fits over this guard portion and is provided with a groove 6 corresponding with the rib 4, and it will be understood that the thin flexible blade is held between this clamping bar and the guard portion 2. This clamp-

ing bar may be secured to the frame over the guard portion by any suitable means, but that means should preferably provide for drawing the clamping bar down against the blade so as to securely hold it after it has been brought into position. In the particular form shown the ends 7 of the clamping bar are provided on their sides with the lugs 8 which enter the L-shaped grooves 9 in the frame at the ends of the guard portion, and it will be observed that these L-shaped grooves have a downward inclination so that by a slight endwise movement the bar 5 is clamped tightly against the blade. The inclination however is not such as to permit the bar to be accidentally displaced, since the friction will hold it in place.

Instead of making use of a series of separate blades long enough to fit over the guard portions my invention contemplates the use of a continuous strip of material 10 having at its edge cutting portions, and being of such a character that it can be rolled into a coil. This strip will ordinarily be made with a continuous cutting edge, and it is adapted to be placed within the chamber 11 of the casing, where it will be out of the way, and to have its free end extend up over the guard portion 2 so as to be clamped in guard position by the bar 5. I preferably mount the coiled cutting blade within a small cylindrical casing 12, and provide that casing with a removable cover 13, both the cover and the casing being provided with a slot 20 to permit the passage of the blade to the cutting point. The resiliency of the coiled blade pressing outward against the cylindrical casing will furnish sufficient friction to prevent the blade from being pulled out accidentally or from being displaced. This blade preferably passes up to the shaving portion through an opening in the main casing in such a position that the sharp edge of the blade will not be exposed so as to subject the user to accidental injury.

In the form shown in Fig. 1 the blade passes up directly to the cutting portion within the margin of the main frame, and in the form shown in Fig. 3 it passes up around the casing between the side flanges 14 which protect the edge. The blade is drawn across the guard portion 2 by a pull on the end 15, and this pull may be exerted by hand as in the form shown in Fig. 3 or by any suitable mechanism within the casing. In the form shown in Fig. 1 I make

use of a winding drum 16 to which the free end 15 is attached, this drum being turned by a thumb piece 17 and being prevented from reverse rotation by the ratchet wheel 18 and spring pawl 19. This winding drum not only pulls the blade across the guard portion so as to present a new cutting section in operative position and unwinding the coil within the cylindrical casing 12, but it disposes of the free used end of the blade without destroying or discarding it. When the entire length of the cutting blade has been used and wound on the drum 16, it may be removed and sharpened so as to be used again if desired.

In the form shown in Fig. 3, the blade 10 is shown as coiled within a casing like that used in Fig. 1, but in this instance the free end of the blade 15 is not drawn back into the main casing of the frame, but is simply broken off and thrown away. It will of course be broken off close to the end 7 of the bar 5, so that there will be no projecting end to accidentally injure the user. In both forms the ends of the guard portion 2 of the frame are made with notches 21, and the ends of the clamping bar 9 are shaped to fit down in these notches so as to properly stretch and clamp the portion of the blade which is at the shaving position. It will of course be understood that the shaving blade may be made with two cutting edges, and that either or both of those edges may be used for shaving in the manner well known in the art. Where the frame is constructed to shave only on one side, as shown, the blade with the double cutting edge may be used first in one position and then may be reversed so as to present the opposite edge at the shaving point.

Without limiting myself to the details of construction, what I claim is:

1. As a new article of manufacture, a blade for safety razors comprising a strip of flexible material having a cutting edge, the said strip being sufficiently long to include a plurality of cutting sections the length of the cutting surface of a safety razor and being adapted to be wound into a coil.

2. As a new article of manufacture, a blade for safety razors comprising a strip of thin flexible material adapted to be wound into a coil.

3. As a new article of manufacture, a blade for safety razors comprising a continuous strip of thin flexible material having a cutting edge co-extensive with the blade and adapted to be wound into a coil.

4. In a safety razor, the combination with a frame having a guard portion adapted to hold a blade in cutting position, of a cutting blade longitudinally movable over said guard portion in said frame to bring different portions into cutting position.

5. In a safety razor, the combination with a frame, of means thereon for holding a blade in cutting position, a longitudinally movable cutting blade extending beyond the end of said holding means, the said extended portion being provided with a cutting edge, and means for holding and protecting said extended portion.

6. In a safety razor, the combination with a frame, of means thereon for holding a blade in cutting position, and a longitudinally movable cutting blade of thin flexible material bent to occupy a position within said frame beyond said holding means.

7. In a safety razor, the combination with a frame, having a guard portion, of a thin, flexible cutting blade carried by said frame and adapted to be drawn longitudinally over said guard portion.

8. In a safety razor, the combination with a frame having a guard portion, of a thin, flexible cutting blade carried by said frame and adapted to be drawn longitudinally over said guard portion, and means for holding in shaving position the section which is at the guard portion.

9. In a safety razor, the combination with a frame having a guard portion, of a thin, flexible cutting blade carried by said frame and adapted to be drawn longitudinally over said guard portion, and an adjustable clamping bar extending over said guard portion adapted to clamp a portion of said blade in shaving position.

10. In a safety razor, the combination with a frame having a guard portion, of a thin, flexible cutting blade coiled within said frame with its end extending out over said guard portion and adapted to be drawn longitudinally thereover.

11. In a safety razor, the combination with a frame having a guard portion, of a thin flexible cutting blade coiled within said frame and having a free end extending out over said guard portion at one end and back into the casing at the other end, and means within said casing for exerting a pull upon the free end to draw the blade longitudinally over the guard portion.

12. In a safety razor, the combination with a frame having a guard portion, of a thin flexible cutting blade coiled within said frame and having a free end extending out over said guard portion at one end and back into the casing at the other end, and a manually operated winding drum for pulling the blade longitudinally of the guard portion and taking up the free end.

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

EUGENE G. MERGENTHALER.

Witnesses:

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