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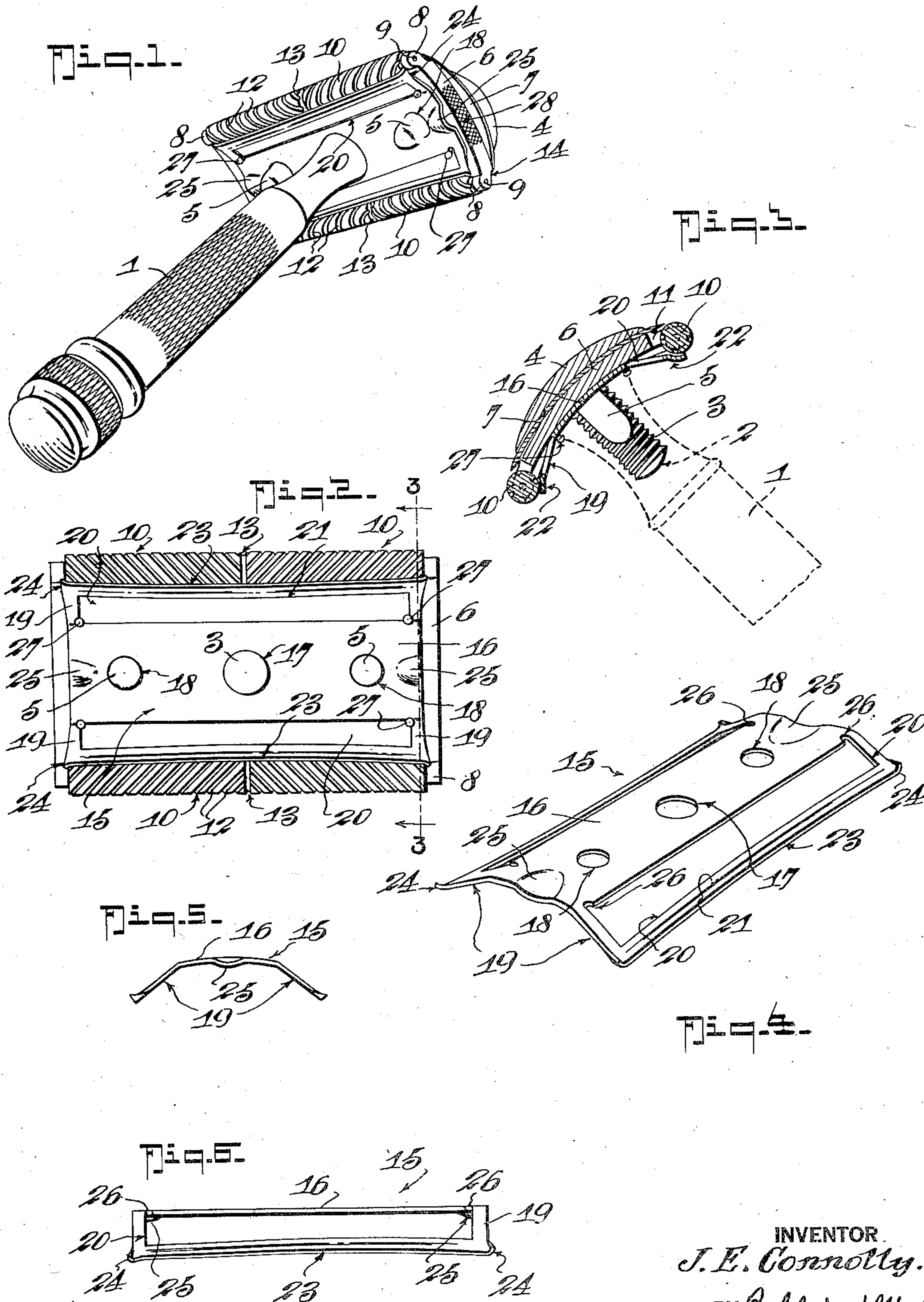
J. E. CONNOLLY

1,777,691

SAFETY RAZOR

Filed Aug. 17, 1929

2 Sheets-Sheet 1



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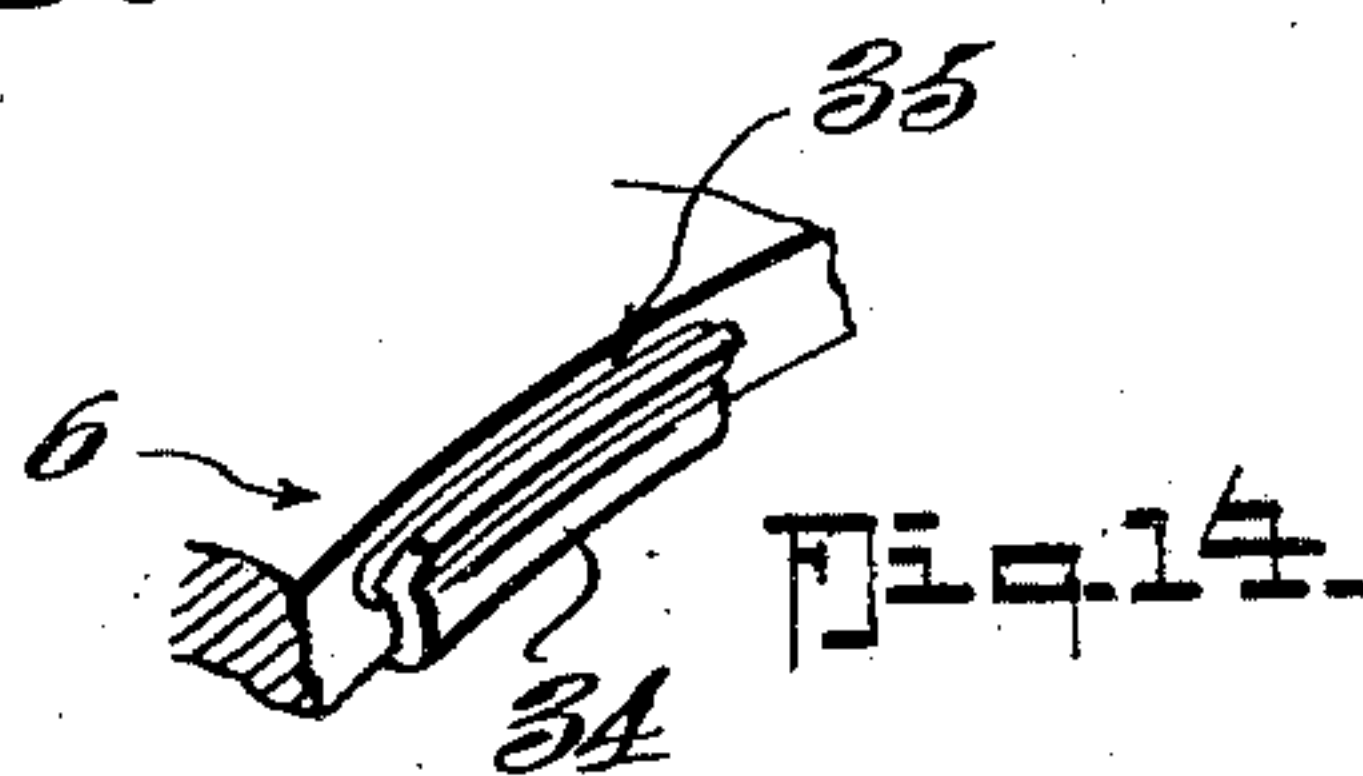
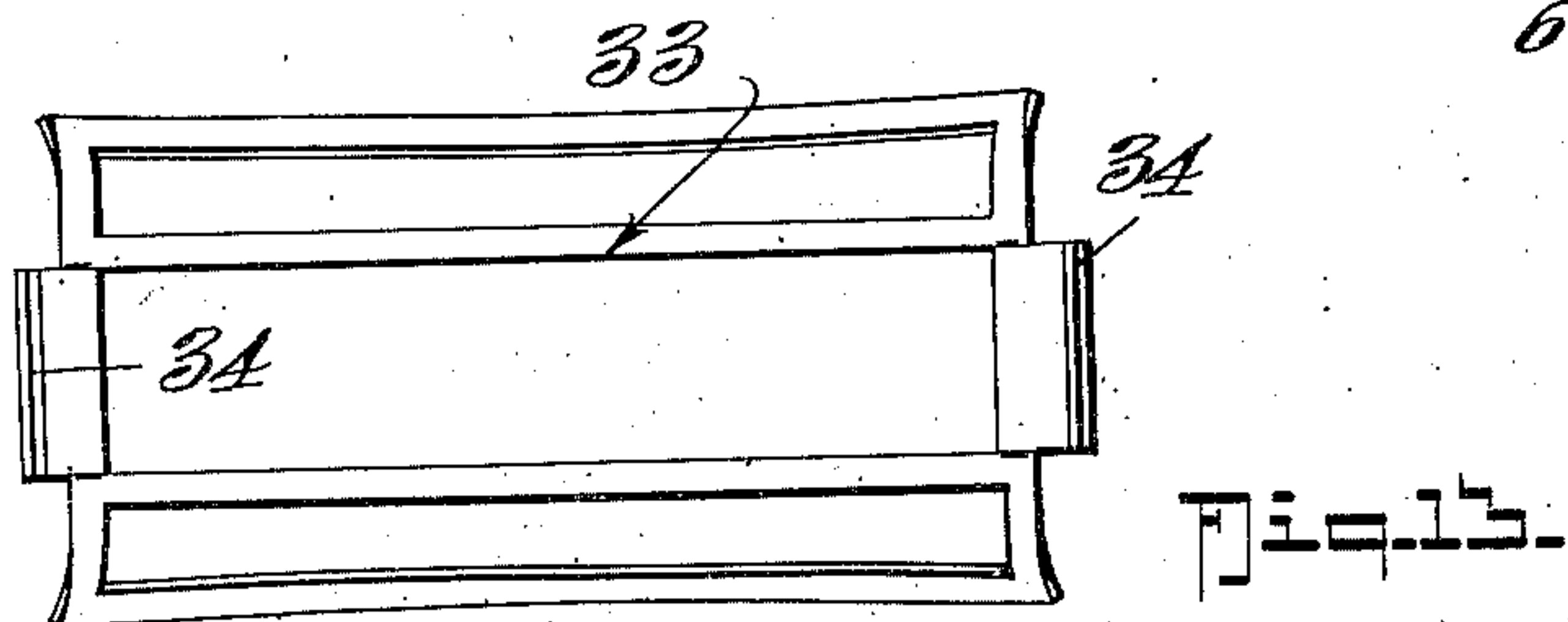
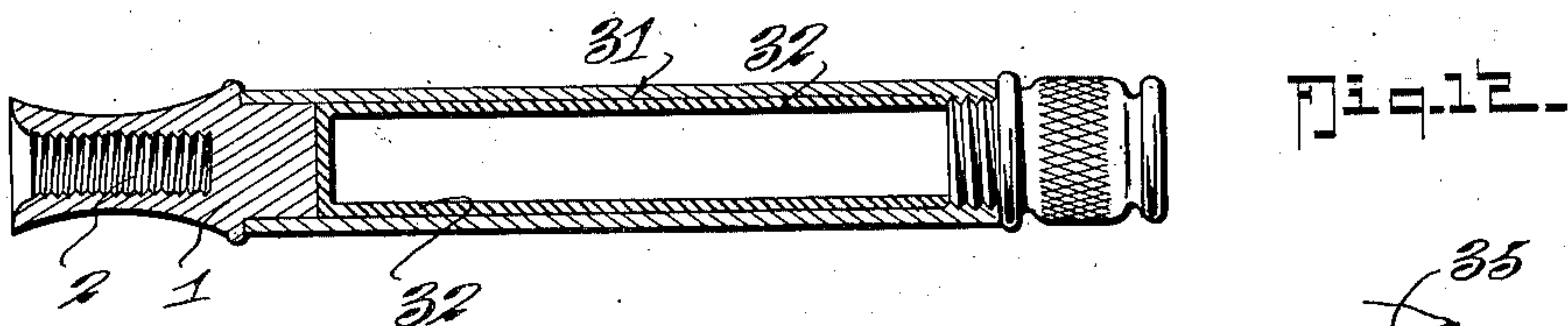
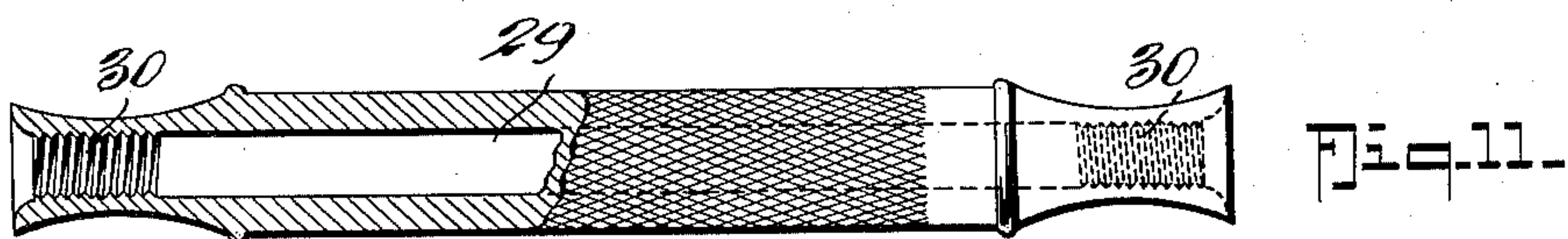
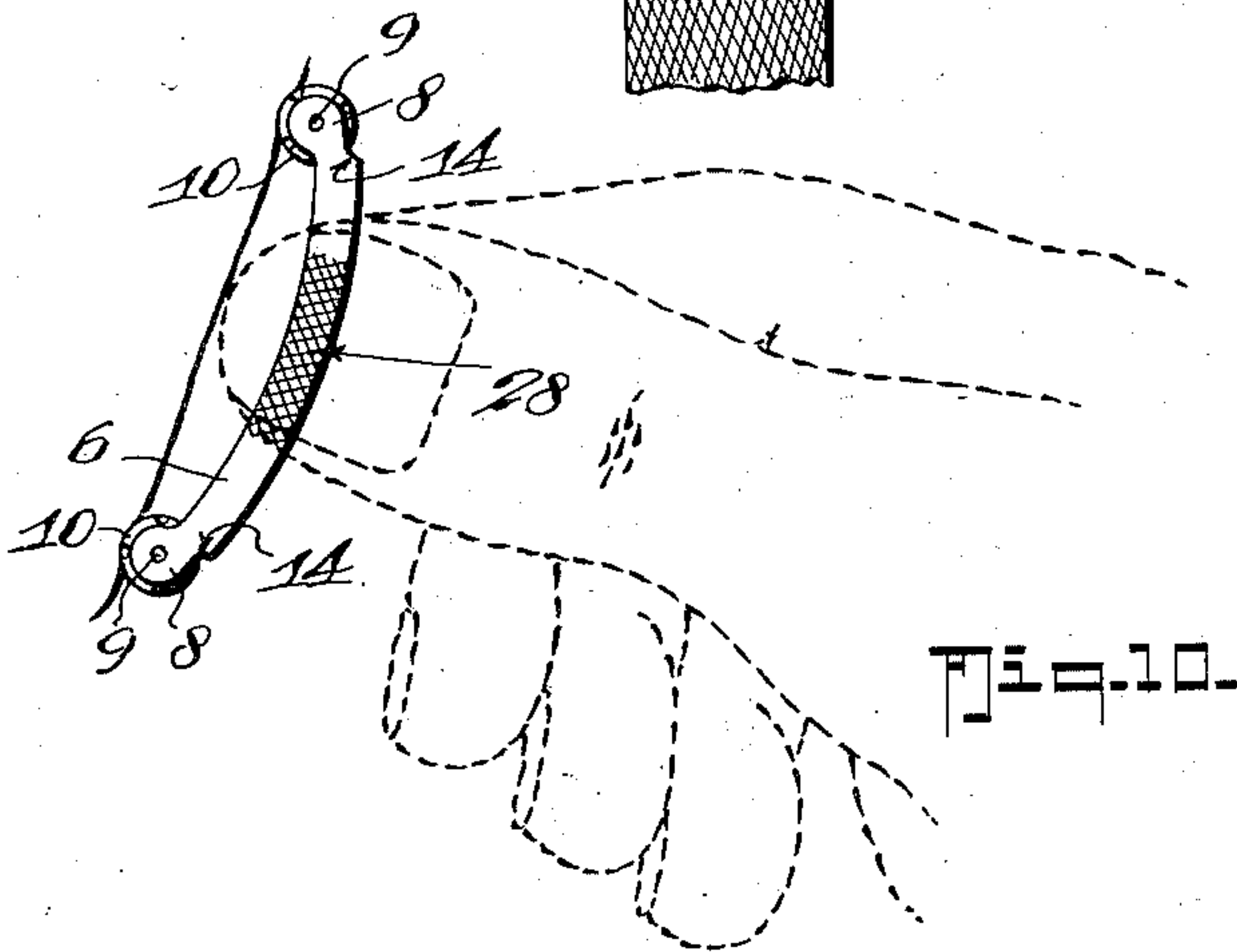
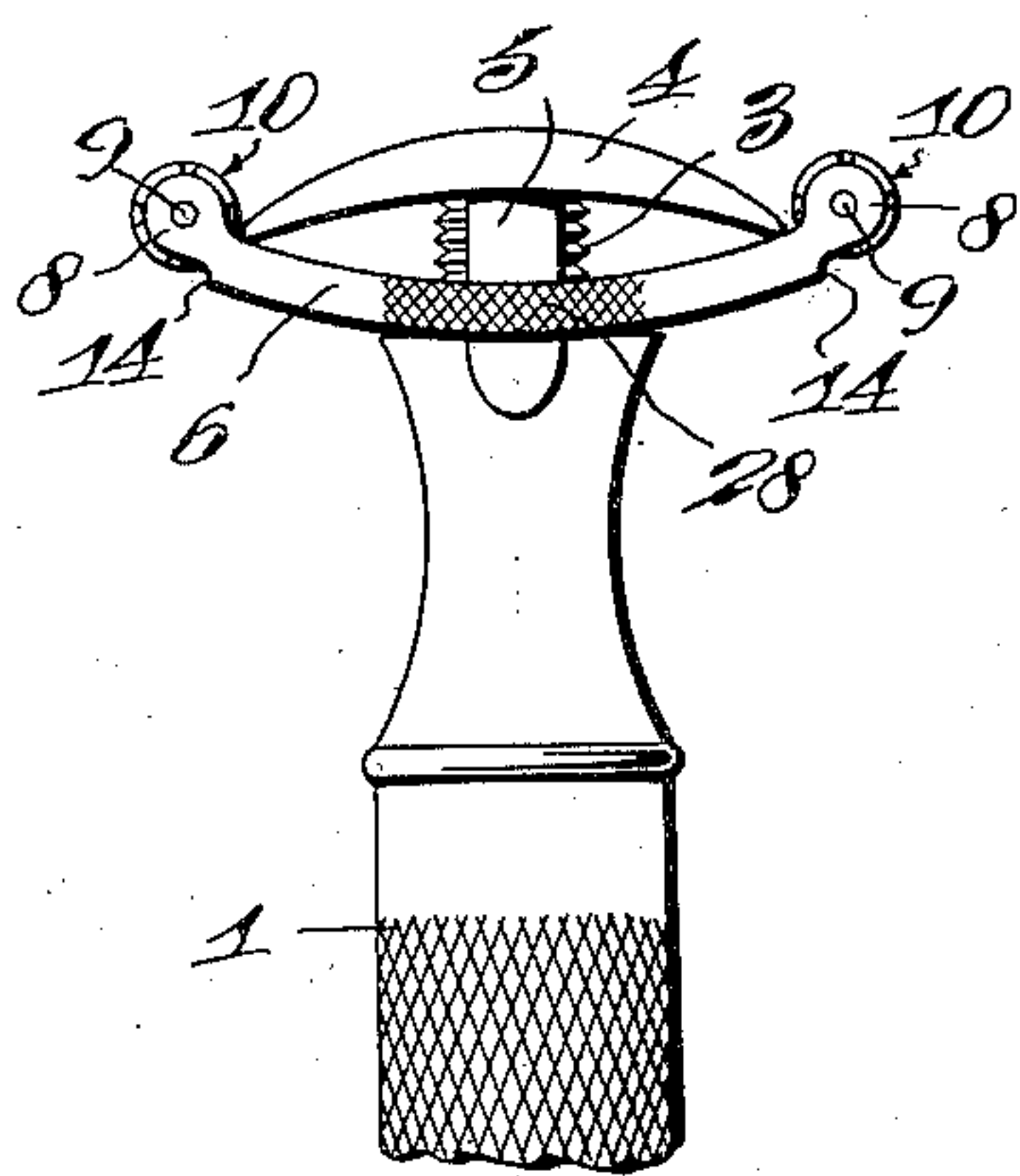
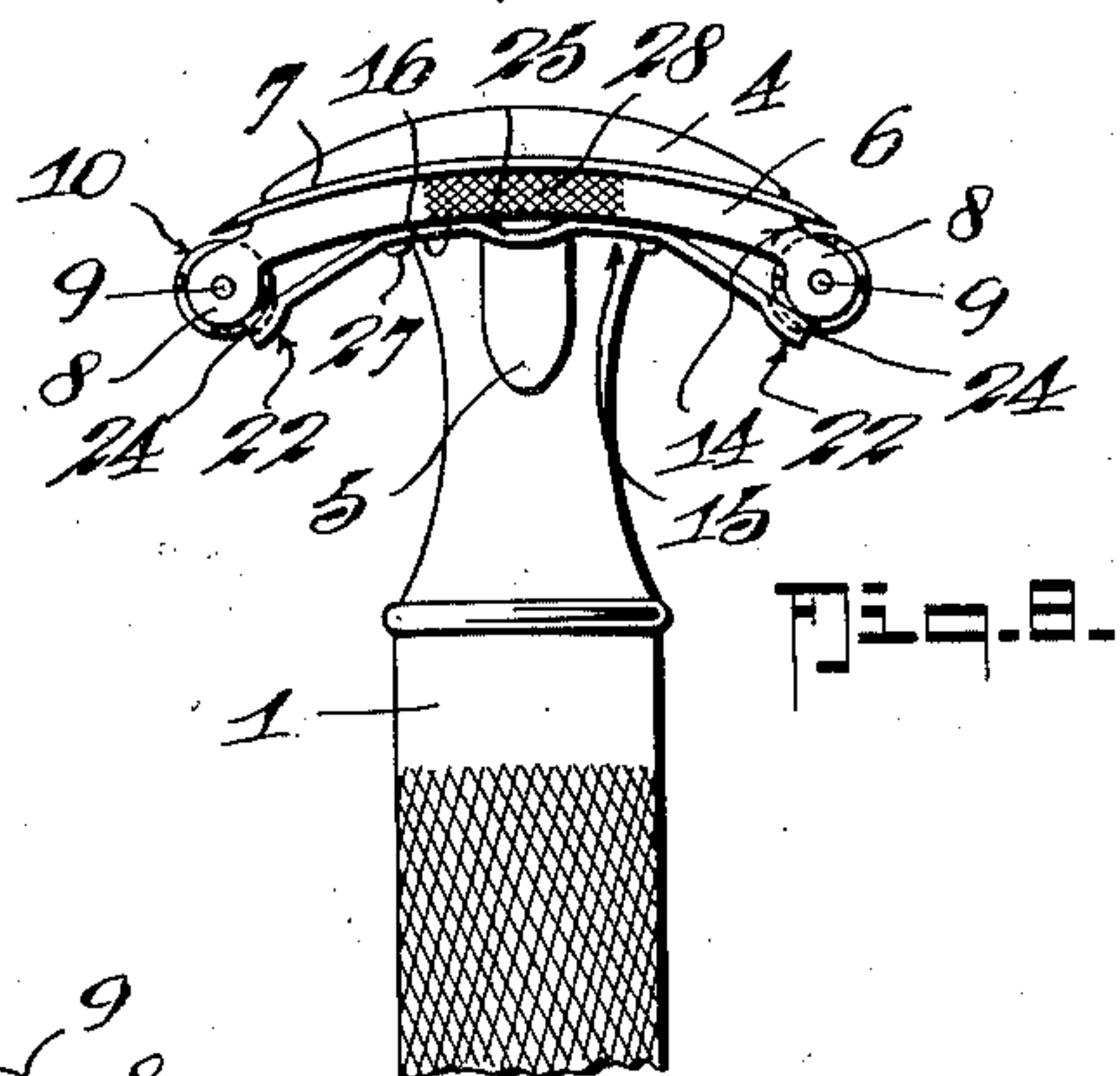
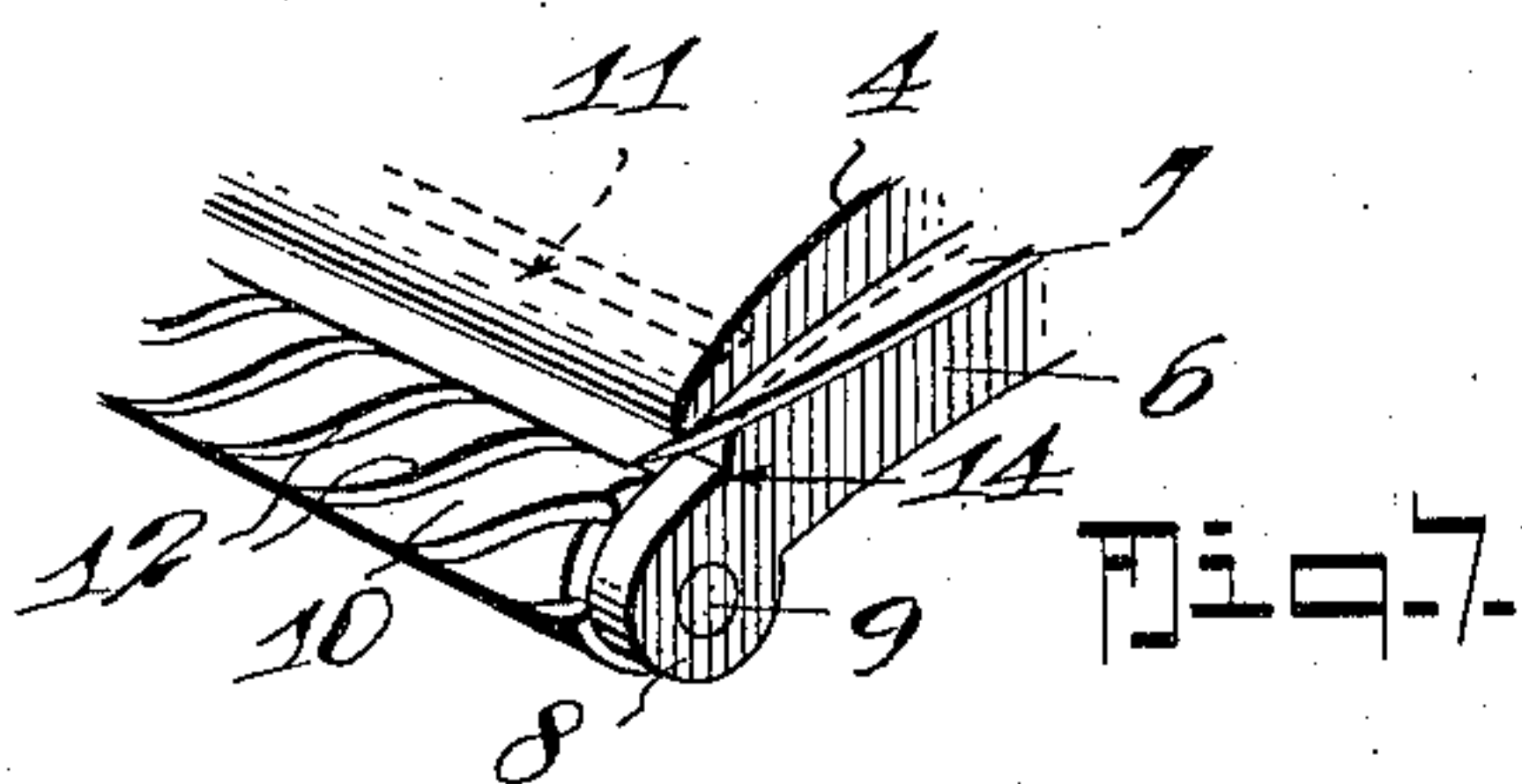
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# UNITED STATES PATENT OFFICE

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SAFETY RAZOR

Application filed August 17, 1929. Serial No. 386,651.

The invention generally relates to razors of the type disclosed in Patent No. 1,651,917, issued to me on Dec. 6, 1927, and in application Serial No. 273,560 filed by me on April 28, 1928, in which are embodied the customary handle, clamp plate, guard plate, blade and blade guard and lather working rollers and regulating devices, and primarily has for its object to provide certain new and useful improvements in the construction and arrangement of said parts rendering the manufacture of the articles simpler and less expensive and greatly facilitating the use of the razors and the cleansing thereof after use.

An object of the invention is to provide a novel, simplified form of lather reapplication regulating means.

Another object of the invention is to provide a guard plate on which the guard and reapplication rollers are so mounted as to enable the use of the plate, either individually or collectively with remaining parts of the razor as a novel massaging implement.

Another object of the invention is to provide guard plate roller bearing lugs with steps where overlapped by the blade to enable full use of the cutting edges from end to end.

Another object of the invention is to provide a novel hollow, double ended handle greatly facilitating assembly, disassembly and cleansing of the razor and permitting the convenient storage of first aid preparations in the handle when desired.

Other objects will in part be obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends, the invention still further resides in the novel details of construction, combination and arrangement of parts, all of which will be first fully described in the following detailed description, then be particularly pointed out in the appended claims, reference being had to the accompanying drawings, in which:—

Figure 1 is a perspective view illustrating the invention mounted on a razor of well known type.

Figure 2 is an inverted plan view of the

head of the razor, the handle being removed.

Figure 3 is a cross section taken on the line 3—3 of Figure 2.

Figure 4 is a perspective view of the regulator member.

Figures 5 and 6 are end and side views respectively of the regulator shown in Figure 4.

Figure 7 is an enlarged detail perspective view of a corner of the guard plate showing the blade clearing lug cut-out.

Figure 8 is an end view of the razor.

Figure 9 is an end view illustrating the use of the razor as a massage implement.

Figure 10 is a detail end view illustrating the use of the guard plate alone as a massage implement.

Figure 11 is a detail view, part elevation and part sectional, illustrating a hollow double ended handle.

Figure 12 is a detail longitudinal section of a handle equipped for encasing first aid medicinals or the like.

Figure 13 is a plan view of a modified form of regulator member.

Figure 14 is a fragmentary perspective view illustrating the manner of mounting the modified form of regulator on the guard plate.

In the drawings 1 designates the razor handle to which the clamp head is attached, said handle being provided with a threaded socket 2 to receive the threaded shank 3 of the clamp head 4.

The guide lugs 5 of the clamp head pass through suitable receiving apertures in the guard plate 6 which is also provided with an aperture to receive the shank 3. Between the guard plate 6 and the clamp head 4 the usual double edged blade 7 is clamped in the manner illustrated in Figure 1 of the drawings.

All of the above structure will be recognized as conventional and it is to be understood that while I have disclosed the invention as applied to this particular form of razor the invention is not so limited in application and comprehends all structures coming within the scope of the appended claims.

In the practical development of the in-



vention the side edges of the guard plate are preferably cut out to provide opposed pairs of mounting lugs 8 which provide trunnion bearings 9 for the guard rollers 10, one thereof being mounted at each side of the guard plate. The cut out portions of the plate 6 are deep enough to provide an appreciable space 11 between each roller 10 and the adjacent plate edge to permit free lather passage and free rotation of said rollers.

Each guard roller 10 is preferably provided with a grooved face engaging surface, the grooves being arranged in reversed spirals 12 so as to diverge from or converge to a point intermediately of the ends of said roller thus forming centrally disposed V's 13, see Figures 1 and 2.

It will be observed by reference to Figures 7 and 8 that the trunnion lugs 8 are stepped down as at 14 beneath the blade engaging surface of the guard plate to enable the blade to overhang clear of the lugs. Thus the shaving edges of the blade are not interrupted at the ends by the lugs and it is therefore possible to employ the extreme corners of the blade in effecting accurate trim-shaving operations which are desirable and in fact necessary around the regions of the ears and temple as well as when trimming a mustache.

One of the principal objects of my present invention is to simplify the structure disclosed in my application for patent Serial Number 273,560 filed April 28, 1928, and to provide a razor structure capable of being quickly and conveniently assembled and disassembled for cleaning or the like.

To this end I provide a simple regulator unit or member generally designated 15 and illustrated in detail in Figures 4, 5 and 6. This regulator is of the stationary fixed adjustment type adapted to be held against the guard plate in a single, fixed operative position assuring proper cooperative relation of the parts without danger of misadjustment due to vibration or shock.

The regulator member is preferably formed of thin but strong spring sheet metal and comprises a central cross web or body 16 apertured at 17 to receive the clamp head shank 3, and at 18 to receive the guide lugs 5 of said clamp head. The sides of the regulator beyond the body 16 are bent downwardly-outwardly as at 19 and are cut out as at 20 to make the regulator light and flexible and to provide regulator side bars 21.

The regulator side bars 21 are preferably curved slightly as at 22 to conform to the curvature of the rollers and provide concentric lather passing spaces of fixed dimension. These bars are also bowed slightly away from rollers at their central portion as at 23 to tend to localize the lather at that point, and at their extreme corners, they are preferably cornered-in as at 24 to overlie a

portion of the roller ends and tend to thwart dripping of lather off the roller ends.

The end edges of the regulator are turned as at 25 to provide finger grips which greatly facilitate mounting and removal of the regulator, and to further provide for mounting the regulator, especially upon the guard plate 6, the regulator is provided with notches 26 arranged in the corners provided by the cut-outs 20 and adapted to snap over the snap head pins 27 which depend from the concave face of the guard plate. Thus the regulator may be removed bodily with the guard plate or readily separated therefrom as desired.

With this type of regulator unit the re-application of lather is properly regulated, the lather is well worked and concentrated at the center of the instrument and a construction is provided which can be quickly and conveniently assembled for use and disassembled for cleansing and storage purposes.

It will be found that the grooved roller equipped guard plate alone may be employed as an efficient skin massaging implement. For this purpose the ends of the plate may be roughened or seated as at 28 to provide finger grips. The rollers being reversely grooved, the combined massage effect is different than a single roller massage because where a single roller will roll back and forth in the same grooves the following roller of a cooperating pair will work the lather or massage cream oppositely of the function of the advance roller so that a vigorous continuously reversing spreading of the cream or lather is brought about and a real health giving massage assured. See Figure 10.

By reversing the position of the guard plate and eliminating the blade and regulator member as shown in Figure 9, a very efficient massage implement is provided. The rollers provide for a sort of anti-friction massage and lather working operation, and between them the smooth clamp head frictionally engages the face providing a combined friction and anti-friction massage. It will be understood, of course, that the clamp head is narrow enough to fit between the rollers without interfering with their free rotation.

The razor handle is preferably made hollow as at 29 and double ended as shown at 30 in Figure 11 to facilitate assembly and thorough cleansing. Persons who find it necessary to wear eye-glasses for example, having removed them to shave, often find it difficult to locate the socketed end of the razor handle and consequently lose much time in assembling the razor. In addition to the ease of assembly afforded by the double end sockets, the tubular construction enables the passage of hot water through the handle and thus makes it possible to keep the



sockets free from germs and matter upon which germs could feed.

In Figure 12 I have shown another modified form of handle which is provided with a hollow socket 31 which may be lined at 32 with rubber, baked enamel or the like and suitably sealed air and moisture tight by a screw plug as shown. The handle thus constructed may serve as a receptacle for first aid medicinal preparations such as styptic stick, mercurio-chrome or iodine vial, antiseptic tablets or the like, which preparations, thus always present for immediate use, will assure against infections often resulting from razor cuts.

In Figures 13 and 14 I have disclosed a modified form of regulator member in which the cross web is cut out as at 33 to clear the clamp head screw shank and guide lugs and is provided with end extensions 34 bent to form mounting lugs which may be sprung into recesses 35 provided in the ends of the guard plate and serve as a simple means for holding the regulator member in operative position.

From the foregoing description taken in connection with the accompanying drawings, it is thought that the novel details of construction, the manner of use and the advantages of the invention will be readily apparent to those skilled in the art to which the invention relates.

I claim as my invention:

1. In a razor wherein is provided a cutting edge and an edge guard and lather reapplicator mounted in associated relation with the cutting edge to guard the same and to reapply lather to the face of a user adjacent said cutting edge, and means to regulate the reapplication of lather comprising a bar positioned in close spaced relation to said reapplicator and having the central portion thereof spaced a greater distance from said reapplicator than are its ends.

2. In a razor wherein is provided a cutting edge and an edge guard and lather reapplicator roller rotatably mounted in associated relation with the cutting edge to guard the same and to reapply lather to the face of a user adjacent said cutting edge, and means to regulate the reapplication of lather comprising a bar positioned in close spaced relation to said reapplicator, said bar being bowed away from said roller at its central portion for the purpose described.

3. In a safety razor, the combination with a guard plate, of a blade mounted in operative position on the guard plate, a roller mounted on the guard plate in associated relation with the blade to guard its cutting edge and to reapply lather to the face of a user adjacent the blade cutting edge, a lather reapplication regulator member, and spring snap means to mount the regulator member on the guard plate for individual removal or

for removal together with the guard plate.

4. In a razor wherein is provided a cutting edge and an edge guard and lather reapplicator roller rotatably mounted in association with the cutting edge to guard the same and to reapply lather to the face of a user adjacent said cutting edge, and means to regulate the reapplication of lather comprising a bar positioned in close spaced relation to said reapplicator, and having its ends extended beyond and turned toward the roller ends for the purpose described.

5. In a razor wherein is provided a cutting edge and an edge guard and lather reapplicator roller rotatably mounted in associated relation with the cutting edge to guard the same and to reapply lather to the face of a user adjacent said cutting edge, and means to regulate the reapplication of lather comprising a bar positioned in close spaced relation to said reapplicator, said bar being bowed away from said roller at its central portion and having its ends extended beyond and turned toward the roller ends for the purpose described.

6. In a razor wherein is provided a cutting edge and an edge guard and lather reapplicator roller rotatably mounted in associated relation with the cutting edge to guard the same and to reapply lather to the face of a user adjacent said cutting edge, and means to regulate the reapplication of lather comprising a bar positioned in close spaced relation to said reapplicator, said bar having a portion extended in concentric relation with the roller to provide therewith a concentric lather passage regulating space.

7. The combination with a guard plate having its side edges recessed to provide trunnion lugs, and a roller rotatable in each edge recess and having trunnion bearing in the lugs, of a lather reapplication regulator comprising a body and regulator bars extended laterally into close proximity to the rollers, and means to removably mount the regulator on the guard plate.

8. The combination with a guard plate having its side edges recessed to provide trunnion lugs, and a roller rotatable in each edge recess and having trunnion bearing in the lugs, of a lather reapplication regulator comprising a body and regulator bars extended laterally into close proximity to the rollers, and means to removably mount the regulator on the guard plate, said last named means comprising interengaging spring members and detents enabling assembly and disassembly of the plate and regulator by spring snap action.

9. The combination with a guard plate having its side edges recessed to provide trunnion lugs, and a roller rotatable in each edge recess and having trunnion bearing in the lugs, of a lather reapplication regulator comprising a body and regulator bars ex-



tended laterally into close proximity to the rollers, said bars having the portions thereof adjacent the rollers shaped concentric to the axes of the rollers, and means to removably mount the regulator on the guard plate.

5 10. The combination with a guard plate having its side edges recessed to provide trunnion lugs, and a roller rotatable in each edge recess and having trunnion bearing in  
10 the lugs, of a lather reapplication regulator comprising a body and regulator bars extended laterally into close proximity to the rollers, said bars having the portions thereof  
15 adjacent the rollers shaped concentric to the axes of the rollers, and being bowed slightly away from the rollers at their central portions, and means to removably mount the regulator on the guard plate.

11. The combination with a guard plate  
20 having its side edges recessed to provide trunnion lugs, and a roller rotatable in each edge recess and having trunnion bearing in the lugs, of a lather reapplication regulator comprising a body and regulator bars ex-  
25 tended laterally into close proximity to the rollers, said bars being bowed slightly away from the rollers at their central portions and having their end corners extended beyond  
30 and turned toward the ends of the rollers for the purpose described, and means to removably mount the regulator on the guard plate.

In testimony whereof, I have hereunto subscribed my name.

35 JAMES E. CONNOLLY.

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