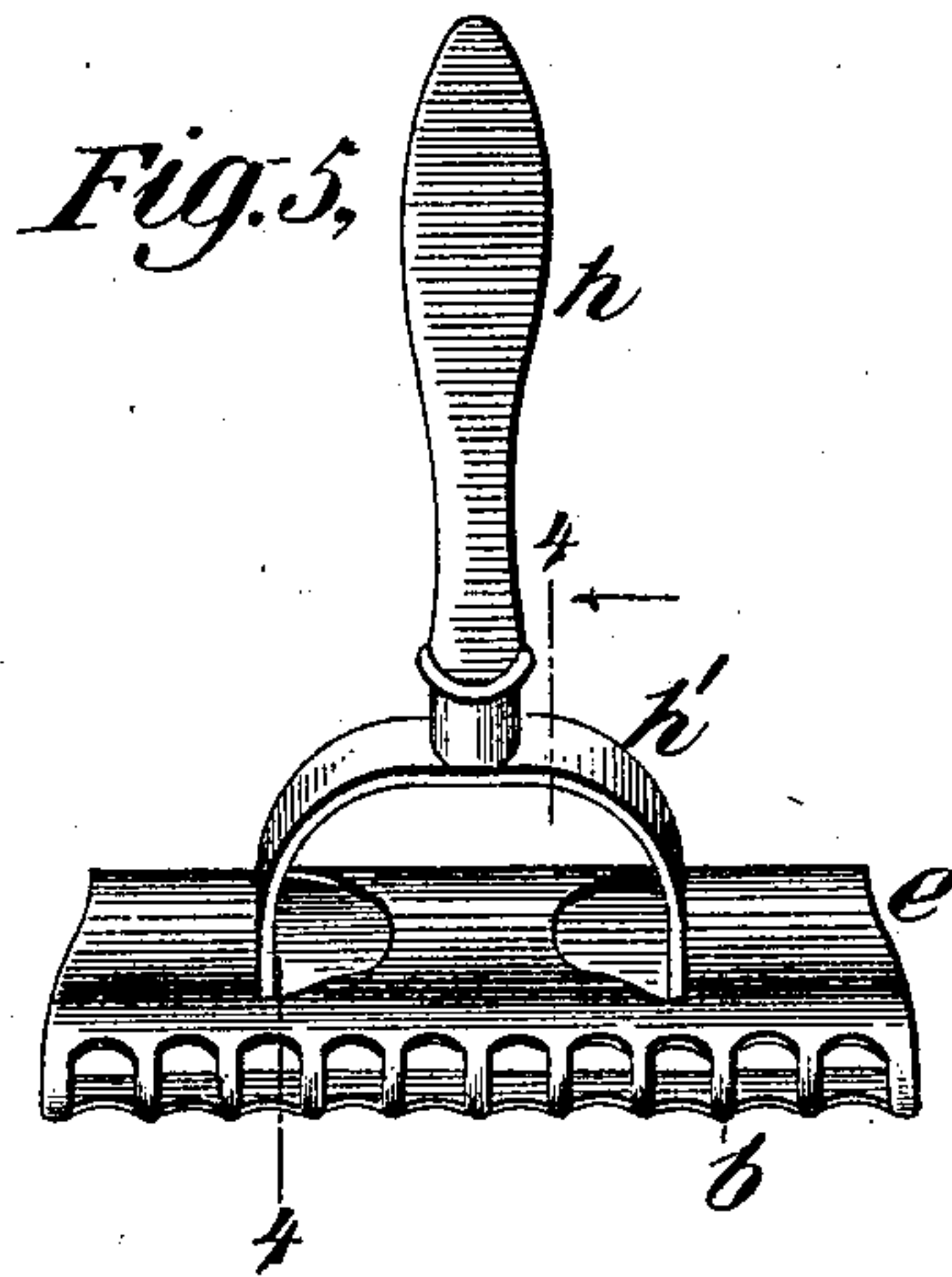
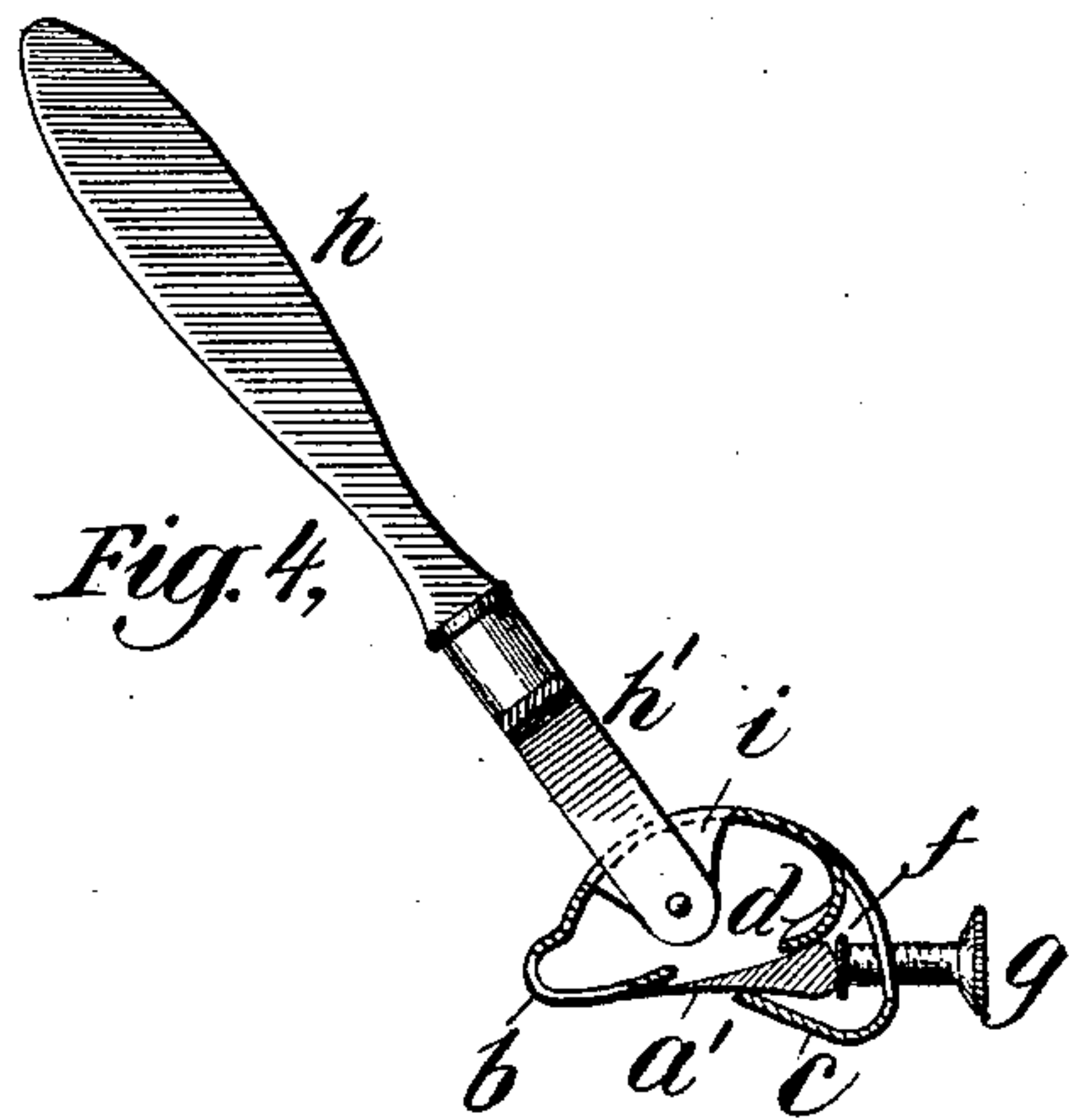
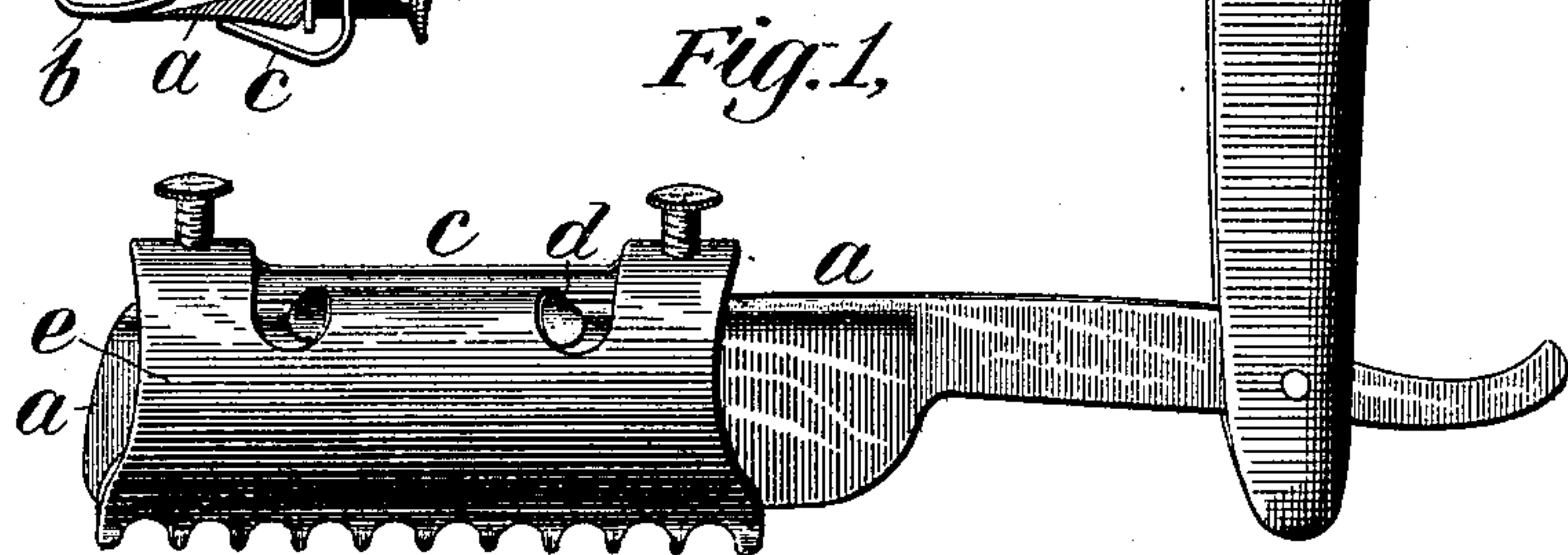
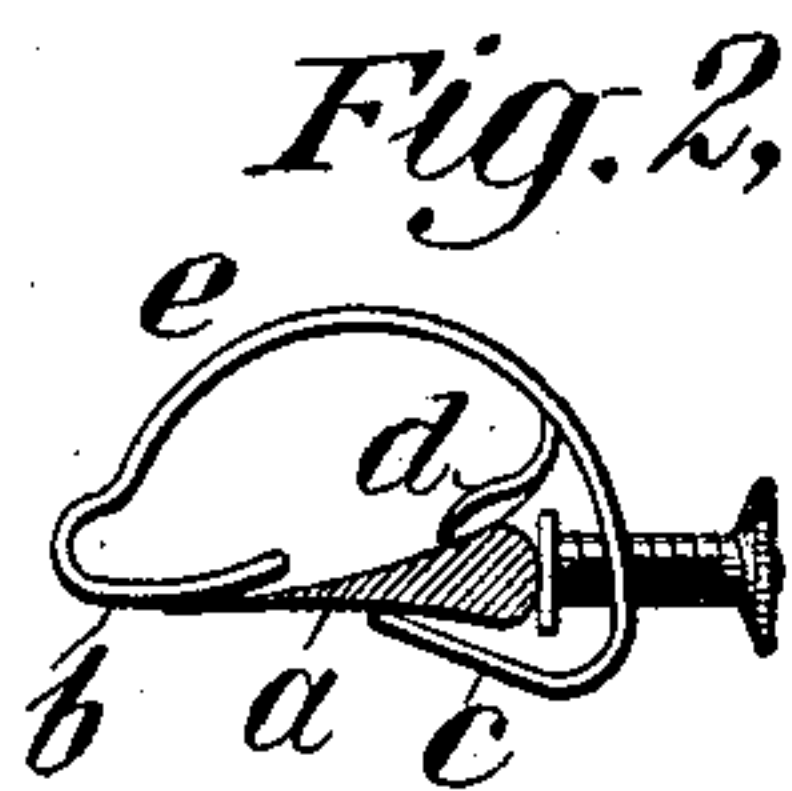
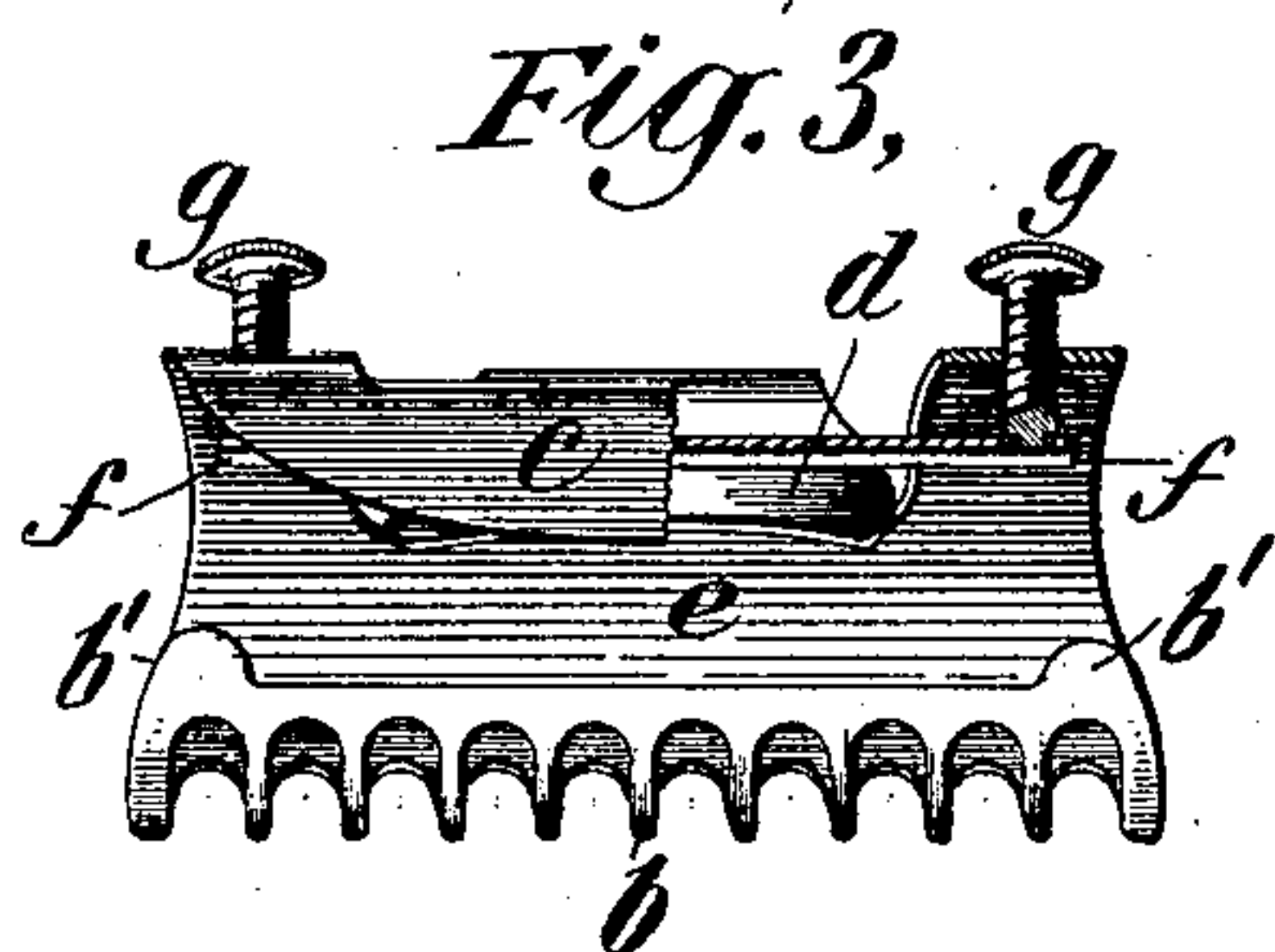


(No Model.)

P. W. STRONG.  
SAFETY RAZOR.

No. 589,513.

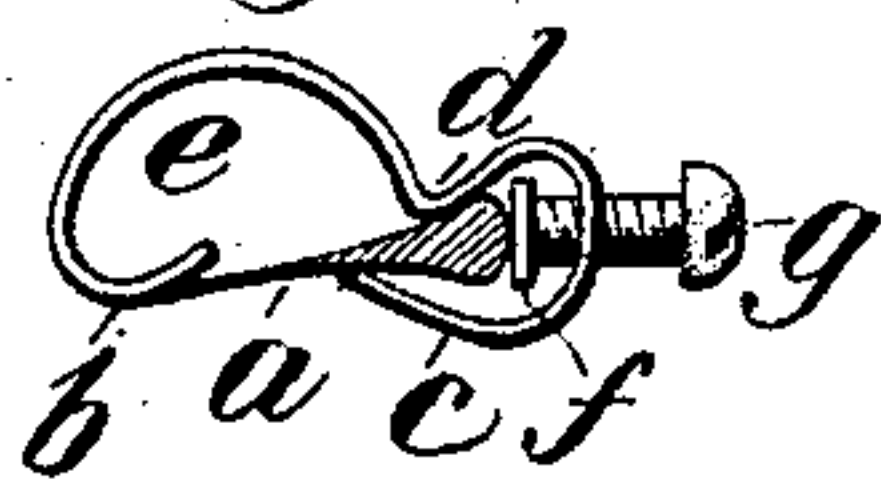
Patented Sept. 7, 1897.



WITNESSES:

*A. H. Hayworth*  
*Herbert H. Gibbs*

*Fig. 6,*



INVENTOR

*Preston Willis Strong*

BY

*Henry D. Williams*  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

PRESTON WILLIS STRONG, OF BROOKLYN, NEW YORK.

## SAFETY-RAZOR.

SPECIFICATION forming part of Letters Patent No. 589,513, dated September 7, 1897.

Application filed May 12, 1896. Serial No. 591,264. (No model.)

*To all whom it may concern:*

Be it known that I, PRESTON WILLIS STRONG, a citizen of the United States, and a resident of the city of Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof.

This invention relates to means for guarding razor edges, and has for its objects to provide a guard or safety device that shall be adapted to blades of various lengths and widths and may be attached to any ordinary razor-blade and used in connection with the ordinary handle of the razor, or which guard or safety device may be provided with a handle and used in connection with a separate blade, such as is employed in safety-razors heretofore well known, and has for its objects to provide a large range of adjustment and a delicate adjustment of the relative positions of the guard and cutting edge, whereby razors of different widths may be properly adjusted and the wear of the razor-blade in use may be compensated for and the blade may be set to a nicety either for a close shave or otherwise, as may be desired by the user; also, to provide a large lather-cup capable of retaining all the lather that would be taken up in a single shaving operation, thus making it possible for the user to proceed without interruption from the beginning to the end of the shaving operation; also, to permit the razor-blade to be readily and quickly inserted and removed without fear of injury to its edge and without disturbance of the adjusting means; also, to provide for holding the side of the razor in proximity to its edge tightly against the guard by spring action and to provide a smooth finish without projections on the surface held adjacent to the face of the user, and to provide a pivoted handle for the safety device, whereby the razor will follow the contour of the face of the user without special manipulation. These and other objects and advantageous features of my invention will appear from the following description of devices shown in the accompanying drawings and embodying my invention.

Figure 1 is a top plan view showing a safety device attached to an ordinary razor. Fig. 2

is an end elevation of the safety device with the razor-blade in section. Fig. 3 is an underneath plan view of the safety device partly in section. Fig. 4 is an elevation in section on the line 4 4, Fig. 5, of a safety device having a pivoted handle, and also shows a razor-blade. Fig. 5 is a front elevation of the safety device with pivoted handle, also shown in Fig. 4. Fig. 6 is a side elevation, with the razor-blade in section, of a modified construction of the safety device.

The razor *a* (shown in Figs. 1 and 2) is an ordinary razor provided with a tang and handle pivoted to the tang, and the safety device shown in Figs. 1, 2, 3, and 6 is not provided with a handle, as it is designed to use this safety device on an ordinary razor held in the ordinary manner by the handle of the razor. The safety device shown in Figs. 4 and 5 is provided with a handle and it is proposed to employ in this device a razor *a'* of a construction such as is now employed in safety-razors, the razor itself having no handle.

The safety device shown comprises mainly one piece of sheet metal, preferably spring metal, as spring-brass, and may be struck up by dies into the form shown, and this spring-metal piece includes a guard *b*, a spring-socket including a spring-tongue *c* and a guide *d*, and an arched lather-cup *e*, connecting the guard and spring-socket. The guard *b* has a convexly-curved surface and preferably has slight rearward projections *b' b'* (see Fig. 3) to provide a bearing for a narrow razor, and its front portion curves upwardly and rearwardly, merging into the lather-cup *e*. A series of slots is formed in the material of the guard, so that its bearing-surface upon the face of the user consists of a series of comparatively narrow bars with ample space between for the lather to pass upward into the lather-cup, and these bars are united into one continuous piece at their rear ends in proximity to the edge of the razor, as clearly shown in Figs. 3 and 5, and therefore the guard presents a continuous or substantially continuous surface to the side of the razor in proximity to its edge. This is especially important during the insertion and removal of the razor-blade. The lather-cup *e* is gracefully arched, and in the construction shown in Figs. 1 to 5, inclusive, at its extreme for-



ward portion, where it merges into the guard *b*, a rounded protuberance is formed, so that the leading portion of the safety device may be more readily manipulated on the portions of the face in proximity to the nose and ears of the user.

The spring-tongue *c* is of curved outline and tapering toward its end, so as to permit a razor to be readily inserted under it, and bears against the outer or lower side of the razor with a yielding spring-pressure. The guide *d* in the construction shown in Figs. 1 to 5, inclusive, is struck inward from the metal piece without altering the general arched contour and is transversely rounded and longitudinally somewhat convexly rounded and comes in contact with the inner or upper side of the razor at a point nearer the back of the razor than the contact of the spring-tongue *c* on the lower side of the razor. The guide *d* in the construction shown in Fig. 6 is formed by deflecting inward the entire length of the metal piece, and this guide lacks the longitudinal curvature of the guide shown in the other views of the drawings, but has substantially the same contour transversely in its contact portions and also comes in contact with the razor nearer the back of the razor than the spring-tongue *c*. The effect of the relative positions of the contacts of the spring-tongue and guide is to cause the edge of the razor to be pressed inward with a spring-pressure, so that the side of the razor in proximity to its edge is pressed tightly against the guard *b*. The longitudinal arching of the guide *d* shown in the main views of the drawings insures a more perfect seating of the razor against the guard *b* in the event of slight irregularities in the form of the razor or of the parts of the safety device.

The contact with the back of the razor in the spring-socket is shown as formed by an adjustable plate *f*, bearing directly against the back of the razor, this plate being adjusted by screws *g g*, preferably thumb-screws, tapped into the metal piece at the rear end thereof and with their ends suitably held in the plate, so as to be free to rotate relatively thereto but to move the plate with them in their backward and forward movements. This adjustable plate *f* affords a large bearing extending through substantially the length of the safety device and is without projections on its bearing-face, so that the razor may be readily moved into and out of the device. By the manipulation of the thumb-screws *g* the position of the plate *f* may be so adjusted as to hold the razor edge in any desired position relatively to the guard *b*. If the razor is not of uniform width throughout, there is sufficient freedom of movement to permit one end of the plate to be adjusted by its adjusting-screw farther forward or rearward than the other end of the plate. The range of adjustment is large and permits of the employment of a standard size of safety device for all ordinary razors. The spring

action of the tongue *c*, in conjunction with the guide, will ordinarily cause the razor to be pressed rearwardly, so that it will follow the adjusting-plate *f* when the plate is moved rearwardly, and the spring metal readily yields when the adjusting-plate is moved forward. The farther forward the edge of the razor is moved the more closely will it cut in the shaving operation, and the position of the edge may be adjusted to a nicety, as may be desired by the individual user. The adjustment is not disturbed by removing or inserting the razor, as the continuous surfaces of all parts in contact with the razor-blade permit ready insertion and removal of the razor-blade, notwithstanding the spring-pressure to which it is subjected, so that after the device has been once adjusted to a razor no further adjustment will be necessary, except, perhaps, at long intervals to compensate for wear.

A standard length of safety device may be employed for all ordinary lengths of razors, the safety device being set so as to cover the extreme outer portion of the razor edge, as shown in Fig. 1. The extreme inner portions of a long razor edge are practically not used and therefore need not be guarded.

The device as thus far described is adapted for attachment to ordinary razors, and a razor to which it has been attached may be used in the ordinary manner, the user holding the razor by its handle. Such a device is highly desirable, especially for persons who are owners of ordinary razors or who have become accustomed to the manipulation and care of ordinary razors. In some cases, however, it may be desirable to employ razors without handles and to provide the safety device with a handle, and in such cases I propose to employ a construction such as is shown in Figs. 4 and 5. The handle *h*, according to my invention, is pivotally connected to the metal piece or case holding the razor, and to that end the lugs *i* are struck inward from the lather-cup *e*, and the handle has a bifurcated shank engaged by pivot-pins with these lugs, and thus the handle is pivoted on a longitudinal axis, and there is a limited swinging movement between the handle and the metal case, determined by the slots formed in the case in the path of the bifurcated ends of the handle-shank *h'*. This swinging movement permits the razor-holder to adjust itself to the somewhat irregular contour of the human face and chin and follow the curves thereof without especial manipulation of the handle.

The smooth finish of the lower surface of the safety device without projections permits the device to be pressed against the face of the user and drawn over it by the pivoted handle without discomfort to the user, and the delicate adjustment and positive holding of the blade in adjusted position insure a safe and satisfactory action of the razor with this pivoted handle.

It is of course evident that various modifi-



cations may be made in the constructions above described within the purview of my invention and that parts of my invention may be used separately or in connection with other parts of different construction from that above particularly described.

What I claim, and desire to secure by Letters Patent, is—

1. A safety device for razors comprising a guard and guide, said guard being arranged to come in contact with the razor alongside the edge thereof and having a series of bars united together to form one continuous surface in proximity to the edge of the razor, the guide being arranged to come in contact with the inner side of the razor near the back thereof, an inwardly-pressing spring-tongue shaped to present an oblique edge to the end of the razor when the razor is inserted and arranged to bear upon the outer side of the razor, an arched lather-cup connecting the guard and guide and tongue, and screw-adjusting means arranged to bear against the back of the razor, whereby an adjustable spring-socket is formed into which the blade may be inserted and from which it may be removed by longitudinal movement, substantially as set forth.

2. A safety device for razors comprising a guard for the edge of the razor arranged to come in contact with the razor alongside of the edge thereof, said guard consisting of a series of bars united together to form one continuous surface in proximity to the edge of the razor, a spring-tongue arranged to bear upon the outer side of the razor, a guide arranged to come in contact with the inner side of the razor near the back thereof, a lather-cup joining the guard and tongue and guide, and an adjustable plate arranged to bear against the back of the razor, substantially as set forth.

3. A safety device for razors comprising a

guard and guide, an arched lather-cup extending rearwardly from the guard, a spring-tongue having a smooth outer surface arranged to bear upon the outer side of the razor, adjusting means bearing against the back of the razor, and a handle pivotally connected to said arched lather-cup whereby the razor and guard are permitted to adjust themselves in operation to the contour of the face of the user, substantially as set forth.

4. In a safety device for razors, in combination, a guard *b* having a series of bars arranged to come in contact with the face of the user, said bars being united at their rear ends to form one continuous surface arranged to bear against the sides of the razor in proximity to its edge, an inwardly-extending longitudinally-arched guide *d*, a spring-tongue *c* constructed and arranged to present an oblique edge to the end of the razor when the razor is being inserted, an arched lather-cup joining the guard and guide and tongue, and an adjusting-plate *f*, and means for adjusting the position of said plate *f*, substantially as set forth.

5. In a safety device for razors, in combination, the guard *b* having a series of bars arranged to come in contact with the face of the user, an inwardly-extending guide *d*, and spring-tongue *c*, an arched lather-cup *e* joining the guard to the guide and tongue, an adjusting-plate *f* and means for adjusting the same, lugs *i, i*, extending inwardly from said lather-cup, and the handle *h* having a bifurcated shank *h'* and pivoted to said lugs, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 8th day of May, A. D. 1896.

PRESTON WILLIS STRONG.

Witnesses:

HENRY D. WILLIAMS,  
HERBERT H. GIBBS.