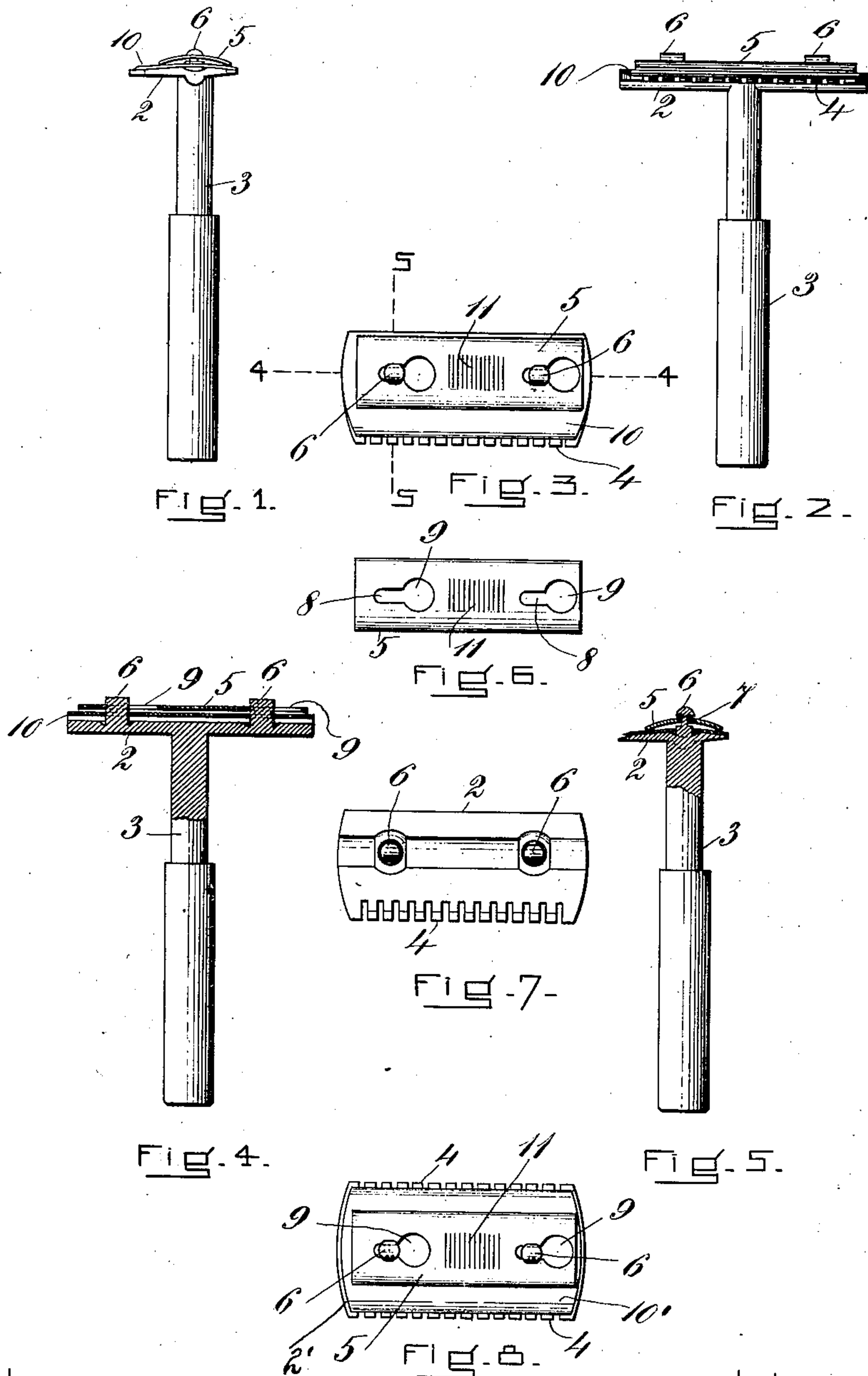


W. H. NICHOLLS.
RAZOR.
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991,878.

Patented May 9, 1911.



WITNESSES:
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UNITED STATES PATENT OFFICE.

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RAZOR.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER H. NICHOLLS, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Razors, of which the following is a specification.

This invention relates to razors of that type in which the blade is detachably secured to a blade-carrying head or holder, and while applicable to various kinds and styles of razors of this character my improvements are particularly adapted and intended to be embodied in safety razors, my object being to provide a simple, practical and inexpensive construction whereby the blade may be quickly and easily secured to and detached from the holder, and will be firmly held thereby when in use.

In the accompanying drawings: Figure 1 is an end elevation of a safety razor embodying my invention; Fig. 2 is a side elevation of the same; Fig. 3 is a plan view showing the outer face of the head of the razor illustrated in Figs. 1 and 2; Figs. 4 and 5 are sectional elevations, the planes of section being indicated respectively by the lines 4-4 and 5-5 in Fig. 3; Fig. 6 is a plan view of the clamping piece hereinafter described; Fig. 7 is a plan view similar to Fig. 3, but with the clamping piece and blade omitted; and Fig. 8 is a plan view corresponding to Fig. 3 but illustrating a modification.

The razor illustrated in Figs. 1 to 7 inclusive comprises a blade-supporting plate 2 and a handle 3 rigidly connected thereto, said plate 2 being provided along one of its longitudinal edges with a series of guard teeth 4 adapted to cooperate with the cutting edge of the blade in the usual manner. 5 represents a clamping piece, between which and the plate 2 the blade is held, and one of these parts, preferably the plate 2, is provided with projections such as pins 6 which extend outwardly from its outer face and are undercut or grooved as at 7, Fig. 5, to receive the longitudinal edges of slots 8 formed in the clamping piece 5, said clamping piece being formed at one end of each slot to provide an aperture or space 9 of sufficient size to permit said clamping piece to pass over the head of the corresponding

pin 6. The blade 10 is herein represented as a thin, flexible blade, but it may be of any desired type and may have any desired configuration consistent with its being clamped between the parts 2 and 5, and for positioning the cutting edge of said blade with respect to the guard teeth 4 any suitable means may be employed, this being accomplished in the construction illustrated by providing the blade with properly-located perforations adapted to pass over the pins 6 and fit the lower portions of the same, as shown in Fig. 5. The bearing face of the blade supporting plate 2 is formed with an intermediate convexly curved portion, on each side of which is a plane surface tangential thereto, said plane surfaces being angularly disposed with relation to each other. The clamping piece 5 is also curved transversely but on a shorter radius, so that its edges only will bear on the blade.

In assembling the parts above described, the blade 10 is first laid upon the outer face of the plate 2, with the pins 6 passing through the perforations in the blade, and the clamping piece 5 is then placed upon the blade with said pins 6 passing through the apertures 9. Said clamping piece 5 is then moved endwise to cause the grooved portions of the pins 6 to pass into the slots 8 respectively, the parts being so proportioned that when in this position the headed outer ends of the pins 6 will cause the clamping piece 5 to bear against the outer face of the blade 10 and hold said blade firmly against the plate 2, the razor being then ready for use. In case the blade is of the flexible type and is of sufficient width to extend beyond both of the longitudinal edges of the clamping piece 5, as illustrated in the drawings, the latter, when the parts are assembled as above described engaging by its edges the blade 10 on opposite sides of its perforations, whereby said blade is bent transversely over the convex portion of the plate 2 and made to conform substantially to the underlying surface thereof, with the result that the elasticity of the blade causes it to exert a separating pressure on the parts between which it is clamped, whereby sufficient friction is developed to hold the clamping piece 5 against accidental displacement from its clamping position, the longitudinal edges of said clamping piece serving also to afford a rigid

backing for the blade. To remove the blade, the clamping piece 5 is slid endwise until the apertures 9 encircle the pins 6, whereupon said clamping piece and blade 5 may be lifted off said pins.

In order to facilitate the moving of the piece 5 longitudinally against the frictional resistance which is opposed to it, the outer face of said piece 5 is preferably roughened, as shown at 11, by grooving it transversely or otherwise indenting its surface, and I also prefer to proportion and arrange the several parts of the razor in such manner that the clamping piece 5 may be turned end for end without affecting its operativeness, so that in assembling the parts it will not be necessary to use any special care in applying said piece 5 to the other parts.

My invention is evidently applicable to a razor having more than one cutting edge. Thus in Fig. 8 I have illustrated a construction which is similar to that shown in the remaining figures of the drawing except that the supporting plate 2' has two rows of guard teeth extending respectively along its opposite longitudinal edges, the blade 10' being correspondingly provided with two opposite cutting edges. In this form of my invention the supporting plate 2' and the clamping piece 5 may conveniently be proportioned and arranged for use in connection with an ordinary Gillette razor blade.

In each of the constructions illustrated, the clamping and releasing of the blade is quickly and easily accomplished by merely giving a slight longitudinal movement to the clamping piece sufficient to relieve it from the headed pins or projections, and it will be understood that the particular construction and arrangement of these projections and of the slotted clamping piece which coöperates therewith may be considerably varied without departing from my invention.

I claim as my invention:

1. In a razor, a flat resilient blade having a perforation near each end, a blade supporting plate the upper surface of which is lower at its side edges than intermediate the same, a handle immovably attached to the under side of said plate, a stud projecting upwardly from the highest part of the supporting plate near each end thereof and passing through the perforations in said resilient blade, a curved clamping piece contacting with the blade at its edges only and provided with keyhole slots to engage notches in each side of said studs when pressure is applied thereto to bend said blade and move said clamping piece longitudinally, and a finger hold on the surface of said clamping piece.

2. In a razor, a flat resilient blade having a perforation near each end, a blade supporting plate the upper surface of which inclines downwardly in flat planes from an intermediate longitudinal line to each side edge, a series of straight fingers projecting from one of said edges, a handle integral with said supporting plate on its under side, a stud projecting upwardly from the elevated portion of said supporting plate near each end to receive and hold said resilient blade, a curved clamping piece for the blade provided with keyhole slots to engage notches in each side of said studs when pressure and endwise movement is applied thereto, said clamping piece engaging at its edges only with the blade, and a finger hold on the surface of said clamping piece.

In testimony whereof, I have hereunto subscribed my name this 2nd day of July, 1908.

WALTER H. NICHOLLS.

Witnesses:

JOSEPH T. BRENNAN,
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