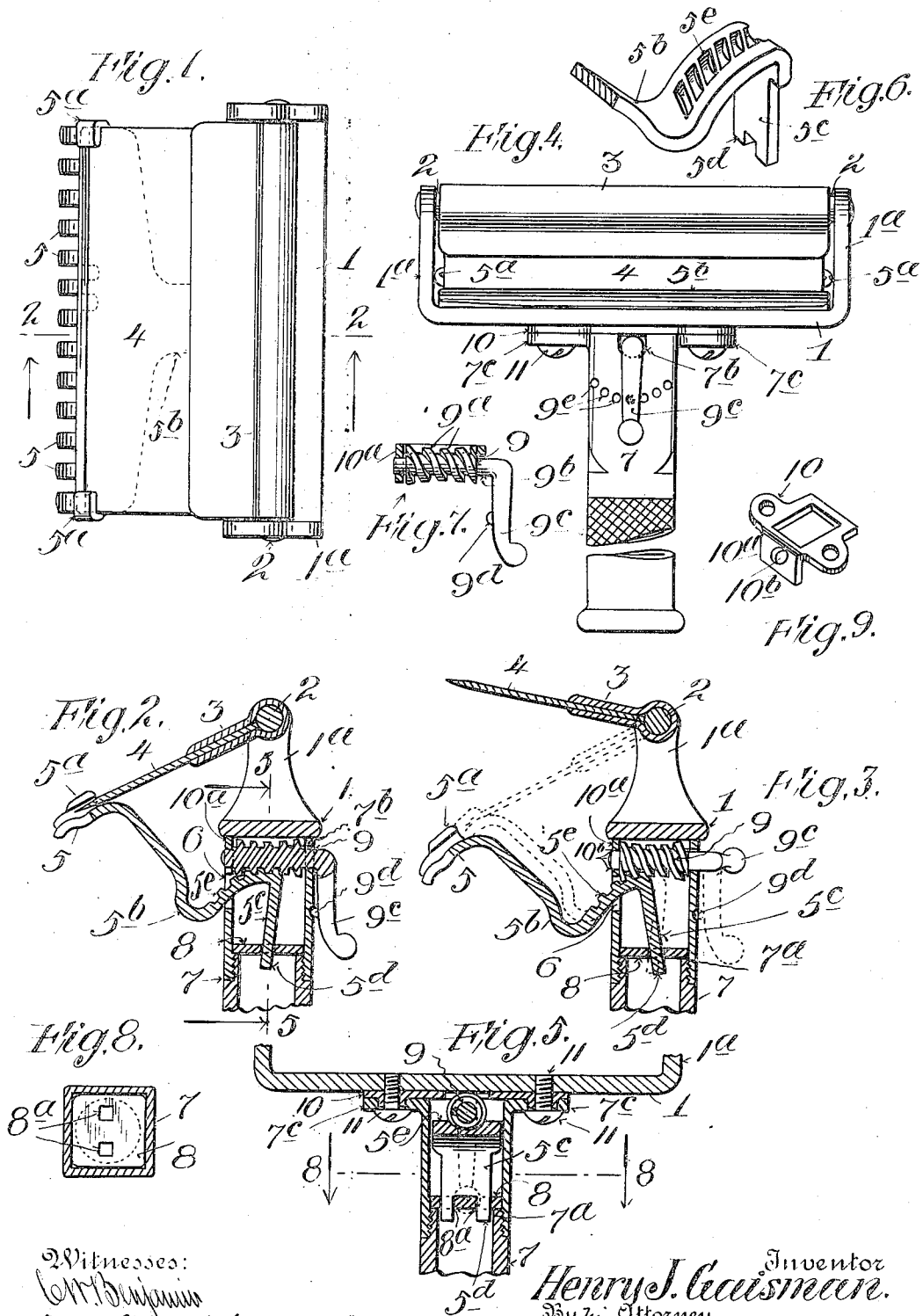


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SAFETY RAZOR.
APPLICATION FILED MAY 3, 1910.

1,022,731.

Patented Apr. 9, 1912.



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UNITED STATES PATENT OFFICE.

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SAFETY-RAZOR.

1,022,731.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY J. GAISMAN, a citizen of the United States, and resident of New York city, borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification.

The object of my invention is to provide improved means for supporting and adjusting the guard in a safety razor, and for retaining the same in adjusted position with respect to the blade edge, and whereby the blade edge may be caused to project more or less over the guard, within limits, as desired, and also whereby the distance between the guard and blade edge may be adjusted and maintained as desired for producing a close or coarse shave.

My invention comprises novel details of improvement that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein,

Figure 1 is a plan view of a safety razor embodying my invention; Fig. 2 is a section on the line 2, 2, in Fig. 1; Fig. 3 is a similar view showing the parts in other positions; Fig. 4 is a rear view of the razor; Fig. 5 is a section substantially on the line 5, 5, in Fig. 2; Fig. 6 is a detail broken view of the guard supporting arm; Fig. 7 is a detail view of the worm or screw for controlling the guard; Fig. 8 is a section on the line 8, 8, in Fig. 5, illustrated at right angles to Fig. 5, part 5^c being omitted, and Fig. 9 is a detail view of the worm supporting plate hereinafter referred to.

Similar numerals of reference indicate corresponding parts in the several views.

The numeral 1 indicates a suitable frame shown provided with uprights 1^a spaced apart and supporting a rod or shaft 2, said rod or shaft carrying a suitable blade holder 3, the parts described being so spaced that, if desired, a strop may be passed through the frame beneath the blade for sharpening the edge of the blade. Blade 4 is adapted to coact with a suitable guard or seat 5 which may be of any suitable or well known construction, said guard being shown provided with comb-teeth and with lugs or hooks 5^a adapted to engage the blade to re-

tain it in shaving position with respect to the guard. Said lugs or hooks 5^a are shown located so that the portion of the blade adjacent to its cutting edges may slide between the adjacent part of the guard and its lugs or hooks. Guard 5 is provided with an arm or extension 5^b suitably shaped so as to pass through an opening 6 in handle 7 that is suitably attached to frame 1. The inner portion of arm or extension 5^b, within the handle, is shown provided with a downwardly disposed branch 5^c that is pivotally supported by the handle. To properly and yet detachably pivotally support branch 5^c the same is shown provided with one or more projections 5^d, serving as pivots that are movably supported in a plate or piece 8 fitted within handle 7, and provided with corresponding openings 8^a receiving projections 5^d, whereby the guard is pivotally supported to swing toward and from frame 1 and with respect to the blade. Plate 8 may be retained within handle 7 by any suitable means, such as by being pushed against shoulder or stop 7^a and retained frictionally.

At 9 is a worm or screw suitably journaled, as upon handle 7, and meshing with threads 5^e suitably formed on or applied to the appropriate part of arm or extension 5^b. The threads 5^e are formed on a suitably curved part of arm or extension 5^b that is substantially on a circle described around the pivotal point of branch 5^c, and worm 9 is properly shaped to mesh with threads 5^e during movement of arm 5^b, as by shaping worm 9 in a substantially concave manner, as indicated at 9^a (Fig. 7), so as to remain properly in mesh with threads 5^e as the latter move. For convenience in applying and supporting worm 9 I have shown a plate 10 (Fig. 9) having a depending lug or wall 10^a provided with an opening or bearing 10^b for the adjacent pivotal end of worm 9, and the upper end of handle 7 is provided with a bearing or slot 7^b receiving the adjacent pivotal part 9^b of worm 9, whereby said worm is journaled to rotate in mesh with teeth 5^e. Plate 10 is shown clamped between the base of frame 1 and handle 7 by screws 11 passing through lugs 7^c of said handle and meshing in threads in frame 1. The arrangement described is such that the worm 9 may be readily ap-

plied to and removed from the razor and will be properly retained in position of coaction with threads 5^a of arm 5^b. Means may be provided for retaining worm 9 in set position. For this purpose I have shown the handle 9^c of said worm as provided with a suitable projection 9^d adapted to engage recesses or apertures 9^e formed in or on handle 7, whereby when the handle is set in any desired position the worm will be kept from rotating.

In accordance with my improvements, by rotating the worm in one direction the guard will be moved outwardly to release the blade, as indicated in Fig. 3, whereupon the blade is free to be stropped, cleaned, or removed and replaced, and by adjusting the blade upon the guard and then rotating the worm in the required direction the guard will be drawn toward the blade edge so that the latter will be adjusted and retained in shaving position with respect to the guard, as indicated in Fig. 2. By rotating the worm more or less the blade edge will be caused to project more or less forwardly with respect to the guard, and the hooks or lugs 5^a will retain the blade and guard in adjusted position. As the guard is pivotally supported at the parts 5^d, 8^a it will have movement toward and from the blade edge in a substantially circular direction which will facilitate or cause the blade edge to bear more or less closely against the guard to regulate for a coarse or close shave.

My invention is not limited to the details of construction shown and described, as the same may be varied, within the scope of the appended claims, without departing from the spirit thereof.

In this application I do not broadly claim a guard having an extension pivotally supported by or within the handle and operated by a worm, since that subject matter is embraced in my application for safety razors, filed September 4, 1909, Serial No. 516,165.

Having now described my invention what I claim is:—

1. A safety razor comprising a blade support, a guard or blade seat, means for pivotally supporting the latter, said guard having an arm provided with a curved portion described around the axis of the arm and provided with teeth extending in the direction of movement of the arm, a worm

meshing with said teeth, and means for pivotally supporting said worm.

2. A safety razor comprising a blade support, a guard or blade seat, means for pivotally supporting the latter, said guard having an arm provided with a curved portion described around the axis of the arm and provided with teeth extending in the direction of movement of the arm, a worm meshing with said teeth and means for pivotally supporting said worm, said worm being formed concave between its ends.

3. A safety razor comprising a blade support, a handle, a guard provided with an arm having a branch located within said handle, a plate within the handle provided with an opening, said branch having a projection movably retained in said opening, said arm having teeth, a worm meshing with said teeth, and means for pivotally supporting the worm.

4. A safety razor comprising a blade support, a guard provided with an arm, means for pivotally supporting the arm, a worm meshing with complementary means on the arm, a handle supporting said arm and worm, a plate having a lug provided with an opening receiving said worm, and means for retaining said plate in position.

5. A safety razor comprising a blade support, a guard provided with an arm, means for pivotally supporting the arm, a worm meshing with complementary means on the arm, a handle supporting said arm and worm, a plate having a lug provided with an opening receiving said worm, and means for retaining said plate in position, said handle having a bearing for the worm at the side opposite said lug.

6. A safety razor comprising a blade support, a guard, means for pivotally supporting the guard, a worm, means for pivotally supporting the worm, complementary means on the arm coacting with the worm, said worm having a handle provided with an extension, and the frame having a handle provided with reentrant parts receiving said projection to retain the arm in set position.

Signed at New York city, in the county of New York, and State of New York, this 29th day of April, A. D. 1910.

HENRY J. GAISMAN.

Witnesses:

MAX DAVIS,

MOSES H. ROTHMAN.