No. 860,917. PATENTED JULY 23, 1907.

F. H. HOFFMANN.

SAFETY RAZOR.

APPLICATION FILED AUG. 31, 1906.

Fig: 1.

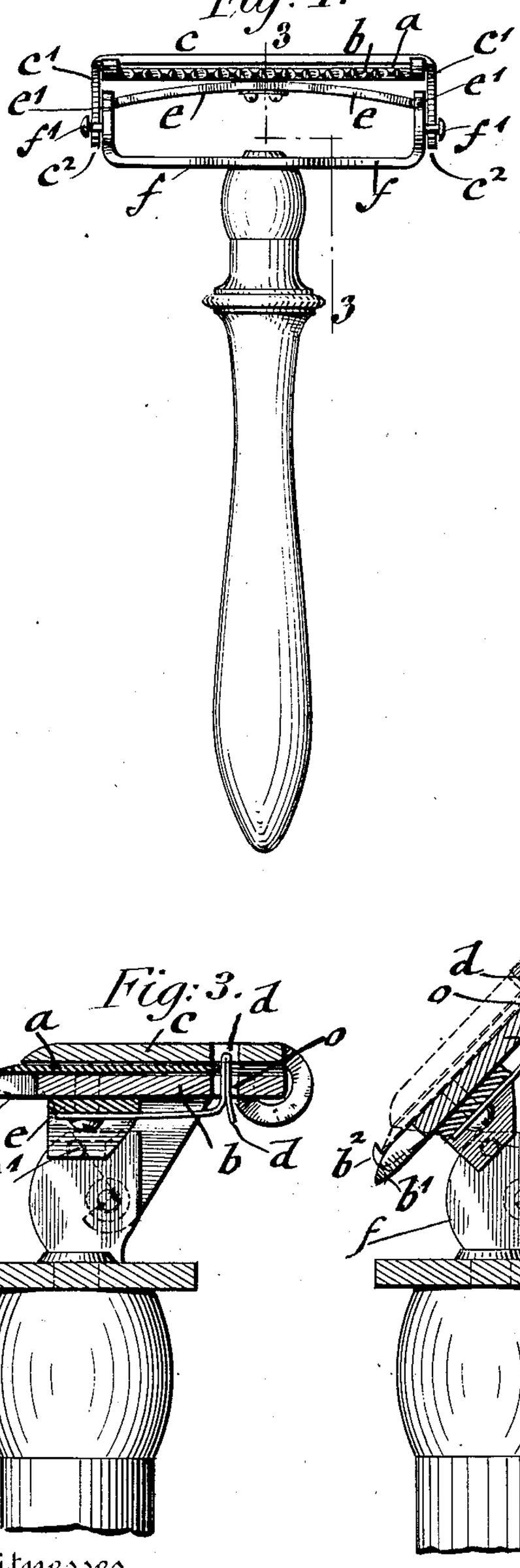


Fig: 2.

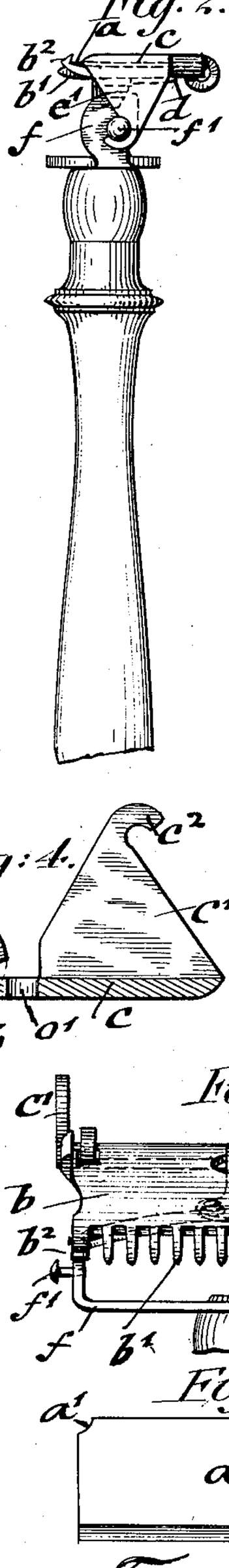


Fig: 3.

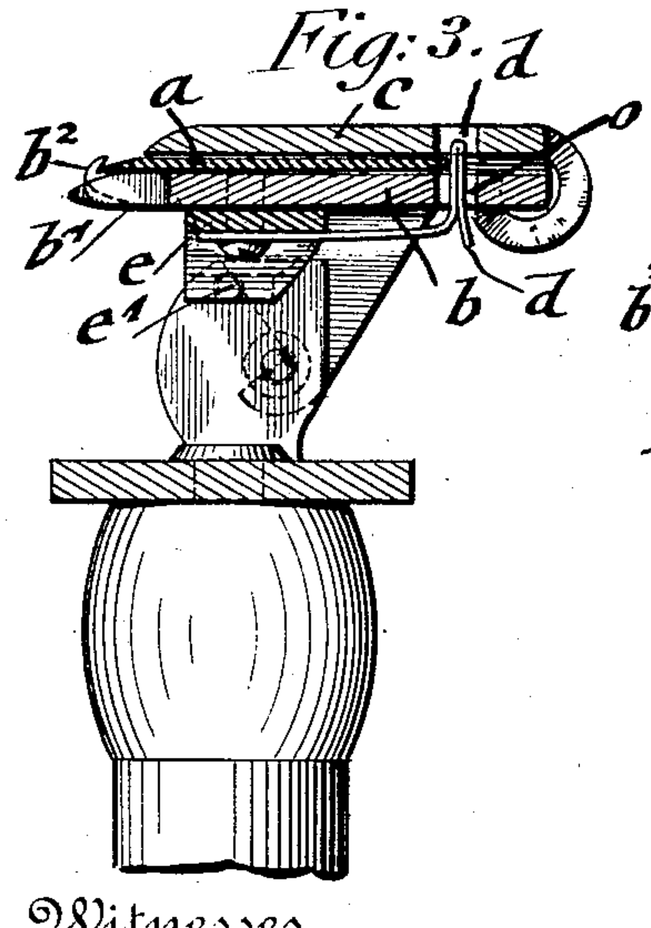


Fig: 4.

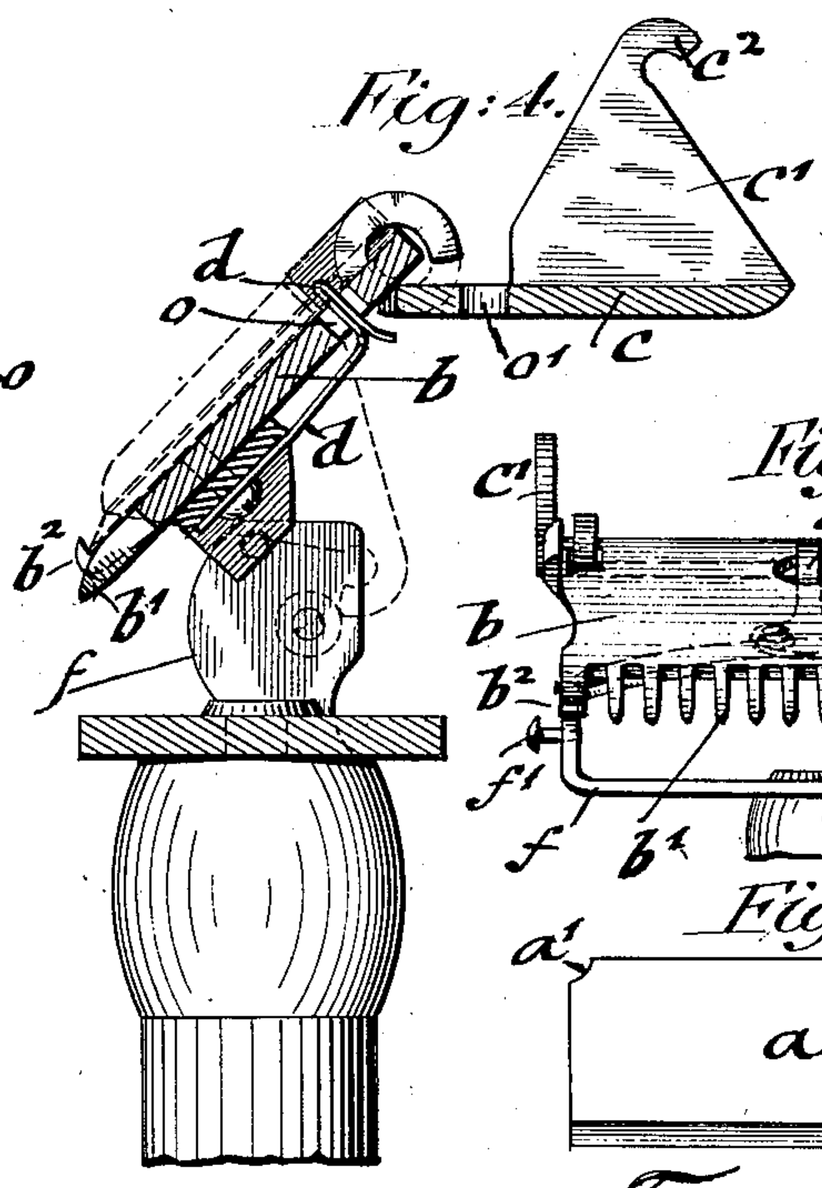


Fig: 5.

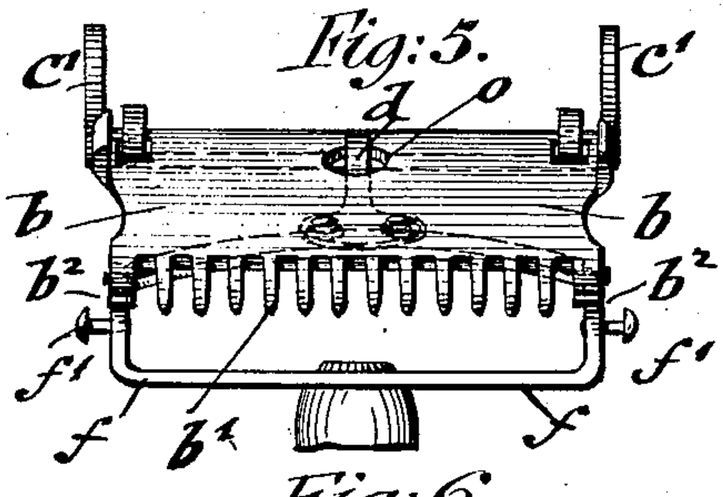
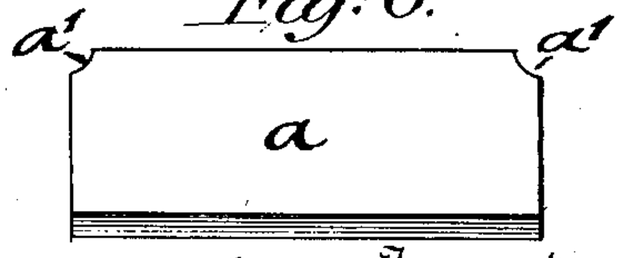


Fig: 6.



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SAFETY-RAZOR.

No. 860,917. Specification of Letters Patent. Patented July 23, 1907.

Application filed August 31, 1906. Serial No. 332,768.

To all whom it may concern:

Be it known that I, FREDERICK H. HOFFMANN, a citizen of the United States, residing in Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification.

This invention relates to an improved safety-razor in which a thin blade sharpened at one edge is supported in a suitable holder and locked in position so that the required rigidity necessary for shaving is obtained, while the holder can be very readily released for removing the blade whenever required for cleaning or replacing the same; and for this purpose the invention consists of a safety-razor which comprises a blade, a holder for said blade composed of a guard-plate having guard-teeth at its front edge, a hinged covering-plate for said blade provided with downwardly-extending lugs having hook-shaped ends, and a handle-frame to which the holder is pivoted, said holder being provided with pins for interlocking with the hook-shaped ends of the covering-plate.

The invention consists further of the guard-plate of the holder which is provided with a flat spring, riveted to the guard plate, the ends of said spring being pivoted to the supporting handle-frame so as to impart the necessary spring action to the holder for permitting the locking or releasing of the same from the handle-frame.

The invention consists further in other novel features of construction and combinations of parts which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of my improved safety-razor, Fig. 2 is a side view of Fig. 1, Fig. 3 is a vertical transverse section on line 3, 3, Fig. 1, drawn on a larger scale, Fig. 4 is a vertical transverse section showing the parts of the safety-razor in open position for removing and inserting the blade, Fig. 5 is a detail front-view of Fig. 4, and Fig. 6 is a plan-view of one of the blades employed with my improved safety-razor.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, *a* represents a blade which is sharpened at one edge and provided at its rear-corners with recesses a^1 so as to fit onto a guard-plate *b* that is provided with the usual guard-teeth *b'* at its front edge and with short bent-up end-lugs b^2 at its front-corners. To the rear-corners of the guard-plate *b* is hinged a covering-plate *c* which is made somewhat narrower than the guard-plate, so as to cover the greater portion of the blade and permit the sharp edge of the same to project beyond the covering-plate *c*, as shown clearly in Fig. 3.

The blade *a* is held in position on the guard-plate by the front corner-lugs b^2 of the same and by a retaining spring *d* which is attached to the under-side of the guard-plate and bent up through an opening *o* in the same so as to project slightly above the face of the guard-plate and bear on the rear-edge of the blade in order to prevent the dropping of the blade when swinging the covering-plate on its hinge into open position, as shown in Fig. 4. A corresponding opening *o'* is arranged in the covering-plate in register with the opening *o* in the guard-plate, so as to give free play to the spring *d*. The rear corner-recesses of the blade serve for the purpose of giving free play to the connecting-hinge of the covering-plate *c*.

The covering-plate *c* is provided at opposite sides with downwardly-bent lugs c^1 which have forwardly-extending hook-shaped ends c^2 that engage headed pins *f'* at the ends of a U-shaped supporting frame *f*. The guard plate *b* is pivotally connected to said frame by means of a flat spring *e* that is riveted to the under-side of the guard-plate, the ends of the spring being formed into pivots e^1 which turn in corresponding openings in the ends of the U-shaped supporting-frame *f*. The spring *e* serves for the purpose of permitting the interlocking of the hook-shaped lower ends of the covering-plate *c* with the headed pins of the supporting-frame *f*, so that when the hook-shaped ends are placed in connection with the headed pins a regular locking action between the shaving-blade, guard-plate, covering-plate and supporting-frame is obtained, said connection being of great rigidity.

When it is desired to remove the blade for cleaning or inserting a new blade, the holder is pressed in downward direction on the pivots of the spring *e* so that the hook-shaped ends of the covering-plate release the pins of the supporting-frame and clear the same, as shown in dotted lines in Fig. 4, when the covering-plate can be swung clear of the pins open in backward position on the guard-plate so as to give access to the blade *a* and permit its removal from the guard-plate. When the blade is cleaned or a new one inserted, the covering-plate is placed over the same and returned with the guard-plate, against the tension of the spring *e*, into locking connection with the pins of the U-shaped supporting-frame *f*, in which position the safety-razor is again ready for shaving. The U-shaped supporting-frame is provided with a suitable handle.

The advantages of my improved safety-razor are, first, that the blade can be readily removed from the holder and replaced in the same; second, that the construction of the parts is extremely simple, so that the safety-razor can be furnished at a low price; and, third, that the blade is rigidly held in position for shaving so as to comply with the requirements of the safety-razor.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A safety-razor comprising a frame, a guard-plate, a flat spring by which said guard-plate is pivotally attached to said frame, a blade, and a covering-plate secured to said frame and acted upon by said spring to clamp said blade against said guard-plate.

2. The combination, with a frame, of a guard-plate, a spring connecting said plate to said frame, a covering-plate to coöperate with said guard-plate in positioning a blade, and fastening devices on said covering-plate and frame which are maintained in engagement by said spring.

3. A safety-razor comprising a frame, a guard-plate, a flat spring by which said guard-plate is pivotally attached to said frame, a blade, a covering-plate hinged to said guard-plate, and fastening devices on said covering-plate and frame which are maintained in engagement by said spring.

4. The combination, with a frame having upright end-portions, of a guard-plate, a flat spring carried by said guard-plate and connected at its ends to said end-portions of the frame, a covering-plate hinged to said guard-plate, and coöperating fastening devices on said frame and said covering-plate which are maintained in engagement by said spring.

5. The combination, with a frame having upright end-portions, of a guard-plate, a flat spring applied to the under-surface of said guard-plate and entering at its ends into openings in said end-portions of the frame, a covering-plate hinged to said guard-plate and provided with downwardly-extending ends, and means for detachably securing said ends to the end-portions of said frame in opposition to the action of said spring.

6. The combination, with a frame, of a guard-plate, a spring connecting said frame and guard-plate, a covering-plate hinged to said guard-plate, and interengaging fastening devices on said frame and said covering-plate, said devices being maintained in engagement, and said covering-plate clamped against the blade, by said spring.

7. A safety-razor comprising a blade, a holder for supporting the same, said holder being provided with downwardly-bent lugs having hook-shaped ends, a transverse spring attached to the holder and provided with pivots at its ends, and a U-shaped supporting-frame provided with openings to receive said pivots and headed pins at its ends to engage the hook-shaped ends of said holder.

8. A safety-razor comprising a blade, a holder for supporting the blade, said holder consisting of a guard-plate having upwardly-bent lugs and guard-teeth between said lugs, a covering-plate, provided with downwardly-bent lugs having hook-shaped lower ends, a flat spring attached to the under-side of the guard-plate and formed with pivots at its ends, a frame to which the end-pivots of the spring are pivoted, and headed pins at the ends of the frame for engaging the hook-shaped ends of the covering-plate.

9. A safety-razor comprising a U-shaped supporting frame, a handle attached to said frame, headed pins located at the ends of said supporting-frame, a blade, a holder for said blade consisting of a guard-plate, a flat spring riveted to the under-side of the guard-plate and provided with pivots at its ends, said pivots engaging corresponding holes in the supporting-frame, means for holding the blade in position on the guard-plate, and a covering-plate hinged to the rear end of the guard-plate and provided with hooks for engaging the headed pins of the supporting-frame.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

FREDERICK H. HOFFMANN.

Witnesses:
PAUL GOEPEL,
HENRY J. SUHRBIER.