

N. L. PHILLIPS.
SAFETY RAZOR.
APPLICATION FILED MAY 31, 1907.

999,398.

Patented Aug. 1, 1911.

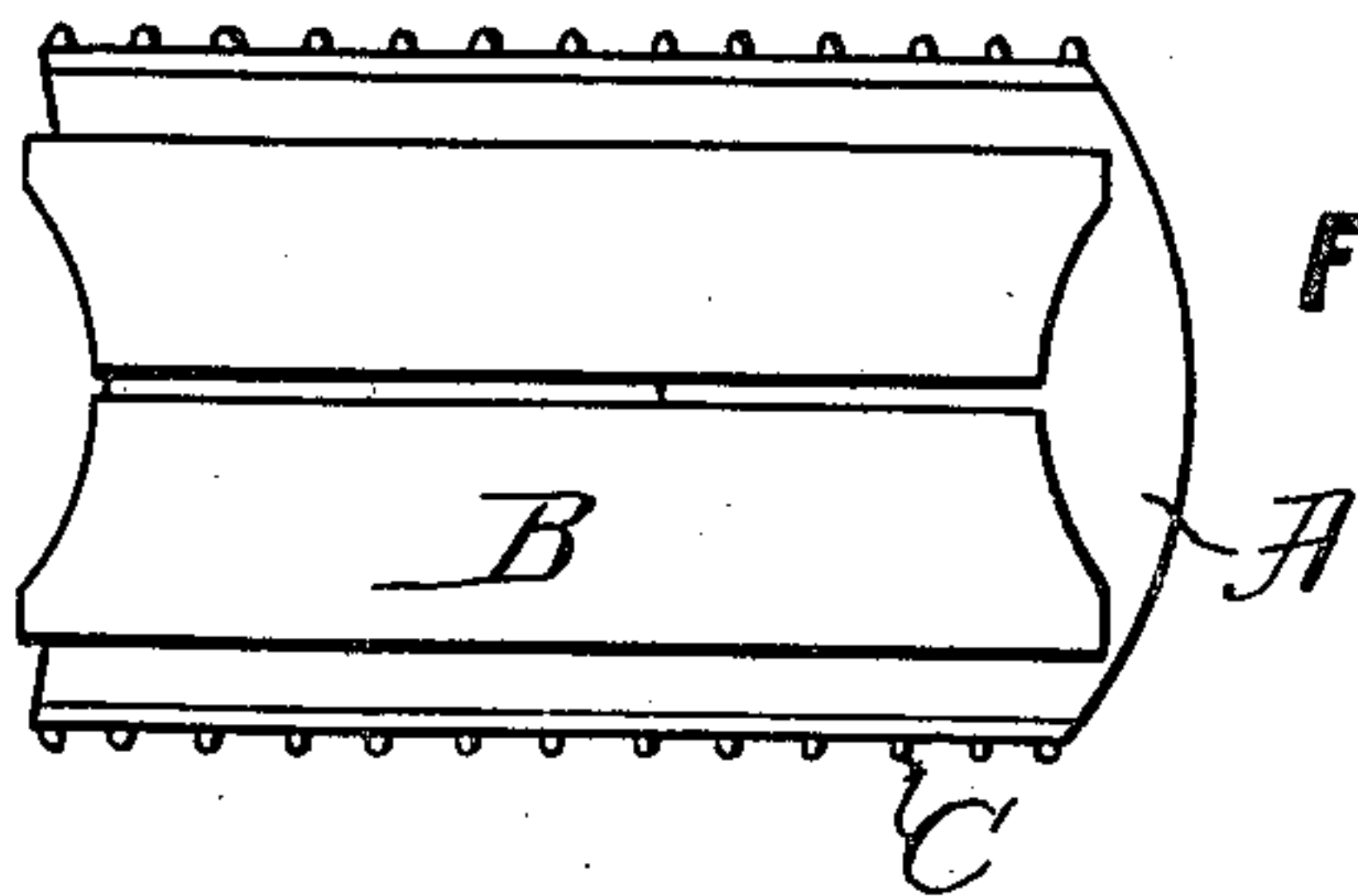


FIG. 1.

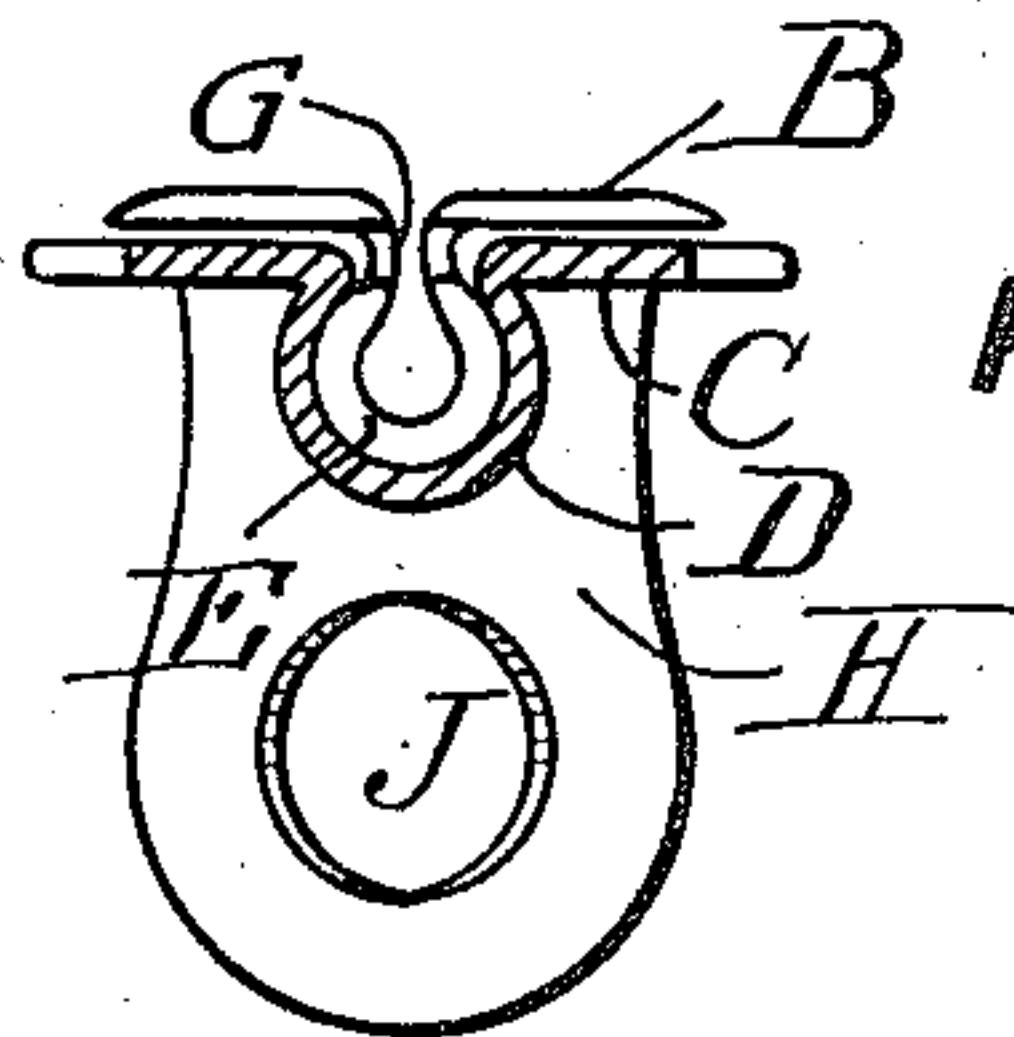


FIG. 4.

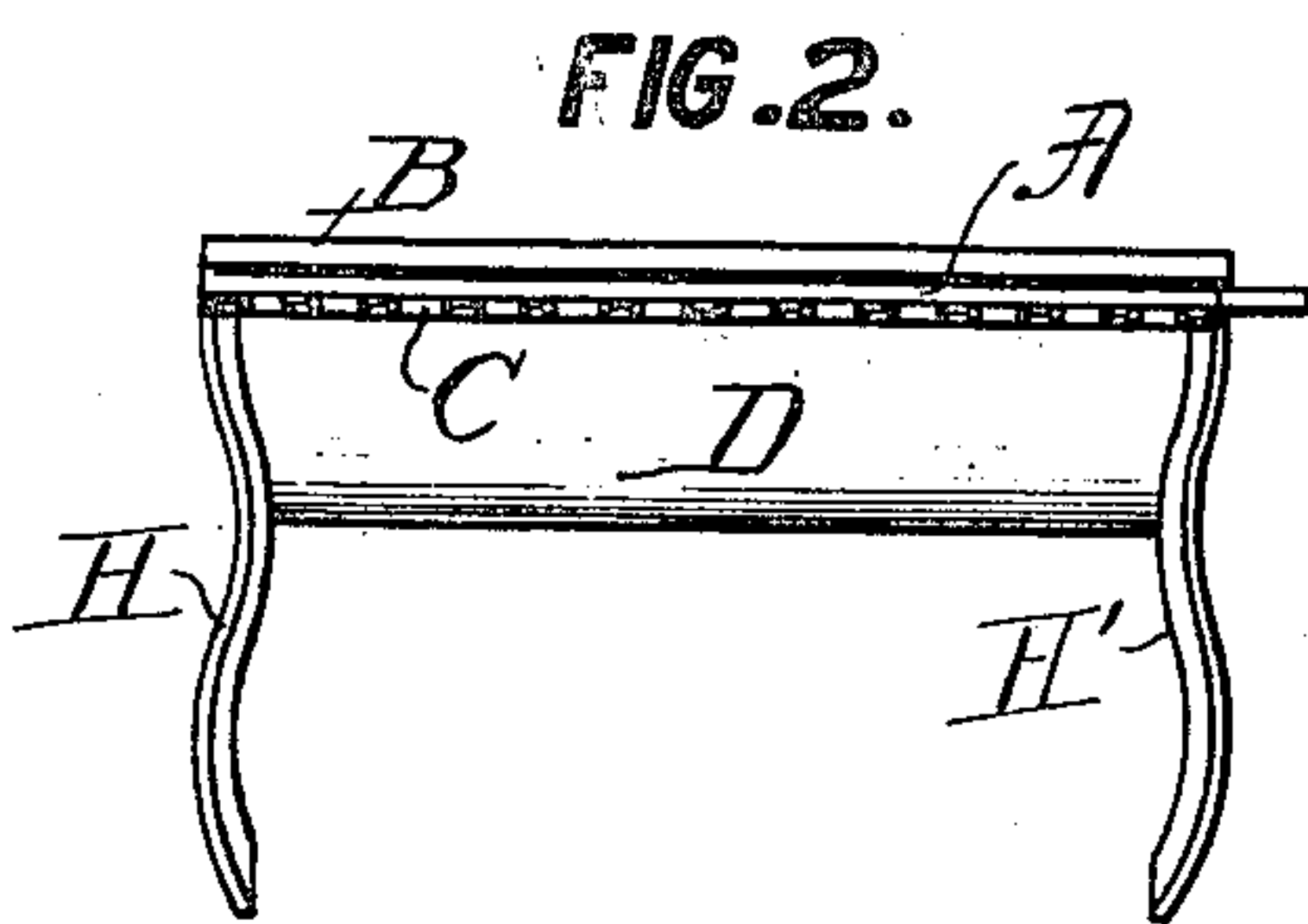


FIG. 2.

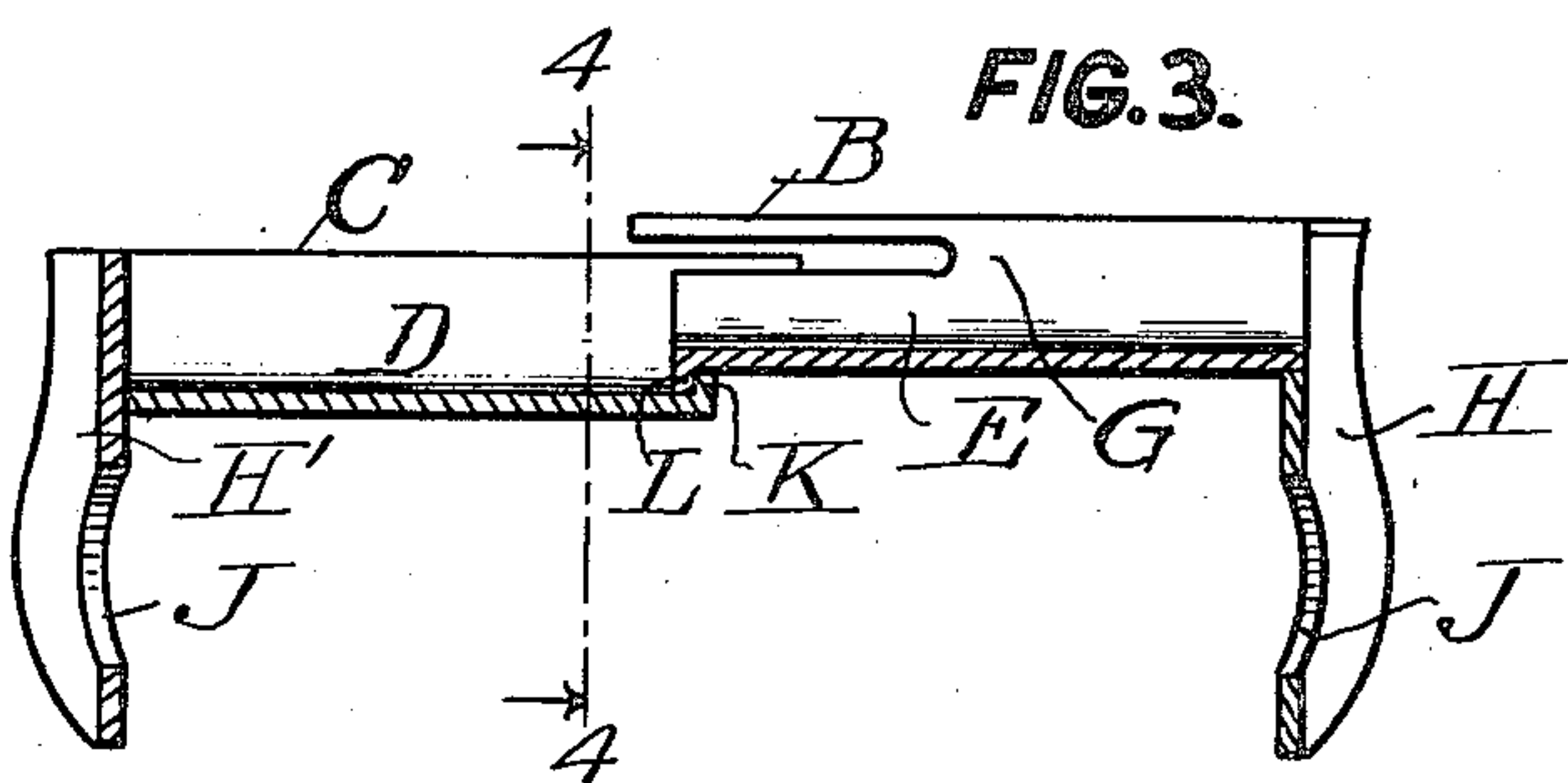


FIG. 3.

FIG. 5.

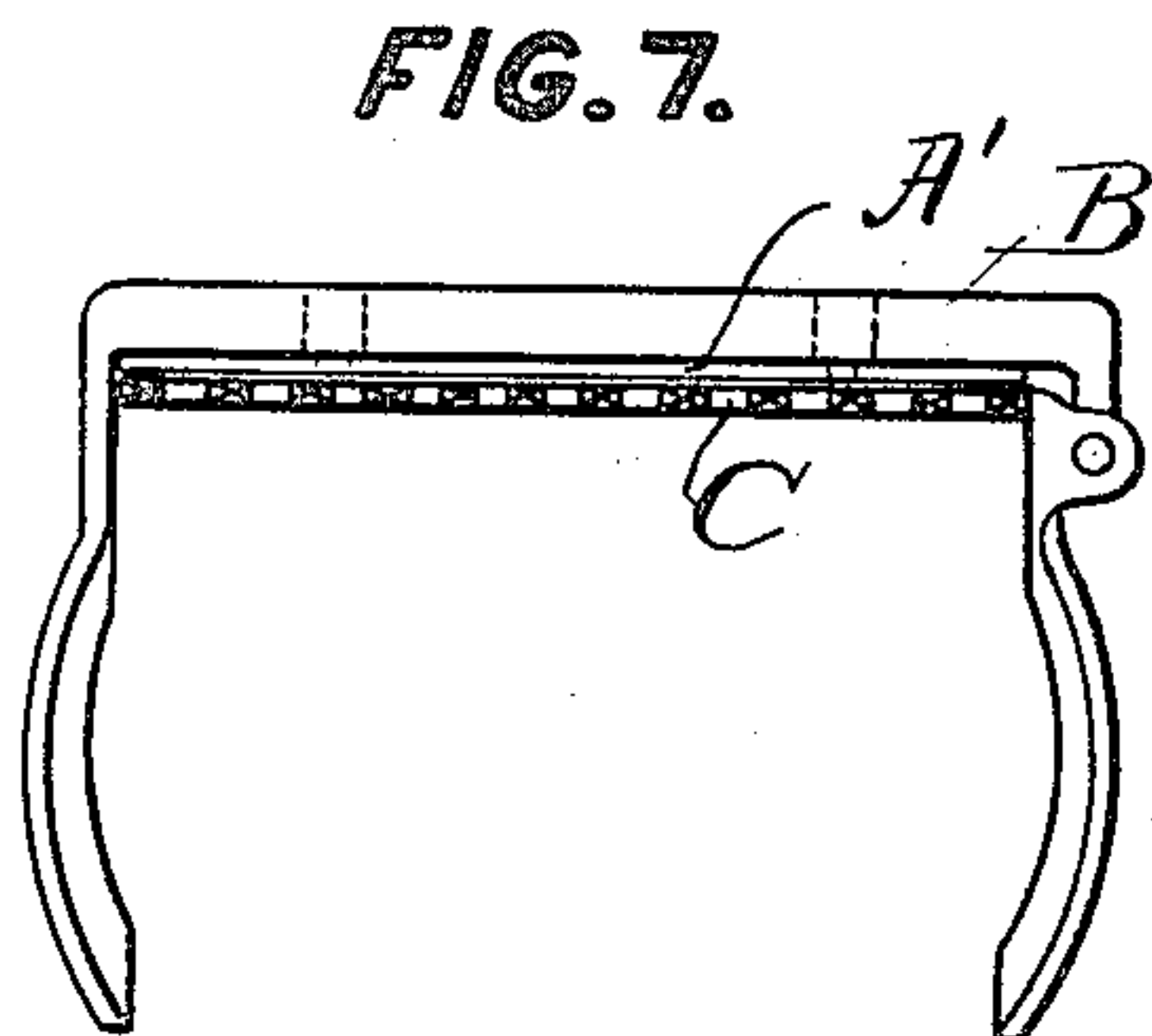
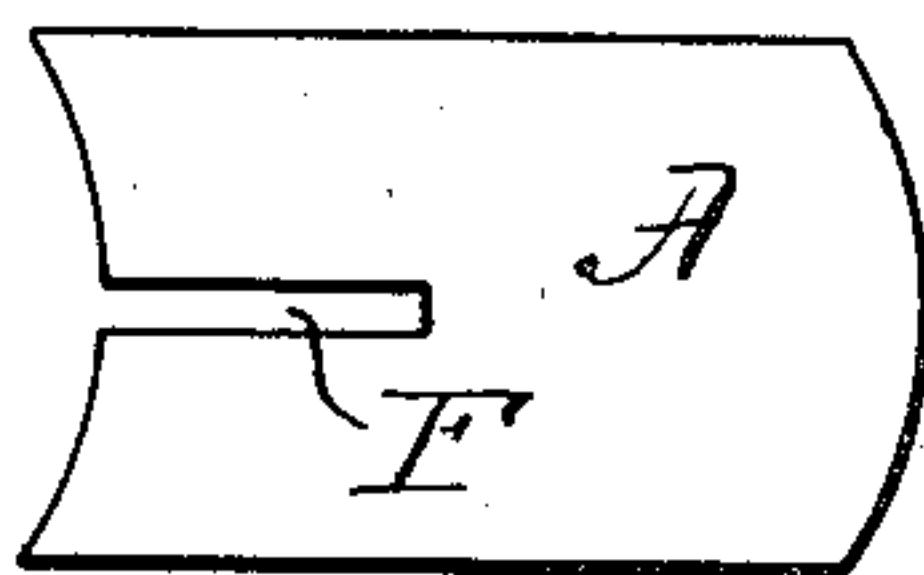


FIG. 7.

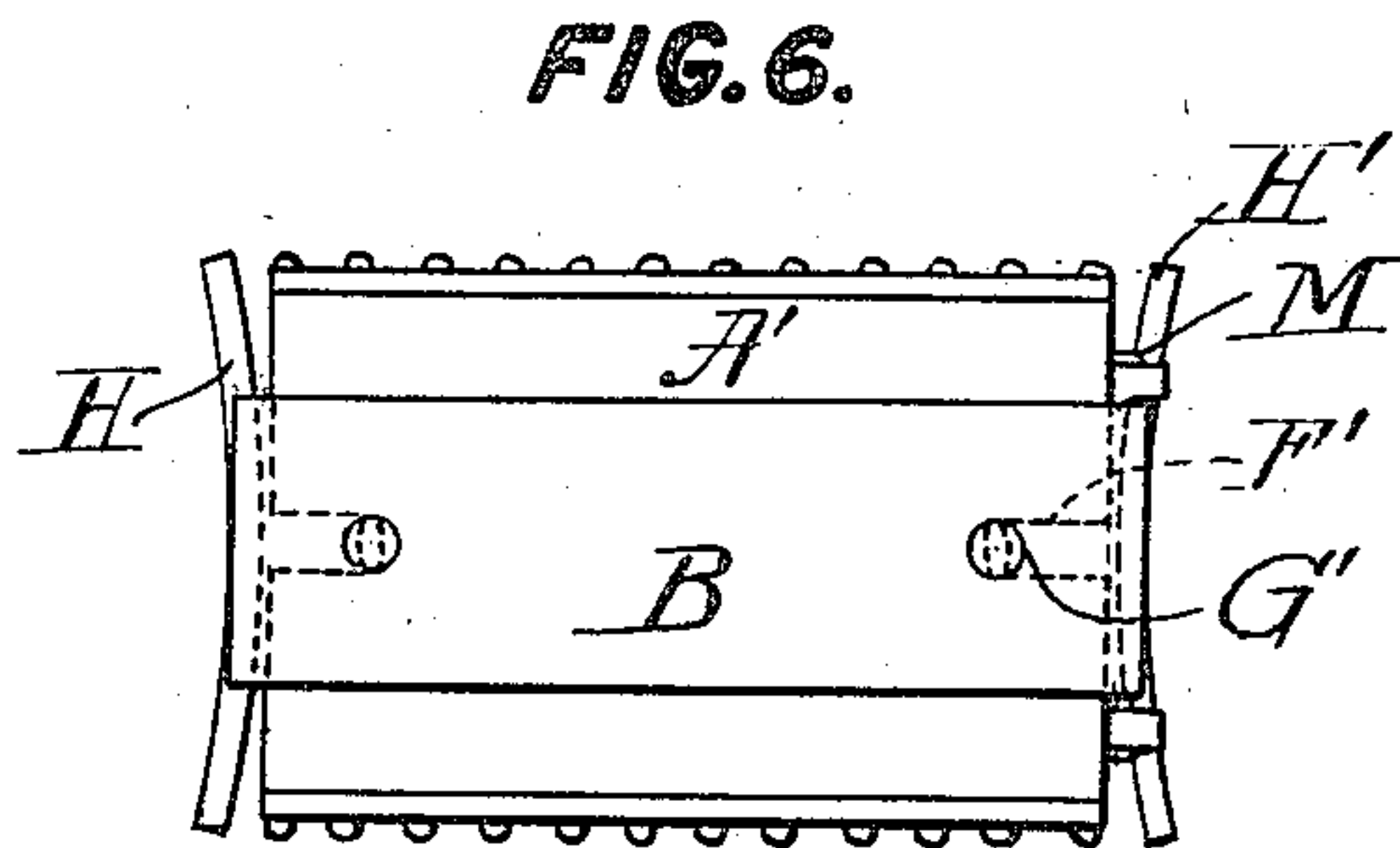


FIG. 6.

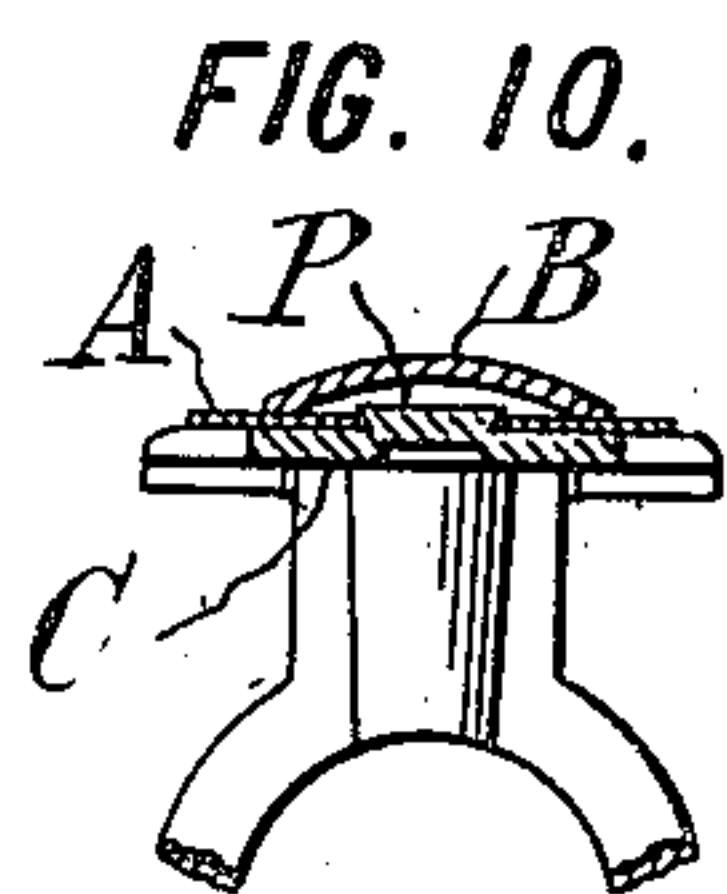


FIG. 10.

FIG. 8.

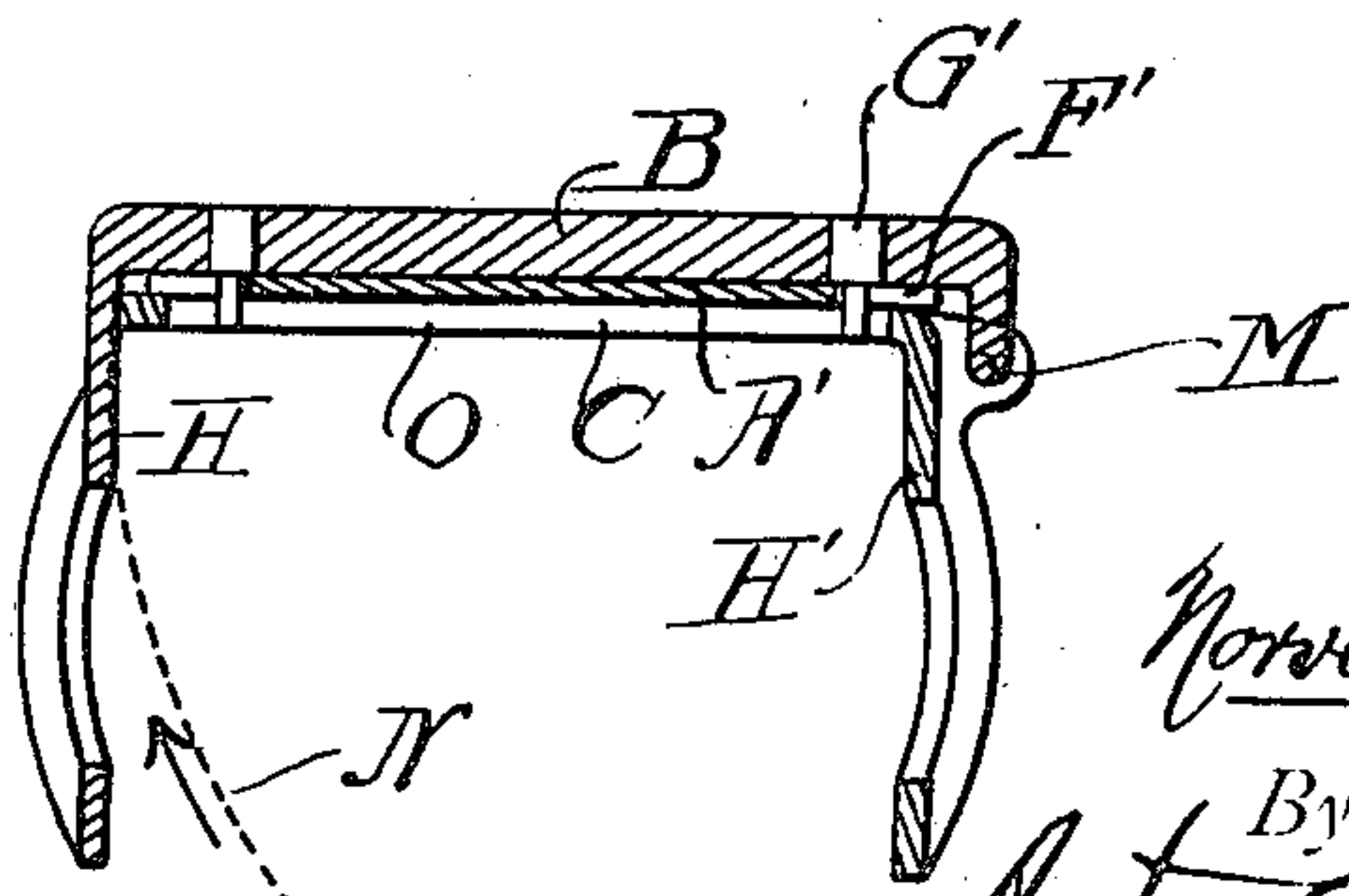
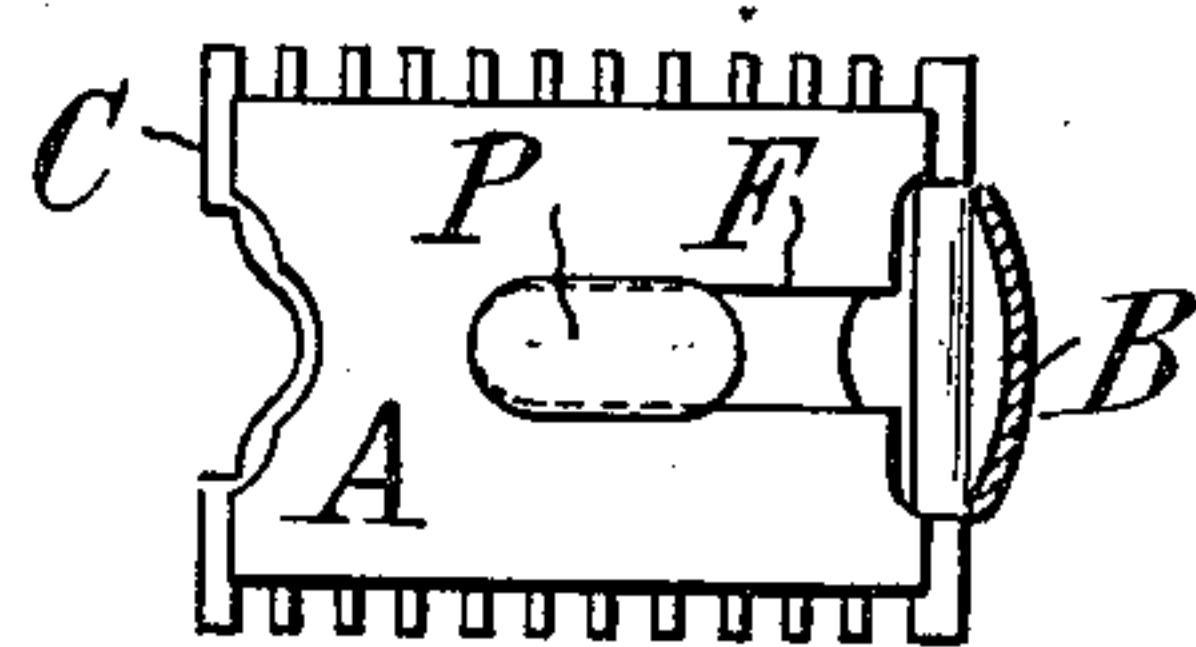


FIG. 9.



WITNESSES:
Fred White
Rene's Mine

INVENTOR :
Norvel L. Phillips,
By Attorneys,
Arthur C. Kiser & Thomas

UNITED STATES PATENT OFFICE.

NORVEL L. PHILLIPS, OF SYRACUSE, NEW YORK.

SAFETY-RAZOR.

999,398.

Specification of Letters Patent.

Patented Aug. 1, 1911.

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To all whom it may concern:

Be it known that I, NORVEL L. PHILLIPS, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification.

This invention aims to provide an improved safety razor which is very simple in construction and use.

It is preferably so constructed as to include two principal parts, a removable blade, and a member which constitutes a combined blade holder and handle, and which permits insertion or withdrawal of a blade without complete separation of the parts of said member.

Another feature of improvement is in the providing of backward extensions from the ends of the holder, these backward extensions themselves constituting the handle.

Other features of improvement are referred to in detail hereinafter.

The accompanying drawings illustrate embodiments of the invention.

Figure 1 is a plan of a razor assembled ready for use; Fig. 2 is a side elevation of the same; Fig. 3 is a longitudinal section with the parts in position for insertion or removal of a blade; Fig. 4 is a cross-section on the line 4—4 of Fig. 3; Fig. 5 is a plan of the blade used with the razor of Fig. 1; Fig. 6 is a plan of another embodiment of the invention, of which Fig. 7 is a side elevation, and Fig. 8 a longitudinal section. Figs. 9 and 10 are respectively a plan and a cross-section of a slightly varied arrangement; the upper cross-bar being lifted in the first figure and being down in the second figure.

Referring to the embodiment of the invention illustrated, the blade A is double edged and is held between an upper cross bar B and a lower cross bar C provided with a toothed edge projecting slightly beyond the edge of the blade. The lower cross bar C is provided with a central tubular portion D, open along the upper edge, and the upper cross bar B is provided with a tubular portion E sliding within the tube D, and thus holding the upper bar down upon the lower one and holding the blade between them. The blade A is provided with a central slit F which straddles the neck of metal G connecting the upper plate B with its

tube E. The unslitted portion of the blade lies between the tube E and the portion of the bar B which overhangs this tube. With the blade in this position the bars B and C are shoved together endwise and the blade is held between them, lateral movement being prevented by the engagement of the slit F with the neck G, and longitudinal movement being prevented by the frictional engagement of the parts, or by the provision of a suitable stop on the member C. The cross bar B is provided at its outer end with a backward extension H corresponding to a similar extension H' provided at the opposite end of the bar C. In use the razor is held between the thumb and finger, holding the extensions H and H' so that these constitute the handle of the device. They are suitably shaped to facilitate such use, being curved outward slightly in plan, and being provided with openings J into which the balls of the thumb and forefinger enter so as to hold it securely, while permitting easy angular movement about a line passing through the centers of the openings J.

In order to make the entire razor a two-piece device so as to facilitate assembling of the same and to avoid the losing of small parts, it is preferable to connect the two bars to each other in such a way that they may be partly but not entirely separated. For example with the sliding connection above described the tube D may be provided with an inward rib K and the tube E with an outward rib L of a larger diameter than the opening through the rib K, so that while the bar B may be drawn out from the bar C its full length, it may not be entirely separated therefrom.

Instead of having a sliding connection between the two bars constituting the holder, a pivoted connection may be used as shown in Figs. 6, 7 and 8. The blade A' in this case is provided with a pair of openings F' through which pass pins G' on the under side of the upper cross bar B. The free end of the cross bar B is pivoted to the handle end of the cross bar C, and for holding the two bars together the spring of the handle H of the upper cross bar is utilized. The pivot pin M is arranged below the normal plane of the bar C so that as the end of the latter is swung through the arc N it presses against the inner face of the extension H with a gradually increasing pressure until just before it reaches its final position, when

the outward pressure against the member H becomes less and this member, which has previously sprung outward, now springs in and holds the end of the bar in place. The pins G' are extended not only through the blade A', but also into a slot O in the lower plate C, to prevent lateral movement. Lateral movement is also prevented to a substantial extent by the curvature of the extension H, and the corresponding curvature of the end of the bar C which engages its inner face (see the inner face of H in Fig. 6, for example).

Various other arrangements for fastening the parts together and for preventing relative movement thereof, or of the blade within the holder, may be substituted for those above described in detail. For example, a simple arrangement may be provided for attaching the blade to the lower cross bar C, so that it shall not fall out when the two cross bars B and C are separated. Figs. 9 and 10 illustrate such an arrangement in which the slit F of the blade is of sufficient width to engage under the overhanging edges of the projection P which is stamped up from the lower bar C and swaged outward at the edges for the purpose described. The upper bar B is slightly arched in cross-section, so that it clears the projection P while its edges press the blade against the lower bar. An important advantage of these several constructions is that the holding of the apparatus in position for shaving tends to press the two cross bars together so as to hold the blade clamped in position between them. The handle is symmetrically positioned relatively to the two edges of the blade so that either edge may be used with equal convenience and in shaving either side of the face.

What I claim is:—

1. A safety razor comprising a blade, a pair of cross-arms clamping said blade, parallel to and one on either side thereof, and an extension from each of said cross arms by which said razor may be grasped, said extensions projecting from longitudinally opposite ends of said cross arms.

2. A safety razor comprising a blade, a pair of cross-arms clamping said blade, one on either side thereof, each of said cross-arms being bent up at one end to form an extension by which the razor may be grasped, said extensions projecting from longitudinally opposite ends of said cross arms.

3. A safety razor comprising a blade, a pair of interlocking cross-arms clamping said blade, parallel to and one on either side thereof, means whereby the cross-arms may be interlocked and an extension from each of said cross arms by which said razor may be

grasped, said extensions projecting from longitudinally opposite ends of said cross arms.

4. A safety razor including in combination a cross-bar toothed at both side edges and having at one end a backward extension, a clamping cross-bar for holding a blade against said toothed bar and having a backward extension at one end opposite the extension of the toothed bar, said bars being attached to each other and adapted to be partly separated to permit the insertion of a blade between them.

5. A safety razor including in combination a cross-bar toothed at both side edges and having at one end a backward extension, a clamping cross-bar for holding a blade against said toothed bar and having a backward extension at one end opposite the extension of the toothed bar, said bars being pivoted to each other at one end and adapted to be fastened together at the opposite end.

6. A safety razor including in combination a cross-bar toothed at both side edges and having at one end a backward extension, a clamping cross-bar for holding a blade against said toothed bar and having a backward extension at one end opposite the extension of the toothed bar, said bars being slidably connected to each other to permit the insertion of a blade between them.

7. A safety razor including in combination a cross-bar toothed at both side edges and having at one end a backward extension, a clamping cross-bar for holding a blade against said toothed bar and having a backward extension at one end opposite the extension of the toothed bar, said bars being attached to each other and adapted to be partly separated to permit the insertion of a blade between them, and means for fixing a blade relatively to one of said bars.

8. A safety razor including in combination a lower cross bar toothed at both side edges and having a backward extension at substantially a right angle thereto, and an upper cross bar for clamping a blade upon said toothed cross bar and provided also with a backward extension at substantially a right angle, the toothed cross bar constituting a rest for the blade, and said backward extensions constituting handles at the opposite ends of the razor.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

NORVEL L. PHILLIPS.

Witnesses:

JAMES R. POWERS,
CHAS. J. E. ANDERSON.