

(No Model.)

W. AUTENRIETH.
SURGEON'S KNIFE.

No. 576,648.

Patented Feb. 9, 1897.

Fig. 1.

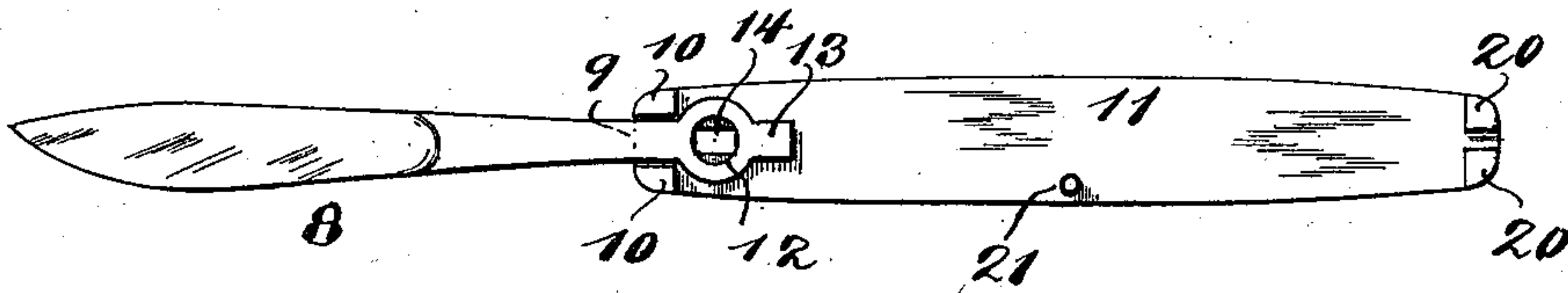


Fig. 2.

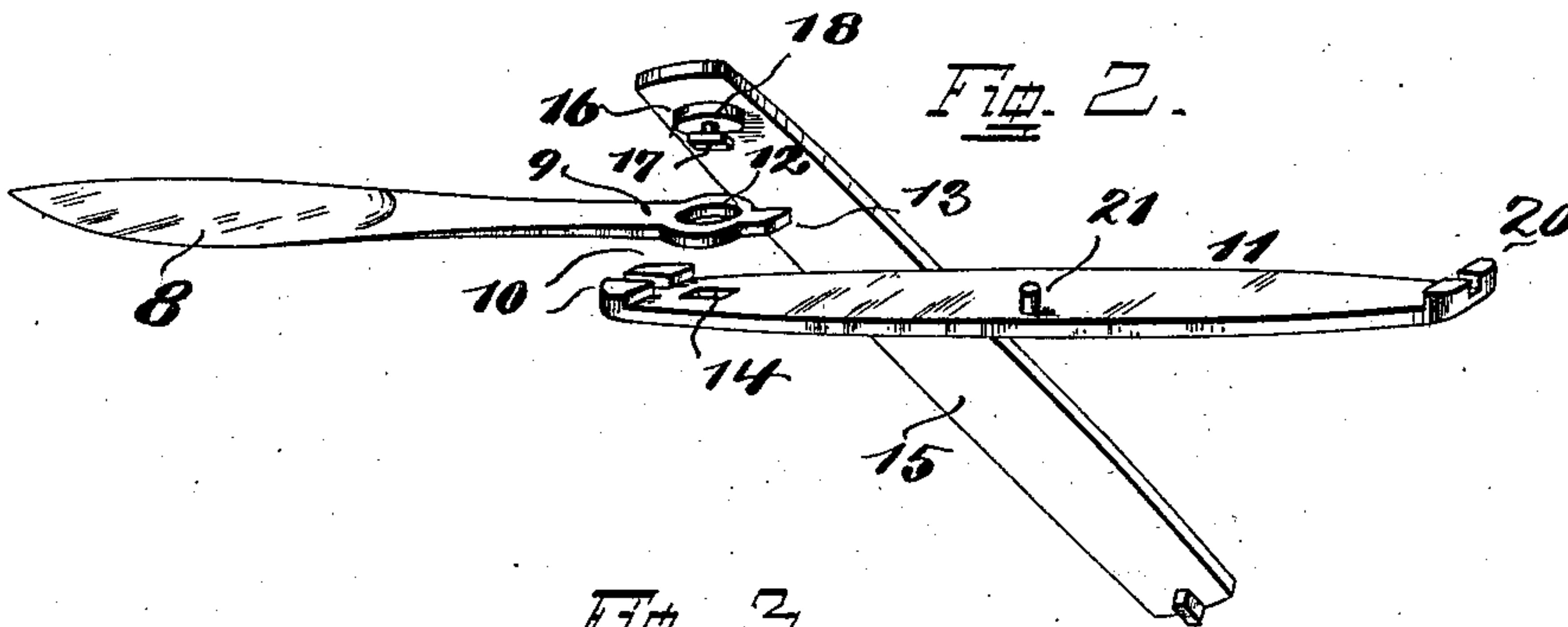


Fig. 3.

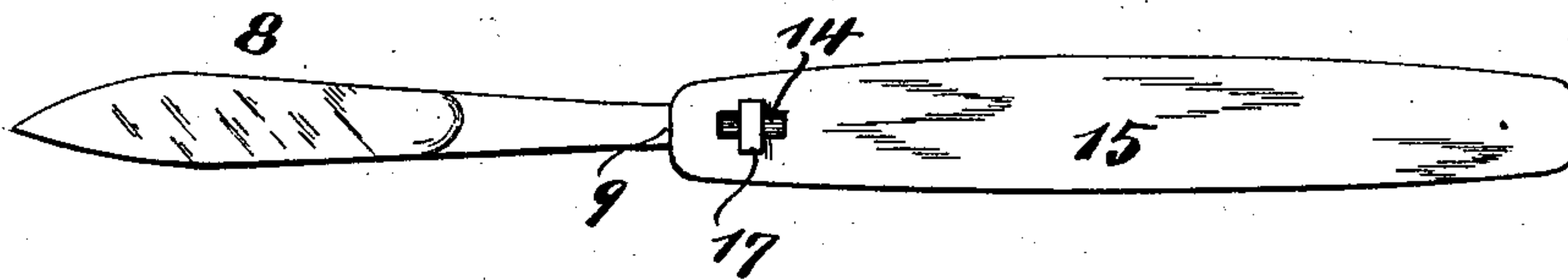


Fig. 4.

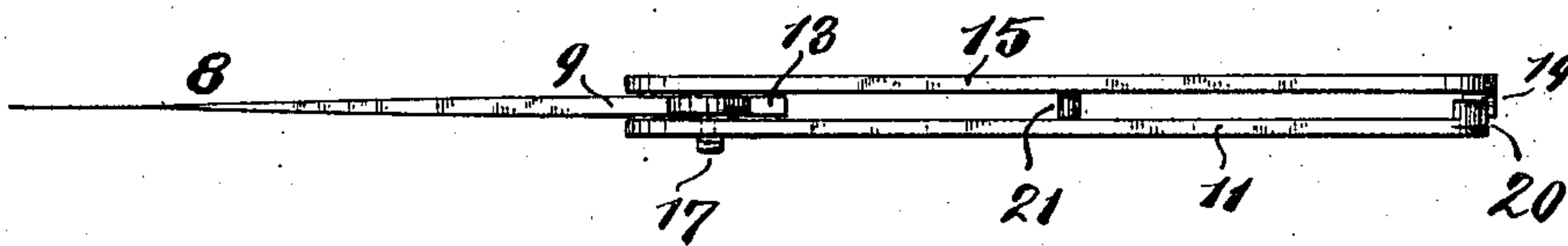
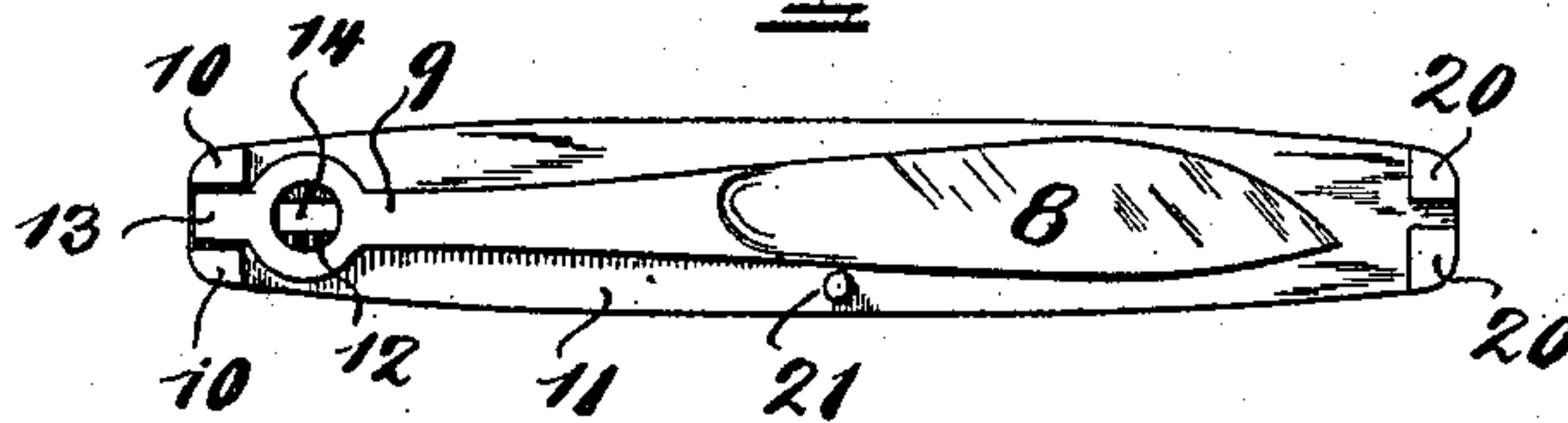


Fig. 5.



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SURGEON'S KNIFE.

SPECIFICATION forming part of Letters Patent No. 576,648, dated February 9, 1897.

Application filed April 27, 1896. Serial No. 589,228. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM AUTENRIETH, a citizen of the United States, and a resident of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Surgeons' Knives; and I do declare the following to be a clear, full, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, attention being called to the accompanying drawings, with the reference-numerals marked thereon, which form a part of this specification.

This invention relates to improvements in the construction of knives, particularly such as are intended for surgical purposes.

The objects to be attained are a knife with a firm connection between handle and blade, which, however, permits the latter to be folded back between the two parts of the handle for protection when not in use.

In the following specification and particularly pointed out in the claims is found a full description of the invention, its parts, and construction, which latter is also illustrated in the accompanying drawings, in which—

Figure 1 shows the knife-blade placed in position against one of the parts constituting the handle and before the other part of the latter is connected. Fig. 2 shows in a perspective view all parts of the knife in their relative positions which they assume for the purpose and prior to their connection. Fig. 3 shows the knife completed with the blade in position for use. Fig. 4 is a side or edge view of the knife as it appears in Fig. 3. Fig. 5 shows a view similar to Fig. 1, one of the handle parts being removed to permit insertion of the blade between them to be protected when not in use.

The knife consists substantially of a handle in two parts or sections, which are connected in a manner to hold the knife-blade, the shank of which reaches between them, firmly in position.

8 is the blade, which may be of any shape to suit the particular purpose. Its shank 9 fits between two lugs 10, which form part of one of the handle-halves 11 in this case and project therefrom to a thickness which equals about the thickness of the blade-shank between them. Back, that is, inwardly, of these

lugs the shank spreads and forms an eye 12 with a circular opening, and beyond this the shank continues again in form of a short projection or stub 13, of a width and thickness equal to the shank.

Back of lugs 10 there is an oblong slot 14 in handle-section 11, which opening is so located as to be centrally below opening 12 in the blade-shank when the blade is placed in a position as shown in Fig. 1. The other handle-section 15, congruous to section 11, has a circular post 16 projecting from its inside and so located that when the two sections are placed against each other this post will enter eye-opening 12, into which it closely fits. Centrally secured to this post 16 and projecting therefrom is a button 17 of a size capable of passing through opening 14 in section 11. The neck 18 of this button is of a length equal to the thickness of the handle-section 11, so that when the parts are placed together, as shown in Fig. 2, handle-section 15 will lie against the blade-shank, and with its post 16 occupy eye-opening 12 therein, while the button-neck 18 is within opening 14 of handle-section 11, with button 17 having passed clear through opening 14 and protruding on the otherside of handle-section 11. Now in order to enable button 17 to hold the two handle-sections together in their normal position, its position with reference to opening 14 is such that the handle-sections must be placed in an abnormal position on each other in order to permit button 17 to enter opening 14. When the handle-sections are then straightened on each other, the ends of button 17 pass beyond the edges of opening 14 and lie over parts of the contiguous outer surface of section 11. This is best shown in Fig. 3, which shows the connection completed, and in which button 17 holds the two handle-sections together with the knife-blade closely confined between them. During this straightening movement of the handle-sections post 16 turns in eye-hole 12, while neck 18 of button 17 turns in opening 14. The handle-sections are now held in their normal position on each other by a projection on one which enters a depression in the other, while the knife-blade is held rigidly by post 16 and between lugs 10.

In practice the projections and depressions

above mentioned are best obtained by a lug 19 on one section which fits into the space formed between lugs 20 on the other section. These latter being of metal possess enough
 5 spring action to permit a separation of the sections sufficient to permit lug 19 to be passed over lugs 20 to enter the space between the latter.

21 is simply a post secured to one of the
 10 handle-sections, and of a height equal to the space between them prevents collapse of the handle under a firm grip.

The parts may be separated for thorough cleaning by simply disconnecting them, which
 15 is done in a manner in reverse as described for their connection. For such purpose the handle-sections are first slightly pried apart to permit disengagement of lugs 19 and 20, after which they are swung on each other to
 20 a point where button 17 becomes free to be returned and passed out of opening 14.

If the knife is not needed, the blade may be inserted, as shown in Fig. 5, with projection 13 in the space between lugs 10, which
 25 hold the blade in place between the handle, the same as shank 9 would with the blade in the other position. The handle-sections are otherwise connected again to each other the same as before.

30 Having described my invention, I claim as new—

1. In a knife construction, the combination of a blade having a shank provided with an eye-opening 12 some distance from the end of
 35 the latter so that parts of said shank are on either side of the eye-opening, projecting in opposite directions therefrom, part 9 being extended and forming the blade and part 13 being simply a projection in line with part 9,
 40 a handle in two sections, one having a post 16 adapted to enter eye-opening 12 to hold the knife-blade to the handle, lugs 10 on one of the sections which are adapted to receive between them either part 9 or part 13 of the
 45 shank and whereby the blade is prevented from swinging on post 16 and held rigid either, as in the first case, in operative position or, as in the second case, with the blade between and covered by the handle-sections,
 50 a button 17 on one and an opening in the

other handle-section through which said button is adapted to pass, but only before such handle-sections are in normal position so that, after the latter are turned to normal position, the button is prevented from returning
 55 through said opening and thereby enabled to lock all parts, that is the handle-sections with the shank of the knife-blade between, together and means to prevent the handle-sections from turning out of their normal position.
 60

2. In a knife construction, the combination of a blade having a shank provided with an eye-opening 12 some distance from the end of the latter so that parts of said shank are
 65 on either side of the eye-opening projecting in opposite directions therefrom, part 9 being extended and forming the blade and part 13 being simply a projection in line with part 9, a handle in two sections, one having a post
 70 16 adapted to enter eye-opening 12 to hold the knife-blade to the handle, lugs 10 on one of the sections which are adapted to receive between them either part 9 or part 13 of the shank and whereby the blade is prevented
 75 from swinging on post 16 and held rigid either, as in the first case in operative position or, as in the second case, with the blade between and covered by the handle-sections, a button 17 on one and an opening in the
 80 other handle-section through which said button is adapted to pass, but only before such handle-sections are in normal position so that after the latter are turned to normal position, the button is prevented from re-
 85 turning through said opening and thereby enabled to lock all parts, that is, the handle-sections with the shank of the knife-blade between, together and projections on one handle-section adapted to engage with de-
 90 pressions in the other whereby the handle-sections are held on each other in their normal position.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

WILLIAM AUTENRIETH.

Witnesses:

C. SPENGEL,
 ARTHUR KLINE.