No. 649,493. Patented May 15, 1900.

F. A. STOHLMANN & L. G. PFARRE.

SURGICAL INSTRUMENT.

(No Model.) (Application filed May 18, 1899.)

Fig. 1.

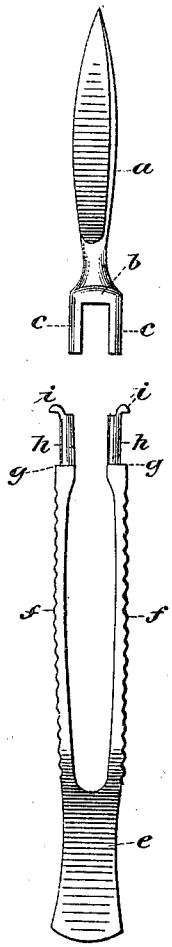



Fig. 2.

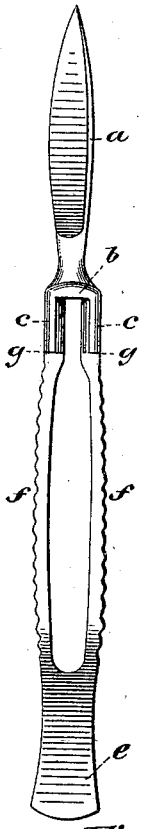



Fig. 5. Fig. 6.

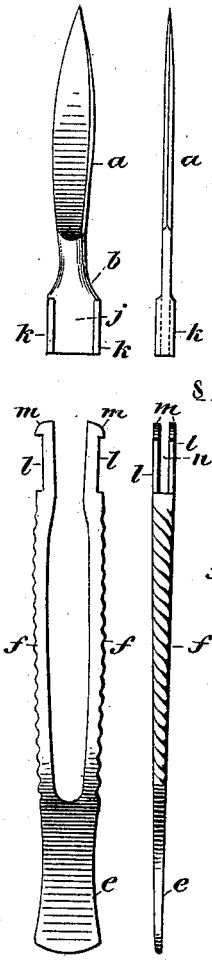



Fig. 7.

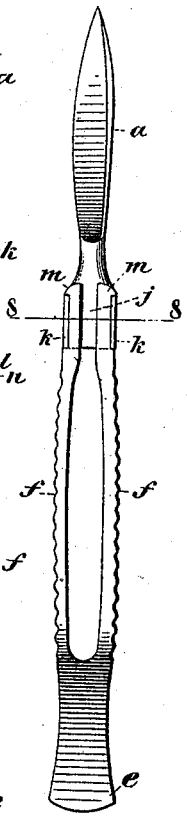



Fig. 3.

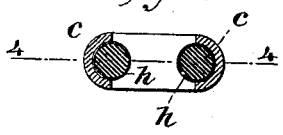



Fig. 4.

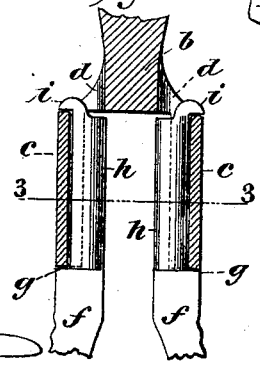
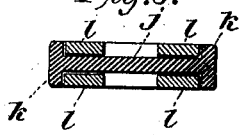



Fig. 8.

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# UNITED STATES PATENT OFFICE.

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## SURGICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 649,493, dated May 15, 1900.

Application filed May 18, 1899. Serial No. 717,250. (No model.)

*To all whom it may concern:*

Be it known that we, FREDERICK A. STOHLMANN and LOUIS G. PFARRE, residents of the borough of Brooklyn, Kings county, city and State of New York, have invented certain new and useful Improvements in Surgical Instruments, of which the following is a specification.

Our invention relates to surgical or other instruments, and especially to an instrument in which the knife or operating portion or tool of the instrument and the handle therefor are provided with complemental readily-disengageable means for engaging each other, so that a variety of knives or operating parts may be used with a single handle and will be removable therefrom, but will be securely united to said handle when in place thereon.

The essential features of the invention will be duly claimed herein.

Our invention will be understood by referring to the accompanying drawings, in which two distinct forms of our invention are shown. Figures 1 to 4, inclusive, show an instrument of one form in which our invention is embodied, and Figs. 5 to 8, inclusive, show another form of instrument in which our invention is embodied.

Fig. 1 shows the knife and handle separated to exhibit the construction of each. Fig. 2 shows the said two parts united for use. Fig. 3 is an enlarged detail sectional view of the device on line 3 3 of Fig. 4. Fig. 4 is a section on line 4 4 of Fig. 3. Fig. 5 is a view similar to Fig. 1, showing another construction, with the knife and handle separate. Fig. 6 is a side view of Fig. 5. Fig. 7 corresponds to Fig. 2 and shows the knife and handle united; and Fig. 8 is an enlarged detail sectional view, the section being taken on line 8 8 of Fig. 7.

Referring now particularly to Figs. 1, 2, 3, and 4, *a* represents the knife or other operating part of the instrument. The knife is shown as provided with a base *b*, having the oppositely-placed internally-grooved rigid arms or bearing-surfaces *c* shouldered at each end, (see Fig. 4,) and apertures *d d*, alined with the grooves in the arms *c*. These grooved arms receive the stems of the handle, their shouldered ends constituting abutments to be engaged by the abutments of the handle. The handle *e* is shown as provided with resilient arms *f f*, having abutments or shoulders *g g* and terminating in stems *h h*, which are provided with lugs, abutments, or shoulders *i i* opposite to the shoulders *g g*. It will be observed that the two arms *f f* may be pressed together and their stems sprung into place in the socket formed by the grooved arms *c c*, as shown in Figs. 2, 3, and 4, the resiliency of the said arms *f f* causing an outward pressure, by which the parts are held firmly in contact. It will be observed that the stems *h h* not only fit snugly in the grooved arms *c c*, but that the shoulders *g i* and said stems constitute three bearing-surfaces which contact with the three surfaces formed by the arms *c*, so that the knife is thereby braced at all essential points and movement of the knife relatively to the handle will not occur in the normal operation of the structure in surgery.

The device shown in Figs. 5, 6, 7, and 8 is in essential respects similar to that shown in the preceding figures. In this instance, however, the knife *a* is provided with a base *b*, having a comparatively-thin web *j*, flanked at its side edges with oppositely-placed flanges *k*, having ends or shoulders which are adapted to be engaged by bifurcated stems *l*, carried by the resilient arms *f f* of a handle *e*, the ends of the flanges *k* constituting abutments to be engaged by abutments on the handle. The stems *l l* are provided at each end with abutments or shoulders *m m*, between which the flanges *k k* of the knife-base *b* are engaged, the web of the base entering the slot *n* of the handle when the arms *f f* thereof are pressed inward, and when the resiliency of the said arms separates the ends thereof upon the pressure being released the outer faces of the stems bear firmly against the inner faces of the flanges *k k*, which are exactly embraced by the space in the outer faces of the stems *l l* between the shoulders *m m*, which shoulders bear against said flanges and hold the entire structure rigid.

It will be observed that both structures can be easily made and can also be readily cleaned or sterilized.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

In a surgical instrument, the combination of a handle comprising the united outwardly-impelled resilient arms *f f*, with the stems projecting therefrom provided with oppositely-placed shoulders or abutments, one at each end, which project laterally from the stems in an outward direction, each stem and its shoulders constituting three bearing-surfaces, with a tool provided with oppositely-placed surfaces for resisting outward pressure shouldered at each end for contact with the stems and their shoulders to constitute a rigid joint between handle and tool substantially as described.

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