No. 641,036. Patented Jan. 9, 1900.

C. J. PILLING & G. T. BARBER.

SURGICAL INSTRUMENT.

(Application filed Sept. 25, 1899.)

(No Model.)

Fig. 1.

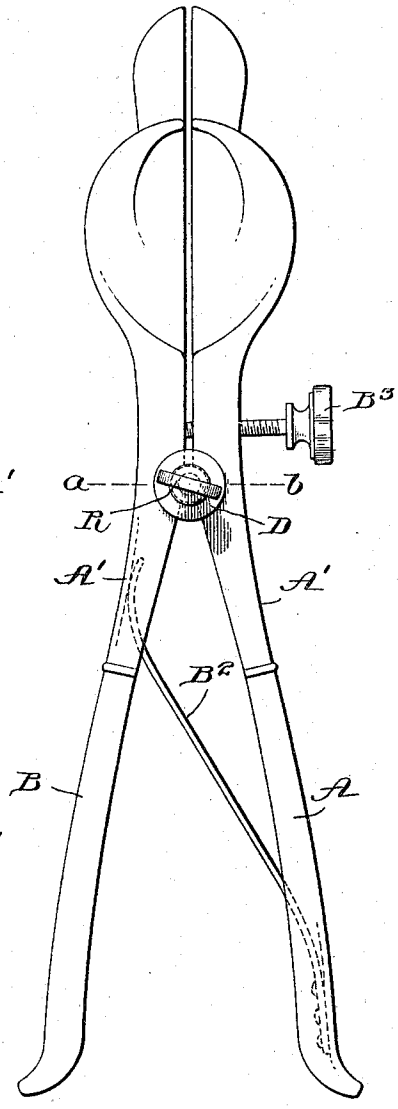


Fig. 2.

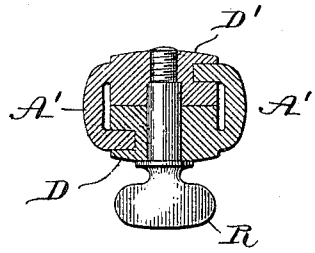


Fig. 3.

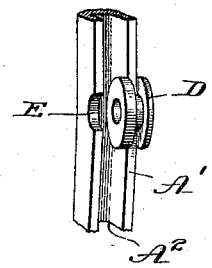


Fig. 5.

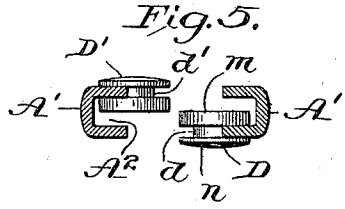
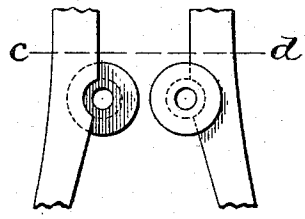


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

CHARLES J. PILLING AND GEORGE T. BARBER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO SAID CHARLES J. PILLING AND GEORGE P. PILLING, OF SAME PLACE.

SURGICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 641,036, dated January 9, 1900.

Application filed September 25, 1899. Serial No. 731,510. (No model.)

To all whom it may concern:

Be it known that we, CHARLES J. PILLING and GEORGE T. BARBER, citizens of the United States, residing in the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Hinges for Surgical or other Instruments Having Movable Blades or Members, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

Our invention relates to hinges for surgical and other instruments in which there are two pivoted or movable members moving in the same plane to and from each other on their hinged or pivotal connection. With such devices it has long been a desideratum to prevent the wabbling of said members out of normal plane, due to looseness resulting from wear to and inherent defects in the construction and method of uniting said parts.

Our invention has for its object to perfect a hinged connection between such movable members, whereby they may swing freely to and from each other in the same plane and will be prevented from moving out of that plane by giving each section of the divided hinge attached to one member of the tool a bearing upon the opposite member of the tool and arranging these bearings on opposite sides of the two movable members of the tool, so that when the latter are joined by the connecting-screw or other locking and pivoting device they will operate as a clamp without interfering in any manner with the pivotal movement of the members in their normal plane of movement.

To that end our invention consists in the construction of such a tool having movable members united by a hinge constructed and operating on the principle stated and the essential features of which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is an elevation of a surgical or any other instrument composed of two such members united by a hinge device embodying our invention. Fig. 2 is an enlarged section through the same on the line *a b*. Fig. 3 is a side elevation of one of the members of the tool with one section of the hinge in place thereon. Fig. 4 is a front elevation of a portion of the two members of the tool containing, respectively, the two sections constituting the hinge; and Fig. 5 is a top or plan view of the section on the line *c d* of Fig. 4.

The two movable members A and B of the hinged tool have that portion containing the hinge and for a short distance above and below it (indicated at A′) channeled or grooved, as indicated at A^2, for the incidental purpose of applying any usual form of spring, such as indicated at B^2, but for the primary purpose of soldering to one of the walls thereof an annularly-grooved button D and of providing in the opposite wall a grooved recess E, which will fit the shank of a like button D′ on the opposite like movable member of the tool.

By reference to Fig. 5 it will be seen that the annularly-grooved button D has a shank or neck *d* and that it may be made integral with the wall of the member A′ or may be made, as shown in the drawings, separate therefrom and slipped onto said wall, the latter entering the annular groove of the part D and soldered thereto. The opposite member of the tool is provided with a like annularly-grooved button D′, having a shank or neck *d*′, but is part of or soldered to the opposite wall of said member A′. The parts therefore assume the relative position toward each other as shown in plan view section, Fig. 5, and in side elevation in Fig. 4. When said members and their respective sections of hinge are brought into register, the base of the button *m* (see Fig. 5) will pass into the channel or groove A^2 of the opposite member of the tool and the head *n* of the button D will rest upon the outside surface of the wall of said member, and the lateral edge of said member being provided with a circular recess E (see Fig. 3) will coincide with the neck *d* of the button D and form a pivotal bearing therefor. The opposite member of the tool is provided with a like button D′ and constructed in other respects in like manner, but on the opposite side or wall of the member, so that when said parts are brought together, as shown in ele-

vation in Fig. 1, they will assume the relative positions shown in section in Fig. 2, a screw or pivot-pin R being inserted to maintain the parts in position. The adjusting-screw B^8, Fig. 1, is the usual means applied in surgical instruments to adjustably regulate or limit the movement of the members to and from each other. The section Fig. 2 also indicates how said button portion of the hinge may be made integral with the member by which it is carried.

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

1. The combination in an instrument of the character described, of a channeled portion in each member, a curved recess in one wall thereof and a hinge-section upon the opposite wall, said hinge-section consisting of an annularly-grooved button, the top and bottom portions of which are secured to one wall of one member and adapted to bear upon the oppositely-disposed wall of the opposite member; substantially as described.

2. In an instrument of the character described, each member having a grooved or channeled portion, an annularly-grooved button secured to one wall thereof, the opposite wall being recessed to adapt it to receive the neck of a like button on the opposite member, and a pivoting device adapted to fit a centrally-bored recess in each button, and thereby maintain the parts in register; said elemental parts being constructed and combined substantially as described.

3. In an instrument of the character described, the two members A′ A′ having each a grooved or channeled portion A^2, an oppositely-disposed wall of each member being recessed at E, a centrally-bored and annularly-grooved button portion D, D′ arranged on the oppositely-disposed walls of each member; said parts being adapted to register when brought together; with means to cause said parts to pivotally swing upon each other while maintaining the coincidence of said parts; substantially as described.

In testimony whereof we have hereunto affixed our signatures this 21st day of September, A. D. 1899.

CHARLES J. PILLING.
GEORGE T. BARBER.

Witnesses:
WALTER C. PUSEY,
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