

No. 662,468.

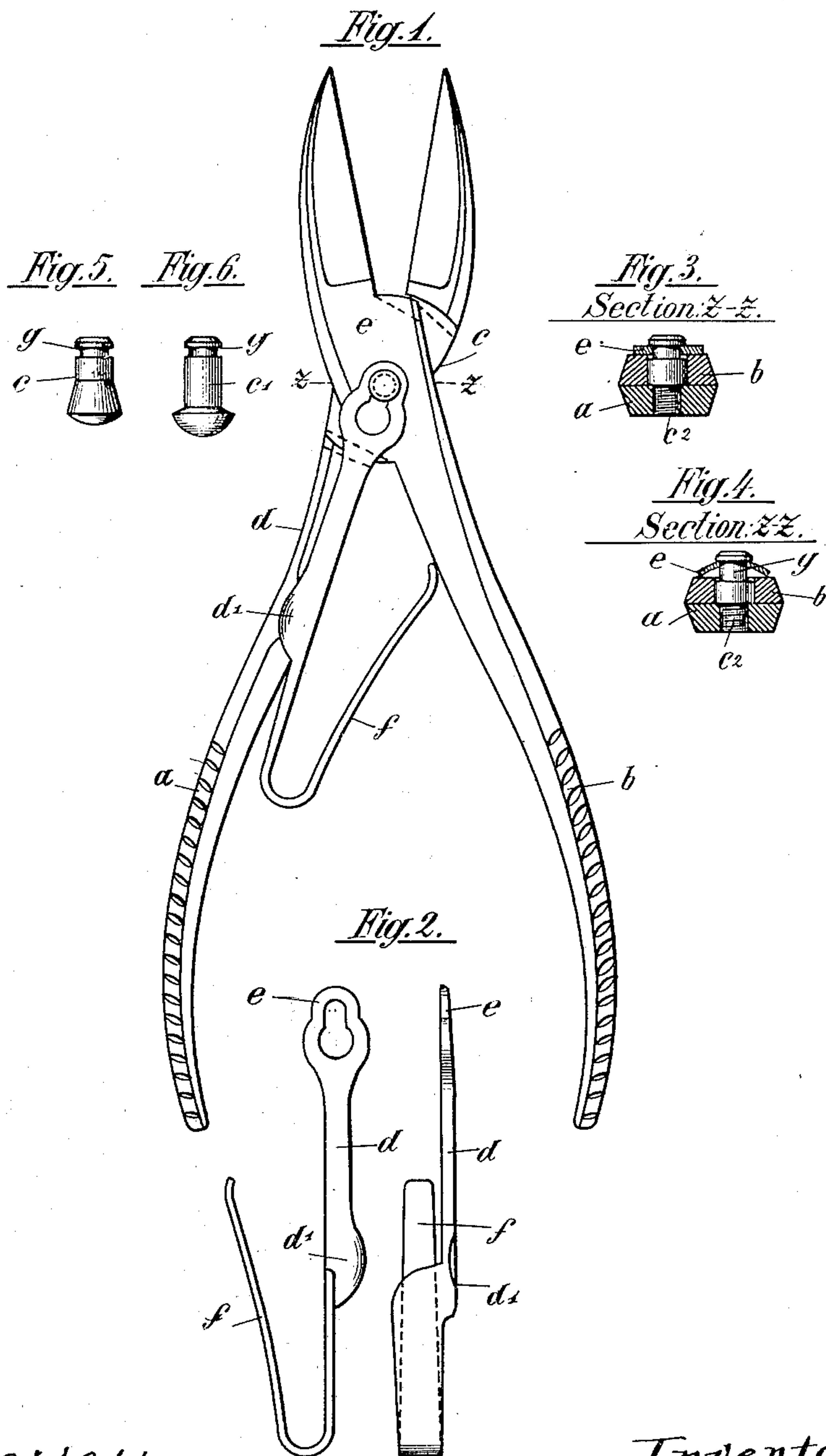
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W. SCHEERER.

COMBINED SEPARATING SPRING AND LOCKING DEVICE FOR SHEARS OR THE LIKE.

(Application filed Jan. 13, 1900.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

WILHELM SCHEERER, OF TUTTLINGEN, GERMANY, ASSIGNOR TO THE  
ACTIEN GESELLSCHAFT FÜR FEIN MECHANIC, VORMALS JETTER &  
SCHEERER, OF SAME PLACE.

COMBINED SEPARATING-SPRING AND LOCKING DEVICE FOR SHEARS OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 662,468, dated November 27, 1900.

Application filed January 13, 1900. Serial No. 1,377. (No model.)

*To all whom it may concern:*

Be it known that I, WILHELM SCHEERER, a citizen of the German Empire, residing at Tuttlingen, in the Kingdom of Württemberg, Germany, have invented certain new and useful Improvements in a Combined Separating-Spring and Locking Device for Shears or the Like; and I do hereby declare the following to be a full, clear, 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.

This invention relates to implements comprising a pair of pivoted members, such as pincers, shears, and the like. Its object is to provide a spring member that will serve as a spreading-spring for the handle portion of the implement and at the same time by means of an extension will removably engage the pivot of the implement, and thereby secure the members in position for operation, thus making an implement that can be assembled and taken apart without the use of any tools whatever; and my invention consists in such other details of construction and arrangement, separately or in combination, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a pair of shears having a combined spreading-spring and locking device embodying my invention applied thereto. Fig. 2 shows a top and side view of my preferred form of spring. Fig. 3 is a vertical transverse section at the pivotal portion. Fig. 4 is a similar view showing the spring made concave longitudinally. Figs. 5 and 6 show other forms of pivots adapted to be used with my device.

In my preferred form of construction I take a plate-spring and bend it to a U shape, as shown at *f*. One leg is formed with an extension *d*, preferably integral with the U part, projecting in the same direction and in a plane substantially at right angles with the leg.

The pivot is preferably screw-threaded at one end and secured in a threaded aperture in one of the members *a*. The pivot passes through an aperture in the other member *b* and projects a short distance beyond this member, the projecting end being provided with an annular groove *g*, thus forming a head on its free extremity.

The extremity of the extension *d* is provided with a suitable opening to engage this head, preferably a slot, such as a button-hole-slot, as shown in Figs. 1 and 2, the larger part of the slot being of such size as to slip on over the head of the pivot, while the narrower part of the slot is of a width equal to the diameter of the pivot at the grooved part.

To assemble the members, the pivot is first attached to the member *a*, and then the blade *b* is put on the pivot. The members are opened widely and the extension *d* at the larger part of the aperture slipped on the pivot and then moved endwise toward the handle, when the extension in proximity to the narrow part of the slot will engage the head of the pivot and securely retain the members in operative position.

The extension has a portion *d'* bent downwardly, so that it is retained in contact with the member *a*. The part of the U-shaped portion connected with the extension *d* will contact with the inner side of the member *a*, while the free end *f* of the U-shaped portion will contact with the inner side of the member *b* when the handle portions are brought together. This extremity is preferably curved inwardly, as shown, in order to reduce the friction.

The extension *e* may be curved transversely at the end, as shown in Fig. 4, so that the members will be held together with spring pressure.

In Fig. 5 is shown a form of pivot in which the portion engaging the member *a* is made tapering and the aperture in that member is correspondingly tapered.



In another modification the pivot has a head on the end passing through the member *a*.

It is obvious that in such implements where the closing of the handles cause a diversion of the other extremities the action of the spring will be to bring these extremities toward each other.

While the above is my preferred mode of construction, other and various kinds of pivots and means for being removably engaged by the extension *d* may be employed without departing from the spirit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an implement comprising a pair of pivoted members, the combination with the said members and a pivot, of a spring member for separating the handle portions of the members having an extension removably engaging one extremity of the pivot and thereby securing said members in the operative position.

2. In an implement comprising a pair of pivoted members, the combination with the said members and a pivot, of a spring member for separating the handle portions of the members having an integral extension removably engaging one extremity of the pivot and thereby securing said members in the operative position.

3. In an implement comprising a pair of pivoted members, the combination with the said members and a pivot, of a spring member for separating the handle portions of the members having an extension removably engaging one extremity of the pivot and thereby securing said members in the operative position, and means on said extension for retaining it in engagement with one of said handle portions of the members.

4. In an implement comprising a pair of pivoted members, the combination with the said members and a pivot, of a spring member for separating the handle portions of the members having an extension containing an aperture at which portion the spring removably engages one extremity of the pivot and thereby secures said members in the operative position.

5. In an implement comprising a pair of pivoted members, the combination with the said members and a pivot, of a spring member for separating the handle portions of the members having an extension containing a longitudinal slot at which portion the spring removably engages one extremity of the pivot and thereby secures said members in the operative position.

6. In an implement comprising a pair of pivoted members, the combination with said members, of a pivot secured to one of said members and projecting through the other member, said pivot having a head on its free

extremity, a spring member for separating the handle portions of the said members having an extension containing a slot that has a wider part for admitting the head of said pivot and a narrower part at which portion the spring engages the said pivot and thereby removably secures the said members in the operative position.

7. In an implement comprising a pair of pivoted members, the combination with the said members and a pivot, of a spring member for separating the handle portions of the members having an extension removably engaging one extremity of the pivot and thereby securing said members in the operative position, said extension being transversely concave toward its contacting members at the pivotal part, thereby holding the members together with spring-pressure.

8. In an implement comprising a pair of pivoted members, the combination with said members and a pivot, of a U-shaped plate-spring member arranged between the handle portions of said members, one of the legs of said U-shaped spring being provided with an extension removably engaging one extremity of said pivot and thereby securing the members in operative position.

9. In an implement comprising a pair of pivoted members, the combination with said members and a pivot, of a U-shaped plate-spring member arranged between the handle portions of said members, said spring having one of its legs extended in a plane substantially at right angles with the leg the extension so formed being removably engaging one extremity of said pivot and thereby securing the members in operative position.

10. In an implement comprising a pair of pivoted members, the combination with said members and a pivot, of a U-shaped plate-spring member arranged between the handle portions of said members, said spring having one of its legs extended in a plane substantially at right angles with the leg, said extension removably engaging one extremity of said pivot and thereby securing the members in operative position, said extension being thereby retained in contact with the upper face of one of the handle portions of said members, the connected portion of the U-shaped member contacting with the inner face of said handle portion and the free extremity of said U-shaped member contacting with the inner face of the other said handle portion.

11. In an implement comprising a pair of pivoted members, the combination with said members and a pivot, of a U-shaped plate-spring member arranged between the handle portions of the members, said spring having one of its legs extended in a plane substantially at right angles with the leg, said extension removably engaging one extremity of said pivot and thereby securing the members in operative position, the said extension hav-



ing a bent portion along the edge opposite to the free leg and in proximity to its connection with the U-shaped portion and being thereby retained in contact with one of said  
5 handle portions, the connected portion of the U-shaped member contacting with the inner face of said handle portion, and the free extremity of said U-shaped member contacting

with the inner face of the other said handle portion of the members.

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

WILHELM SCHEERER.

Witnesses:

HERMAN WAGNER,  
AUGUST DRANTZ.

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