(No Model.)

C. MORRILL.

CUTTING PLIERS.

No. 555,108. Patented Feb. 25, 1896.

Fig. 1.

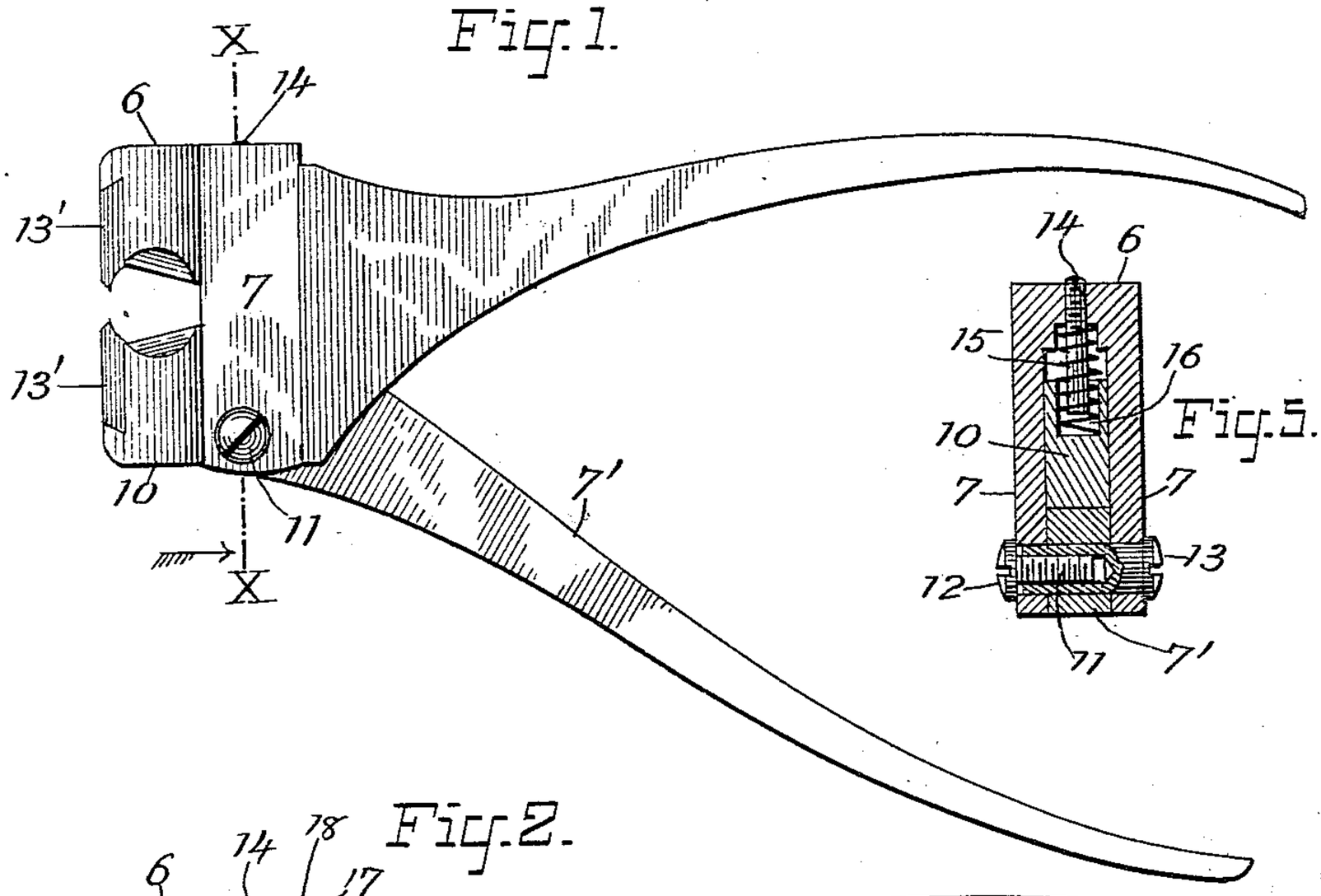


Fig. 5.

Fig. 2.

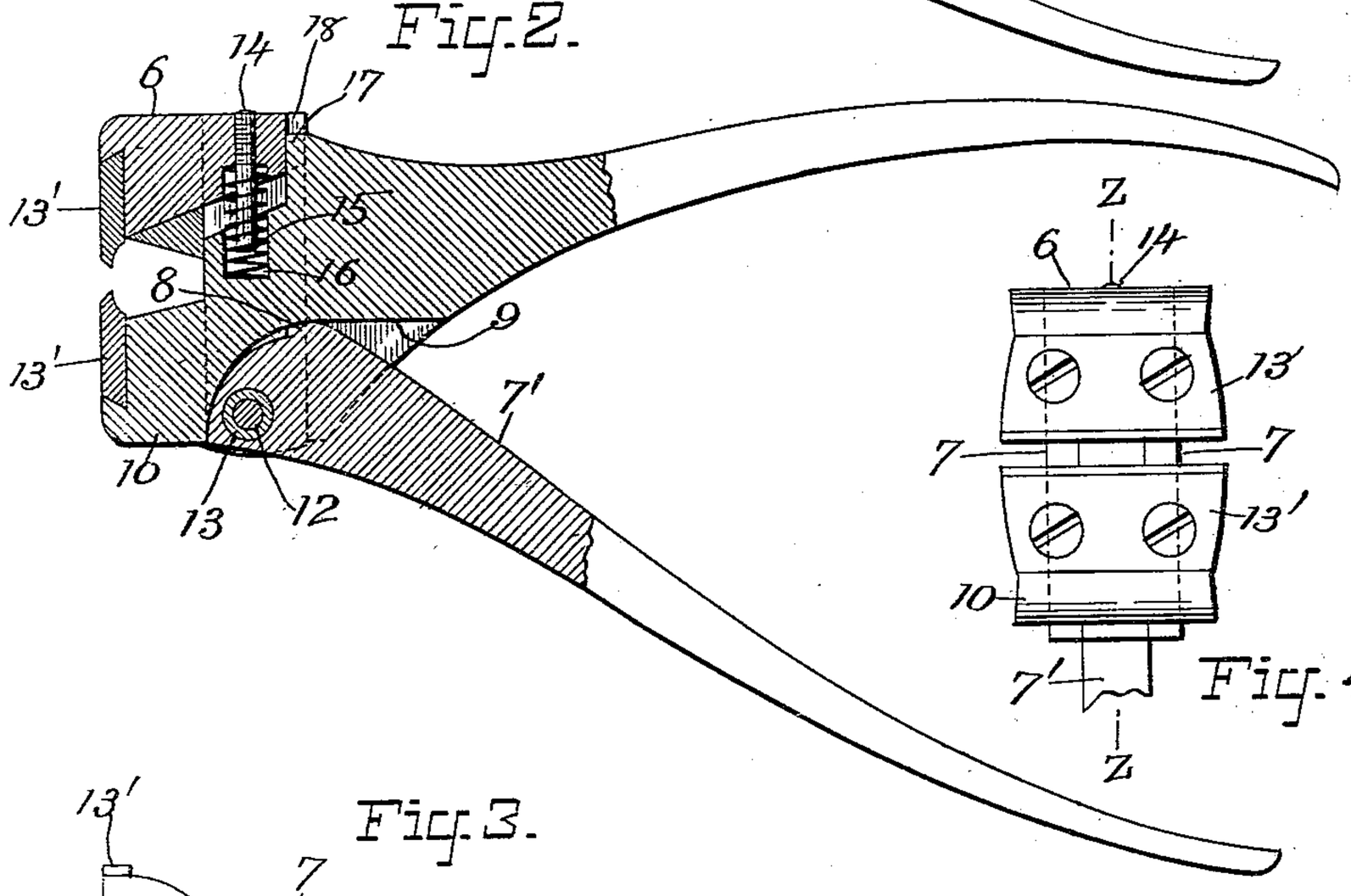
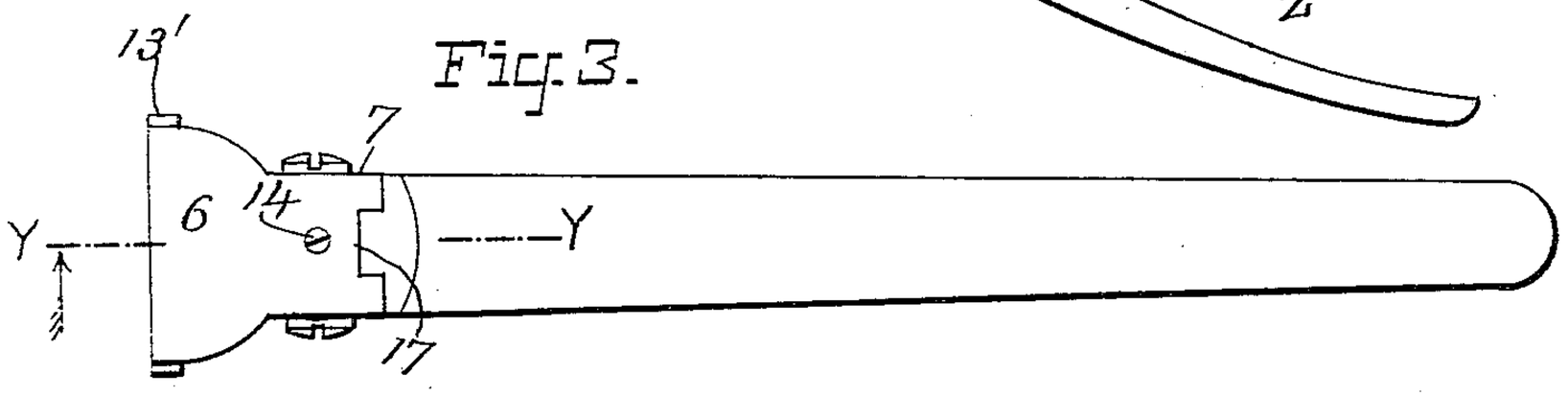


Fig. 4.

Fig. 3.



WITNESSES:

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CHARLES MORRILL, OF NEW YORK, N. Y.

CUTTING-PLIERS.

SPECIFICATION forming part of Letters Patent No. 555,108, dated February 25, 1896.

Application filed March 4, 1895. Serial No. 540,404. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MORRILL, a citizen of the United States of America, and a resident of the city, county, and State of New York, have invented a new and useful Improvement in Cutting-Pliers, of which the following is a specification.

My invention relates to cutting-pliers adapted for cutting wire or ribbon sheet metal, all of which will be fully described hereinafter.

My invention consists of certain mechanical combinations forming a complete and novel cutting-pliers, all of which will be pointed out in the claims and fully described hereinafter.

In the drawings, Figure 1 represents a side elevation of the cutting-pliers. Fig. 2 represents a vertical section taken on the line Y Y of Fig. 3, the latter of which is a plan view of Fig. 1. Fig. 4 is a front elevation, in which view is shown the interchangeable cutting-blades and the manner in which they are held in position. Fig. 5 is a transverse vertical section taken on line X X of Fig. 1. In this view is shown the construction of the fulcrum-pin of the lever-handle.

Similar numerals refer to similar parts throughout the drawings, in which—

The numeral 6 represents the upper vertically-moving cutting-jaw having integral therewith two depending hangers 7. The lower ends thereof are fulcrumed to the lever-handle 7′, the latter of which is provided with an eccentric enlargement 8, a portion of the outer contour of which works in frictional contact with a planed surface 9 integral with the stock of the lower vertically-cutting jaw, 10, the latter of which is held in position by and between the hangers 7 and is operated upon by the eccentric enlargement 8 of the lever-handle 7′, the latter of which is fulcrumed to the hangers 7 by means of the fulcrum-pin 11, which is composed of a screw 12 adapted to fit a corresponding sleeve 13, the latter of which forms, as it does, the fulcrumed bearing. The interchangeable cutting-blades 13′ are held in their respective cutting-jaws by means of screws. The upper vertically-movable cutting-jaw is tapped and adapted to receive the adjusting-screw 14, which is encircled by the helical spring 15, the latter of which is housed in the cylindrical opening 16.

A very important feature of the construction of the pliers is that of having a projecting tongue 17 integral with the stock of the lower vertically-moving jaw and adapted to engage with a corresponding groove 18 made in the stock of the upper vertically-moving cutting-jaw. It will be obvious that this last feature will prevent the cutting-edges of the pliers from being sprung out of their horizontal alignment by any undue strain brought to bear upon them near their outer ends.

It will be obvious that when the handles of the pliers are compressed the eccentric enlargement of the handle will force the lower cutting-jaw upward in a vertical line, and by means of the fulcrum force the upper cutting-jaw down correspondingly. Both jaws will move with the same speed, distance, and exert the same power upon the wire or metal being cut. It will also be obvious that whenever the interchangeable cutting-blades are to be ground their width will be reduced, thus preventing their cutting-edges from approaching each other sufficiently to sever the wire or metal operated upon. To obviate this difficulty I have provided the regulating device, which consists of the adjusting or regulating screw 14, which enters the screw-tap of the upper cutting-jaw and is encircled by a helical spring 15, which is held in position by means of the cylindrical bore made in the stock of the upper and lower cutting-jaws. Said adjusting-screw may be adjusted to suit the occasion, thus allowing the edges of the cutting-blades to assume their relative position one with the other. It will still further be obvious that when the pressure upon the handles is removed the retraction of the helical spring will force the jaws apart and to their normal position.

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

1. In a cutting-pliers, the combination of vertically-moving jaws, the vertically-arranged tongue integral with the stock of the lower jaw and guided in a groove of the upper jaw, the adjusting-screw passing through the stock of the upper jaw and the coiled

spring encircling said screw; the screw serving as a center guide for said spring.

2. The combination consisting of the upper vertically-moving jaw and its hangers the lever-handle the eccentric enlargement thereon the screw-pin and sleeve forming a fulcrum for said lever-handle, the lower cutting-jaw the latter adapted to operate between said hangers, the interchangeable cutting-blades, the adjusting or regulating screw passing through the stock of the upper cutting-jaw, the helical spring encircling said adjusting-screw, the vertically-arranged tongue 17 and correspondingly-shaped groove 18 substantially as shown and described.

3. In a cutting-pliers, the combination of the upper vertically-moving jaw and its hangers, the lever-handle, the eccentric enlargement thereon, the screw-pin and sleeve forming a fulcrum for said lever-handle, the lower cutting-jaw adapted to operate between said hangers, the interchangeable cutting-blades, the adjusting-screw passing through the stock of the upper cutting-jaw and the helical spring encircling said adjusting-screw.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 1st day of March, 1895.

CHAS. MORRILL.

Witnesses:
T. A. ANDERSON,
O. N. STEIN.