(No Model.)

L. C. McNEAL.

BUTTON HOLE SCISSORS.

No. 382,996. Patented May 15, 1888.

Fig. 1.

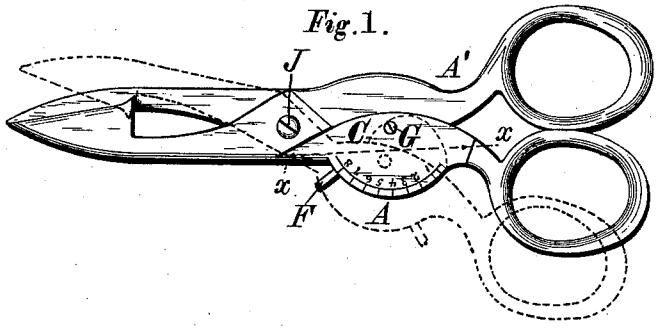


Fig. 2.

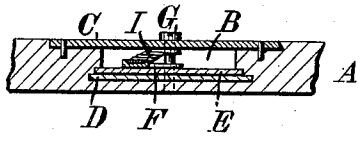


Fig. 3.

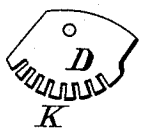


Fig. 4.

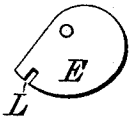


Fig. 5.

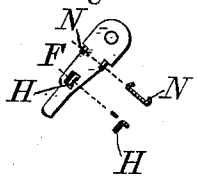


Fig. 6.



Fig. 8.



Fig. 7.

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UNITED STATES PATENT OFFICE.

LUTHER C. McNEAL, OF ROCHESTER, NEW YORK.

BUTTON-HOLE SCISSORS.

SPECIFICATION forming part of Letters Patent No. 382,996, dated May 15, 1888.

Application filed July 6, 1887. Serial No. 243,485. (No model.)

To all whom it may concern:

Be it known that I, LUTHER C. McNEAL, of Rochester, Monroe county, New York, have invented certain new and useful Improvements in Button-Hole Scissors, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to certain improvements in button-hole scissors, in which an adjustable gage enables the length of the slit cut to be accurately determined.

My improvements are fully described and illustrated in the following specification and accompanying drawings, the novel features thereof being designated in the claims annexed to the said specification.

My improvements in button-hole scissors are represented in the accompanying drawings, in which—

Figure 1 represents a pair of scissors embodying my improvements. Fig. 2 is a section on the line *x x*, Fig. 1, the parts being represented on an enlarged scale. Fig. 3 represents the toothed segmental plate. Fig. 4 is the cam. Fig. 5 shows the lever which operates the cam. Fig. 6 is a view of the spring. Fig. 7 represents the parts, the covering-plate being removed. Fig. 8 represents a modification of the cam.

In the accompanying drawings, representing my improvements in button-hole scissors, A A′ represent the arms of a pair of scissors, one of which, A, is recessed at B for the reception of the gage, the recess being covered by a plate, C, which is preferably dovetailed into the arm and secured by screws or pins.

The blades of the scissors are provided with the notch usual in button-hole cutters. The gage, which limits the distance which the scissors can be closed, consists, essentially, of a cam pivoted on one of the arms, A, and having a bearing against the other at one side of the pivot-screw, and so arranged as to be firmly held in place at any desired adjustment. The arms are pivoted together in the usual manner at J, Fig. 1.

On the bottom of the recess B lies the plate D, the circular edge of which is notched or provided with notches K, Fig. 3. The edges of the plate D may be inserted in an undercut groove formed in the sides of the recess B, as shown in the sectional view, or it may be held in place by the screw G. Upon the plate D is placed the cam E, which carries and is moved by the lever F. A screw or pin, G, is inserted in the arm A, near the center of the recess B, forming a pivot for the cam E and lever F and holding all the parts in place. The lever F has a tooth or projection, H, formed on it, which extends downward through a slot or opening, L, in the cam into the notches between the teeth of the segmental plate D. Upon the upper surface of the lever F the spring I is held by a suitable lug or lugs, N, struck up on the lever. The spring I bears against the lever and the under side of the covering-plate C, and serves to hold the tooth H in engagement with the notches on the notched plate D.

When it is desired to change the length of button-hole cut by the scissors, which is effected, as already described, by changing the distance to which the blades are allowed to come together, the lever F is raised against the pressure of the spring I sufficiently to disengage the tooth H from the notches in the plate D, and the lever is swung around, carrying the cam E with it, until the cam projects a suitable distance from the arm A, as indicated in Fig. 7, and by the dotted lines in Fig. 1, thereby keeping the arms separated when closed, so that the notched blades will cut a button-hole of the desired length. The projecting cam bears against the other arm of the scissors, preventing their being closed, so as to cut the full length of the blade. When the desired position has been reached, the tooth H is allowed to sink into a notch in the plate D, and the cam is then firmly held in the position. The covering-plate C is preferably graduated, as indicated in the drawings, to correspond with the notches in the plate D below it, and, if desired, a pointer may be secured to the lever F, although this is not necessary.

It is obvious that the lever F may be made a spring itself, thus dispensing with the spring I.

The shape of the cam may be varied in many ways, one of the forms which may be given to it being shown in Fig. 8, in which it is represented as provided with a projecting arm or point, Q, which bears against the arm A′.

The plate C may be formed integral with the arm, the recess for the cam, lever, and notched plate being milled or otherwise produced.

The parts of the gage are constructed, as shown, so that they may be struck up from sheet metal at a single operation, thereby greatly lessening the expense of construction while giving a reliable and accurate means of gaging the length of slot cut by the scissors.

My improved button-hole scissors possess the merits of cheapness in construction, ready adaptability to any length of button hole which it is desired to cut, and great durability, as there are no frictional surfaces in contact.

I hereby disclaim the prior state of the art as shown in the patents of Theis, No. 301,305, July 1, 1884; Röder, No. 328,813, October 20, 1885, and Kamak, No. 316,151, April 21, 1885.

It is obvious that without departing from the spirit of my invention in the least the relative positions of the parts may be altered, the notched segmental plate being moved by the cam and the projection or finger held by the scissors-frame, or the said segmental plate may be made integral with the scissors-frame and the cam and lever of one piece, such constructions embodying no more than ordinary mechanical skill and good workmanship on the part of the constructer.

I claim—

1. The combination, with the arms of a pair of scissors and a cam pivoted to one arm and adapted to be swung on its pivot to engage the other arm and limit the movement of said arms, of a lock for positively holding said cam in adjusted position, substantially as described.

2. The combination, with a pair of scissors and a cam pivotally connected to one arm and adapted to be swung on its pivot to engage the other arm and limit the movement of the two arms toward each other, of a projection or tooth moved by the cam, and a notched surface with which said projection or tooth engages for holding the cam in adjusted position, substantially as described.

3. The combination, with a pair of scissors and a cam pivotally connected to one arm and adapted to be swung on its pivot to engage the other arm and limit the movement of the two arms toward each other, of a projection or tooth moved by the cam, a notched surface with which said projection or tooth engages for holding the cam in adjusted position, and a spring for holding said projection or tooth and notched surface in engagement, substantially as described.

4. The combination, with the pivoted arms of a pair of button-hole-cutting scissors, a cam pivoted on one arm and adapted to limit the movement of the blades toward each other, the series of adjusting-notches beneath said cam, and the adjusting-lever above the same, of a tooth or projection on the lever, and a notch or slot in the cam through which the tooth or projection passes to engage the adjusting-notches, whereby the cam is held in adjusted position, substantially as described.

5. The combination, with the pivoted arms of a pair of button-hole-cutting scissors, a cam pivoted on one arm and adapted to limit the movement of the blades toward each other, the series of adjusting-notches beneath said cam, and the adjusting-lever above the same, with its projection passing through a notch or slot in the cam for engaging the notches, of a spring secured to said lever and bearing against the inclosing-walls for holding the projection in engagement with the notches, as set forth.

6. In a pair of button-hole-cutting scissors, the combination, with the cam having a notch or slot therein pivoted in a depression in one arm of the scissors and adapted to be swung on its pivot to engage the other arm and limit the movement of the two arms toward each other, of the notched segmental plate held by the arm beneath the cam, the lever above the cam having the tooth or projection thereon passing through said notch or slot in the cam and engaging the notches in the segmental plate, a spring carried by said lever for holding said tooth in engagement with the notches, the plate for covering the depression in which said parts are located, and the pivot for holding the parts in position, substantially as described.

LUTHER C. McNEAL.

Witnesses:
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H. G. PHILLIPS.