

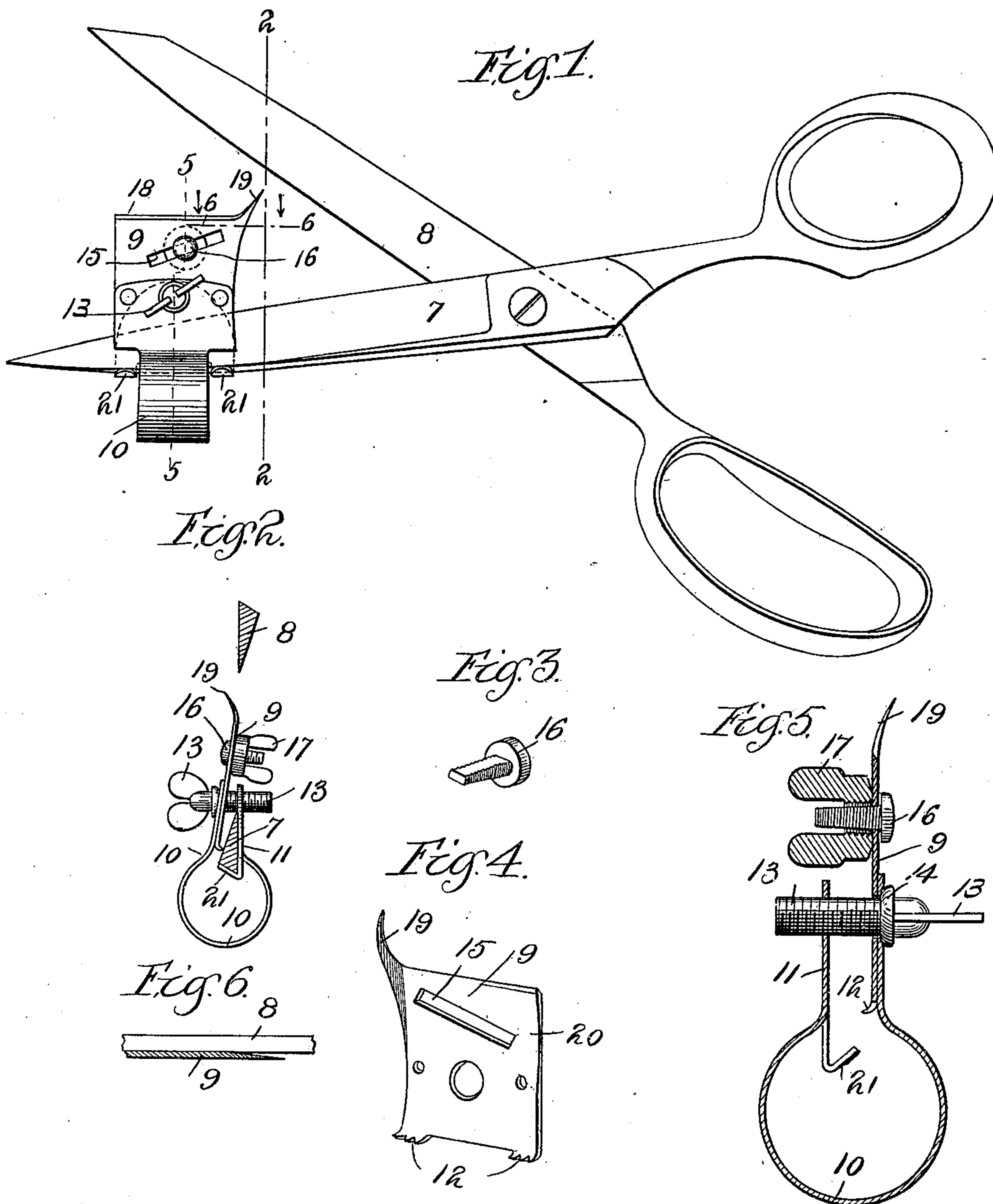
No. 627,628.

Patented June 27, 1899.

C. A. SHULTZ.
BUTTONHOLE CUTTER.

(Application filed Aug. 19, 1897.)

(No Model.)



Witnesses.

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UNITED STATES PATENT OFFICE.

CARL A. SHULTZ, OF OTTAWA, KANSAS.

BUTTONHOLE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 627,628, dated June 27, 1899.

Application filed August 19, 1897. Serial No. 648,850. (No model.)

To all whom it may concern:

Be it known that I, CARL A. SHULTZ, a citizen of the United States, residing in Ottawa, in the county of Franklin and State of Kansas, have invented certain new and useful Improvements in Buttonhole-Cutters, of which the following is a specification.

My invention relates to buttonhole-cutters adapted to be attached to scissors of the ordinary type for the purpose of adapting them for cutting buttonholes, and more particularly my present invention relates to buttonhole-cutters of the type shown and described in my Patent No. 512,452, dated January 9, 1894.

The improvements which form the subject-matter of my present application for Letters Patent relate to the clamping devices by which the buttonhole-cutter is attached to one of the scissors-blades, to the stop for controlling the length of the cut, and to the cutting-plate, all of which will be specifically described hereinafter.

Referring to the drawings, Figure 1 is a side view of a pair of scissors, showing my improved buttonhole-cutter in operative position. Fig. 2 is a vertical section on line 2-2 of Fig. 1. Fig. 3 is a perspective view of the stop-bolt. Fig. 4 is a perspective view of the cutting-plate. Fig. 5 is an enlarged vertical section on line 5-5 of Fig. 1. Fig. 6 is a section on line 6-6 of Fig. 1.

In the drawings, 7 8 indicate the blades of a pair of scissors.

9 indicates the cutting-plate of the buttonhole-cutter, which, as shown in Fig. 2, is secured to a spring 10, arranged in the form of a loop and carrying at its other end a clamping-plate 11. The lower portion of the cutting-plate 9 is provided with teeth 12, extending toward the clamp-plate 11, so that the lower portion of the plate 9 forms one of the members of a clamp of which the plate 11 is the other member, the two members acting to clamp one of the scissors-blades, as will be hereinafter described.

The cutting-plate 9 in the best form of my invention is formed separately from the spring 10, as it is necessary to temper said plate in order to provide a satisfactory cutting edge; but broadly considered my invention is not limited to making the cutting-plate

9 separate from the spring 10, nor to forming the teeth 12 upon said plate, as they may be formed upon the upper portion of the spring 10 or may be otherwise arranged to project inwardly and cooperate with the clamp-plate 11.

13 indicates an adjusting-screw for drawing the two members of the clamp together, the spring 10 normally holding them apart.

As shown in Fig. 5, the screw 13 has a rounded bearing 14 to permit of its adjusting itself angularly to a slight extent to accommodate the varying positions of the clamp-plate 11.

15 indicates a diagonally-arranged slot, in which is adapted to fit a bolt 16, as shown in Fig. 5. As shown in Fig. 3, the bolt 16 is wedge-shaped, and it is of such thickness with relation to the slot 15 that when the bolt is drawn up snugly into said slot it will be wedged in place, thereby preventing its accidental displacement. A nut 17 is adapted to screw upon the bolt 16, as shown in Fig. 5. The nut 17 is adapted to intercept the blade of the scissors and forms a limit-stop to prevent the scissors-blades from approaching each other beyond a certain point, thus regulating the length of the cut, as described in my former patent above referred to. The nut 17 has its inner edge rounded or beveled, so that the outer portion of the blade, and not the cutting-edge, strikes it, thus preserving the edge and preventing injury to it.

18 indicates the cutting edge of the cutting-plate, which at its inner end is provided with a sharp point 19, which projects therefrom and is bent slightly outward, as best shown in Figs. 4 and 5. The object of the point 19 is to provide for accurately determining the point at which the cut is to begin, and it is bent outward, as shown, in order to prevent its being struck by the approaching scissors-blade 8 in the operation of cutting, also to secure greater latitude in the matter of the adjustment of the plate, as by this means even though the plate is poorly adjusted the device will nevertheless operate properly, the curved point guiding the scissors-blade so that it will cut properly.

As shown in Figs. 4 and 6, the vertical edge of the plate 9 adjacent to the point 19 is cut away or ground down to a comparatively thin edge to permit the blade 8 to properly meet

and coact with the cutting edge of the plate 9. The outer vertical edge 20 of the plate 9 is also ground down or thinned, as shown in Fig. 4, in order to increase the flexibility of the upper portion of said plate and permit it to readily adapt itself to the blade 8 in cutting. The cutter is by this means made capable of use on different makes of scissors, as the cutting edge of the plate 9 readily adjusts itself by reason of its elasticity to the twist of the scissors-blades, and therefore although the twist of different makes of scissors may vary greatly the cutting edge of the plate 9 will at once adapt itself to the coacting cutting-blade, enabling a proper cut to be made.

21 indicates arms which extend inwardly from the lower portion of the clamp-plate 11 and serve to support the back edge of the blade 7 when the buttonhole-cutter is attached to it, as shown in Fig. 2, said arms, together with the plate 11, forming a socket in which the scissors-blade is adapted to fit, the flat inner side of the blade resting against the plate 11.

The spring 10, clamp-plate 11, and arms 21 may all be formed by stamping a piece of metal the required shape and bending it to the proper form; but I do not wish to be limited to this construction alone, as the plate 11 may be formed separately from the spring 10 and attached thereto, if desired.

In operation the screw 13 is operated to permit the clamp members to separate sufficiently to admit one of the scissors-blades, as 7, when the blade is inserted between the arms 21 and screw 13, the inner or flat side of the scissors-blade lying next to the plate 11, the back edge of the blade resting upon the arms 21. The cutter is slipped along the blade to a point about one-half an inch from the point of the scissors-blades, and the clamp members are then brought together by operating the screw 13. When the members of the clamp approach each other sufficiently, the teeth 12 will engage the outer side of the scissors-blade at a point a short distance above the arms 21, and, owing to the fact that the inner and outer sides of the scissors-blade are angularly arranged with reference to each other, the blade will be forced down firmly upon the arms 21 and held firmly in position by the teeth 12. The spring 10, being in loop form and extending around the blade, permits of such vertical movement of the teeth 12 as may be necessary to adapt them to adjust themselves to scissors of different sizes, so that my improved attachment may be applied without special adjustment to scissors of many different sizes.

In the operation of clamping the cutter upon the scissors-blade the cutting-plate 9 is caused to move over substantially into line with the opposite scissors-blade, and by operating the screw 13 the cutting edge may be properly adjusted with reference to the coacting scissors-blade, even after the cutter has been properly clamped in position, such adjustment

of the cutting edge of the plate 9 being facilitated by the rounded bearing 14 of the screw 13, as illustrated in Fig. 2. The cutting edge of the plate 9 is so adjusted that it will lie slightly across the path of the scissors-blade 8, by which arrangement as the blade 8 is operated in cutting the cutting edge of the plate 9 will always be held in close contact with the cutting edge of the blade 8, the thinning of the outer edge 20 of the plate 9 permitting such yielding of said plate as may be necessary.

It should be noted that, whereas in my former patent hereinbefore referred to the cutter is attached to the upper scissors-blade, my present cutter is designed to be attached to the lower blade, and with this arrangement the weight of the material to be cut assists in the operation of cutting.

While I have described the construction of my improved buttonhole-cutter in detail, I wish it to be understood that my invention is not limited to the specific details described, as many modifications may be made therein without departing from the spirit of my invention.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. A buttonhole attachment for scissors consisting of opposite clamp members, one of said members having fingers adapted to receive the back edge of a scissors-blade, means carried by the other clamp member adapted to clamp the scissors-blade upon said fingers, and a spring connecting said clamp members, substantially as described.

2. A buttonhole attachment for scissors consisting of opposite clamp members, one of said members having a socket adapted to engage the back and side of a scissors-blade, means carried by the other clamp member adapted to clamp the scissors-blade in said socket, and a loop-spring connecting said clamp members and normally holding them apart, substantially as described.

3. A buttonhole attachment for scissors consisting of opposite clamp members, one of said members having a socket adapted to engage the back and side of a scissors-blade, a plurality of teeth carried by the other clamp member and adapted to engage the outer side of the scissors-blade, and a loop-spring connecting said clamp members and normally holding them apart, substantially as described.

4. A buttonhole attachment for scissors consisting of clamp members adapted to engage opposite sides of a scissors-blade, a spring uniting said clamp members, a separate cutting-plate secured to one of said clamp members, and clamp-teeth carried by said plate substantially as described.

5. A buttonhole attachment for scissors, consisting of a spring 10 having at one end a clamp-plate 11 provided with one or more fingers 21, teeth 12 arranged at the other end of the spring and constructed to engage the side of a scissors-blade, a cutting edge, and means

for clamping the scissors-blade between the said teeth and the said clamp-plate, substantially as described.

5 6. A buttonhole attachment for scissors consisting of a clamp-plate 11 having one or more fingers 21, a spring 10, a cutting-plate 9 carried by said spring, said cutting-plate having teeth 12, and a screw connecting the clamp-plate 11 and the cutting-plate 9, substantially
10 as described.

7. The combination with a cutting-blade of a coacting plate having a stop, said stop being arranged to engage the outer part of the cutting-blade adjacent to the cutting edge
15 thereof, substantially as described.

8. In a buttonhole attachment for scissors, the combination with a cutting edge, a spring, and clamp members, of a screw adapted to draw said clamp members together, said screw
20 having a rounded bearing 14, substantially as described.

9. In a buttonhole attachment for scissors, the combination with a cutting-plate having a slot, of a stop-bolt movable in said slot,
25 said bolt being wedge-shaped, and a nut for securing said bolt in position, substantially as described.

10. A buttonhole attachment for scissors having a cutting-plate, said plate having a
30 thinned portion 20, near its outer vertical edge, substantially as and for the purpose specified.

11. A buttonhole attachment for scissors having a cutting-plate, said plate having a point 19 bent outwardly, substantially as and
35 for the purpose specified.

12. A buttonhole attachment for scissors having a cutting-plate, said plate having an outwardly-curved point 19, the inner edge of said plate being cut away below said point,
40 substantially as and for the purpose specified.

13. In a buttonhole attachment for scissors, the combination with a cutting-plate, and means for attaching said plate to a scissors-blade, of a point projecting from one edge of
45 said plate, said point being deflected laterally, the outer edge of said plate being thinned to increase the flexibility of the cutting edge, substantially as described.

14. A buttonhole attachment for scissors
50 consisting of a clamp-plate adapted to fit against the inner side of a scissors-blade, one or more fingers adapted to support said blade, a loop-spring connected to said clamp-plate and extending around the scissors-blade, a
55 cutting edge carried by said spring, and means carried by said spring for clamping said scissors-blade against said clamp-plate, substantially as described.

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Witnesses:

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