

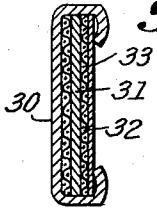
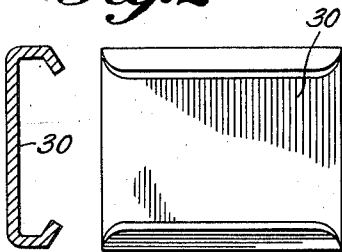
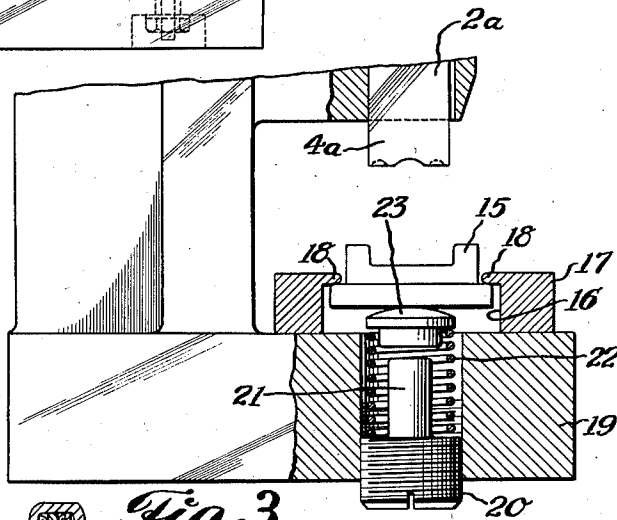
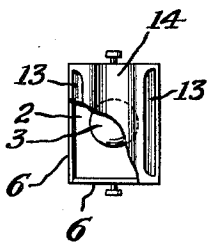
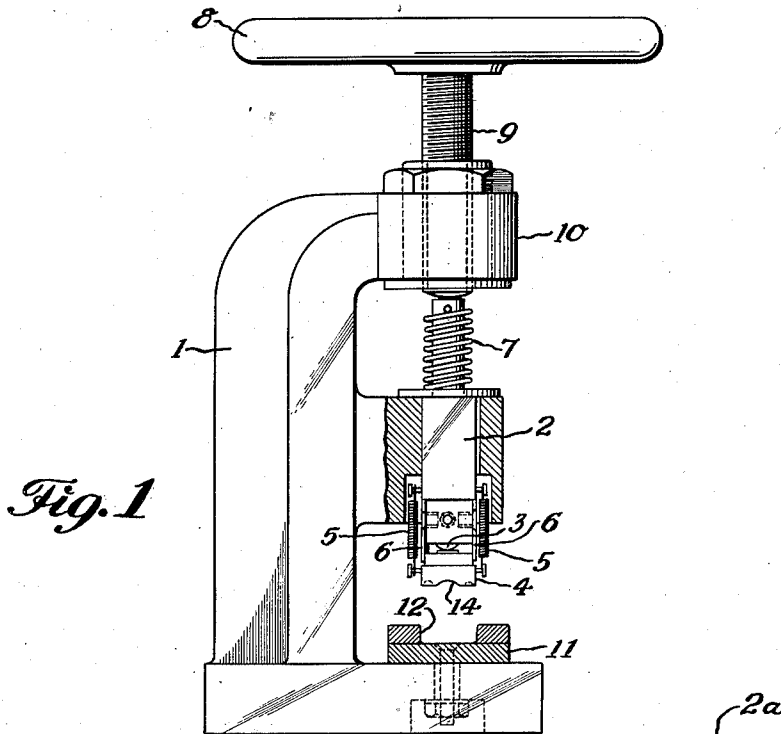
May 10, 1938.

C. W. NYSTRÖM

2,116,952

APPARATUS FOR SECURING A STRIP OF METAL TO A FABRIC PIECE OF A NECKTIE

Filed May 26, 1936



C. W. Nyström
INVENTOR

Fig. 4 *Fig. 5* *Fig. 6* By: *Glascop Downing & Selbold*
Attys.

UNITED STATES PATENT OFFICE

2,116,952

APPARATUS FOR SECURING A STRIP OF METAL TO A FABRIC PIECE OF A NECK-TIE

Carl Wilhelm Nyström, Karlstad, Sweden

Application May 26, 1936, Serial No. 81,940
In Sweden May 27, 1935

2 Claims. (Cl. 153—1)

This invention relates to the manufacture of neckties of the kind wherein a strip of metal, celluloid or other durable material is secured to the neck-portion of a fabric tie, so that the said strip, by diminishing friction, facilitates the sliding of the tie on or through the collar. A method of manufacturing neckties of this kind is described in my copending patent application Serial No. 9,893 filed March 7th 1935, according to which a substantially U-shaped clamping device is fitted outside the fabric and the strip and is bent inwardly to secure the fabric and the strip firmly together.

In the manufacture of neckties of this kind difficulties occur during the stage of the manufacture in which the flanges of the clamping device are bent inwardly on to the strip and the fabric by means of a pressing tool. It has been found, that there are often irregularities in the thickness of the fabric and these irregularities will often cause the thickness of the fabric at one edge of the clamp to be greater than at the other edge. Consequently when the flanges of the clamp are bent inwardly on to the fabric one of the bent flanges, (viz, the flange engaging the thicker portion of the fabric) will produce a slightly higher edge than the other flange. This projecting edge may prevent the pressing tool from being forced down on to the lower edge of the clamp with sufficient power, thus preventing this edge of the clamp from gripping the fabric in a satisfactory manner.

The primary object of the invention is to provide an improved apparatus in which this disadvantage is overcome by arranging the pressing surfaces of the apparatus in a suitable manner to be described hereinafter with reference to the accompanying drawing.

In the drawing

Figure 1 is a side elevation of one embodiment of an apparatus according to the invention, with certain parts in section.

Figure 2 is an inverted plane view of the pressing tool with a part thereof in section.

Figure 3 is a fragmentary elevation, partly in section, of another embodiment.

Figure 4 is an enlarged section of one embodiment of the U-shaped clamping device adapted to secure the strip to the necktie.

Figure 5 is a plan view of the same clamping device, and

Figure 6 is a section of the clamp device in closed condition showing the manner in which the necktie and the strip are held together by means of the clamp.

Referring first to Figure 1 reference 1 indicates a support or bracket in which a vertical spindle 2 is mounted for vertical reciprocating motion. Preferably the spindle has a square section in order to prevent rotation. At the lower end of the spindle is provided with a projection 3 having a semi-spherical or a similar rounded convex form. Engaging this projection is an upper die or pressing tool 4 which is pressed upwardly against the said projection by means of springs 5. The four sides of the tool 4 are clamped between four resilient plates or pieces 6 (see Figure 2) rigidly fixed on the spindle 2. In this manner the tool 4 is free to oscillate on the ball-like projection 3 in different directions in the vertical plane, but it is prevented from rotating in the horizontal plane. The oscillating movement is resiliently limited by the plates 6. The spindle 2 is pressed upwardly by a spring 7. The spindle can be operated by any suitable operating means which in the embodiment illustrated on the drawing comprises a handwheel 8 associated with a screw 9 which is carried in a threaded bushing 10 on the bracket 1 and which, at the lower end, engages the spindle 2.

Vertically below the pressing tool 4 there is a fixed die 11 having a groove 12 adapted to receive the die and the clamp. As shown in Figures 4 and 5 the clamp consists of a plate 30 of U-shaped cross-section the flanges of which are bent slightly inwards. When it is desired to secure the metal strip to the fabric necktie, one end of the fabric is wrapped around one end of the strip and is then inserted between the flanges of the clamp 30, a thin sheet 33 being preferably interposed above the fabric to protect it. The clamp with the necktie and the strip is now placed in the groove 12 of the die 11, and the spindle 2 carrying the upper die or pressure tool 4 is forced downwardly by means of the handwheel 8 so that the said tool will engage the flanges of the clamp 30 fitted in the groove and bend said flanges inwardly and downwardly to thereby fix the necktie 32 and the strip 31 firmly together (Figure 6).

Due to the fact that the tool is permitted to oscillate in a plane substantially perpendicular to the direction of movement of the spindle 2 the tool will automatically adjust itself to compensate for small irregularities in the height of the edges of the clamps caused by irregularities in the thickness of the fabric so that both flanges of the latter will be positively pressed down on to the fabric with an even pressure.

As shown in Figure 2 the bottom surface of the

tool may have two longitudinal recesses 13 which are rounded at the end and which do not extend to the outer edges of the tool. The said recesses are adapted to bend the flanges of the clamps.

- 5 The central portion 14 of the tool may also be recessed if desired.

Instead of, or in addition to mounting the tool 4 in an oscillatory manner as described, it is also possible to arrange the die in a similar way. Figure 3 illustrates an embodiment in which the spindle 2a is provided with a fixed tool or pressing surface 4a at its lower end whilst the die 15 is free to oscillate in the vertical plane. To this end the die is fitted in a recess 16 in the fixed housing 17 and is retained therein by the inwardly projecting edges 18. Preferably these edges are rounded in order to permit the said movement of the die 15 in a vertical plane, the said edges, on the other hand, preventing rotation of the die in the horizontal plane.

- 20 The base plate 19 of the support is provided with a hole containing a screw 20 threaded therein and having an extension 21 surrounded by a spring 22. At the upper end the spring carries a bearing body 23 with convex surface (spherical or like shape). Normally this convex surface engages the lower surface of the die 15 so that the die is maintained in a raised position as shown in the drawing.

- 30 The pressure of the bearing body 23 against the die can be controlled by adjustment of the screw 20. In the operation of the apparatus, when the tool 4a is pressed downwardly in the die, the die is permitted to carry out a limited oscillatory movement in the vertical plane on the bearing body 23, the purpose being to achieve the same result as that attained in the embodiment illustrated in Figure 1.

The extension 21 serves to form a stop against

the downward movement of the die during the pressing operation.

It should be noted that the illustrated embodiments are only described as examples of the invention, and I do not wish to restrict the scope of the invention to these embodiments. It is, for instance possible to replace the spherical bearing surfaces by pivots or the like extending in a plane perpendicular to the direction of movement of the spindle 2 or 2a. Moreover it should be noted that both the tool and the die can be arranged to oscillate in the described manner.

What I claim is:

1. In an apparatus for securing a strip of durable material, such as metal, to a fabric piece of a necktie, comprising the combination of a lower die having a recess in its upper surface adapted to receive the necktie and the strip of material, an upper die constituting a pressing tool adapted to enter the said recess, and means for reciprocating the pressing tool substantially perpendicular to the die, a spherical bearing surface for at least one of the said dies to permit the die to carry out a limited oscillatory movement and spring means acting to maintain the said die in engagement with said spherical bearing surface.

2. In an apparatus for securing a strip of durable material, such as metal, to a fabric piece of a necktie, comprising the combination of an upper die constituting a pressing tool, a fixed lower die adapted to receive the necktie and the strip of material, and means for reciprocating the pressing tool substantially perpendicular to the die, a spherical bearing surface for the pressing tool to permit the said tool to carry out a limited oscillatory movement, and spring means acting to maintain the said tool in engagement with said spherical bearing surface.

CARL WILHELM NYSTRÖM.