April 1, 1941. L. E. McDONOUGH 2,237,158

BUCKLE MAKING KIT AND PROCESS

Filed Aug. 5, 1938 2 Sheets-Sheet 1

Fig. 1.

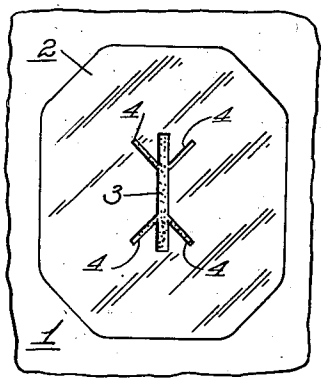


Fig. 2.

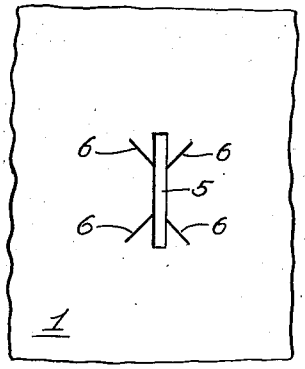


Fig. 3.

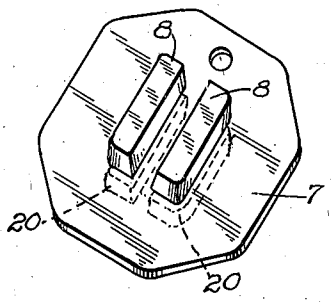


Fig. 4.

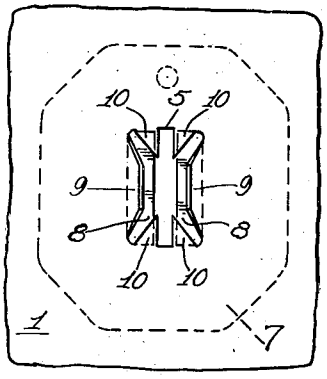


Fig. 5.

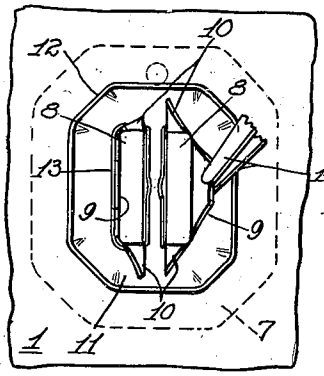


Fig. 6.

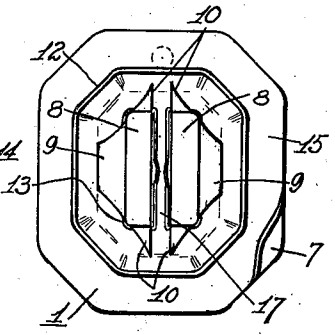


Fig. 7.

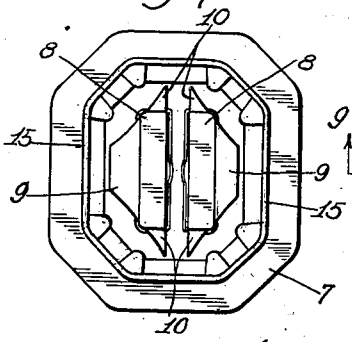


Fig. 8.

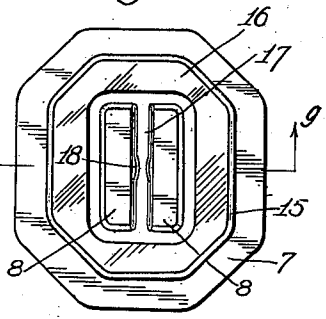


Fig. 10.

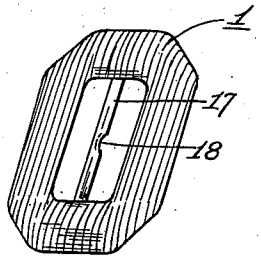
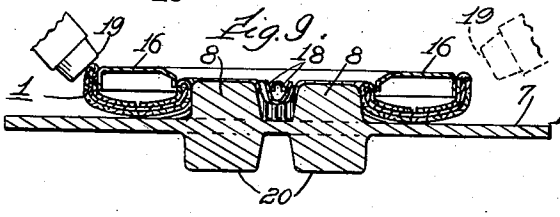


Fig. 9.



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Fig. 11.

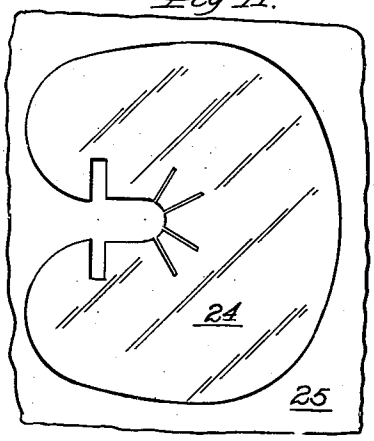


Fig. 12.

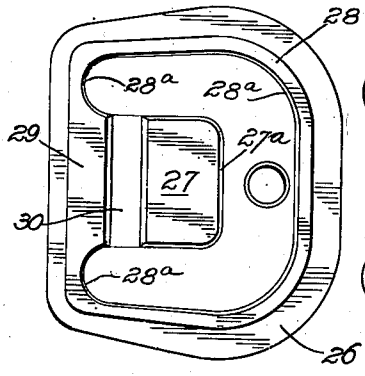


Fig. 13.

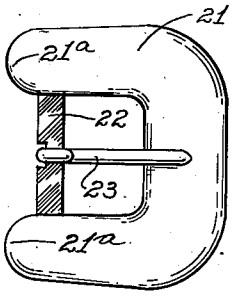


Fig. 14

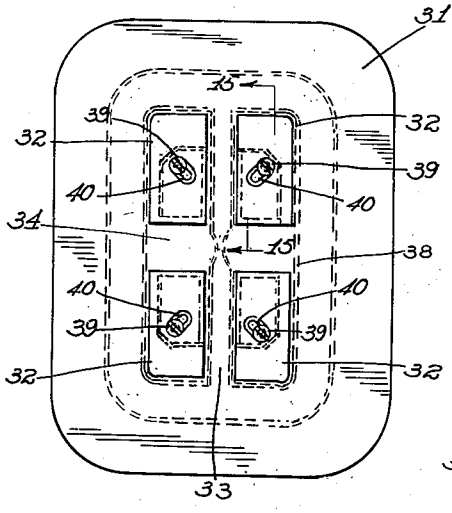


Fig. 15.

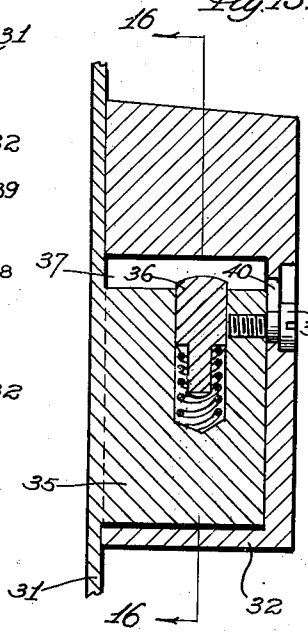
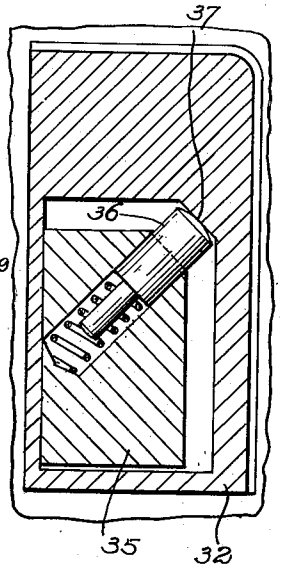


Fig. 16.



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2,237,158

UNITED STATES PATENT OFFICE

2,237,158

BUCKLE MAKING KIT AND PROCESS

Lawrence E. McDonough, Park Ridge, Ill., assignor to Maxant Button and Supply Company, Chicago, Ill., a corporation of Illinois

Application August 5, 1938, Serial No. 223,254

6 Claims. (Cl. 29—3)

This invention relates to the art of making fabric-covered buckles and like articles, and its object is to provide a method and a set of relatively simple implements for assembling the body or shell of the article and its covering material inexpensively and without any high degree of skill. The invention consists in the tools or implements comprising a kit for this purpose, and in the process of assembly in which they are utilized, as herein shown and described, and as indicated by the claims.

In the drawings:

Figure 1 is a plan view showing a template or marking device applied to a piece of fabric.

Figure 2 shows the fabric with cuts made therein along the stencil markings of the template.

Figure 3 is a perspective view of an assembling die or jig.

Figure 4 shows the cut piece of cloth mounted on the assembling jig.

Figure 5 shows one-half of the buckle shell positioned on the assembling jig with the cloth interposed with the cut portions projecting past the shell.

Figure 6 shows the cloth on the jig after the outline has been trimmed and the cut tabs have been drawn into position overlapping the shell.

Figure 7 shows the tabs and marginal portion of the covering cemented into the shell and with the parts still on the jig.

Figure 8 shows the parts on the jig with the other half of the buckle shell added thereto.

Figure 9 is a transverse section on a larger scale taken as indicated at line 9—9 on Figure 8.

Figure 10 is a perspective view of the finished buckle.

Figure 11 is a plan view of a modified form of template.

Figure 12 is a plan view of a modified form of assembly jig.

Figure 13 is a plan view of a buckle of the type designed to be made in the jig of Figure 12.

Figure 14 is a plan view of another modified form of assembly jig having yieldable portions.

Figure 15 is a detail section taken at line 15—15 on Figure 14.

Figure 16 is a detail section taken at line 16—16 on Figure 15.

The assembly kit and the method of using it, which constitute this invention, are intended for use primarily by the small tailor or dressmaker who requires only a single buckle of a given type or finish for completing any one order, which would not justify the investment in an expensive press or elaborate assembly dies. It may be understood that buckles of this character are composed of rigid body portions usually made in the form of sheet metal shells, the two parts being made with telescoping marginal flanges, and the flanges being dimensioned with sufficient clearance so that cloth or leather may be applied to the shells and gripped between the telescoping flanges when they are assembled. By carrying in stock a few shells of different shapes and designs and a few assembly jigs or dies made in accordance with the present invention, the dressmaker is equipped to produce a large variety of ornamental buckles, each covered with a different material, if desired, for matching or harmonizing with any given garment.

Figure 1 shows a small piece of material, 1, such as cloth or leather, upon which has been laid a template, 2, preferably constructed of Celluloid or some similarly thin, stiff material. The outline of the template may be substantially that of the required piece of goods for covering a given style of buckle, and the central area of the template is formed with a longitudinal slot, 3, and diagonal slots, 4, which constitute a stencil for marking the goods. A piece of chalk may be rubbed over these openings, or powdered chalk may be sprinkled thereon to produce the marking on the material, 1. If desired, the marking may be extended to the marginal outline also, or the piece of material may be trimmed to this outline with a pair of shears while the template, 2, is held in contact with the material, 1. However, this marginal trimming is not necessary at this stage.

The stencil openings, 3 and 4, having been utilized for marking, a pair of scissors is employed to cut out a slot, 5, corresponding to the opening, 3, and diagonal slits, 6, corresponding to the slots, 4, of the template. It may be explained that the material cut away at the slot, 5, represents clearance for positioning the crossbar of the buckle while the diagonal slits at 6 form the adjacent material into tabs which may be folded back over portions of the buckle shell, as will presently appear.

Corresponding to each shell design there is provided an assembly jig or die such as that shown in Figure 3, comprising a base plate, 7, with upstanding bosses, 8, positioned to protrude through openings in the shell outline when the parts are assembled on the jig. When the cut material, 1, is placed upon the plate, 7, of the jig, the tab portions, 9 and 10, at both sides of the opening, 5, are bent upwardly to allow the

bosses, 8, to protrude through the material, as seen in Figure 4. A metallic shell, 11, is then applied, as shown in Figure 5, with its marginal flange, 12, and its inner marginal flanges, 13, upstanding so that the shell presents an upwardly open recess surrounding the bosses, 8, of the jig, and with the tabs, 9 and 10, extending through the clearance space between the bosses, 8, and the inner flange portions, 13. If the tabs do not project to their full extent, or should be slightly wrinkled when the shell, 11, is applied, they can be pulled up into position by means of tweezers, as indicated at 14 in Figure 5. When the shell, 11, has thus been placed on the jig, it fits closely enough around the bosses, 8, to exert a frictional grip upon the tabs, 9 and 10, thus holding the material, 1, firmly in position. The outline of the plate portion, 7, of the jig, is preferably such as to provide a pattern for trimming the material, 11, so as to leave just enough for lapping over the outer flange, 12, of the shell, 11, and into the recess of the shell, without any excess of material which would be awkward to dispose of in the assembly. Therefore, at this stage, the material is trimmed to the pattern of the plate, 7, as seen in Figure 6.

The next step is to fold in the marginal portion, 15, of the material and secure it in the recess of the shell which is outlined by the flange, 12. Preferably, the securement is accomplished by applying a suitable cement to the inner surface of the shell, 11, and pressing the cloth tabs and margins, 15, against it. This insures that these parts will be held in place while the backing member, 16, of the shell is inserted into telescopic relation with the flange, 12, which has now been covered with the marginal portion, 15, of the covering material. Figure 8 shows the other shell section, 16, thus positioned, and it may be understood that the parts are normally made to fit so that friction alone will usually serve to hold them in this assembled relation. However, if desired, the marginal flange, 12, of the shell member, 11, may be slightly clinched around the second shell member, 16, by means of a rubber-headed hammer or similar tool, indicated at 19—the hammer blows being applied while the buckle parts are still positioned on the assembly jig, as indicated in section in Figure 9.

In the style of buckle shown in Figure 8 each half of the shell includes a cross-bar portion, 17, with a necked portion, 18, which will serve to position a metallic tang or prong formed with an eye to be bent to encircle the necked portion, 18.

It may be understood that the back shell, 16, instead of being made in hollow form, with marginal flanges, as shown in the drawings, may be a solid flat member of metal or other material, so long as its outline is such that it will serve as a suitable filler and backing for the shell member, 11. As shown in the sectional view, Figure 9, the shell, 16, is uncovered and is merely inserted into the covered shell, 11; but it should be understood that, if desired, the shell, 16, may also be covered with fabric, such as the material ordinarily used for suit linings, which will be applied in the same manner as the outer covering material, 1, is applied to the shell, 11. Accordingly, the jig is preferably made with additional projections, 20, on the reverse side of the supporting plate, 7, as seen in Figure 9. For the particular style of buckle which is shown in Figures 1 to 10, it will be evident that the central opening in the backing shell, 16, will be slightly larger than the central opening in the front shell, 11, into which the backing shell telescopes. Therefore, to fit the backing shell properly, the projections, 20, 20, are made slightly larger than the projections, 8, 8, at the opposite side of the plate, 7.

In some types of buckle the cross-bar is disposed at one side of the outline instead of in the middle, as in the style illustrated in Figure 10. Figure 13 shows such a buckle in which the body portion, 21, is approximately C-shaped, with an applied bar, 22, and a metallic prong, 23, pivotally engaged with the bar. Figure 11 shows a template, 24, for marking a piece of goods, 25, to be used in covering such a buckle, and Figure 12 shows a jig designed to facilitate the covering operation. The jig includes a supporting plate portion, 26, with a projection, 27, upstanding from its central area, and also has an outline flange, 28. As indicated at 27^a, the marginal walls of the projection, 27, are slightly tapered, and the inner wall of the flange, 28, is also made with a slight slope indicated at 28^a so as to facilitate withdrawing the finished buckle from the jig when the shell and the covering have been assembled therein. In this particular jig the flange, 28, includes a connecting portion, 29, which forms one wall of a channel, 30, into which the cross-bar, 22, is placed when the buckle parts are assembled. But it should be understood that the use of the outline flange of the jig is entirely optional for any type of buckle. This flange merely facilitates the folding over of the marginal portion of the covering material, particularly at such rounded terminals as shown at 21^a of Figure 13.

Figures 14 to 16 illustrate a further modification which is applicable to an assembly jig for buckles of the type shown in Figure 10. The jig includes the flat supporting portion, 31, from the surface of which there extend four projecting elements, 32, spaced apart to provide a longitudinal channel, 33, and a transverse channel, 34. The longitudinal channel will accommodate such a cross-bar as that shown at 17 in Figure 10, and if a buckle of this same contour is arranged with a cross-bar extending transversely, the channel, 34, will serve to accommodate such a bar.

The projecting elements, 32, are not rigidly fixed in position on the support, 31, but are each provided with a limited range of adjustment in diagonal direction so that they may be accommodated to various thicknesses of covering material. Each of the elements, 32, is hollow and is carried on a fixed projection, 35, secured to the plate, 31. In each of the fixed projections, 35, there is lodged a spring pressed plunger, 36, acting against an oblique wall, 37, formed in the cavity of the element, 32. The plunger tends to move the part, 32, diagonally toward its outer corner, thus pressing one end face and one side face simultaneously outward, but permitting both said faces to yield for admitting the thickness of the covering material between them and the inner flange of the buckle indicated at 38 in Figure 14. And each of the elements, 32, is retained on the jig by means of a screw, 39, threaded into the fixed projection, 35, and engaging in a slot, 40, in the top surface of the part, 32. It may be understood that for most purposes the fixed projections, such as those shown in Figures 3 and 9, are practical and satisfactory, but that movable or yielding projections, as just described, may be furnished when the jig is intended to handle a wide variety of materials; and the range of yield-

ing adjustment may be made sufficient to accommodate more than one size of buckle, if desired.

I claim:

1. An assembly jig for the purpose indicated comprising a flat supporting portion with a projecting portion upstanding from the central area of said flat portion, the flat portion having a peripheral outline adapted to serve as a pattern for trimming the outline of a piece of material secured on the jig in operative relation to its said projecting portion for assembly with another part also secured in such relation whereby the marginal portion of said material is correctly dimensioned for overlapping the marginal portion of said other part.

2. An assembly jig for the purpose indicated comprising a flat supporting portion with a plurality of projecting portions upstanding from the central area of said flat portion and each individually adjustable thereon in directions parallel to the plane of the supporting portion.

3. An assembly jig for the purpose indicated comprising a flat supporting portion with a plurality of projecting portions upstanding from the central area thereof and adapted to yield individually in different directions parallel to the plane of said supporting portion for varying the dimensions of their enclosing outline.

4. An assembly jig for a buckle shell and its covering comprising a flat supporting portion with a plurality of projections upstanding from the central area thereof and each adapted to yield toward the center of said central area to fit within a central opening in the buckle shell and provide clearance for the thickness of covering material to be assembled on the shell.

5. A fixture for supporting a marginally flanged buckle shell and its covering during assembly, said fixture comprising a supporting platform with an upwardly extending rigid, integral guide portion dimensioned to fit within the internal outline of the shell with clearance for marginal portions of the covering material so as to flex said material into upstanding position between the marginal flange of the shell and said guide portion when the covering is disposed on the platform with the shell super-imposed thereon.

6. A fixture for supporting a buckle shell and its covering during assembly, said shell being marginally flanged and having a central opening with a bar extending across the opening, said fixture comprising a supporting platform with a pair of upwardly extending, rigid, integral guide portions spaced apart to accommodate the said bar of the buckle and dimensioned to fit within the central opening of the buckle with clearance for marginal portions of the covering material in upstanding position between the marginal flange of the buckle shell around its central opening and said guide portions when the covering is disposed on the platform with the shell super-imposed thereon.

LAWRENCE E. McDONOUGH.