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FLY SWATTER

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1 Claim. (Cl. 43—137)

This invention relates to improvements in fly swatters. In my Patent 1,939,838, dated December 19, 1933, I have shown a fly swatter blade comprising a reticulated body and a rubber frame. The purpose of the present invention is to provide a more durable frame and one that is more resilient than the frame composed entirely of rubber, and this, in the preferred form of the invention, is accomplished by making the frame of textile fabric, said fabric being frictionized and having a thin film of rubber on both sides whereby the various parts of the fabric are adhesively secured together and to the body of the blade. The details of the construction and the advantages of the improved swatter blade will be clear from the following specification taken in connection with the drawing.

In the accompanying drawing,

Fig. 1 is a plan view of the body of a swatter blade with a strip of rubberized textile fabric folded around the forward end and the lateral edges of the body, forming part of the frame;

Fig. 2 shows in plan view one of the strips for forming the handle end of the frame with a strip attached for application to the handle shank;

Fig. 3 is a plan view of one half of a mold part with the parts shown in Figs. 1 and 2 and the end of the handles assembled therein;

Fig. 4 is a similar view with additional parts like those in Fig. 2 added to complete the assemblage;

Fig. 5 is a section on the line 5—5 of Fig. 4;

Fig. 6 is a section on the line 6—6 of Fig. 2;

Fig. 7 is a plan view of the finished blade;

Fig. 8 is a section on the line 8—8 of Fig. 7;

Fig. 9 is a section on the line 9—9 of Fig. 7, and,

Fig. 10 is an enlarged sectional view through a portion of the rubberized fabric.

Referring first to Fig. 7 of the drawing, which represents the complete swatter blade and a portion of the wire handle, *a* represents the reticulated body of the swatter, preferably wire mesh, and *b* indicates the frame of rubberized textile fabric. The blade may be of any suitable form, but in the drawing has substantially the form of the blade shown in my Patent 1,939,838, dated December 19, 1933, and such form is preferred. In this form, the frame is curved and thickened at the handle end, as indicated at 1, and has a thin part 2 within the boundary of the thickened portion.

In forming the frame, a narrow strip *b'* of the rubberized fabric is creased along its longitudinal center and folded around the forward end and lateral edges of the body *a*, as shown in Fig. 1,

and it is also extended partly around the rear or handle end of the body, as indicated at 3. As the film of raw rubber on the strip is tacky, it readily adheres to the wire. A relatively wide arcuate strip *b²* of the fabric is laid in a correspondingly curved recess 4 in a part *d* of a mold, as shown in Fig. 3, and a short straight strip *b³*, having one end 5 folded upon itself, as shown in Fig. 6, is laid in a recess 6 in the mold with the opposite end of the strip lying against and adhering to the central part of the strip *b²*. The body *a* with the strip *b'*, shown in Fig. 1, is then placed in the mold and the handle *c* which has the divergent ends *c'*, is arranged with its divergent ends resting upon the curved end of the wire body, the shank of the handle extending along the central part of the strip *b³*. As shown in Fig. 4, another straight strip *b³* is then placed over the handle shank and another arcuate strip *b²* is placed over the end of the body and the divergent ends of the handle. These last-mentioned parts *b²* and *b³*, will, in practice, be placed in a separate mold part and when the two parts of the mold are brought together these fabric parts will over-lie the corresponding fabric parts which are beneath the handle and body, but for the sake of illustration, the parts in Fig. 4 are shown as they would appear if the upper mold part were removed. When the parts of the blade are arranged in the mold, the mold parts are fastened tightly together, and the mold is placed in a vulcanizing oven, where, under the influence of heat and pressure, the film of rubber is vulcanized and the swatter blade, as shown in Fig. 7, is produced, having the appearance of a one-piece frame.

The sectional view, Fig. 5, shows the four plies of fabric in the curved portion of the blade before compression and vulcanization, and in Fig. 8, taken through the finished blade, these parts are united in practically one piece, having the thickened portion 1 and the single layers 2 within the area of the thickened portion of the frame. As shown in Fig. 9, the strip *b'*, which extends around the lateral edges and forward end of the body, comprises only two layers of fabric, leaving this portion of the blade very resilient.

It will be noted that the ends of the wire body and of the wire handle are all enclosed by the textile fabric and this makes the swatter very durable since the wires cannot break through, as they do in a swatter frame made entirely of rubber. Also the frame is more durable and resilient than a frame made entirely of rubber. In a fly swatter having a wire mesh body, the wires tend to

break first at the juncture of the thin part of the blade with the thicker handle portion, but if the wires do break within the zone covered by the part 2 of the blade of the present invention, the swatter will not immediately be rendered useless but may be used for a considerable period of time thereafter as the fabric will hold the broken strands and the latter will not break through the fabric except after a considerable period of use of the swatter.

As the fabric is rubberized on both sides, as shown in Fig. 10, the parts forming the frame will stick to one another or to the body or the handle as they may be placed in assembling the parts, regardless of which side of the fabric is presented to an adjacent part, and when the rubber is vulcanized the various parts are joined firmly together by the rubber and the outward appearance of the frame is that of a one-piece rubber frame. One difficulty in the manufacture of the frames from solid rubber arises from the tendency of the rubber to flow outward on the reticulated body when the rubber is subjected to heat and pressure in the vulcanizing process. This difficulty is largely overcome by the use of the rubberized fabric as the rubber, in thin films, is largely absorbed in the fabric when the heat

and pressure are applied and the quantity of rubber is so small that if any escapes from the mold it is negligible.

I have described one method of forming a frame from various preformed strips of textile fabric, but the invention is not limited to the method described. The rubberized fabric may be applied in various pieces vulcanized together.

What I claim is:

In a fly swatter, a blade comprising a reticulated body and a frame enclosing the margins of the body, said frame composed of various pieces of textile fabric thinly rubberized on both sides and comprising a binding strip extending along the forward end and lateral edges of the body, constituting a layer on each side of the body adhesively secured to the body by the rubber on the fabric, and a thickened portion at the handle end of the blade composed of a plurality of layers of said fabric adhesively secured to one another and to the body by the rubber on the fabric, and a handle having one end embedded in said thickened portion, the said parts of the frame being permanently united by pressure and vulcanization into a one-piece frame having a rubber coated exterior.

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