

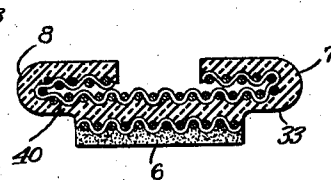
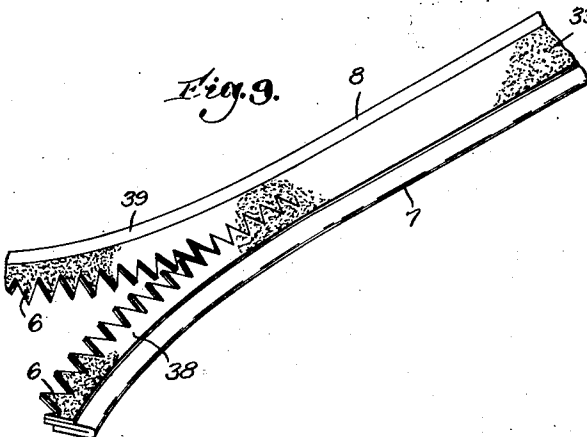
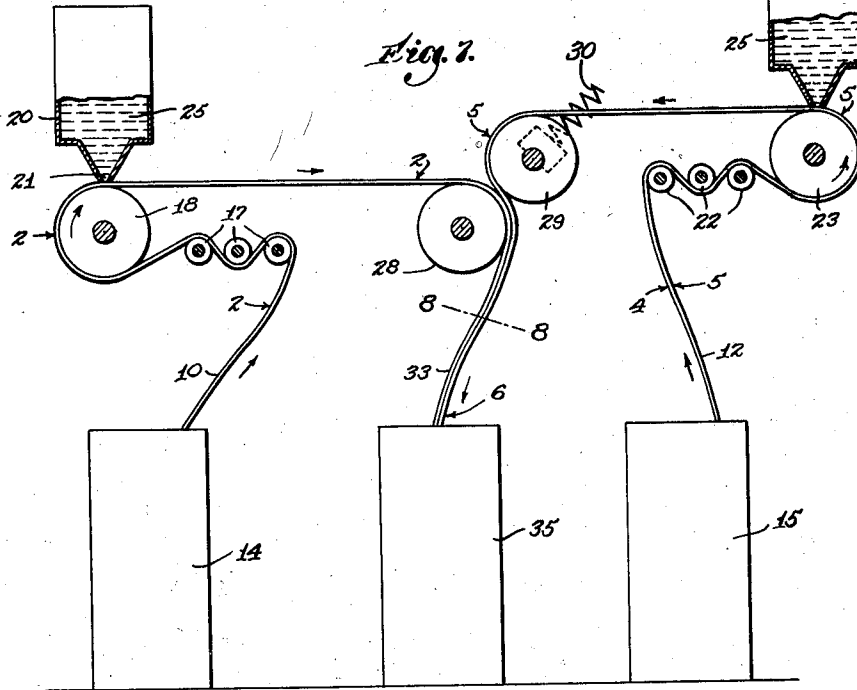
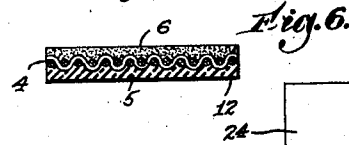
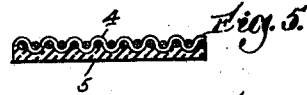
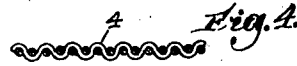
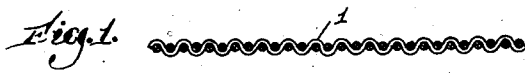
May 14, 1935.

A. W. ROCKWOOD

2,001,693

PROCESS OF MANUFACTURING PIPING, WELTING, OR THE LIKE

Original Filed Dec. 17, 1932



Inventor
Aaron W. Rockwood
by James F. Hodder
Attorney

UNITED STATES PATENT OFFICE

2,001,693

PROCESS OF MANUFACTURING PIPING,
WELTING OR THE LIKE

Aaron W. Rockwood, Winchester, Mass., assignor
to Haley, Cate, Rockwood Company, Everett,
Mass., a corporation of Massachusetts

Original application December 17, 1932, Serial
No. 647,774. Divided and this application
December 15, 1933, Serial No. 702,494

2 Claims. (Cl. 154—2)

My present invention is a novel and improved method or process of manufacturing piping, welting, finishing strips, or the like, and the present application is a divisional of my prior and co-
5 pending application Ser. No. 647,774, filed December 17, 1932, in which prior application I have elected to claim the improved piping, welting, finishing strip, or the like as an article of manu-
10 facture when made by my improved process as herein claimed.

Heretofore, in the manufacture of piping, welting, and the like it has been customary in making such finishing strips to sew or stitch several layers together, or to unite them by adhesive,
15 and utilize one of the layers as a means for carrying adhesive to attach the finishing strip to the resultant article, such as a shoe, upholstery, automobile, garment, or the like.

Much difficulty has been experienced with such prior methods as being complex, difficult to make and handle, requiring interposed strips to protect the adhesive when the finished piping is supplied in rolls for use, and the same deteriorates quickly, viz., where adhesive is employed,
25 the finishing strip must be used promptly before the cement used loses its efficacy.

It is an object of my present invention to eliminate the difficulties heretofore found with prior methods of manufacture, and the article produced thereby, to simplify the process and to provide a new and improved piping article which will be capable of use long after it has been manufactured and supplied in rolls—six months or one or two years. This enables these piping
35 strips to be kept in stock and supplied promptly when called for instead of requiring same to be manufactured for use on special orders.

A further novel and improved object of the present invention is to construct a piping strip which will eliminate all danger of the layers becoming separated through deterioration of the cement used. This is a most important feature, and in prior articles of this type a relatively short lapse of time or exposure to the air would
40 so disintegrate or dry up the adhesive employed as to render the same useless, and where a plurality of layers, strips, folds, or the like constitute the piping, they would break apart—rendering the entire roll of piping useless.

My present invention obviates such a difficulty, and while two layers are employed, I have unified the same into one homogeneous mass by a novel method of coating, treating, and fusing the
50 same.

In carrying out my invention according to the

preferred method, I first apply to a cloth or fabric base a pyroxylin coating, or any of the well-known leather imitation coatings, treating one surface of the cloth or textile material therewith. This may be, and preferably is, done in large
5 sheets. Thereafter I cut strips of appropriate width from such sheets and fold over the edges, keeping the treated surface on the outer side of the fold. With the folded strip thus formed, I then apply a second similarly treated strip, preferably narrower than the combined folded edge
10 strip as above. This second strip will have on one side the leather imitation, or pyroxylin treated surface, and, on the opposite side a gum coated surface applied preferably by way of the usual
15 cold process gum treated methods, which will insure long life and lasting qualities to the gum side.

I then unite the folded strip with the narrow strip, and in this process I effect a fusion of the pyroxylin treated surface. I find that by drawing
20 each strip with the pyroxylin treated surface in contact with the application of suitable solution that these surfaces will be softened and, thereafter, can be pressed together in intimate association, fusing the surfaces into a homogeneous
25 mass and preventing any separation of the layers thus united in any use to which the piping is normally subjected.

With the construction as above briefly outlined, I then cut the folded edges apart, preferably by a usual zig-zag line, thus leaving a small amount of the narrow strip on each piping edge and with the extreme folded edge free of the gum.

The piping thus made can be rolled on itself on spools or the like without the necessity of interposing a separate layer of non-adhesive material, to keep the same from adhering to itself, between the successive windings of the piping. The cold process side will not dry up and is ready
35 for instant use at any time immediately after manufacture or at the end of long periods, such as many months, or even years.

My present method also eliminates the prior necessity of buffing or skiving, and provides a
40 method of manufacture free from numerous separate handling and treating operations.

Other objects of the invention, novel combinations of parts, and advantages will be hereinafter more fully pointed out and claimed.

Referring to the drawing illustrating a preferred method of manufacture, and the novel article of my present invention,

Fig. 1 is a view showing the cloth or textile base of the layer which is afterward to be folded; 55

Fig. 2 illustrates the same with the imitation leather supplied on one surface;

Fig. 3 shows the same in strip formation with the edge portions folded, these figures being on a greatly enlarged scale;

Figs. 4, 5, and 6 are corresponding views of the cloth base, pyroxylin treated surface, and gum treated opposite surface of the narrow strip, also on an enlarged scale;

Fig. 7 is a diagrammatic view illustrating the method of uniting the folded strip of Fig. 3, and the narrow backing of Fig. 6;

Fig. 8 shows the strips united after the process of Fig. 7 also on an enlarged scale, and

Fig. 9 shows the completed piping separated from the combined strip of Fig. 8 by cutting the same on a zig-zag line through the simple portion.

Referring to the drawing, 1 indicates the cloth base, which, as above noted, may be in large strips or sheets, 2 indicating the pyroxylin treated surface of "imitation leather" finish applied. If applied in large sheets the same are then cut into strips of appropriate width, or the strips may be cut and treated, if desired.

Similarly, Fig. 4 is a corresponding cloth or textile base for the narrower strip, and same is indicated at 4, 5 being the pyroxylin or imitation treated surface of this strip. The broadest strip for the piping is then put through a folding operation so that the edge portions of the finished cloth will each be folded outwardly, as indicated in Fig. 3, these folded edges being designated at 7 and 8.

The narrower strip intended to carry the adhesive has a suitable coating 6 applied to the backing 1 on the opposite surface to that to which the finish 5 is applied, this coating 6 being preferably any gum of any lasting quality, and which can be applied to the base 1 preferably by a cold process. The two strips thus formed are then united, the completed folded strip being designated as 10, and the narrow strip as 12.

Referring to Fig. 7, a quantity of the folded strip 10 may be supplied in a container 14 and a corresponding quantity of the narrow strip 12 in a similar container 15. The folded strip 10 is then laid around a series of friction rolls 17 and an idler 18, with the top portion in contact with a tank 20 containing any suitable solution which will soften the imitation leather or pyroxylin treated surface 2 of the strip 10. This may be fed through a nozzle 21 onto the surface 2 of the folded strip 10 or through a sponge or in any other suitable manner. Similarly, the narrow strip 12 is led from its container 15 around a series of friction rolls 22 and an idler 23 with its surface 5 on the uppermost side to receive a similar application of solution from the tank 24. The respective surfaces 2 and 5 of these strips being of the same, or substantially the same, substances, so that the solution 25 contained in the tanks 20 and 24 will soften or "cut" the same as the strips are drawn by the tanks, will render their contacting surfaces 2 and 5 thus softened and ready for contact with each other into a fused or homogeneous mass by conducting the two strips through pressure rolls 28 and 29.

One of these rolls is preferably actuated by a spring 30, and thus the two strips are rolled into one, as shown in cross-section on the line 8-8 of Fig. 7, and as shown in Fig. 8 on an enlarged view.

The completed strip designated as 33 may be

collected in a container 35. From the container 35 the now combined strip 33 is preferably run through a suitable cutting process, preferably on a zig-zag line as is customary, and as clearly shown in Fig. 9, thus separating the combined strip 33 into the two piping strips 38 and 39, each with a folded edge 7 or 8 for the finishing piping portion, and with the cold adhesive 6 for the subsequent application of the piping strip to any article desired. The completed piping strips 38 and 39 thus formed are then rolled on reels for storage, transportation, and subsequent unwinding for use. During the unwinding, the gumcoated surface 6 is moistened as above explained and the piping strip is ready for instant application and use.

While I have explained the uniting or fusing of the two strips 10 and 12 of similar material, such as any of the imitation leathers used, or pyroxylin treatments, it will be appreciated that other coatings may be employed which will fuse together by the softening or coating of each surface with a suitable solution as above noted, the important feature being that these surfaces when thus treated and brought in contact under pressure will present a solidified or fused condition as indicated at 40, Fig. 8. This is one of the important novelties of my present invention, and I wish to claim the same herein broadly.

Furthermore, the use of the folded strip with a gum, such as 6, which will maintain its qualities during long periods of time and storage, and which can be used without treating, moistening, or heating, or by similar agencies to render same tacky and adhesive, and always ready for instant use, is, I believe, a distinct novelty in this art, and I wish to claim same herein broadly.

Furthermore, the method of manufacturing, and the completed article, wherein the two surfaces of a pair of strips are fused together is, I am advised, a distinct novelty and is claimed broadly herein.

I claim:

1. The improved process of making finishing strips, welting, or the like, which consists in coating a base with a finishing material, such as pyroxylin or the like, capable of subsequent softening, folding the edges thereof, preparing a second strip for adhesion thereto with a similar coating capable of softening on one side, and an adhesive on the opposite side, softening said similar coated sides by the application of a softening agent, bringing said softened surfaces into contact, applying pressure thereto, and thereafter dividing the completed strip into two separate pipings, each with a folded edge and an adhesive portion.

2. The novel process of making finishing strips, which consists in applying to a textile base a pyroxylin coating, forming the same into a strip of suitable width to make two piping strips, folding the edge portions with the treated surfaces outermost, applying a narrow strip of textile material having one surface similarly coated with pyroxylin and the opposite surface with an adhesive, softening the pyroxylin treated surface of each strip, applying the softened surfaces in contact with sufficient pressure to unite and fuse the same together, and thereafter cutting the combined strip thus formed into two separate piping strips.

AARON W. ROCKWOOD.