July 24, 1934. H. J. LOWE 1,967,444

SPACE PACKING FELT

Filed July 8, 1931

Fig. 1.

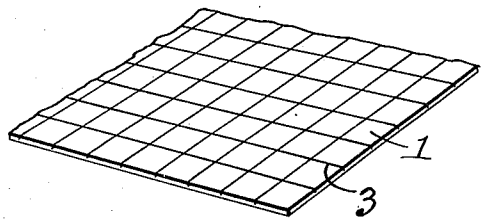


Fig. 2.

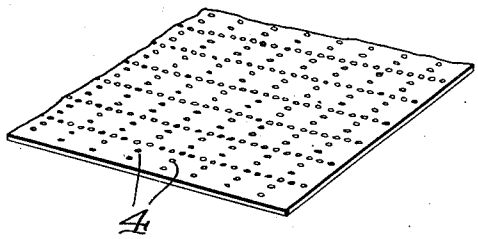


Fig. 3.

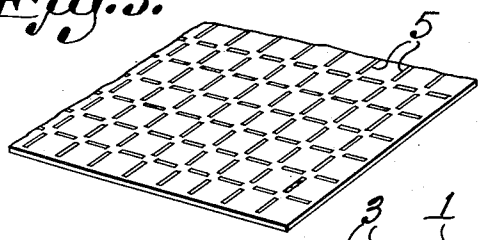


Fig. 4.

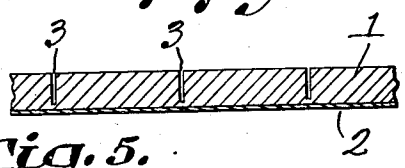


Fig. 5.

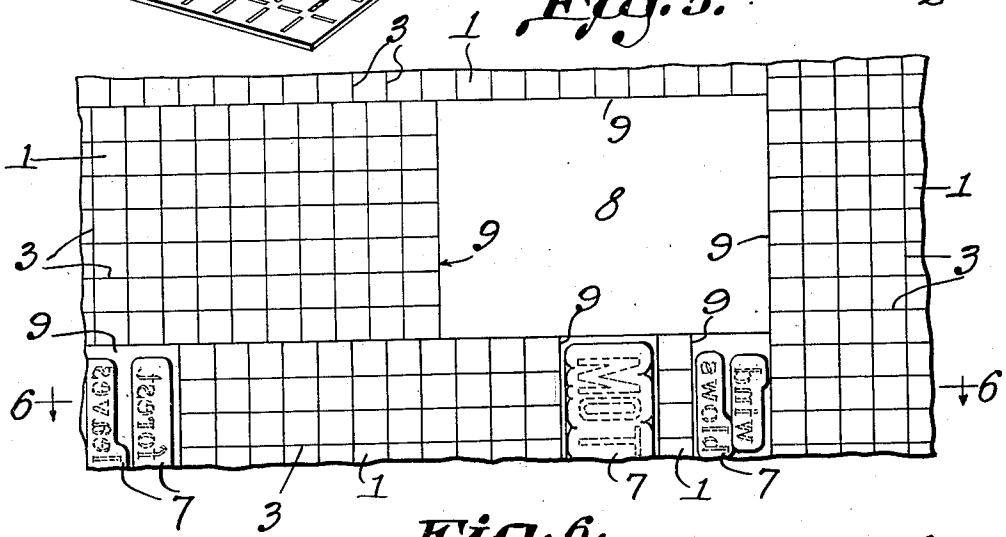
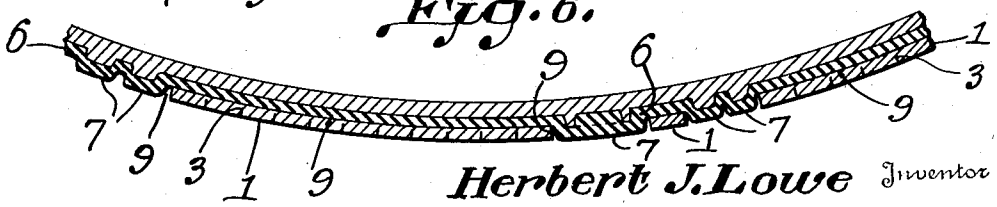
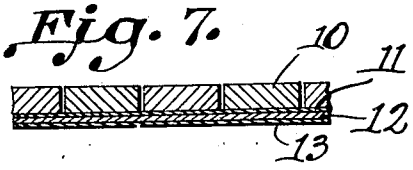


Fig. 6.



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Fig. 7.



By Cachow & Co.

Attorneys.

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UNITED STATES PATENT OFFICE

1,967,444

SPACE PACKING FELT

Herbert J. Lowe, Galesburg, Ill.

Application July 8, 1931, Serial No. 549,513

1 Claim. (Cl. 154—45.5)

This invention relates to space packing felt such as used in the art of printing.

In the formation of stereotype plates it is necessary to place a mat in a casting box and subsequently pour the molten metal so as to fill the impressions in the mat and produce a plate of the required shape having the desired raised printing faces.

It frequently happens that the mat provides for extensive blank spaces on the printed surface and where these spaces are to be produced the mat is formed with areas of proper shapes and proportions which are free from impressions. Unless these portions of the mat are provided with some kind of firm packing they will tend to bulge or sag under the weight of the metal being supplied to the casting box. Consequently the depression formed in the stereotype plate will not be of uniform depth but will be provided with raised portions which will tend to make impressions, thereby producing what are commonly known as "nigger heads" in the spaces which should be kept clear. Plain strips of backing or spacing felt have been used for filling the spaces mentioned. These have been torn into pieces approximately of the required shapes and sizes and affixed to the mat by an adhesive. This procedure has been satisfactory when the printing has been done with a flat plate. However when a tubular or semi-cylindrical press is operated some difficulties are encountered. For example, if large space cavities in the mat are to be backed, the felt must be affixed to the mat at the proper places in narrow strips or small pieces. Unless these portions of felt are arranged along lines parallel with the axis about which the mat is to be bent they will act to stiffen the mat to an undesirable extent when placed in the casting box and cause the formation of an imperfect stereotype. Obviously in order to apply a number of narrow strips or small pieces in this manner within the space cavities a considerable time is consumed and expert service is required. All of this greatly increases the cost of producing a plate.

It is an object of the present invention to provide a spacing felt which can be produced in large sheets and cut or torn quickly to form a single piece for filling a large space cavity, the felt being so made that it will not add undesirable rigidity to the mat when bent to proper shape for casting.

Another object is to form the sheet material so that it can be quickly torn to the desired shape and proportions.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing:

Figure 1 is a perspective view of a portion of a sheet of spacing felt having the present improvement.

Figure 2 is a similar view showing a modification.

Figure 3 is a view of another form.

Figure 4 is an enlarged section through a portion of the sheet shown in Figure 1.

Figure 5 is a plain view of a portion of a curved mat having the space cavities backed by the material constituting this invention.

Figure 6 is a section on line 6—6, Figure 5.

Figure 7 is a section through a modified form of felt.

Referring to figures by characters of reference, 1 designates a sheet of ordinary spacing felt one side of which has a film 2 of adhesive. The other surface of the sheet is formed with crossed cuts or scores 3 which divide the sheet into rectangular outlines whereby the sheet can be readily bent or curved in either of two directions with the scores in the outer or convex face. Instead of weakening the sheet material by means of score lines, crossed lines of perforations 4 can be used or crossed rows of slits 5 can be employed. In these last two forms, illustrated in Figures 2 and 3, the sheet material, when bent along curved lines, will break partly through between the perforations or slits so that the opposite or coated surface can be fitted easily against a convex surface without adding undesirable rigidity thereto.

A mat has been shown at 6 in Figures 5 and 6 and, in addition to the impressions 7 formed therein by type or the impression 8 formed by a cut, there are extensive space cavities 9 extending around and between the backs of said impressions. These large space cavities must be filled with backing material before the metal is poured in the formation of a stereotype plate 10. Consequently while the mat is flat and inverted, the operator tears out the largest possi-

ble strips or portions of the sheet spacing felt and, after moistening the adhesive, applies it to the space cavities in the mat with the weakening lines of the material outside and extending longitudinally and transversely of the mat. Thus when the face of the mat is bent to fit properly in a curved casting box the sheet will flex along these weakening lines causing the scores 3 to gap or the outer surface of the material in Figures 2 and 3 to crack or break between the perforations or cuts.

While each cavity can be properly filled or backed, as explained, the material used for that purpose will not render the mat too rigid. Obviously the sheet material can easily be torn into small strips or squares for use in small cavities but the material is more especially advantageous because it can be placed in large pieces within large space cavities, thereby greatly reducing the time and labor otherwise consumed.

In figure 7 I have shown a felt made up of a number of squares or blocks of material indicated at 10 and arranged in rows as in Figure 1. These blocks are joined by an adhesive 11 to a sheet of soft, flexible paper 12 which can be torn easily and this sheet, in turn, has an adhesive film 13 for attaching it to a mat.

By forming the felt in this manner it can be torn easily to proper size without producing a rough or feather edge. The term "felt" used in this application is to be construed as applying to any kind of material which might be used for space packing.

What is claimed is:

Space packing felt for use on either flat or cylindrical surfaces of a mat comprising a sheet of material having crossed lines of weakening incisions in one surface, the other surface being freely bendable to concave form in either of two directions determined by said lines, and a layer of material upon the latter surface having an exposed adhesive surface.

HERBERT J. LOWE.