



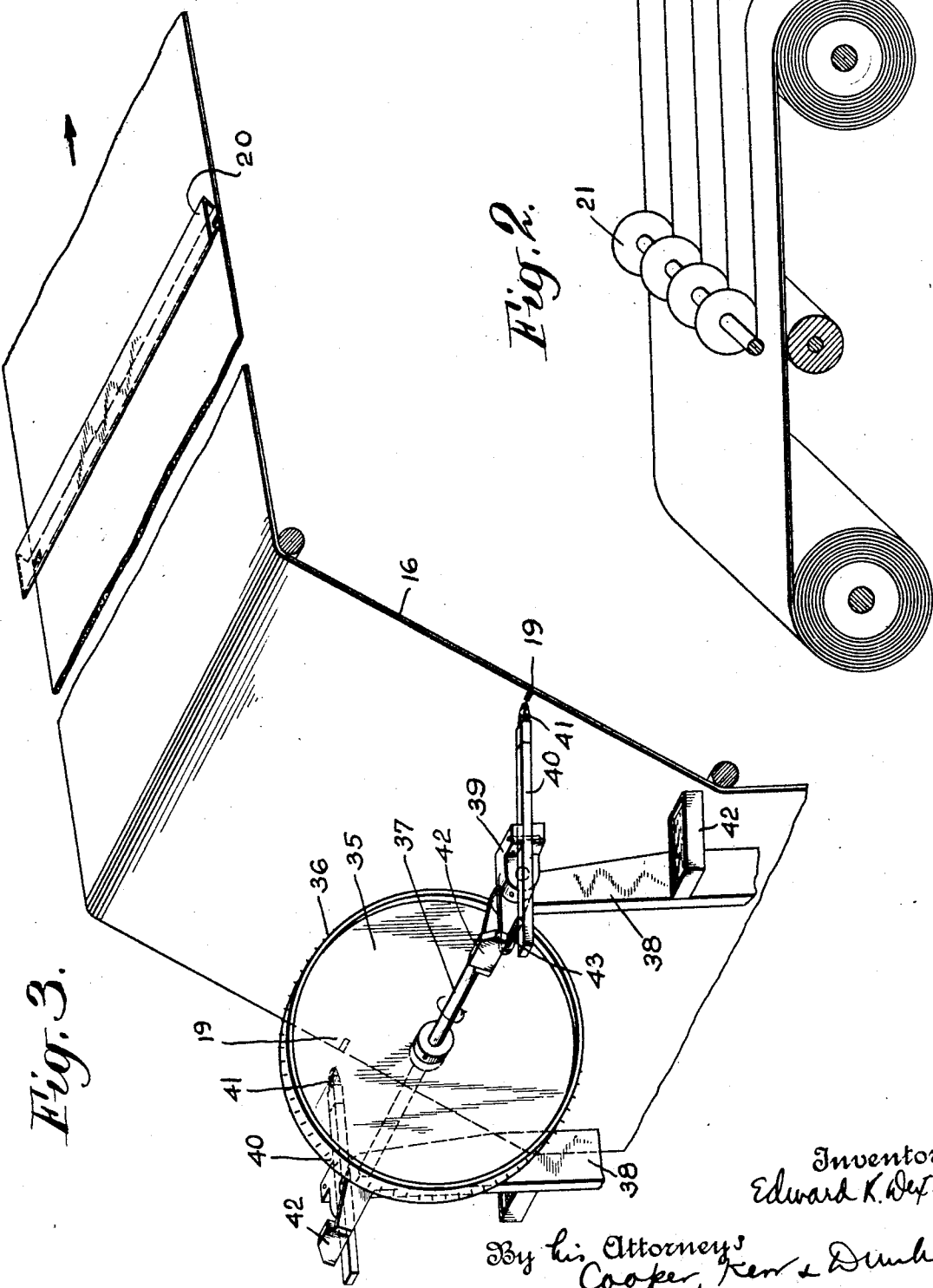
Nov. 22, 1927.

1,650,266

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METHOD OF MAKING COMPOUND FABRICS

Filed June 22, 1926

3 Sheets-Sheet 2



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Fig. 4.

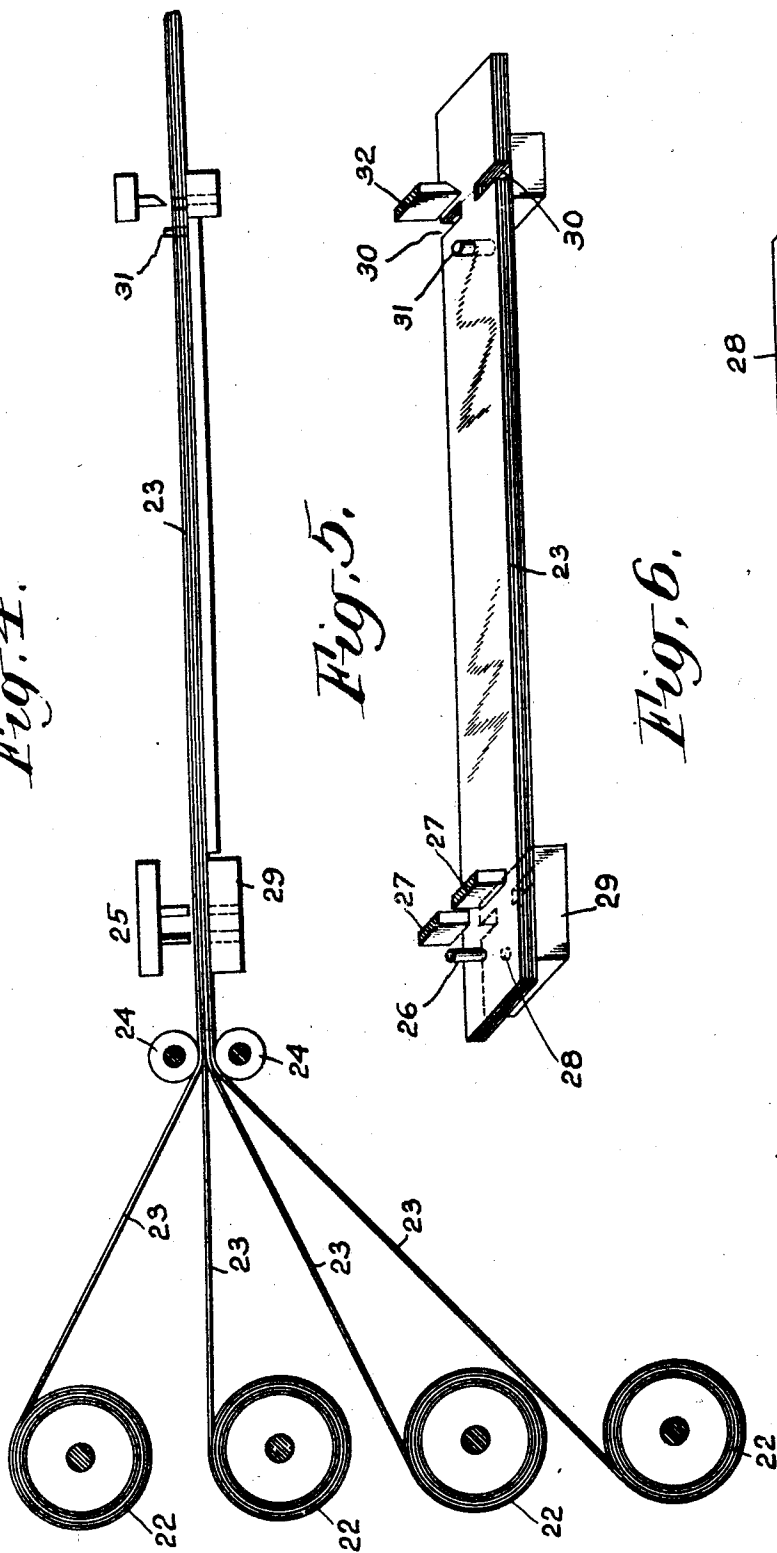


Fig. 5.

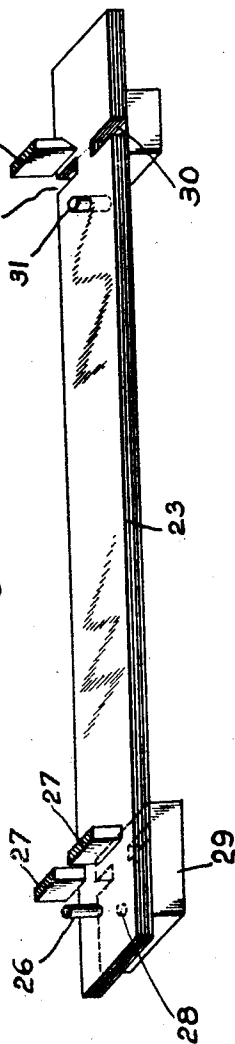
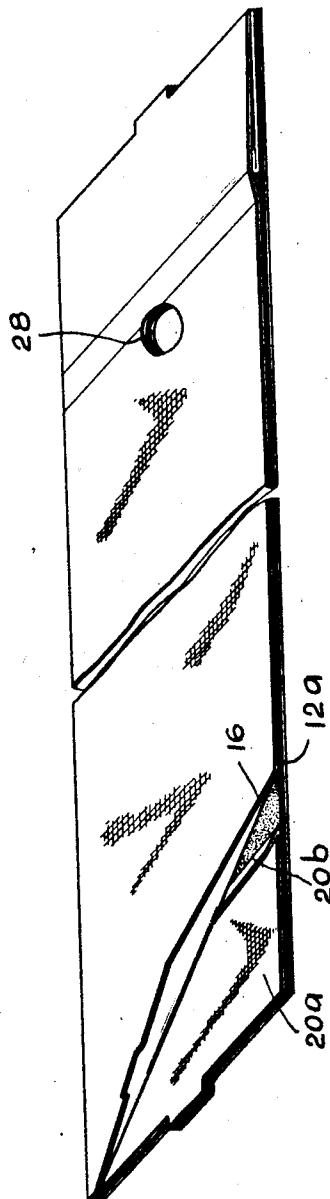


Fig. 6.



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# UNITED STATES PATENT OFFICE.

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## METHOD OF MAKING COMPOUND FABRICS.

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In certain arts it is the practice to friction fabric with tacky rubber compounds. It is desirable to protect this rubber friction surface against exposure to the air and this is commonly done by employing a protecting sheet of so-called holland sheeting. When the friction fabric is to be used the holland sheeting is removed. On account of the holland sheeting adhering to the friction provision should be made to facilitate the removal of the sheeting from the friction fabric. This is accomplished by providing a small strip of holland material which is disposed intermediate the end of the strip of holland sheeting and the end of the strip of friction fabric. This construction provides a loose tab of holland sheeting at one end which may be readily grasped by a person who desires to remove the holland sheeting from the friction fabric.

The present invention is directed to the provision of a method and apparatus for applying such holland sheeting fabric to the friction fabric and for placing into position the supplementary strips of holland sheeting with a minimum of labor and at a minimum of expense.

Other objects reside in the provision of a novel apparatus and method for completing the formation of the strips after the same have had the strips of holland material applied which comprises the separating of the strips into individual pieces and the perforating of the same.

The present invention also has for its object the provision of a novel form of protected fabric strip which will not only enable the holland sheeting to be removed by the provision of a tab, but which on account of the peculiar configuration of the tab will permit the tab itself being removed without the use of any implement after the holland sheeting has been removed from the friction fabric.

In the drawings, Fig. 1 shows a preferred embodiment of the apparatus for carrying out the method of inserting the supplementary strips intermediate the friction fabric and the holland material.

Fig. 2 shows an embodiment of an apparatus for slitting the material into relatively narrow strips.

Fig. 3 shows an enlarged detail of the marking instrumentalities shown on a smaller scale in Fig. 1.

Fig. 4 shows the apparatus and method of stamping and severing the material into strips of the proper length and configuration for the market.

Fig. 5 is an enlarged detail view of certain of the parts shown in Fig. 4.

Fig. 6 shows the completed strip of material.

Referring to the drawings in more detail, 10 designates the well known calender rolls which apply rubber 11 to a fabric strip 12 which is withdrawn from a supply roll 13. This material is frictioned as it passes the lower calender roll 10 and a presser roll 14. The strip of friction fabric 12<sup>a</sup> passes from roll 14 to a rewind roll 15. Also wound up between successive convolutions of the friction fabric on the rewind roll 15 is a strip of holland sheeting 16 which is withdrawn from a suitable supply roll 17. As the holland sheeting 16 is withdrawn it passes under a marking device generally designated 18 in Fig. 1 which is adapted at intervals to place an indicating mark or more exactly a pair of indicating marks 19 on the material at points adjacent the edges thereof. The construction of this marking device will be afterwards more fully described. As the operation proceeds the operator of the machine observes the mark on the strip of holland material and as this mark comes into view the operator inserts a small reversely folded slip of holland sheeting intermediate the strip of holland sheeting 16 and the friction fabric 12<sup>a</sup>. 20 designates this small piece of holland sheeting. In Figs. 1 and 3 it is observed that this small slip is inserted with its mid point directly over the marks 19 on the strip 16. The reverse folds are faced downwardly toward the holland sheeting material and the flat upper face is towards the friction fabric 12<sup>a</sup>. As the operation proceeds the holland sheeting 16 will be pressed into engagement with the friction surface of strip 12<sup>a</sup> and also the upper surface of the inserted slip or strip 20 will adhere to the friction surface. The lower surfaces or reverse folds of the piece 20 will not adhere to the holland material 16.

After the given length of compound material with inserted slips therein at spaced intervals is wound up upon the rewind roll 15, this material is taken to a slitting device shown in Fig. 2 of conventional form generally designated 21 and slit into a plurality of narrow strips which are suitably wound

up. It is more convenient to make the material from wide widths of stock and slit it afterwards although it will be understood that my method does not preclude the omission of the slitting step entirely and the initial making of the material in the proper narrow width.

After the material has been thus slitted or if narrow widths of compound material are initially made up a number of the rolls previously formed designated 22 in Fig. 3 are taken and the compound material 23 drawn off therefrom in separate strips in any desired manner. These strips are first passed between rolls 24 and then the compound layers passed beneath a punching device generally designated at 25. The punching device as best shown in Fig. 5 includes a round punch 26 and a pair of notching punches 27. The round punch 26 perforates a round aperture 28 in the multiple plies of strips which pass over die 29 and the rectangular punches notch the edges of these multiple plies as indicated at 30 in Fig. 5. This notching at 30 is effected at a point intermediate the rearward and forward edges of the inserted slip 20. The aperture 28 is drawn off to the right and placed over a locating pin 31 in this way affording a measure of the proper length of the strip and causing the succeeding punching and notching operations to occur at the proper position. While the compound strip is carried upon pin 31 a suitable severing means 32 is brought into operation to sever the part of the laminated strips intermediate the notches 30. In this way a plurality of completed strips are formed which are separate from the continuous strips 23. The completed individual strip is shown in Fig. 6. This completed product includes a length of strip of friction fabric 12<sup>a</sup>, the sheet of holland sheeting 16, and the now cut in half folded back slip of holland sheeting 20<sup>a</sup>. One surface of 20<sup>a</sup> adheres to the friction fabric 12<sup>a</sup>, but the other surface does not adhere to the holland sheeting 16 and provides tab-like graspable portions at the ends of the strips of holland sheeting which facilitate the removal of the same from the friction fabric 12<sup>a</sup>. The reversely folded ends 20<sup>b</sup> also afford tab-like portions which permit the removal of the slip 20<sup>a</sup> from the friction fabric 12<sup>a</sup> after the holland sheeting 16 has been removed.

The marking device for effecting the marks 19 on the strip 16 at the desired intervals comprises a rotatably mounted wheel 35 having pins 36 on its periphery adapted to engage the strip 16 as this strip is fed along. Wheel 35 is securely fixed to a shaft 37 which is rotatably mounted in suitable standards 38. Each end of the shaft 37 is provided with a bracket 39 which pivotally supports an arm 40 provided at its ends with

a marking brush 41. The arm 40 thus rotates with the wheel 35 and periodically dips its brush 41 into an ink supply reservoir 42. Brush 41 periodically contacts with strip 16 and just at the time of contact the brush holder 40 is pivotally rocked about its pivot encountering a cam element 42 which is fixed to standard 38. In this way a lengthy mark 19 is placed upon the strip 16. Subsequently the brush holder 40 is restored by the retracting spring 43. It will be understood that there are two brushes and brush holders one on each end of the shaft 37 but as the operation is identical only one need be described.

What I claim is—

1. The method of making a compound fabric strip which comprises advancing a strip of friction fabric and a strip of holland sheeting in proximity one to another and inserting between said sheeting and fabric supplementary slips of holland sheeting material and in thereafter uniting the friction fabric to said sheeting and supplementary slips, upon one side only of said supplementary slips and leaving the other side thereof disconnected from the strip of holland sheeting.

2. The method of making a compound fabric strip which comprises advancing a strip of friction fabric and a strip of holland sheeting in proximity one to another, marking the holland sheeting at spaced intervals, and inserting between said sheeting and fabric at the positions marked upon the sheeting supplementary slips of holland sheeting material and in thereafter uniting the friction fabric to the holland sheeting and to said supplementary slips.

3. The method set forth in claim 1 including the step of severing the compound fabric into strips of equal length having the ends cutting through the intermediate portion of the supplementary strip.

4. The method set forth in claim 2 including the step of severing the compound fabric at the marked points upon the holland sheeting for the purpose described.

5. The method of forming compound fabric strips of equal length which comprises frictioning a fabric strip, periodically marking a strip of holland sheeting, and first advancing the strip in proximity to the friction fabric and in afterwards uniting the same thereto and in inserting between the fabric and strip at the marked points of the latter while they advance in proximity to one another supplementary strips of sheeting which unite with the friction fabric and which also prevent the uniting of the fabric to the holland sheet at localized points.

6. A compound fabric comprising a strip of friction fabric with a strip of holland sheeting adhered thereto and having a

folded slip of sheeting material disposed at the end of the strip intermediate the friction fabric and strip, said slip having one surface adhering to the friction fabric and affording a free graspable end for the holland sheet to facilitate the separation thereof from the friction fabric, and said slip having its folded over end in proximity to the holland sheeting to afford a graspable end to facilitate the removal of the slip from the fabric strip. 10

In testimony whereof I hereto affix my signature.

EDWARD R. DEXTER.