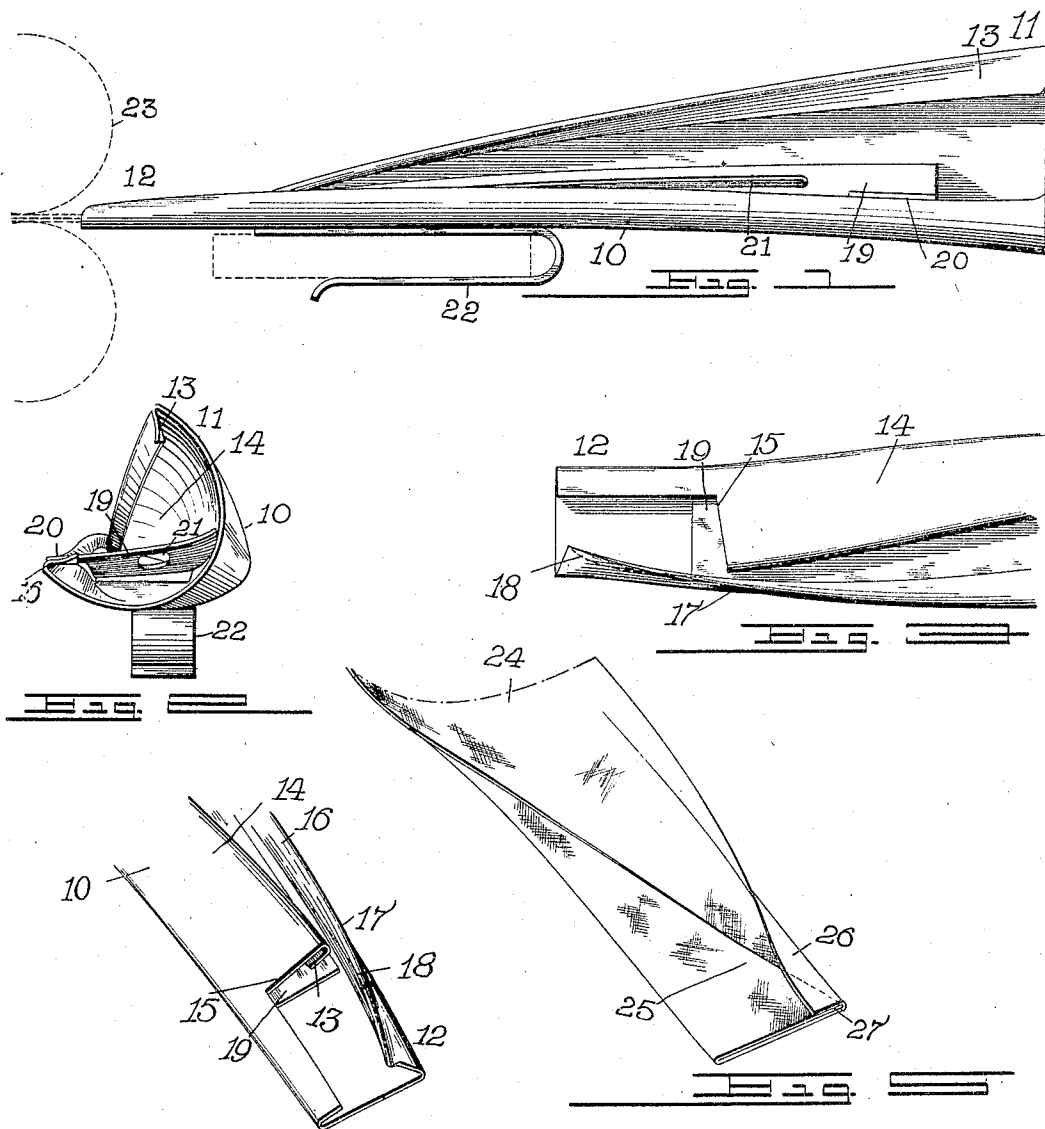


No. 792,870.

PATENTED JUNE 20, 1905.

W. E. WRIGHT.  
TAPE FOLDER.

APPLICATION FILED JUNE 3, 1904.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM E. WRIGHT, OF NEWARK, NEW JERSEY.

## TAPE-FOLDER.

SPECIFICATION forming part of Letters Patent No. 792,870, dated June 20, 1905.

Application filed June 3, 1904. Serial No. 210,949.

*To all whom it may concern:*

Be it known that I, WILLIAM E. WRIGHT, of Newark, in the county of Essex and State of New Jersey, have invented a new and Improved Tape-Folder, of which the following is a full, clear, and exact description.

My invention relates to improvements in folding devices, and particularly in such devices as are adapted for use in folding longitudinally certain fabrics, and more especially trimmings or binding for dress-goods. I have used it commercially for making bias-seam tape; but I do not wish to restrict the invention to any particular use, as it is adapted to be used in making longitudinal folds in any strips of paper, cloth, or other fabric.

The object of my invention is to produce a very simple device of the character described, which will make the fold more perfectly than is usually the case.

It is also an object of the invention to construct a device through which the material to be folded can be drawn and which will automatically produce the desired longitudinal folds, and, further, to construct the device so that the inner fold shall be carried under the outer fold, so as to fit absolutely close in the bend of the said outer fold, thus producing a flat and perfect piece of tape. This last feature is very important, as heretofore it has been found almost impossible to get this result, and for dress purposes especially it is necessary to get this result in order that a marketable tape salable at a good price be produced.

With these ends in view my invention consists of a folder the construction, arrangement, and operation of which will be hereinafter described and the novel features claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the folder embodying my invention. Fig. 2 is an end view looking into the large end of the folder. Fig. 3 is a plan view of the discharge or narrow end of the folder. Fig. 4 is a broken perspective view showing the narrow end of the folder, and Fig. 5 is a detail perspective view

showing the manner in which the material run through the folder is folded.

The folder 10 is made, preferably, of sheet metal, because it can be easily brought to the desired shape; but the material is not so important as it is to get the folding parts to the relative positions hereinafter described. The folder has a relatively wide receiving end 11 and a discharge end 12, and the material to be folded is drawn lengthwise through the folder, is given the requisite fold, and is finally pressed to shape between hot rollers 23, hereinafter referred to. At its wider end the folder is given a nearly semicircular shape, as shown in Figs. 1 and 2, and one edge is bent sharply under to produce the guide-fold 13, and the whole body portion of this side of the folder is gradually bent inward and downward until near the discharge end of the folder the said side is folded flatwise, nearly parallel with the folder-bottom, as at 14. This narrow end of the folder has the top of the folding portion 14 cut away, as shown at 15, and this feature is important, as it gets rid of the material in the folder which would otherwise be in the way at this point and enables the guide part 13 to be carried over and underneath the guide-fold 16, which is produced longitudinally on the opposite edge of the folder. The necessity for this and the effect produced will be more clearly described in following out the operation of the folder.

The guide-fold 16 in the folder is produced longitudinally along the second edge, as above referred to. This part 16 for producing the second fold is gradually turned as it approaches the narrow edge of the folder, as shown best at 17, until at the extreme end it has made a complete turn, so that the edge of the material drawn through the folder is at this point turned over flat upon the first fold which is made by the parts 13 and 14. To provide for the clearance, however, the extreme edge of the material of the folder is gradually cut away on the part 16, as shown best by the dotted line at 18 in Figs. 3 and 4.

Referring now to the part 14, and particularly to Figs. 3 and 4, it will be seen that by cutting away this portion of the folder, as at 15, the double guide part 13, or rather the

bend between this part and the part 14, is carried over, so as to be in line with the extreme inner edge of the second folding part of the folder just described. In this way the material folded over by the parts 13 and 14 is carried under the fold made by the parts 16 and 17, and so the inner edge of the folded material, as will more clearly appear presently, is carried flush up against the part folded over by the portion 16 of the folder.

In order that the folds in the material may be well defined and clean, a guide-tongue 19 is necessary, and this extends longitudinally of the folder and nearly its entire length, the tongue being parallel with the bottom of the folder, and its width at the narrow end is practically the width of the folded tape. This tongue is entirely clear of the sides and bottom of the folder for nearly its entire length and is attached at one point only, which point is most conveniently at the part marked 20 in Fig. 2. The tongue 19 is preferably slotted longitudinally, as shown at 21, so that with an instrument the material passing through the folder can be touched, if desired.

To provide for supporting the folder in position for use, it has on the under side a spring-clamp 22, which can be clasped over the frame of a rolling-machine or may be clamped to any suitable support; but obviously any convenient means can be used for holding the folder in place. In practice it is arranged so as to discharge into the hot rollers 23, and I have not shown any means for heating the rollers, because they have nothing to do with the invention and are the ordinary conventional hot rollers. These serve to iron out and flatten the folded tape, and they also draw the material through the folder, and it is this act which makes the necessary folds.

The material to be folded is cut to the requisite width, which width corresponds to the distance between the sides of the folder at its widest points—that is, to the distance between the outer edges of the grooves produced by the folds 13 and 16. As the material is drawn through the folder it is wrapped around the tongue 19, which serves to guide it and give it shape, the outer folding part 14 making the first fold in the material 24 and carrying it, as shown at 25 in Fig. 5, over upon itself and finally by the aid of the tongue 19 delivering one edge of the material flat and underneath the second fold 26, this under and inner edge being carried against the opposite side of the folded tape, as shown at 27 in the figure referred to. Referring now to Figs. 4 and 5, it will be seen clearly that the parts 14 and 19

cause this first fold to be made and how the cutting away of the part 14 enables the edge 27 to be carried under the material shaped by the parts 16, 17, and 18 so that the tape emerges from the folder nicely folded and with the inner edge 25 27 snug beneath the fold 26. As the material leaves the folder the rollers 23 receive it and press it to permanent shape, as described.

From the foregoing description it will be seen that the particular feature of the invention is that which provides for carrying the inner edge of one fold well underneath the second fold of the material and that it is the peculiar formation of the folding parts of the folder in connection with the guide-tongue which enables this operation to be nicely performed.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a device of the character described, an open-ended folder having its opposite sides or edges folded inward and downward so that one will deliver beneath the other and a guide-tongue arranged longitudinally of the folder, said guide-tongue being provided with a longitudinally-disposed slot.

2. A device of the kind described, comprising an open-ended folder, the opposed sides of which are folded inward and downward, one of the said folded sides being cut away to provide clearance whereby the opposite side can be carried over and underneath the said folded side, and a guide-tongue extending longitudinally of the folder.

3. In a device of the character described, an open-ended folder, the opposed sides of which are folded inward and downward, one of said folded sides being cut away at one end thereof.

4. In a device of the character described, an open-ended folder, the opposing sides of which are folded inward and downward, the top of one of the folded sides being cut away.

5. In a device of the character described, an open-ended folder having a relatively wide receiving end and a narrow discharging end, the receiving end being approximately semicircular in shape, one side of the folder being bent inward and downward until near the discharge end of the folder where said side is folded flatwise nearly parallel with the folder-bottom and an intumed guide-fold on the opposite edge of the folder.

WILLIAM E. WRIGHT.

Witnesses:

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WM. H. CAMFIELD.