(No Model.)

E. SANDS.

MAILING TUBE, CAN, OR LIKE ARTICLE.

No. 600,746. Patented Mar. 15, 1898.

Fig. 1.

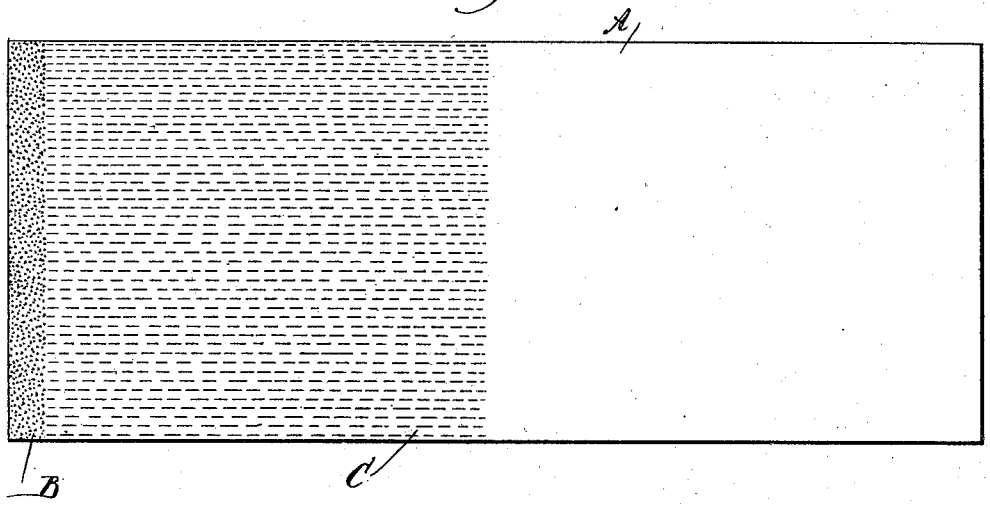


Fig. 2.

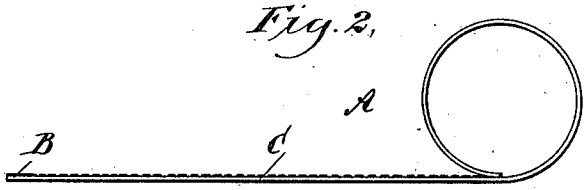
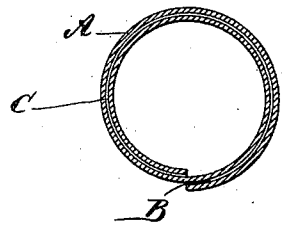


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDWARD SANDS, OF CHICAGO, ILLINOIS.

MAILING-TUBE, CAN, OR LIKE ARTICLE.

SPECIFICATION forming part of Letters Patent No. 600,746, dated March 15, 1898.

Application filed December 31, 1897. Serial No. 664,892. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SANDS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mailing-Tubes, Cans, or Like Articles, of which the following is a full, clear, and exact description.

The object of the invention is to provide certain new and useful improvements in mailing-tubes, cans, and other articles made from sheets of paper, strawboard, or other material, and whereby the layers or laps after rolling the sheet into tubular form are securely united, and at a comparatively low cost.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and pointed out in the claims.

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

Figure 1 is a plan view of the sheet to be formed into a tube. Fig. 2 is a side elevation of the same partly rolled up, and Fig. 3 is a transverse section of the finished tube.

In making paper cans, mailing-tubes, or other tubular articles from sheets of paper, strawboard, &c., as heretofore practiced, the end of each sheet was fastened to the preceding ply or layer either by means of paste or glue or like adhesive substance, of which the paste, although cheap, has been found impracticable owing to the slowness in drying the tubes and the insecurity in its adhesive power. The use of glue, on the other hand, facilitates the formation of the tubes, but it is very expensive.

Now in order to render the tubes durable and allow of manufacturing the same cheaply, I provide the sheet of paper, strawboard, or other material with a strip or strips of glue and an adjacent coating of paste to form a composite binding for attaching the layers of the sheet to each other.

As shown in the drawings, I form the sheet A with but one strip B of an adhesive substance of high quality, such as glue, and the sheet adjacent to the strip B, I provide with a coating C of an adhesive substance of a low quality, such as paste. The strip B is placed at one outer end of the sheet, while the coating C extends over the sheet to the starting-point for the second lap when the sheet is rolled up into a tube, as indicated in Fig. 2, so that the outer end of the sheet is securely united to the second layer or ply, as will be readily understood by reference to Figs. 2 and 3.

When the sheet is rolled into a tube, the glue strip B dries or sticks as soon as the sheet is rolled up, thus holding the tube, can, or whatever article it may be in its correct form or shape until the paste coating C dries and performs its share of the joining of the two laps of the sheet.

It is obvious that if the tube or can be three-ply or more the saving in glue is increased accordingly, and it is further evident that but a small quantity of glue is used, and consequently the tube can be cheaply manufactured without impairing the durability thereof.

The paste dries relatively slower than the glue and when used alone is found to dry too slowly for practical purposes, while the glue operates quickly, setting practically at the instant. Then the layers of the tube are rolled together. But the use of glue alone is too expensive, as glue suitable for the purpose costs at the present market rate eight cents per pound, while flour of which paste is made is at present but two and one-half cents per pound. Now if paste alone is used it will dry so slowly that the tube will be out of shape when completed, while if glue alone is used the expense is a serious factor in marketing the product. Therefore I so make the tube as to secure the advantages of glue at a comparatively slight cost, as the glue strip or strips will set instantly and hold the tube firmly in place during the slower operation of drying the paste, the area of the paste surface being much greater than that of the narrow glue strip on one side thereof, as shown.

It will be seen that the relative drying of the paste and glue is an important feature in the manufacture of my tubes, &c., in which the strip is rolled into contact with the opposite binding-surface while the paste and glue composing said binding-surface are still in a moistened condition, the glue setting instantly and holding the tube during the slower drying of the greater area of paste. I am there-

fore able to make at a comparatively small cost a tube possessing all the advantages incident to one held entirely by glue and manufactured at a much greater cost, as it is necessary in the making of the tubes that there should be a considerable lap of the sheet and that the intermediate portion of the sheet shall be as securely held as the outer ends thereof attached by the glue.

I do not herein claim the method of forming the tubes or the like, as such method is claimed in a separate application for patent filed by me May 28, 1897, Serial No. 638,550.

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

1. A tube or the like, consisting of a sheet rolled upon itself and having its lapped portion held together by a composite binding composed of a strip of glue and an adjacent coating of paste of relatively greater area, substantially as shown and described.

2. A tube or the like, consisting of a sheet rolled upon itself and having its lapped portion held together by a composite binding composed of a strip of glue and an adjacent coating of paste of relatively greater area, the strip of glue being at the outer end of the sheet and the coating of paste extending to the starting-point for the second lap, substantially as shown and described.

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Witnesses:
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