

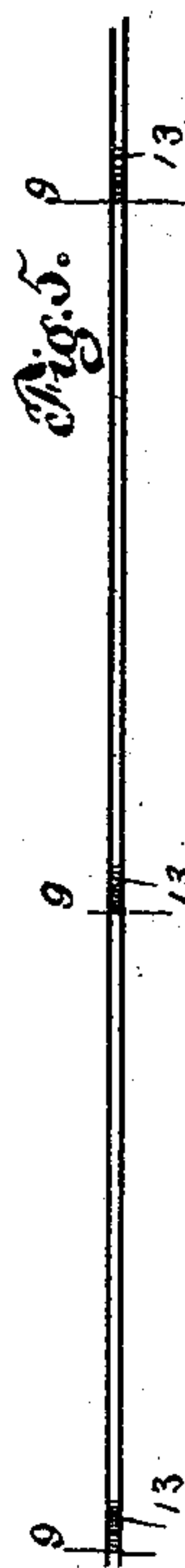
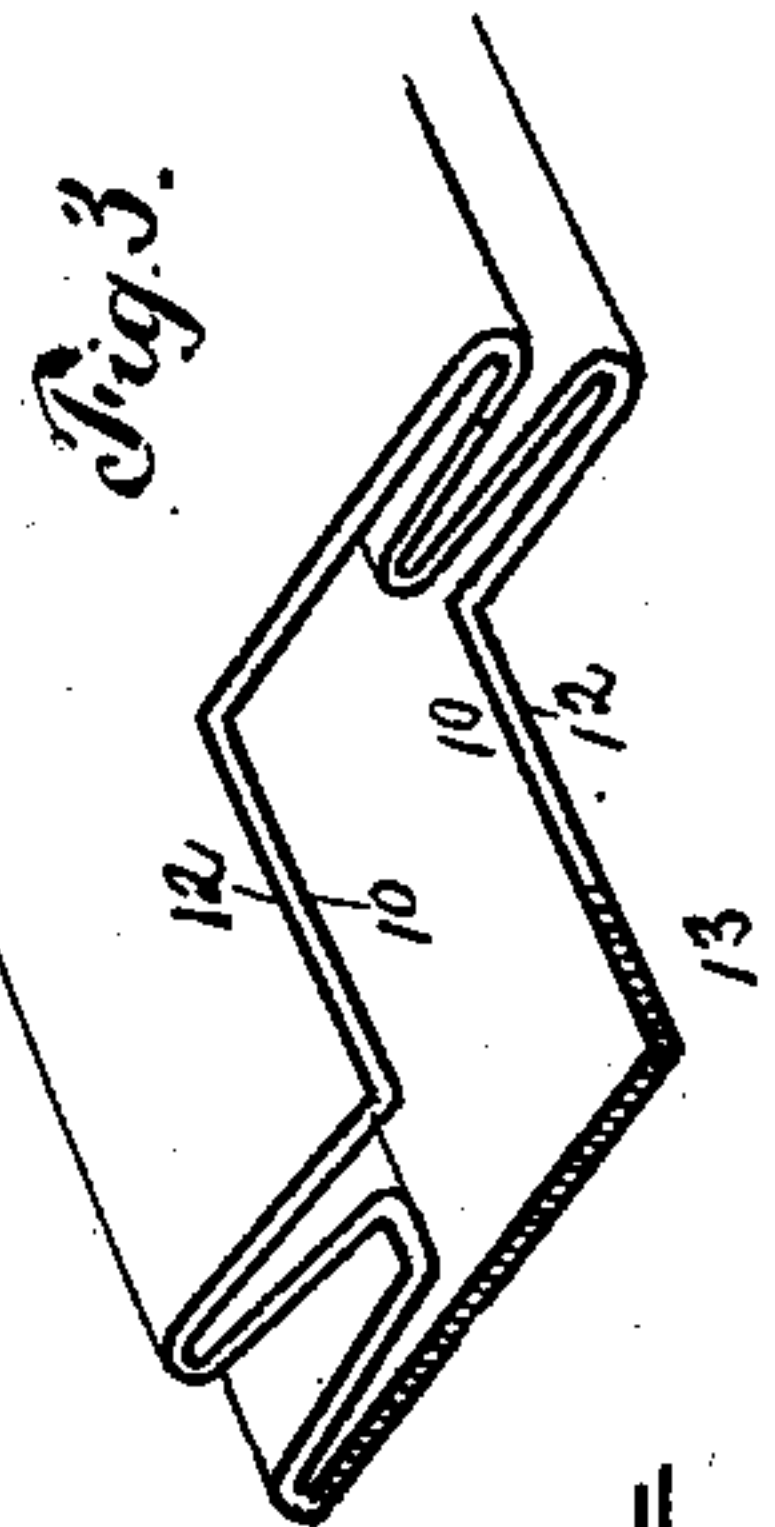
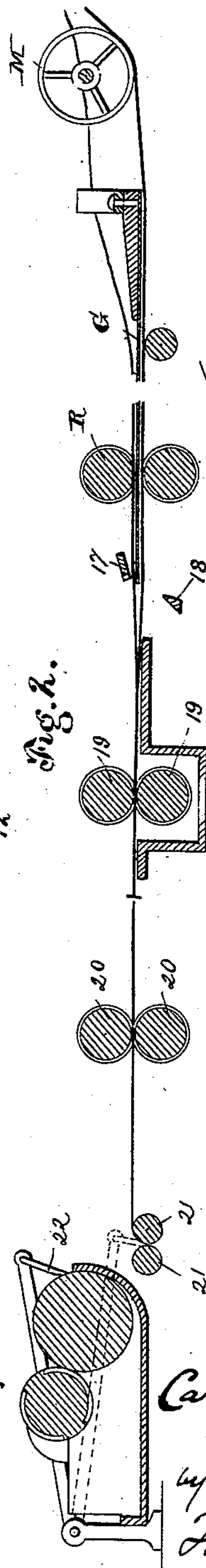
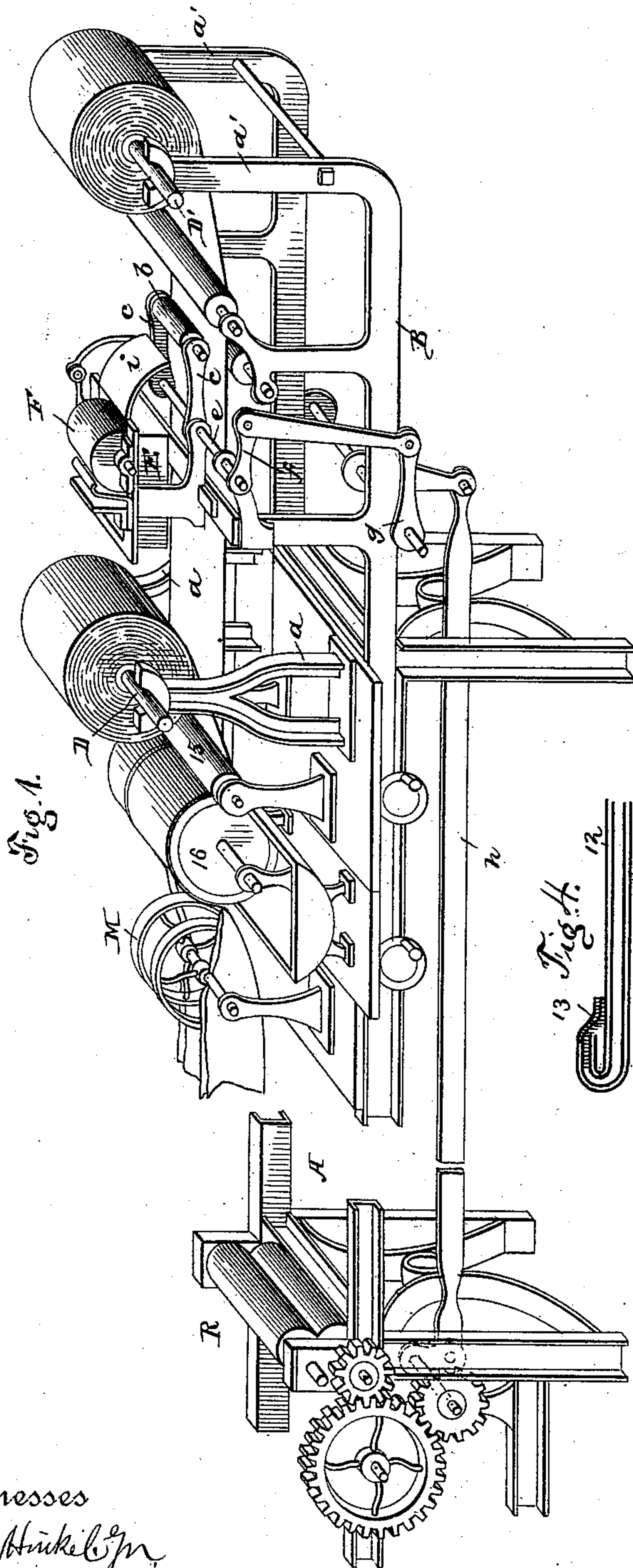
(No Model.)

C. F. SCHMIDT.

MACHINE FOR THE MANUFACTURE OF PAPER BAGS.

No. 378,851.

Patented Feb. 28, 1888.



Witnesses
Jno. C. Hückel
A. E. F. Farnham.

Carl F. Schmidt
Inventor
by
J. H. Freeman
Attorneys

UNITED STATES PATENT OFFICE.

CARL F. SCHMIDT, OF ELBERFELD, GERMANY.

MACHINE FOR THE MANUFACTURE OF PAPER BAGS.

SPECIFICATION forming part of Letters Patent No. 378,851, dated February 28, 1888.

Application filed August 6, 1887. Serial No. 246,330. (No model.)

To all whom it may concern:

Be it known that I, CARL F. SCHMIDT, a subject of the Emperor of Germany, residing at Elberfeld, Germany, have invented new and useful Improvements in Machines for the manufacture of Paper Bags, of which the following is a specification.

My invention relates to that class of paper bags in which each bag consists of two layers of paper throughout; and my invention consists in means, fully set forth hereinafter, for insuring the pasting of the end of the inner section or bag.

In the accompanying drawings, Figure 1 illustrates in perspective the paper end of a paper-bag machine, together with the feed-rolls; the "former" being omitted. Fig. 2 is a diagrammatic section through a bag-machine of the character known as the "Union" machine, illustrating the well-known manner of tubing the paper and forming the bottoms on the severed tubular blanks; Figs. 3 and 4, one piece of the bag-blank and bag hereinafter referred to; and Fig. 5 is a longitudinal section of the two sections of paper showing the transverse lines of paste.

A represents the frame of the paper-bag machine, and B the frame of the extension thereof, which is used in connection with my improvement, the said extension constituting in some cases a part of the main frame, or being an independent structure adapted for application to machines already in use.

In standards or bearings *a a'* of the frame B turn the journals or shafts of rollers D D', upon which are wound bands or strips of paper, the roll D being the paper which is to form the inner section, 10, of the bag, and the roll D' the paper which is to form the outer section, 12, of the said bag. (See Figs. 3 and 4.) In connection with these rolls, which are arranged at a suitable distance apart, I employ a suitable paste roll, brush, or other device, whereby a line or streak of paste may be applied to the face of one of the sheets—for instance, the upper face of the sheet or strip from the roll D', or the lower face of the sheet or strip upon the roll D. The kind of device employed for applying the paste at intervals, or the strip to which the paste is applied, is immaterial; provided the same is placed upon the strip at such

intervals and in such position that both strips will, as they are drawn forward, be pasted together at the point where the bottom seam of the bag is formed, so that when the compound or double strip passes to the bag-making machine and is severed and pasted and folded to form the closed end of the bag the inside section of the said bag will be pasted along the bottom seam, as at 13, Figs. 3 and 4, as well as the outside section or portion thereof.

In the drawings I have illustrated a reciprocating roller, *b*, and means for operating it to supply it with paste and to bring it against the upper face of the strip from the roll D'—viz., that which forms the outer section, 12, of the bag or bag-blank. The roller *b* is carried by arms *c c* upon a rock-shaft, *e*, an arm, *f*, of which is connected to a crank-lever, *g*, which latter is reciprocated by rod *h*, deriving its movement from any moving portion of the main machine.

The paste-pot E contains a paste-roll, F, to which an intermittent rotary motion is imparted, as usual, and the roller *b* is carried to the paste-roll F, and in contact therewith, over a curved surface, *i*, which causes the paste-roll to turn and distribute the paste evenly thereon, and is also carried on its downward movement into contact with the upper face of the paper passing from the roll D', and held there for a sufficient length of time to deposit the paste in proper position and extent thereon. The strips travel at such a rate and the paste-roll is moved at such intervals that the distance between two adjacent lines of paste will be equal to the length of blank necessary to form the bag.

That part of the bag-machine that takes the paper strips and forms them into tubular form may be of the kind adapted to make a bellows-sided tube, as set forth in Patent No. 138,844 to L. D. Benner, or it may of that form set forth in Patent No. 38,452 to S. E. Pettee, making a flat tube.

In the present instance it may be supposed that the former G, Fig. 2, is adapted to make a bellows-sided tube, as in Fig. 3. The strips of paper from the rolls D' and D pass together under a roll, 15, over a roll, 16, whereon a longitudinal edge of each strip is provided with a line of paste in the ordinary manner. In

passing under roll 15 and over roll 16 the lines of paste, as 13, applied to one of the paper strips by said roller 6, will cause the two strips of paper to be united on said line, as in Fig. 5.

5 This uniting-line of paste, while preferably extending the width of the paper strips, might be applied only for a distance across the center of the paper strip—thus, for instance, of such extent as to be equal to the extreme width of the tube when formed as in Fig. 3. The compound paper strip, after turning the roll 16, passes under a "breaker," M, and thence under the heel of the former G and along the former, whereby the opposite longitudinal edges of the paper strips are brought centrally over the former and each edge united longitudinally to form the paper tube. The tube, just as it is formed, is passed between feed-rolls R, which act to feed the tube forward and draw the paper strips from their respective rolls. The former G passes between the feed-rolls R in the usual manner, and terminates in a serrated edge, which, together with a fixed serrated blade, 17, located above said edge of the former, but just back of the same, enables the paper tube to be severed into bag-blanks by the operation of the usual striker, 18. From thence the tubular bag-blanks pass between the carrying and propelling rolls 19 20 to folder-rollers 21, with which coacts a combined bottom pasting and folder blade, 22, in a well-known manner, and upon issuing from said roller the bag is completed.

The motions of the different parts of the bag-machine will be so timed that the striker will sever the tubular blank on a line, 9, just in front of the transverse line of paste 13, uniting the two sections of the tube, as before described, so that said pasted portion will be provided at that portion of the paper strips and tube, which will ultimately be folded over by the blade 22 to form the bag-bottom, as clearly seen in Fig. 4. Of course the usual flaps will be provided on the end of the bag-blank and bag to facilitate the union of the bottom flap with the bag-bottom and opening the mouth of the bag. The completed double paper bag thus formed has its inner and outer sections pasted together at its bottom independent of the line of paste which unites the folded-over flap to the bag-body to form its bottom, and hence the two sections may be severed evenly, as in Fig. 3, and thus dispense

with the necessity of forming two projecting flaps on the bottom in order to get a line of paste on both flaps to insure the proper securing of the bottom.

No claim is herein made to the mode of forming double paper bags and sealing the bottom of the inner section, consisting of pasting both sections together transversely at intervals equal to the lengths of the blanks, as the same is claimed in my pending application, Serial No. 163,445. Neither do I claim herein the double bag sealed in the manner described, as the same will form the subject-matter of another application; but

What I claim is—

1. In a machine for forming double paper bags, the combination of supports for rolls for the inner and outer sections, a paster for applying a transverse line of paste to the inner face of one of the sections at intervals equal to the lengths of the blanks from which the bags are made, tubing mechanism adapted to form the two sections into a duplex tube, and bag-forming mechanism whereby the duplex tube is formed into double bags with the bottom seam at the point where the two sections of the double bag are pasted together, substantially as described.

2. In a machine for forming double paper bags, the combination of supports for two rolls of paper, one for the inner and the other for the outer section of the double bag, a paster applying a transverse line of paste to the inner face of one of the sections at intervals equal to the lengths of the blank from which the bags are made, a roll around which said sections are passed to unite them on said transverse line, tubing mechanism for forming said transversely-pasted sections into tubular form, severing mechanism timed with respect to the operation of said transverse paster, whereby the tube is severed at one side of said transverse lines of paste, and bottom pasting and folding mechanism, whereby the blanks are formed into double paper bags, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL F. SCHMIDT.

Witnesses:

RUD. BLANK,
PAUL OPITZ.

Correction in Letters Patent No. 378,851.

It is hereby certified that Letters Patent No. 378,851, granted February 28, 1888, for an improvement in "Machines for the Manufacture of Paper Bags," was erroneously issued to the inventor, "Carl F. Schmidt," as owner of said invention; whereas the patent should have been granted to *Lucius G. Fisher, of Chicago, Illinois*, the owner of the entire interest as shown by the assignments of record in the Patent Office; that the proper correction has been made in the files and records pertaining to the case in the Patent Office, and should be read in the Letters Patent that the same may conform thereto.

Signed, countersigned, and sealed this 20th day of March, A. D. 1888.

[SEAL.]

D. L. HAWKINS,
Assistant Secretary of the Interior.

Countersigned:

BENTON J. HALL,
Commissioner of Patents.