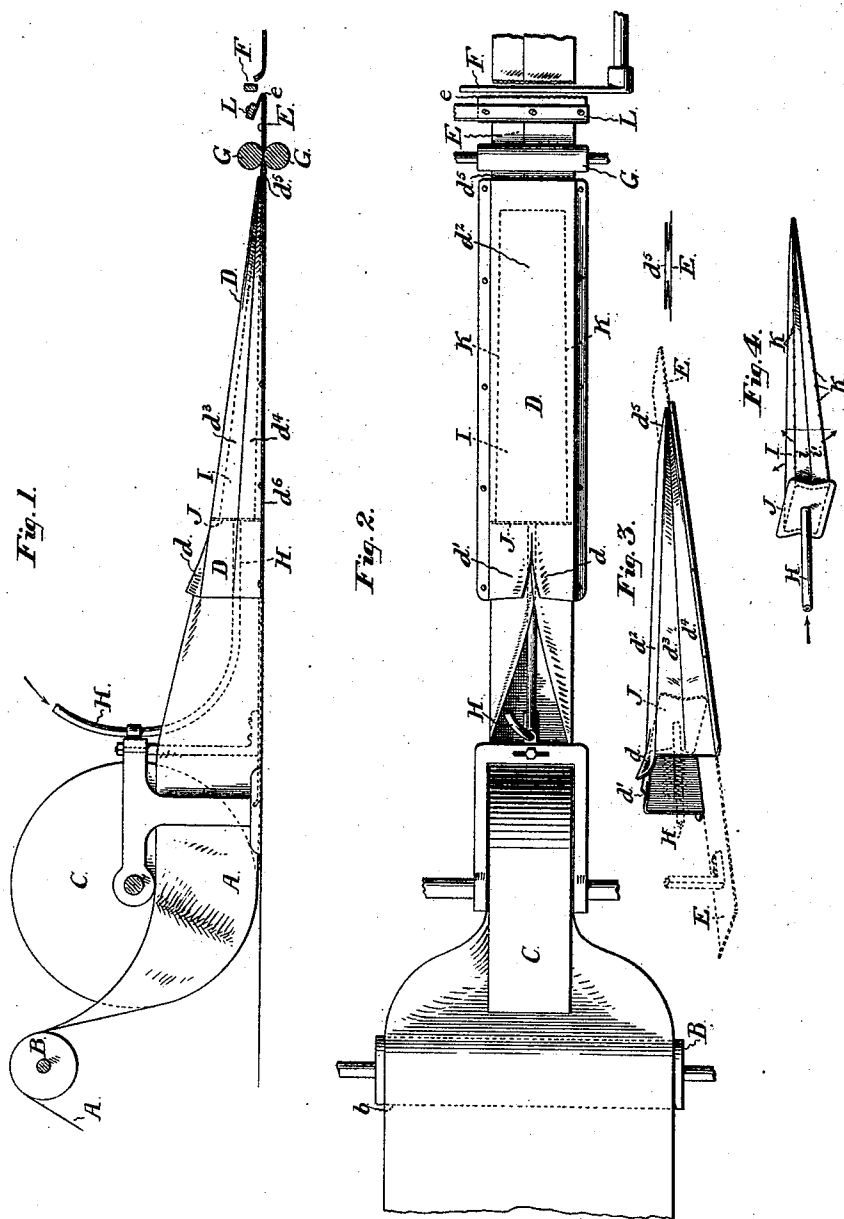


(No Model.)

M. SCHENCK.
PAPER BAG MACHINERY.

No. 465,211.

Patented Dec. 15, 1891.



Witnesses:

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UNITED STATES PATENT OFFICE.

MURRAY SCHENCK, OF MIDDLETOWN, ASSIGNOR TO CHATFIELD & WOODS,
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PAPER-BAG MACHINERY.

SPECIFICATION forming part of Letters Patent No. 465,211, dated December 15, 1891.

Application filed February 16, 1889. Serial No. 300,091. (No model.)

To all whom it may concern:

Be it known that I, MURRAY SCHENCK, of Middletown, county of Butler, State of Ohio, have invented a new and useful Improvement in Paper-Bag Machinery, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to those parts of a paper-bag machine in which a web of paper is formed into a tube preparatory to being cut into bag-blanks; and the object of my device is to form a "bellows-folded" or "tucked" tube of paper by mechanism at once simple and adapted for the rapid production of such a tube.

The novel features of my invention will best be described in connection with the drawings, in which it is illustrated, and they are hereinafter clearly pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my device; Fig. 2, a plan view thereof; Fig. 3, a perspective view of the former proper, and Fig. 4 a perspective view of the air-blast pipe and air-box which are used in connection with said former.

A is the web of paper; B, a guiding-roll, one portion *b* thereof being used to apply a line of paste to one edge of the web as it passes over it.

C is a forming-roller, the function of which is to bend or crease the paper on the line of its lower side as it passes into the former.

D is the former, made up of two flat converging sides d^2 d^3 , united by inwardly-extending and converging side plates d^3 d^4 , the end d^5 having only a sufficient opening to permit the folded web to pass through it without undue friction. At the entrance of the former the side d^2 is provided with deflecting-plates d d' , which can conveniently be formed of the same metal plate and the function of which is to insure the edges of the web folding on each other in a proper manner.

E is a tongue secured to the frame of the machine in any convenient way which will permit the web A to pass under it as it enters the former. This tongue extends into and through the former D, lying along its bottom, and at its further end a knife-blade *e*

can be formed or secured to operate in connection with a striker F and any other knife-blade, as L, secured to the frame in the usual way to sever the tube into blanks.

G G are rolls acting to feed the web along and to press down the pasted seam.

H is a blast-pipe opening, as shown, inside the hollow former D.

J is a dam or shield secured to the blast-pipe near the mouth of the former, and serving to prevent the too rapid escape of the air. Preferably I secure to the blast-pipe H an air-box I, formed so as to conform more or less to the converging sides of the former, and preferably having its sides, which are opposite to the angular converging sides d^3 d^4 , also made angular and converging, as is shown at *i' i'*. Orifices K K, &c., are formed along the corners of this box so that the air will, in escaping therefrom, be directed toward the corners of the former and will tend to press the paper closely against said corners and maintain it throughout in close contact with the inside of the hollow former.

The operation of my device is easily followed. The web A is drawn into the former, as shown, with its center lying beneath the tongue E and its edges properly arranged beneath the deflecting-plates d d' . For convenience I make the upper side d^2 of the former removable, so that the web can at starting be placed in position by hand. The air-blast is then turned on and the feeding-rolls set in operation, and the web is drawn through the former, conforming to its outline by reason of the air-pressure to which it is subjected and leaving it at its end d^5 folded and creased to the form of a bellows-folded tube, the seam of which is then pressed tightly by the rolls G G. The tongue E is continued beyond the feed-rolls G G, and the striker F, acting in connection with a knife on its end and a second knife L, cuts it into bag-blanks with a lip on one side, or if this is not desired the knife on the end of tongue E can be dispensed with.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The hollow contracting former D, having inwardly inclined and converging sides,

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in combination with an air-blast pipe opening in said former, a dam J, secured to the blast-pipe, and mechanism for feeding a web of paper through said former.

5 2. The hollow contracting former D, having inwardly inclined and converging sides, in combination with an air-box I, situated inside the hollow former and having orifices along its corners for the escape of air, an air-
10 blast pipe entering said air-box, and mechanism for feeding a web of paper through said former.

3. The hollow contracting former D, having inwardly inclined and converging sides,
15 in combination with an air-box I, situated inside the hollow former and having orifices along its corners for the escape of air, an air-blast pipe entering said air-box, a dam J, secured to the air-blast pipe near the mouth
20 of the former, and mechanism for feeding a web of paper through said former.

4. The hollow contracting former D, having inwardly inclined and converging sides, in combination with a tongue E, extending
25 through the former and along one of the flat sides thereof, an air-blast pipe opening in

said former, and mechanism for feeding a web of paper through said former.

5. The combination of a paste-roll B, forming device C for bending the web on the lines
30 of its under side, the hollow converging former D, having inwardly inclined and converging sides and guide-lips *d d'* for directing the edges of the web as it enters the former, an air-blast pipe H, opening inside the hollow
35 former, and mechanism for feeding a web of paper through said former.

6. The combination of a paste-roll B, forming device C for bending the web on the lines
40 of its underside, the hollow converging former D, having inwardly inclined and converging sides and guide-lips *d d'* for directing the edges of the web as it enters the former, an air-box I, having orifices on its corners situated inside the hollow former, a dam J, secured to the blast-pipe near the mouth of the
45 former, and mechanism for feeding a web of paper through said former.

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Witnesses:

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