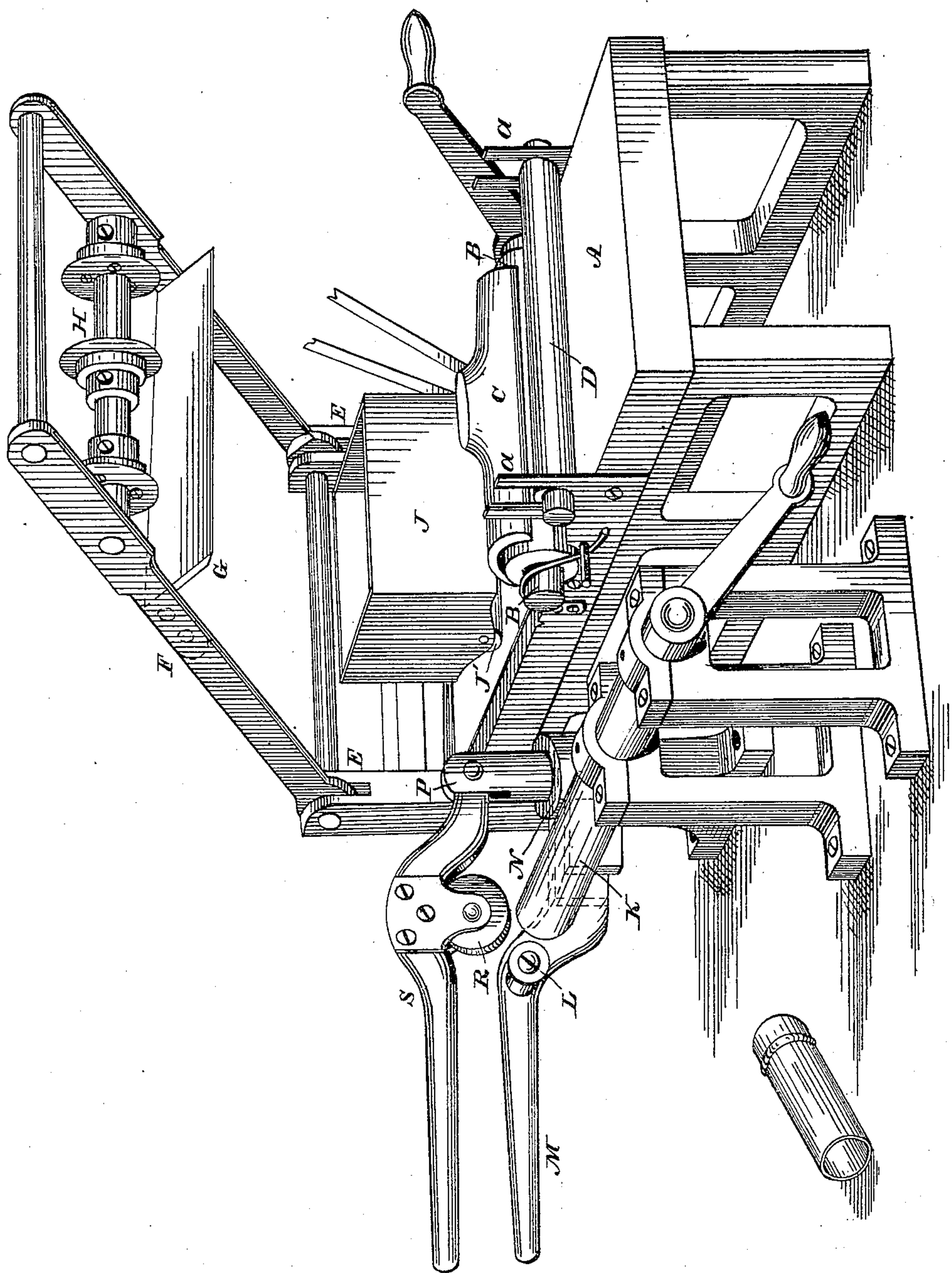


(No Model.)

A. TILLMES.  
Paper Tube Machine.

No. 238,457.

Patented March 1, 1881.



Witnesses:  
A. P. Grant,  
J. Cooper.

Inventor:  
August Tillmes,  
by John A. Diederichsen  
Attorney.



# UNITED STATES PATENT OFFICE.

AUGUST TILLMES, OF PHILADELPHIA, PENNSYLVANIA.

## PAPER-TUBE MACHINE.

SPECIFICATION forming part of Letters Patent No. 238,457, dated March 1, 1881.

Application filed July 7, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST TILLMES, a citizen of the United States, residing in the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Machines for Making Paper Tubular Shapes, which improvement is fully set forth in the following specification and accompanying drawing, in which the figure is a perspective view of the machine embodying my invention.

My invention consists in improvements in mechanism for forming paper tubular shapes, whereby the paper is properly rolled and cut and the tube is divided into lengths, as desired. Provision is also made for flanging or beading the tube, the several parts and their operations being hereinafter fully described.

Referring to the drawing, A represents a table, on which is mounted a roller, B, to which power is applied in any suitable manner.

C represents a semi-cylindrical guide, which is adapted to be fitted over the roller B when paper is being wound on the latter, said guide being removable by hand or other means. The table has a recess to receive the body of the roller B, which may have end bearings or simply rest in the recess. The latter arrangement is preferred, as the paper is in contact with the recess and rolls smooth.

The cover or hood C may be hinged to the table, so as to be raised or lowered from roller B, or simply loose, to be lifted on and off. It must be pressed down so as to clasp, as it were, the paper roll. The completed tube, being wet with the gum or paste, as is also the roller, is simply slipped off.

Adjacent to the roller B is a roller, D, whose bearings are on the table A, the upright guides, a, for said roller D being sufficiently long that when the roller B is removed from the table A it may be placed on the roller D, the guides a then being common to both rollers.

From one end of the table A, or the base thereof, rise standards E, to which is attached a swinging frame, F, carrying a blade or knife, G, and rotary cutters H, which knife and cutters are so disposed on the frame F that the knife descends between the axis of the frame F and the roller B, and the cutters H descend over the roller D.

To the table A or uprights E is secured a

paste-box, J, the roller J' at the base thereof being adapted to come in contact with the paper fed on the table A to the roller B.

The operation is as follows: The guide C is removed and the paper from a roll or continuous sheet is passed along the table under the box J, so that the roller J' will apply the paste, gum, or other suitable adhesive substance of the box to the face of the paper. One end of the paper is brought in contact with the roller B and the guide C placed thereover. On rotation of the roller B the paper is rapidly wound as many times as desired around itself on the roller, and the frame F is then lowered, so that the knife G cuts the paper, it being noticed that the cutters H are set sufficiently high so as not to come in contact with the roller D. A few turns of the roller B wind all the paper designed to complete the roll or tube. The guide C is now removed and the roller B placed on the roller D, the latter being rotated in any desired manner, after which the frame F is lowered, the cutters H then coming in contact with the rotating roll of paper and severing it in lengths, as desired. The frame F is again raised, this being assisted by springs, weights, pulleys and cords, or other appliances, and the tube or tubes are removed. Another length of paper is applied to the roller B, now restored to its first position, the guide C is again located, and the roller B rotated, the other operations being repeated.

Should the roller B be operated by power other than hand, it may be removably fitted to a pulley, which, mounted on suitable bearings on the table A, receives the necessary power, so that said roller may be removed, placed over the roller D, and afterward restored.

It will be noticed that the overlapping nature of the semi-cylindrical guide C serves to direct the paper around the roller B, especially when it first starts to be wound thereon, thus unfailingly rolling or winding the paper.

In order to form a bead or flange on the tube, I place the latter on a mandrel, K, to which power is applied in any desirable manner, the end to be beaded or flanged projecting sufficiently to receive a supporting head, L, consisting of a rotating disk with a rounded edge, connected to a lever, M, which is hinged to a boss, N, swiveled to a standard, P, rising



from the base of the machine. By this construction the lever may be raised and lowered and rotated, in order to cause the proper entrance of the head L into the end of the tube to be beaded or flanged and removal thereof. 5 The tube, as now supported by the head L, is subjected to the action of a beading-wheel, R, whose periphery is grooved, said wheel being journaled to a lever, S, whose fulcrum is on the standard P. By lowering the lever S and advancing the wheel R to the tube and firmly depressing it, the grooved periphery of the wheel raises a bead or flange on the tube, a form of which is shown at the left side of the 10 drawing removed from the mandrel. Should the periphery of the wheel R be convex and that of the head L concave, the bead on the tube will be of grooved form or sunken, as is evident. 15

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

1. In combination with the roller B, the movable guide C, pressed down upon the paper which is fed over said roller. 25

2. The roller B, removable from the table or support A, in combination with the roller D, adapted to support said roller B, substantially as and for the purpose set forth.

3. The hinged frame F, carrying the knife G and cutters H, substantially as and for the purpose set forth. 30

4. The table A, with removable roller B and supporting-roller D, in combination with the frame F, provided with the knife G and cutters H, substantially as and for the purpose set forth. 35

5. The table A, removable roller B, semi-cylindrical guide C, supporting-roller D, paste-box J, knife G, and cutters H, combined and operating as described, and forming an improvement in paper-tube machines, as stated. 40

6. The lever M, carrying the head L, in combination with a rotary boss, N, fitted to the standard P, and having the lever M pivoted to it, substantially as and for the purpose set forth. 45

7. The lever S, carrying the beading-wheel R, the lever M, carrying the cylindrical head L, and capable of horizontal and vertical motion, and the mandrel K, all combined and operating substantially as set forth. 50

AUGUST TILLMES.

Witnesses:

JOHN A. WIEDERSHEIM,  
W. F. KIRCHER.