

M. D. KEENEY.

Machines for Making Hollow Cylinders of Paper.

No. 152,803

Patented July 7, 1874.

Fig. 1.

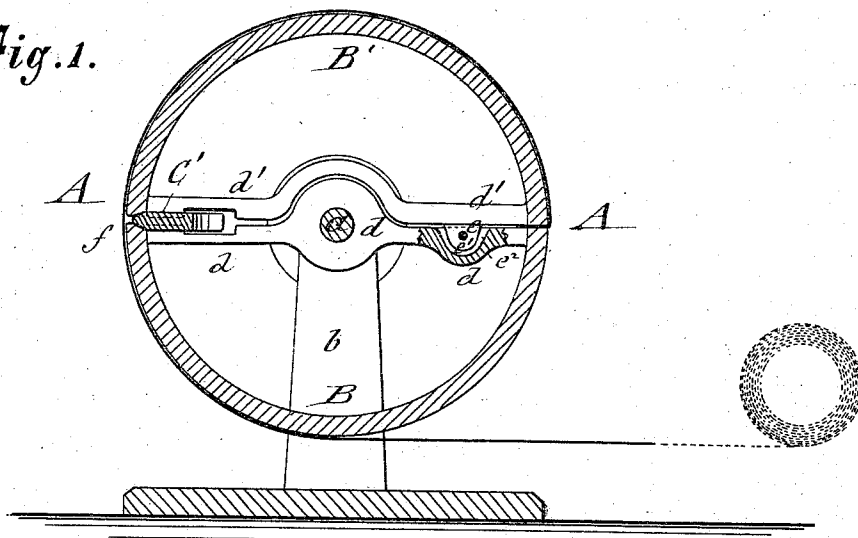
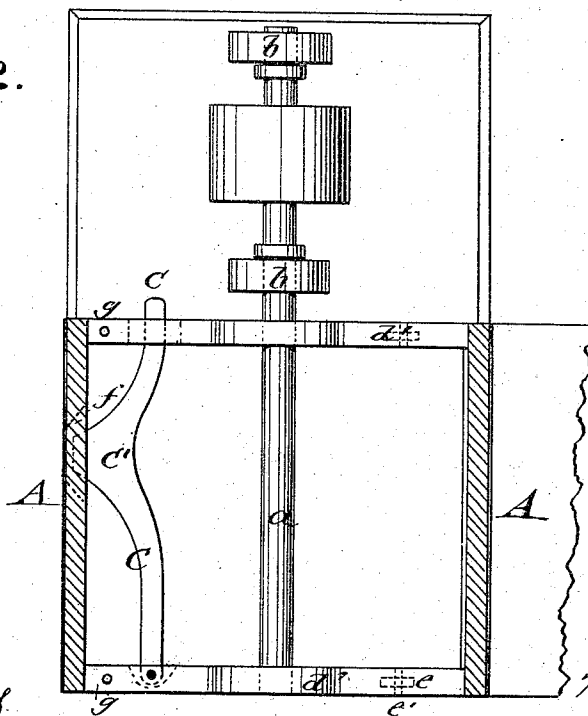


Fig. 2.



WITNESSES:

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MARBLE D. KEENEY, OF ROCKTON, ILLINOIS.

IMPROVEMENT IN MACHINES FOR MAKING HOLLOW CYLINDERS OF PAPER.

Specification forming part of Letters Patent No. **152,803**, dated July 7, 1874; application filed May 1, 1874.

To all whom it may concern:

Be it known that I, MARBLE D. KEENEY, of Rockton, in the county of Winnebago and State of Illinois, have invented a new and Improved Machine for Making Hollow Cylinders of Paper, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical transverse section of my improved machine for making cylindrical paper boxes; and Fig. 2, a horizontal section of the same on the line *c c*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of my invention is to provide, for the manufacture of cylindrical paper boxes or barrels used in the packing of flour and similar substances, an improved machine or apparatus by which the forming of the boxes from layers of continuous paper is greatly expedited, facilitated, and cheapened.

My invention consists of a forming-roller, which is keyed to the free end of a shaft driven by suitable power, and constructed of two semicircular sections, which are pivoted by their diametrical arms and fulcrumed at some distance from one joint of the sections, while the other joint is acted upon by a pivoted wedge-piece, so as to hold the edge of the continuous paper firmly in the clamping-joint by spreading the other joint, and form then the box or barrel on the roller.

In the drawing, A represents the forming-roller, which is keyed to the outer free end of shaft *a*, turning in bearings of standards *b*, which are placed at one side of roller A. The roller A is rotated by a friction-pulley and belt in connection with the driving-shaft. Roller A is constructed of two semicircular sections, B B', which are connected by diametrical arms *d d'*, the arms *d* of one section, B, being keyed to shaft *a*, while the arms *d'* of the other section are fitted around the enlarged part of the shaft-embracing arms *d*. Both sections, B B', are hinged by lugs *e* of arms *d'* and pivot-pins *e'*, about midway between the joint of the sections and the shaft, into corresponding recesses *e''* of arms *d*. A lever, C, is pivoted near the opposite joint of sections B B' to arm *d'*, passing parallel to shaft *a*, between the other arms *d d'*, to the outside of the roller, and projecting with its central wedge part C' into inclined recesses *f*

of the sections B B'. On pressing the wedge C' against the inclined recesses *f*, the sections B B' are spread apart, swinging on the pivot-pins *e'*, and cause thereby the firm closing of the opposite joint. Guide-pins *g* of section B, near spreading-joint, serve to produce the uniform and steady motion of section B'.

The operation of the apparatus is as follows: The end of the strip or roll of continuous paper is inserted between the gripping-joint of the sections B B', the other joint being then expanded to its full size by the action of the wedge-lever thereon, so that the paper is firmly bound by the gripping-joint. The forming-roller is then revolved and the glue sizing or paste evenly distributed by a suitable device—as, for instance, by a pipe with small perforations, connected with the paste-tank above the forming-roller. The paper is fed from the roll until the desired thickness is obtained, when the roller is stopped and the ends of the paper fastened by means of claspbrads driven through the several layers on the edge of one of the semicircular sections, which is covered with iron lining or band for clinching the brads. The paper is then cut and the end thinned off to be held by the paste. The barrel or box is then taken off from the roller by withdrawing the wedge-lever and contracting its size, which releases the end of the sheet from the gripping-joint of the sections, and allows the ready detaching of the box. The paper box is then placed into the pressing-cylinder, afterward dried, provided with heads, and finished in suitable manner to be applied for the purpose of packing flour of all kinds and similar articles.

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

The combination, with two roll-sections, B B', and two diametrical arms or connections, *d d'*, the former hinged to a pin, *e*, passing through the lug *e'* of one arm, and a recess, *e''*, of the other, of the lever C, pivoted at one end, having the other free, and having an intermediate wedge, C', all as shown and described, for the purpose specified.

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Witnesses:

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