

(No Model.)

C. W. HOBBS.
PAPER BOX MACHINE.

No. 543,869.

Patented Aug. 6, 1895.

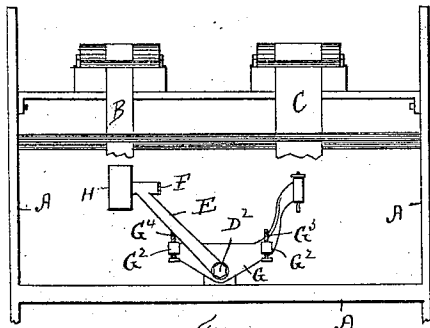


Fig. 2.

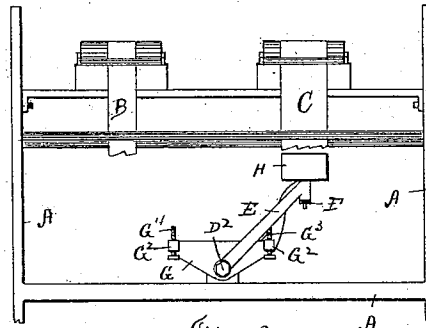


Fig. 3.

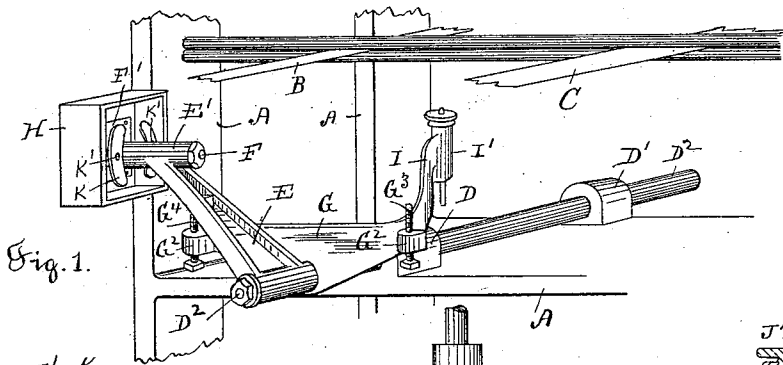


Fig. 1.

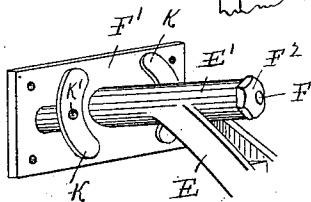


Fig. 5.

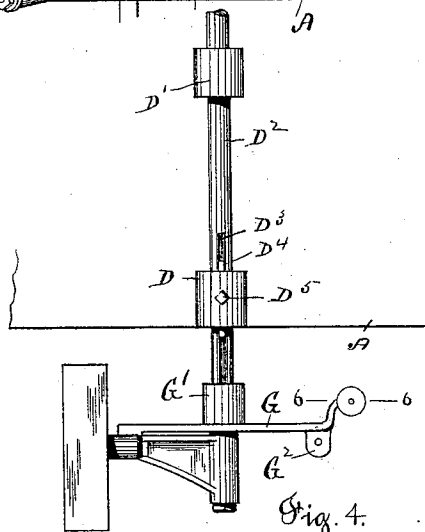


Fig. 4.

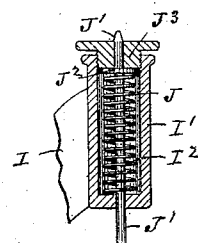


Fig. 6.

Witnesses
Allie C. Whiting
Emma Kester

Inventor
Clarence W. Hobbs.
By his Attorney
Rufus B. Fowler.

UNITED STATES PATENT OFFICE.

CLARENCE W. HOBBS, OF LYNN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO HIMSELF, RICHARD SUGDEN, AND HARRY W. GODDARD, OF SPENCER, MASSACHUSETTS.

PAPER-BOX MACHINE.

SPECIFICATION forming part of Letters Patent No. 543,869, dated August 6, 1895.

Application filed October 10, 1892. Serial No. 448,318. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE W. HOBBS, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Paper-Box Machines, of which the following is a specification, accompanied by drawings representing such parts of the mechanism of a paper-box machine as embody my invention.

My invention relates to that class of paper-box machines by which the outer surface of a paper box is covered with paper taken from a continuous roll and provided upon one side with a coating of adhesive material, the box to be covered being held upon a "former," consisting of a block adapted to fit the inside of the box and support it in suitable position, while the strip of pasted or gummed paper is being applied to its outer surface. A machine of this class is described in the United States Patent granted to W. Orr, Jr., and G. F. Wright, dated August 13, 1867, and numbered 67,669.

My present invention relates to the device by which the former is supported, and it has for its object to provide a simple and efficient means by which a rotating former can be brought into alignment with a strip of paper to be wound about the sides of the box by the rotation of the former and by which the position of the former can be changed and locked from rotation, while a strip of paper is applied to the bottom of the box, thereby allowing the sides and bottom of the box to be covered with paper without the removal of the box from the former.

That part of a paper-box machine by which the roll of paper is gummed and presented in suitable lengths to be applied to the surface of the box held upon the former will be fully understood by those acquainted with the art of covering paper boxes, as such machines are now in use; and as that portion of the machine forms no part of my present invention I have not represented the same in detail in the accompanying drawings.

Figure 1 of the drawings represents in perspective view the former, upon which the paper box to be covered is held and the de-

vice by which the former is supported and shifted in its position, so as to receive gummed paper from either of the two strips presented by the machine. Fig. 2 represents a front view of the box-supporting mechanism, showing the former in position to receive the strip of paper applied to its sides. Fig. 3 represents the box-supporting mechanism in front view with the former in suitable position to receive the strip of paper upon the bottom of the box. Fig. 4 is a top view of the box-supporting mechanism. Fig. 5 is a perspective view of a portion of the box-supporting mechanism representing the plate to which the former is attached; and Fig. 6 represents the latching-pin and its actuating-spring, with their inclosing barrel shown in sectional view on line 6-6, Fig. 4.

Similar letters refer to similar parts in the different figures.

Referring to the drawings, A denotes a portion of the framework, and B C the two strips of paper in position to be applied to the paper box. The mechanism by which the paper is gummed or pasted and the cutting mechanism by which the strips of paper are cut into suitable lengths to be applied to the box are not represented, but may be the same as that shown in the Orr and Wright patent, No. 67,629, or any known form of gumming and cutting mechanism now commonly used in machines of this class.

Held in lugs D D', projecting from the framework A and capable of sliding therein, is a rod D², provided with a groove D³ to receive a spline D⁴ in the lug D, by which the rod D² is held from turning. When suitably adjusted within the lugs D D' the rod D² is clamped in position by means of the set-screw D⁵. Capable of turning upon the end of the rod D² is an arm E, provided at its free end with a socket E' to receive the spindle F, having a plate F' attached to one end and held in position in the socket E' by means of a nut F².

G denotes a plate having a hub G' by which it is attached to the rod D² and extending transversely across the rod with lugs G² at either end, carrying the adjusting-screws G³ and G⁴, by which the angular movement of the arm E about the rod D² is limited, the

screws being so adjusted that when the arm E is rocked about the rod D² into the position shown in Fig. 2 the arm will be supported upon the adjusting-screw G⁴ and the spindle F will be held in a horizontal position, and when the arm E is supported upon the adjusting-screw G³, as shown in Fig. 3, the spindle F will be held in a vertical position.

To the plate F' is attached a rectangular frame H, adapted to fit the inside of a paper box to be covered, and constituting the former. When the former H is brought into the position represented in Figs. 1 and 2 the box held thereon will be in alignment with the strip of paper B, so the strip can be wound around the box by the rotation of the former, the spindle F rotating freely within the socket E'. After the strip B has been applied to the outer sides of the box the arm E is rocked upon the rod D² into the position represented in Fig. 3, bringing the former H into alignment with the strip of paper C and with the bottom of the box uppermost.

Extending upward from the plate G is an arm I, carrying at its upper end the barrel I', inclosing a cylindrical chamber I², containing a spiral spring J and a vertically-sliding pin J', having a collar J³ attached thereto, against which the upper end of the spring J rests and by which the sliding pin J' is forced upward, holding the collar J² against the under side of the screw J³, held within the upper and screw-threaded end of the barrel I'.

Attached to the under side of the plate F' are the curved plates K, having holes K' to receive the upper end of the pin J, when the former is carried into the position represented in Fig. 3, with one of the plates K resting upon the upper surface of the screw J³, thereby preventing the former from being rotated while the strip of paper C is being applied to the bottom of the box. The plate F' is provided with two curved plates K K, so the former can be presented to the paper with either end foremost. The screw J³ can be raised or lowered, so the arm E, when in the position shown in Fig. 3, will rest upon the adjusting-screw G³ and allow the pin J' to enter one of the holes K'.

The change of the former H from one position to the other, as represented in Figs. 2 and 3, so that either of the strips of paper B or C can be applied to the box, is effected by simply rocking the arm E upon the rod D², the proper position of the arm being determined by the adjusting-screws G³ and G⁴. In the position represented in Fig. 2 the former is capable of rotating freely about a horizontal axis, in order to allow the paper to be wound about its sides; but in the position represented in Fig. 3 the former is locked from rotation by the latching-pin J' entering one of the holes K' in the plates K.

The rod D² is longitudinally adjustable in the lugs D D', so the position of the former

can be varied with reference to the framework A.

In the operation of the machine the paper box to be covered is placed upon the former H, and the former is brought into the position represented in Fig. 2. The free end of the paper strip B is then applied to the side of the box and the former rotated, winding the strip of paper around the sides of the box, the strip of paper as it is wound upon the box being drawn from a continuous roll supported in the framework of the machine, but not shown in the drawings, and passing over a gum roll L partially immersed in paste or a solution of gum contained in the gum-box M. The paper wound upon the sides of the box is then severed from the strip B by any of the shearing or cutting mechanisms now in use in machines of this class, and the former H is then changed into the position represented in Fig. 3 by rocking the arm E upon the rod D², one of the plates K being brought against the screw J³, and the end of the pin J' entering one of the holes K', thereby locking the former from rotation and presenting the bottom of the box in proper position to be covered by the strip of paper C, which is drawn over the bottom of the box and cut off at the proper length.

The former is usually a frame or box, preferably of wood, and attached by screws to the plate F', and is readily exchanged for formers of different sizes made to fit the interior of the box to be covered.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a paper-box machine, the combination with mechanism for presenting gummed or pasted strips of paper to be applied to the surface of a box, of an arm pivoted in a plane between said gummed or pasted strips and capable of a rocking motion by which its free end is brought into alignment with either of said gummed or pasted strips, a former carried by the free end of said arm and stops by which the rocking motion of said arm is limited, substantially as described.

2. In a paper box machine, the combination with mechanism for presenting gummed, or pasted, strips of paper to be applied to the surface of a box, of an arm pivoted in a plane between said gummed or pasted strips and capable of a rocking motion by which its free end is brought into alignment with either of said gummed or pasted strips, a spindle journaled in the free end of said arm and at right angles with the axis of said arm, a former carried by said spindle and means for limiting the rocking motion of said arm, substantially as described.

3. In a paper box machine, the combination with a pair of gum boxes and mechanism for presenting gummed, or pasted strips of paper to be applied to the surface of a box, of a rod D², an arm E capable of rocking on said rod, a

plate G attached to said rod, adjusting screws G³, G⁴ held by said plate, a spindle F journaled in said arm and a "former" H carried by said spindle, substantially as described.

5 4. In a paper box machine, the combination with mechanism for presenting gummed, or
pasted strips of paper to be applied to the
surface of a box, of an arm pivoted in a plane
between said gummed, or pasted strips, and
10 capable of a rocking motion by which its free
end is brought into alignment with either of
said gummed or pasted strips, a former carried
by the free end of said arm and a latching
mechanism by which said former is locked
15 from rotation at one end of the angular movement of said rocking arm, substantially as described.

5 5. In a paper box machine, the combination
of a rocking arm E, a spindle F journaled in
20 said arm and carrying a "former" upon which
the box to be covered is supported, plates K,

K, provided with holes K', K', barrel I, sliding pin J' and spring J, and stops by which the angular motion of said rocking arm is limited, substantially as described. 25

6. In a paper box machine, the combination with the fixed frame-work of the machine, provided with lugs D, D', of a sliding rod D², adjustably held in said lugs, a plate G attached to said rod and provided with lugs G², 30 G², set screws G³ and G⁴ held in said lugs, a rocking arm E, capable of an angular motion on said rod, a rotatable "former" carried by said arm and a locking mechanism, by which said "former" is alternately held from rotating as the arm is rocked, substantially as described. 35

Dated this 30th day of September, 1892.

CLARENCE W. HOBBS.

Witnesses:

RUFUS B. FOWLER,
EMMA KESTER.