O. C. HARRIS.

MACHINES FOR FORMING CHEESE-BOXES.

No. 175,977. Patented April 11, 1876.

Fig. 1.

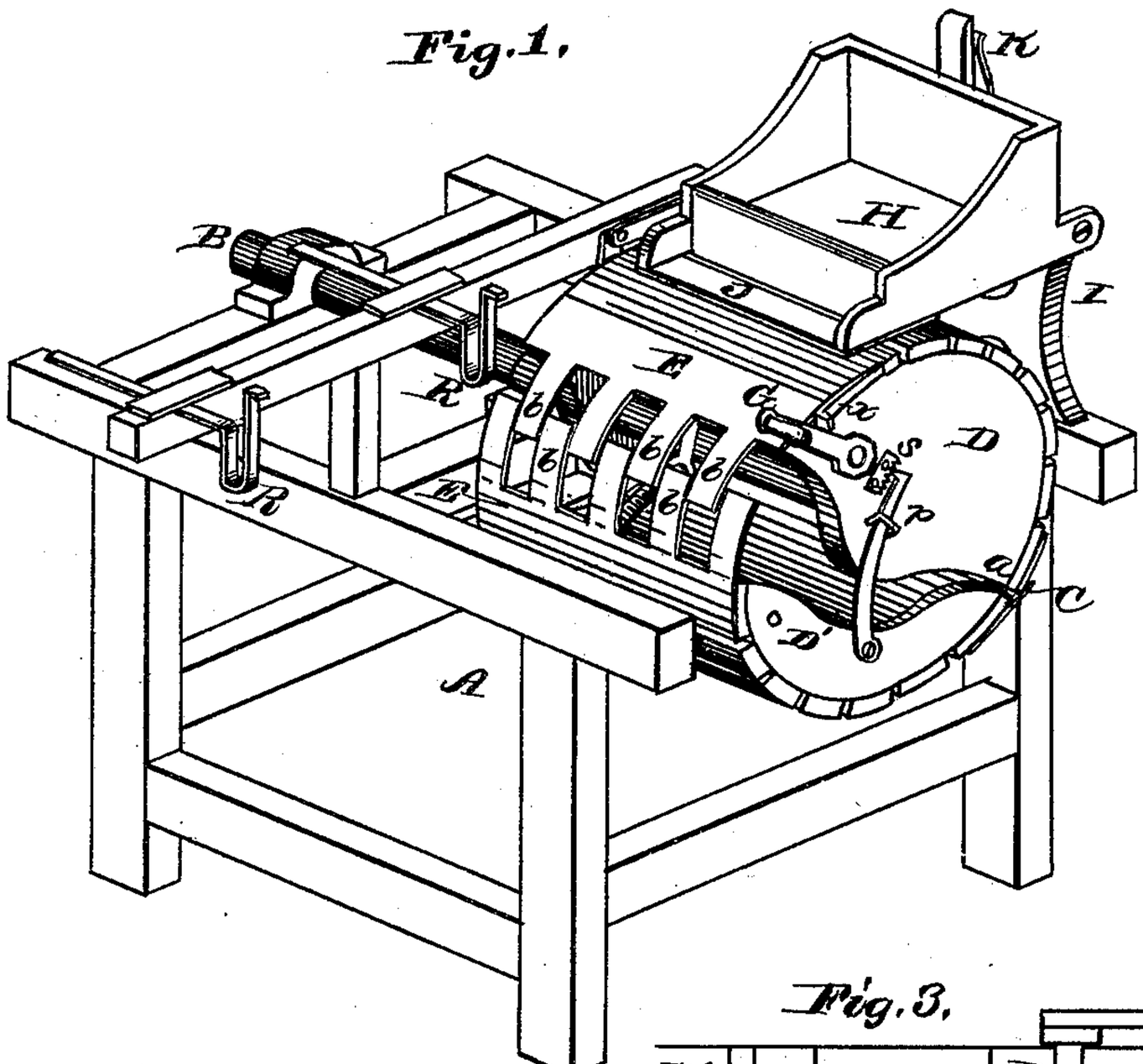


Fig. 2.

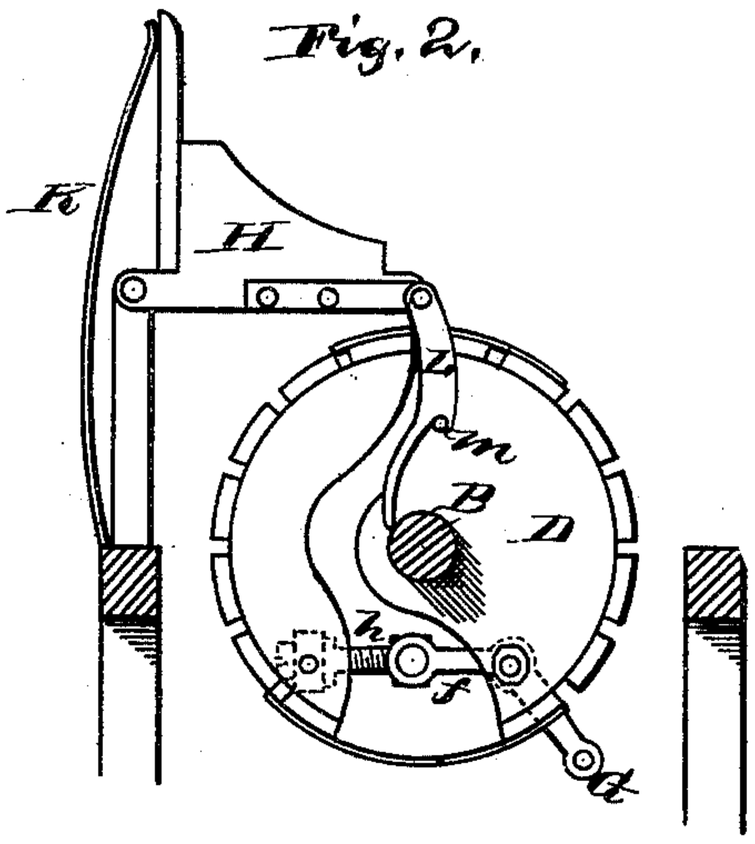
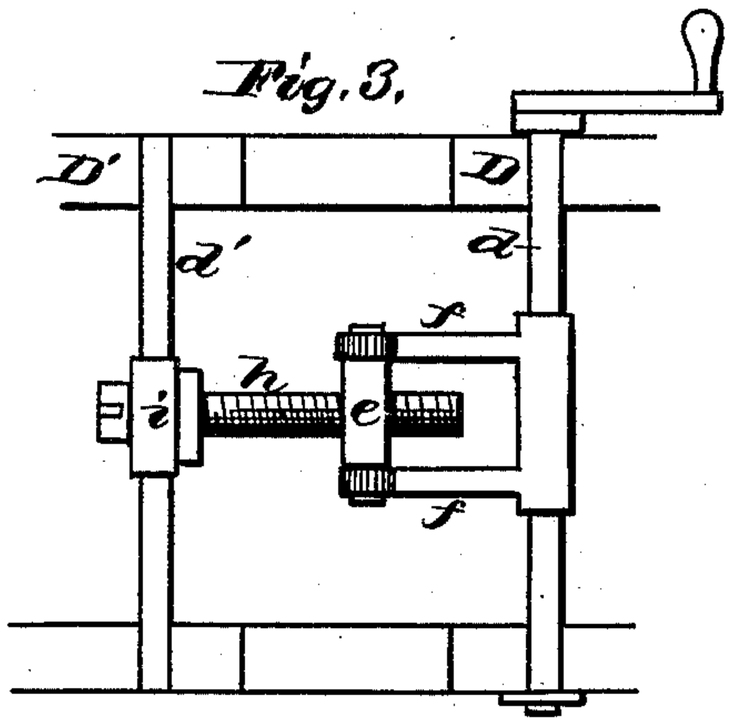


Fig. 3.



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ORRIN C. HARRIS, OF NEWPORT, NEW YORK.

IMPROVEMENT IN MACHINES FOR FORMING CHEESE-BOXES.

Specification forming part of Letters Patent No. **175,977**, dated April 11, 1876; application filed March 10, 1876.

To all whom it may concern:

Be it known that I, ORRIN C. HARRIS, of Newport, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Machines for Forming Cheese-Boxes, of which the following is a specification:

The nature of my invention consists in the construction and arrangement of a machine for forming cheese or other hoop boxes, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a perspective view of my box-forming machine. Fig. 2 is a cross-section of the same, and Fig. 3 shows the mechanism for expanding the cylinder.

A represents the frame of my machine, constructed in any suitable manner to contain the various working parts, as hereinafter described. In suitable bearings on the frame A is placed a horizontal shaft, B, which carries the rotating cylinder. This cylinder is made in two parts, each part consisting of head-pieces connected by slats, as shown. The head-pieces of the part D are made enlarged in the center, so as to be secured on the shaft B, while the head-pieces of the part D′ are correspondingly cut out in the center. The two parts D D′ are hinged together at the point *a*, and along this joint to the part D′ is secured an inclined plate, C, which laps over onto the part D. At the other end both parts are provided with metal plates E, having projecting tongues or fingers *b b*, which mesh with each other, as shown in Fig. 1. Through this end of the main part D of the cylinder is passed a rocking shaft, *d*, provided on its outer end with a crank, G, and within the cylinder with two projecting arms, *f f*, between the outer ends of which is swiveled a nut, *e*. Through this nut is passed a screw, *h*, which is swiveled in a collar, *i*, on a rocking shaft, *d′*, in the part D′ of the cylinder. Above the cylinder is a tack-box, H, pivoted to standards I, and having a metal bar, J, at its front end to bear on the cylinder, the pressure being caused by a spring, K, arranged on the back of the box. The crank G of the shaft *d*, being turned to the left, contracts the cylinder, which is then turned to bring the plate C immediately in front of the pressure-bar J. The end of the hoop from which the box is to be made is then inserted under the edge of said plate. By now turning the crank G to the right the cylinder is expanded by bringing the arms *f* and bolt *h* in the same plane, and when the crank comes in contact with a stop, *x*, on the cylinder, this will commence to turn, the end of the hoop being clamped by the plate C, when the cylinder is expanded. As the cylinder revolves, the pressure-bar J bends the hoop closely around the cylinder, and when it has made a little over one revolution, or when the ends of the hoop overlap each other, they are tacked together. The crank is now turned to the left, which collapses the cylinder, and by turning the cylinder a little to the left a pin, *m*, projecting from its inner end, will catch on a hooked arm, L, depending from the tack-box, and raise said box and pressure-bar up from the cylinder, when the completed hoop or box can be slipped off from the cylinder.

On the outer end of the part D′ of the cylinder is a hook, *p*, to take into a ratchet, *s*, on the part D, to hold the cylinder expanded. The extent of this expansion is regulated by turning the bolt *h*, so that boxes of various sizes may be formed on the same cylinders.

R R represent adjustable guides placed in front of the cylinder, for holding the bands that are to encircle the box when made.

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

1. The collapsible cylinder, made in two parts, D D′, hinged together, and provided at the joint with the clamping-plate C, and at the outer ends with the plates E E, having intermeshing tongues or fingers *b*, substantially as herein set forth.

2. The combination, with the bisected collapsible cylinder D D′, of the rocking shaft *d*, with crank G, arms *f f*, and swiveled nut *e*, and the rocking shaft *d′*, with swiveled bolt *h*,

substantially as and for the purposes herein set forth.

3. The pivoted tack-box H, with pressure-bar J, held, by means of the spring K, against the exterior surface of the cylinder D D′, as and for the purposes herein set forth.

4. The combination of the pivoted tack-box H with pendent hooked arm L, and the pin *m* in the end of the cylinder, for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ORRIN C. HARRIS.

Witnesses:
JOHN G. BARRY,
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