C. M. HYATT.

Machine for Coating Wooden Blocks.

No. 212,229. Patented Feb. 11, 1879.

Fig. 1.

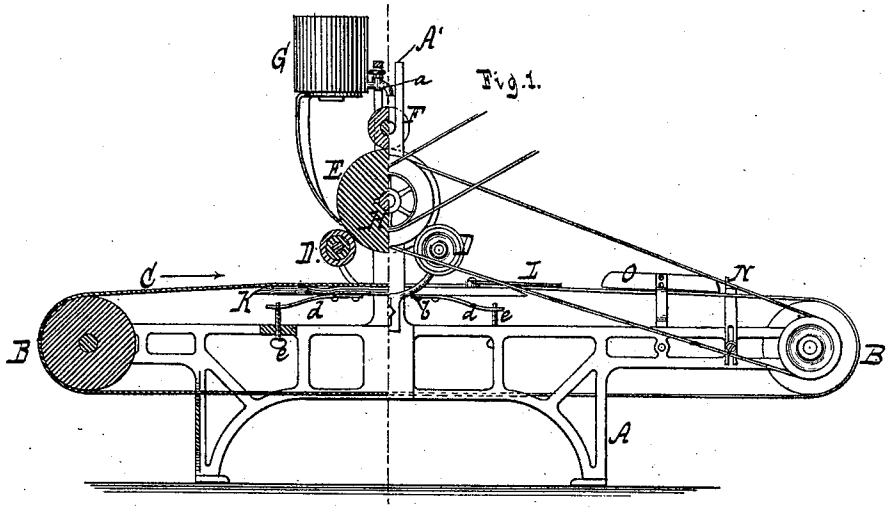


Fig. 2.

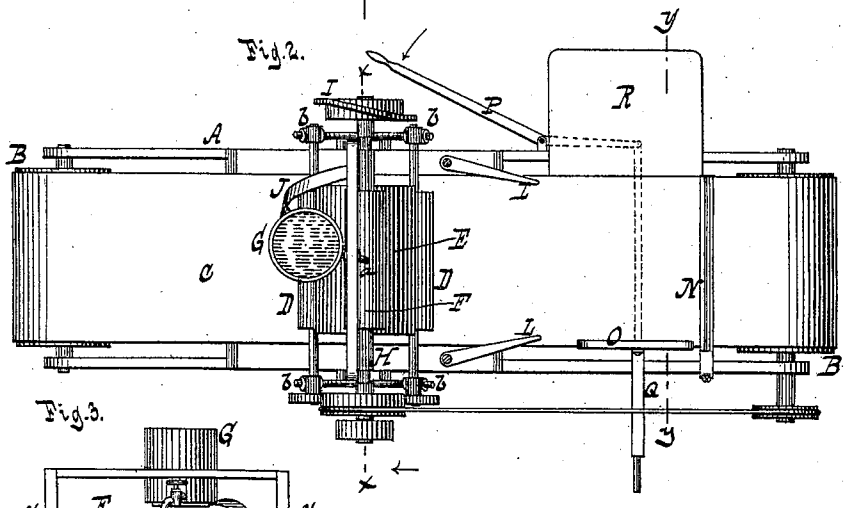


Fig. 3.

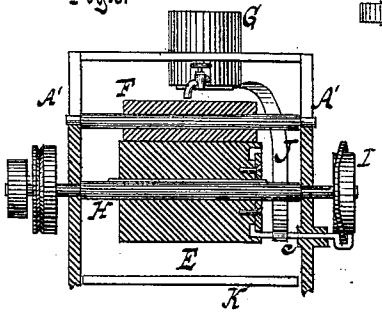
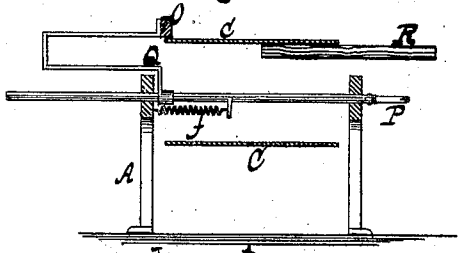


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES M. HYATT, OF ALBANY, NEW YORK, ASSIGNOR TO THE EMBOSSING COMPANY.

IMPROVEMENT IN MACHINES FOR COATING WOODEN BLOCKS.

Specification forming part of Letters Patent No. **212,229**, dated February 11, 1879; application filed November 27, 1878.

To all whom it may concern:

Be it known that I, CHARLES M. HYATT, of the city and county of Albany, and State of New York, have invented a new and useful Improvement in Machines for Coating Wooden Blocks and other articles, which invention is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a side view of my machine, partly in section. Fig. 2 is a plan or top view thereof. Fig. 3 is a cross-section of the same in the plane of the line *x x*, Fig. 2. Fig. 4 is a similar section thereof in the plane of the line *y y*, Fig. 2.

Similar letters indicate corresponding parts.

My invention has relation to a machine which is especially adapted for coating wooden blocks, as used in the manufacture of alphabet-blocks, checkers, dominoes, and the like, with paint, enamel, or other like substance, but which is also practically useful for coating other articles; and it consists in certain novel combinations of parts, as hereinafter fully described, and pointed out in the claims, a preliminary description thereof being, therefore, deemed unnecessary.

In the drawings, the letter A designates the machine-frame, in which are mounted two rollers, B B, supporting an endless apron, C. At a suitable distance above the endless apron C are situated two (more or less) coating-rollers, D D, which are both arranged in superficial contact with a distributing-roller, E, on which rests a pressure-roller, F, the paint or other substance being deposited on this pressure-roller by a stop-cock, *a*, emanating from a trough or reservoir, G, and being thereby applied to the surface of the distributing-roller, which carries the same to the coating-rollers, so that if one or more wooden blocks or other articles are placed on the endless apron C, and this apron is moved forward, the paint or other substance is applied to the surfaces of the articles by the coating-rollers.

The coating-rollers D D are preferably covered with a suitable composition to render the same soft or elastic. The pressure-roller F serves to spread the paint or other substance over the surface of the distributing-roller E, and thus improve the operation of the machine; but this roller F is not indispensable.

The distributing-roller E and pressure-roller F have their bearings in standards A′, rising from the machine-frame, while the coating-rollers D D are mounted in brackets *b*, attached to said standards, these brackets being preferably made adjustable. Motion is imparted to the distributing-roller E by a crank or other suitable means, and this roller engages with the coating-rollers D D, while it is connected with one of the apron-supporting rollers B B in such a manner that the endless apron C receives its motion therefrom, and is caused to travel with the same speed as the coating-rollers.

The distributing-roller E is feathered on its shaft H, so that it is susceptible of a longitudinal movement thereon, and it is connected to a slide, *c*, (best seen in Fig. 3,) which engages with a cam, I, mounted on said shaft, so that when a revolving motion is imparted to the distributing-roller it also receives a longitudinally-reciprocating motion.

The reservoir G is supported by an arm, J, which is secured to the slide *c*, so that simultaneously with the reciprocating movement of the distributing-roller E a corresponding motion is imparted to the reservoir lengthwise of said roller.

By this arrangement a very uniform distribution of the paint or other substance both from the reservoir G to the distributing-roller E and from this roller to the coating-rollers D D is produced.

At a point beneath the coating-rollers D D the endless apron C rests on a bed, K, which serves to resist the pressure of the coating-rollers, and is supported by springs *d*, so that the bed is adapted to yield, and thus accommodates itself to blocks or articles of different heights.

With the springs *d* are combined adjusting-screws *e*, whereby the normal position of the bed K can be regulated.

On opposite sides of the endless apron C are situated converging guides L, which are secured to the bed K or to the machine-frame,

and serve to range the wooden blocks or other articles resting on the apron in line after they have been coated.

Near one end of the endless apron C is situated a stop, N, having the form of a bent arm, one part of which extends across the apron, while the other is secured to the machine-frame. This stop N arrests the blocks or other articles carried along by the apron after they have been coated, so that they can be swept or moved off of the apron in a lateral direction. For this purpose I make use of a clearer-bar, O, which is situated adjacent to the stop N, and is connected to a lever, P, by means of a frame, Q. In its normal position this clearer-bar O is at or near one of the edges of the apron, in which position it is held by the action of a spring, *f*, while, when the lever P is moved in the direction of the arrow indicated in Fig. 2 the bar is caused to sweep across the apron, so as to clear or free the same of any blocks or articles that it may contain. The blocks or articles thus swept off of the apron are received on a table, R, secured to a suitable part of the machine-frame.

I am aware that a machine for coating or graining boards has been provided with an endless belt, arranged a little distance above a rigid bed, and traveling under an impression-roller, the belt serving to feed the board under the roller; but it is the rigid unyielding bed that sustains the board against the pressure of the roller, and owing to the rigidity of said bed the machine is not adapted to operate at one adjustment upon small articles varying in thickness.

Were the rigid bed omitted, and the pressure required to be sustained by the belt alone, said belt would soon be thereby stretched and caused to sag to such an extent as to be ineffective for the purpose intended, and even when new and tight the required pressure would cause the belt to slip upon its supporting-rollers and fail to properly carry forward the articles fed under the roller.

There has also been known a graining-machine having a bed-roller provided with a yielding covering arranged to support the article to be grained against an impression-roller; but, having no feed-belt, such machine is not adapted for operation upon small articles, as such articles would require to be fed one by one between the rollers, and would then fall off on the other side instead of being carried away from the roller in a proper position to be handled and removed without injury to the fresh coating which has been applied. Such arrangements I do not claim.

In my machine the endless belt permits the feeding in a row of the small articles upon which it is designed to operate, the yielding bed permits the operation upon small articles of varying thicknesses, and after passing between the rollers they are removed away therefrom in convenient position for handling and removal without injury to the freshly-applied coatings.

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

1. The combination, in a machine for coating wooden blocks and other articles, of an endless apron or carrier, one or more coating-rollers situated above said apron, a distributing-roller, which is arranged in superficial contact with the coating-rollers and feathered on its shaft, a reservoir to supply the distributing-roller, and mechanism whereby a reciprocating motion is imparted to the distributing-roller, all adapted to operate substantially as described.

2. The combination, in a machine for coating wooden blocks and other articles, of an endless apron or carrier, one or more coating-rollers situated above said apron, a distributing-roller, arranged in superficial contact with the coating-rollers, a reservoir to supply the distributing-roller, and mechanism whereby a reciprocating motion is imparted both to the distributing-roller and to the reservoir, all adapted to operate substantially as described.

3. The combination, in a machine for coating wooden blocks and other articles, of an endless apron or carrier, suitable coating devices situated above the endless apron, and a separate yielding bed arranged beneath the upper part of the endless apron, substantially as and for the purpose described.

4. The combination, in a machine for coating wooden blocks and other articles, of an endless apron or carrier, suitable coating devices arranged above the endless apron, and converging guides arranged on opposite sides of the endless apron, substantially as and for the purpose described.

5. The combination, in a machine for coating wooden blocks and other articles, of an endless apron or carrier, suitable coating devices arranged above the endless apron, and a stop extending across the apron, substantially as and for the purpose described.

6. The combination, in a machine for coating wooden blocks and other articles, of an endless apron or carrier, suitable coating devices arranged above the endless apron, a stop extending across the endless apron, a clearer-bar adapted to be moved over or across the endless apron adjacent to the stop, and a lever for operating said clearer-bar, all adapted to operate substantially as described.

In testimony that I claim the foregoing I hereunto set my hand and seal this 25th day of November, 1878.

CHARLES M. HYATT. [L. S.]

Witnesses:

ROBERT C. PRUYN,

CHAS. L. PRUYN.