
 Inventor:  
Walter S. Mackay.  




# UNITED STATES PATENT OFFICE.

WALTER G. MACKAY, OF NEW YORK, N. Y., ASSIGNOR TO PETER P. COMEN, OF RIDGE-FIELD, CONNECTICUT.

## MACHINE FOR BRONZING WALL-PAPER, &c.

Specification of Letters Patent No. 32,667, dated June 25, 1861.

*To all whom it may concern:*

Be it known that I, WALTER G. MACKAY, of the city, county, and State of New York, have invented certain new and useful Machinery for Bronzing Wall-Paper; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents a vertical longitudinal section, taken through the machine, showing the printing rollers with the paper passing between them on its way to the bronzing trough. This figure represents clearly the several parts constituting my machine for bronzing wall paper. Fig. 2 is a plan view of the machine in which the endless apron, over which the paper passes to be subjected to a beating action when flock is the thing used instead of bronze powder, is removed, or shown only in red lines.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to perform the operation of bronzing wall paper by certain machinery suitably adapted to this purpose, a work which has heretofore been done by hand requiring the expenditure of much labor and time, and an expensive paper is the result. In order to effect the same object I have arranged and combined with the printing rollers certain machinery through which the paper is passed subsequent to the printing operation, and from which it receives the bronze powder, or flock, as the case may be, and after the bronze is applied the superfluity of powder is shaken and brushed off, and the paper comes from the machine ready (after drying) for the burnishing process.

For this purpose my invention consists in a novel arrangement of feeding rollers, brushes and beaters with a suitable hopper to contain the bronzing powder, and from which this powder is suitably supplied to the sized or printed surface of the paper, as said paper is drawn through a trough arranged under said hopper to receive the waste bronze: all being arranged in the manner hereinafter described and represented.

To enable those skilled in the art to fully understand my invention I will proceed to describe its construction and operation.

A A represent the framework upon which the movable parts of the machine are mounted.

B B are the printing rollers, which are essentially the same as those of the ordinary construction, the sizing being applied to the under surface of the paper as it passes between them. From these rollers, B B, the paper passes directly to the trough, C, to receive the bronze, under roller, D, and over roller, D', then down in an oblique direction under the hopper, E, and under a roller, D<sup>2</sup>, having its bearings in either end of the box, or trough, C; and from this roller, D<sup>2</sup>, the paper passes up and over roller, D<sup>3</sup>, thence over a horizontal apron, F, which is and endless band moved by rollers, G G. The paper after having thus passed through the machine is hung up to dry and then burnished, if bronzed, which is the last operation, and is performed in the usual manner by hand.

The trough, C, with its two inclined sides has a wire sieve bottom, *a*, under which is a draw, *b*, for receiving and saving the waste powder not taken up by the moist sizing on the surface of the paper. The hopper, E, has a very fine wire sieve, *d*, in its bottom, and receives a lateral shaking motion from a rotary cam pulley, *c*, this agitation of the powder contained in the hopper keeps up a constant and regular flow of the same through the sieve upon the sized surface of the paper as it moves through the trough, C. Now instead of using a sieve bottom hopper, the bottom may have a slot capable of being adjusted (partially opened) extending the entire length of the hopper, through which the powder may be allowed to escape, or any other suitable distributing bottom may be employed. Probably the slotted bottom hopper will be found best adapted to distributing flock, for making flock paper.

Between the two rollers, D<sup>2</sup> D<sup>3</sup> is a rotary whipping plate, H, extending from one end to the other of the trough, C; this plate receives its motion from the upper printing roller pulley B, through the medium of band, *a'*, and pulley, *b'*; the motion thus transmitted to the whipping plate brings its edges rapidly in contact with the back or unprinted surface of the paper, and the surplus adhering bronze is partly shaken or whipped off. After this operation, which

is final, if bronze paper is being made, the paper passes over an endless apron, F, as before described, and is removed from the machine to the racks for drying.

5 In making flock paper, the operation is as follows—As the paper, after having been bronzed as already specified, passes over the endless apron, printed surface up, two whipping plates K, K, somewhat similar to H  
10 strike the apron F with sufficient rapidity and force to cause the flock to adhere closely to the sized figures on the paper. The action of these last whipping plates has the effect of beating the loose flock into dense  
15 layers and giving a uniform positive appearance to the figures on this paper.

The several parts herein referred to are driven by a continuous system of belts and pulleys from any convenient prime mover,  
20 so that each part will have its relative motion, *i. e.*, so that the movement of the paper through the machine will be in a suit-

able relation to the distributing apparatus, and whipping board or boards.

I do not wish to be understood as limiting my claim of invention to the special constructions specified, as the same end may be obtained by equivalent means.

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

1. The arrangement of the trough C, bronze distributor E, whipping plate H and endless apron F, when arranged and operated in the manner described and for the  
35 purpose specified.

2. In combination with the same I claim the whipping plates K, K, when arranged and operated in the manner described and for the purpose as set forth.

WALTER G. MACKAY.

Witnesses:

MICH. HUGHES,  
B. GNOUS.