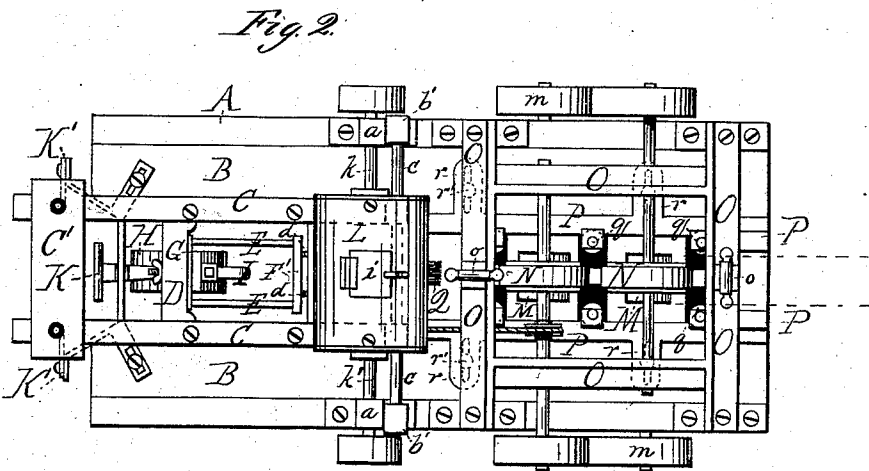
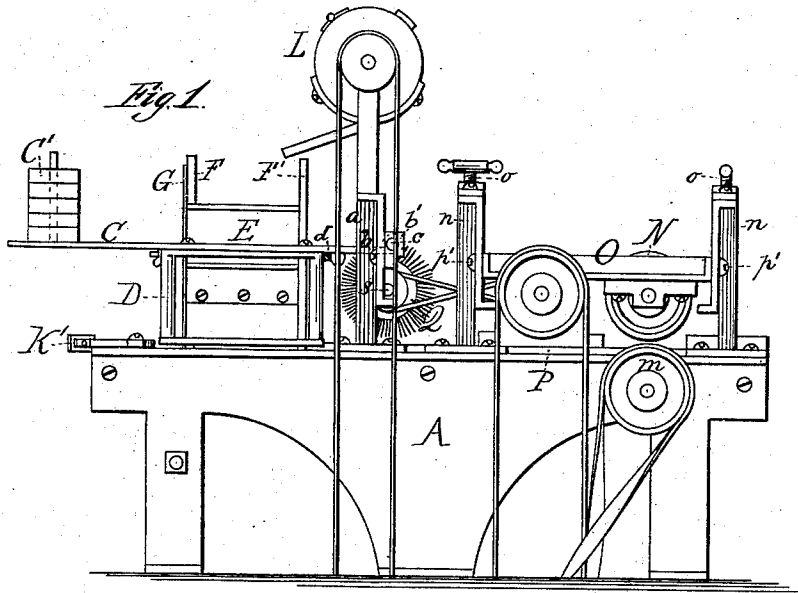


(Model.)

2 Sheets—Sheet 1.

F. BRACHVOGEL.

Machine for Covering Moldings with Whiting.
No. 237,239. Patented Feb. 1, 1881.

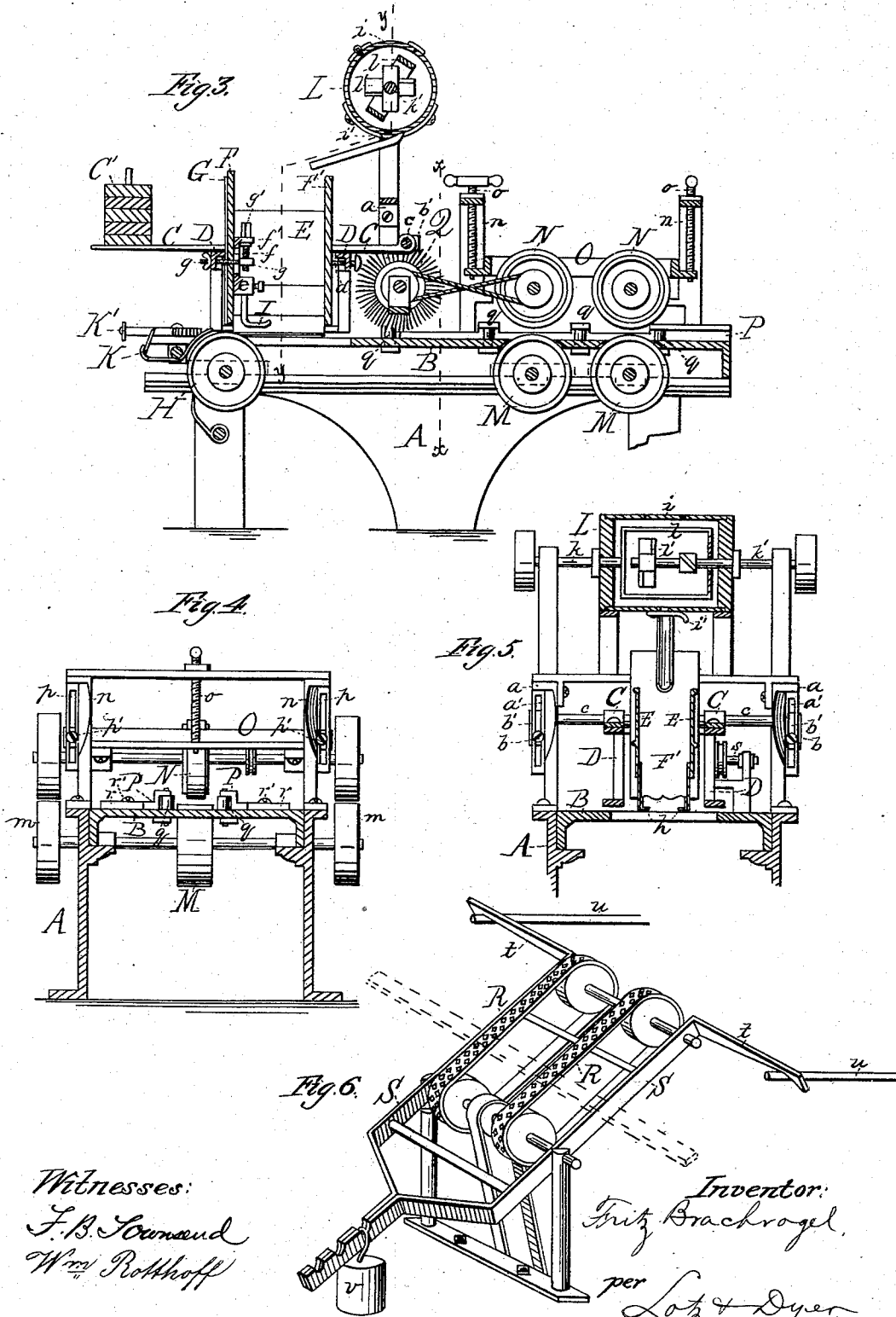


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Machine for Covering Moldings with Whiting.
No. 237,239. Patented Feb. 1, 1881.



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UNITED STATES PATENT OFFICE.

FRITZ BRACHVOGEL, OF CHICAGO, ILLINOIS.

MACHINE FOR COVERING MOLDINGS WITH WHITING.

SPECIFICATION forming part of Letters Patent No. 237,239, dated February 1, 1881.

Application filed May 28, 1880. (Model.)

To all whom it may concern:

Be it known that I, FRITZ BRACHVOGEL, of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Machines for Covering Moldings with Whiting, of which the following is a specification.

The object I have in view is to produce a machine for covering moldings with whiting, operated by connection with the power-shafting, which will do successfully what has heretofore only been accomplished by hand devices, will be continuous in its operation, will coat the moldings in a very much less time and at a smaller cost than by hand, will coat all kinds of moldings, will not injure the moldings in the least, and will give them a much harder and smoother finish than can be made by the hand devices.

My invention therein consists in the several novel devices and in the various novel combinations of the operative parts, all as fully hereinafter explained, and pointed out by the claims.

In the accompanying drawings, forming a part hereof, Figure 1 is a side elevation of the machine; Fig. 2, a top view of the same; Fig. 3, a longitudinal vertical section of the machine; Fig. 4, a vertical cross-section on line *x x*; Fig. 5, a vertical cross-section on line *y y*, and Fig. 6 a perspective view of the device for elevating the moldings after being coated.

Like letters denote corresponding parts in all of the figures.

The machine has a suitable frame, A, for supporting the bed plate or table B. From the frame or table, at about the center of its sides, rise two standards, *a*, having vertical slots *a'*, through which screw-bolts *b* pass into boxes *b'*, which boxes support a cross-shaft, *c*. To the cross-shaft *c* are secured the inner ends of arms C, which extend over one end of the machine, and are adapted to receive removable weights *C'* on their outer ends. The arms C are connected on their under sides by a rectangular frame, D, which is constructed without lower end pieces, and rests upon the table when the machine is not in use. Below the inside of the rectangular frame the table is left open, as shown. The rectangular frame

D is similar in construction to the frame used in the hand device, and in this frame D are secured, by clamping-screws *d*, the side and end boards, E, F, and F', which form a box similar to the hand device. The molding passes under the end boards, F F', and against the side boards, E, and closes the bottom of the box, the whiting being placed within the box upon the molding. The lower edge of the inner end board, F', is shaped to fit the face of the molding, and sets square upon the same, the shaft *c* being fixed at the right point of vertical adjustment. The outer end board, F, is also shaped to fit the face of the molding; but its lower edge is beveled slightly, Fig. 3, so as to better force the whiting into the surface of the molding. The end boards, F F', are of wood, while the side boards, E, may be sheet-metal plates. Between the board F and the end piece of the frame D is a steel board or scraper, G, which also fits the shape of the molding.

While putting the coats of whiting on the molding which form the body of the covering (say the first four coats,) both the board F and scraper G are used. During the operation of putting on the remaining two or more coats the steel scraper G is alone used.

Below the outer end of the rectangular frame D is a loose supporting-wheel, H, having a broad flat face and mounted upon a shaft journaled in the frame. The molding passes over this wheel, which receives the downward pressure exerted upon the molding.

Within the box formed by the side and end boards is arranged a presser-foot, I, secured by a set-screw to a block, *e*, which block has a slotted upward extension, *f*, and a lug, *f'*, at the upper part of the same. A bolt, *g*, passes through the slotted extension *f* and through the outer end piece of the frame D, and is drawn tight by a nut. The head of the bolt *g* is a nut, and in it turns a screw, *g'*, held by the lug *f'*. By these means the presser-foot I can be nicely adjusted and rigidly fixed at any desired point. The presser-foot has a curved end to ride over the ends of the moldings, and rests upon the moldings as they pass through the box, adjusting the distance between the board F and scraper G and the face of the moldings, and preventing the moldings

from springing upwardly by the resistance of the said board and scraper to their movement.

The side boards or plates, E, are clamped, as usual, between the end plates. If the tops of the moldings are only to be covered, in putting the whiting-box together the side plates are set the desired distance apart, so as to rub against the sides of the moldings and prevent the whiting from running down onto the sides of the moldings. If the sides of the moldings are also to be covered, it is evident that the side plates must be set a short distance away from the sides of the moldings; and to prevent the whiting from running out of the box upon the floor the side plates are provided with inwardly-turned lower ends, upon which the moldings press. These ends may be removably attached to the same side plates, or other side plates with fixed inwardly-turned lower edges may be substituted for those in the box, the parts of which can be separated simply by loosening the set-screws; or the side plates with inwardly-projecting lower ends may be used with both styles of molding by setting them farther in or out, although I prefer to use two kinds of side plates, as is usual with the hand devices.

At the end of the frame of the machine a broad scraper, K, is mounted upon a cross-rod for scraping the under side of the moldings, while side scrapers, K', are adjustably secured to the table for scraping the sides of the moldings as they pass from the whiting-box. When the sides of the moldings are covered with whiting the scrapers K' are swung back upon the table. Below this end of the machine may be placed a tub or other receptacle for catching the whiting which is scraped from the moldings and which may escape from the box.

Upon the standards *a* is mounted a stationary mixing-cylinder, L, having a door, *i*, in its top, through which the material is introduced, and an opening in its bottom covered by a hand-valve, *i'*, for discharging the whiting. A spout, *j*, is provided for conveying the whiting to the box. Through the opposite heads of the cylinder L pass independent shafts *k k'*, having pulleys on their outer ends, connected by belts with the shafting, for turning the shafts *k k'* in opposite directions. Within the cylinder L the shafts *k k'* carry mixers *l l'*, which turn one within the other, as shown.

To feed the moldings to the whiting-box, the machine is provided with broad flat-faced wheels M, which project up through the table and are keyed to shafts journaled in the frame, such shafts having pulleys *m*, for connecting with the power-shafting. Above the wheels M are rubber-faced wheels N, keyed to shafts turned by the power in the opposite direction to the revolution of the wheels M, and mounted in an adjustable frame, O. This frame is moved up and down, to suit the thickness of the molding upon standards *n*, by means of screws *o*, which turn through cross-pieces con-

necting the standards. The standards *n* have slots *p*, through which screw-bolts *p'* pass into the frame O, for guiding such frame and locking it rigidly at any desired point of adjustment.

For guiding the moldings sidewise and keeping them straight a number of vertical rollers, *q*, are provided, which are journaled in guide-plates P, adjustably secured to the table B by means of slotted tongues *r* and screw-bolts *r'*. The rollers *q* are adjusted back and forth in slots in the table B, and press against the sides of the moldings.

Close to the whiting-box is mounted in standards on the table a small shaft, *s*, turned by connection with one of the feed-wheel shafts. This shaft *s* carries a brush-wheel, Q, which brushes the dirt and shavings from the moldings when run through the machine the first time. After the first coat is given the moldings the brush-wheel can be taken off and a rubber-faced pressing-wheel put on the shaft in its place, in which case the small belt that drives the shaft *s* would be thrown off of its wheels.

The feed-wheels and guide-rollers being adjusted for the thickness and width of the particular molding-strip to be covered, the machine is started. The materials are put into the mixing-cylinder and properly mixed. The side and end boards, the scraper, and the presser-foot are secured in the frame D, and the whiting-box is formed. A piece of molding is placed under the whiting-box resting on the table, between the guide-rollers, but in advance of the revolving feed-wheels, and on the supporting-wheel H. The parts of the whiting-box are adjusted, the presser-foot fixed at the right elevation, and the proper amount of weight is placed upon the arms C. The whiting is allowed to run into the box until it covers the molding two or three inches deep. Another molding is then entered between the feed-wheels, and, advancing, pushes the first molding out of the whiting-box and takes its place. The moldings are placed one after another in a continuous line upon the table between the feed-wheels. Since each piece of molding while yet upon the table of the machine passes out of reach of the feed-wheels, the joint formed between it and the next piece of molding which pushes it along must be very close, forming, in fact, a continuous strip, which always keeps the bottom of the whiting-box closed; and if for any reason the workman stops feeding the pieces of molding to the machine, the piece in the machine will stop until forced along by another piece of molding. Consequently the whiting-box cannot be accidentally opened at the bottom so as to waste any considerable quantity of whiting.

By having the whiting-box mounted in a swinging weighted frame sufficient pressure can be exerted upon the molding to scrape off the superfluous whiting, so that the machine will give an exceedingly hard and smooth fin-

ish to the moldings. The box can also be readily lifted up by (removing the weights) to adjust or remove the parts.

As the moldings are forced from the delivery end of the machine they are taken by hand and laid crosswise upon two endless belts or chains, R, which are provided with spurs to stick into the under side of the moldings. These belts or chains R pass over wheels carried by shafts mounted in a rocking frame, S, which has arms *t*, for hooking over the pins *u* of the drying-racks. The frame S is adapted to be adjusted by swinging it upon its pivots to carry the moldings to the different racks, and it is counterbalanced by a weight, *v*.

It is evident that the feed-wheels, the mixing-cylinder, and the brush-wheel could all be connected by gearing or belts, so that only one connection would have to be made with the power-shafting.

What I claim as my invention is—

1. In a machine for covering moldings with whiting, the combination, with the whiting-box and the feed-table, of the broad flat-faced metal feed-wheels M, projecting upwardly through the table, the rubber-faced feed-wheels N, carried by a vertically-adjustable frame and situated above the metal wheels M, and the vertical guide-rollers *g*, carried by horizontally-adjustable plates, all of such feed-wheels and guide-rollers being located in front of the whiting-box, substantially as described and shown.

2. In a machine for covering moldings with whiting, the whiting-box mounted in a pivoted weighted frame, said box pressing bodily downwardly upon the molding and adapted to be raised bodily therefrom, substantially as described and shown.

3. In a machine for covering moldings with

whiting, the combination, with the whiting-box, of the adjustable presser-foot I, situated within such whiting-box, substantially as described and shown.

4. In a machine for covering moldings with whiting, the combination, with the whiting-box mounted in a swinging weighted frame, of the adjustable presser-foot situated within the whiting-box, and serving to regulate the distance of the end plate from the surface of the molding, substantially as described and shown.

5. In a machine for covering moldings with whiting, the combination, with the whiting-box mounted in a weighted frame, of the loose supporting-wheel beneath the box, substantially as described and shown.

6. In a machine for covering moldings with whiting, the combination, with the whiting-box mounted in a weighted frame, of the adjustable presser-foot situated within the whiting-box, and the loose supporting-wheel below the box, substantially as described and shown.

7. In a machine for covering moldings with whiting, the combination, with the whiting-box and feed-wheels, of the brush-wheel Q, situated in front of the whiting-box, for cleaning the moldings before they receive the first coat of whiting, substantially as described and shown.

8. In a machine for covering moldings with whiting, the combination, with the feed-wheels and the whiting-box, of the mixing-cylinder situated above the whiting-box and having revolving stirrers, constructed and arranged substantially as described and shown.

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