F. MARTIN, Jr.

Saw-Dust Conveyer.

No. 218,757. Patented Aug. 19, 1879.

Fig. 1.

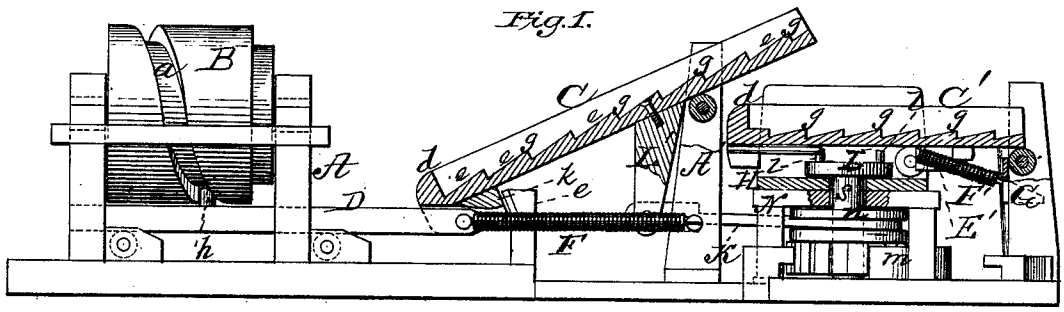


Fig. 2.

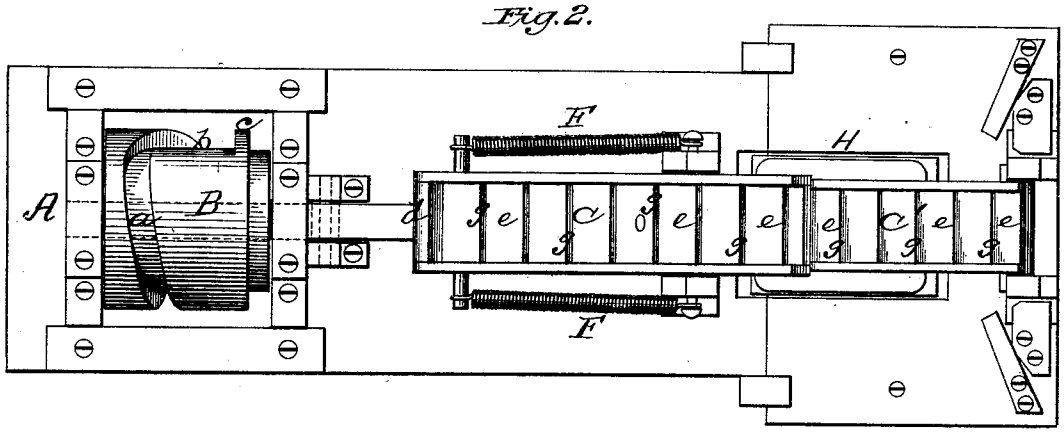
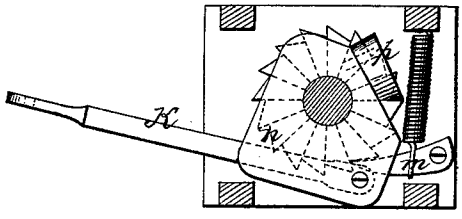


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

FREDERIC MARTIN, JR., OF WEST JEFFERSON, OHIO.

IMPROVEMENT IN SAWDUST-CONVEYERS.

Specification forming part of Letters Patent No. **218,757**, dated August 19, 1879; application filed March 22, 1879.

To all whom it may concern:

Be it known that I, FREDERIC MARTIN, Jr., of West Jefferson, in the county of Madison and State of Ohio, have invented a new and valuable Improvement in Sawdust and Refuse Elevator and Conveyer; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my improved conveyer. Fig. 2 is a top view of the same.

This invention has relation to machines for raising and conveying sawdust and refuse out of saw-mill pits; and it consists in the construction and novel arrangement of the step-bottom troughs having reciprocating motion, the driving-cams, bumpers, reacting-springs, and turn-table, all as hereinafter shown and described.

In the accompanying drawings, the letter A desigates the frame-work. B indicates the driving-cam, which is operated by means of a belt from the saw-mill or otherwise. This cam is provided with a spiral groove, *a*, extending about three-fourths of the distance around it, and communicating with a recess, *b*, having a returning-shoulder, *c*, said recess occupying the remaining fourth of the circumference of the cam.

C C′ indicate the elevating and conveying troughs, each having two side walls and one end wall, *d*, the other or discharging end being open. The bottoms of these troughs are formed with inclined steps *e* and shoulders *g*, the latter facing the open ends of the troughs, and the former extending from the top of one shoulder to the base of the next in rear. These inclined steps are long enough to provide a gradual ascent. The first or main elevating-trough, C, rests by its upper end on a suitable anti-friction roller, which has its bearings in the frame-standards A′, and its lower end is provided with an under projection or stop, *k*, which is pivoted to a slide, D, which works back and forth on anti-friction rollers under the cam B, and has a wrist-pin, *h*, for engagement with the cam.

In front of the stop-projection of the elevator-trough is located a bumper, *e*, which is faced with rubber or other suitable material. Springs F connect the elevator-trough to the standards A′ or other fixed attachments.

It is evident that as the cam B is turned the slide will draw the elevator downward and toward the cam, and that when the wrist-pin of the slide reaches the shoulder *c* of the cam-recess the reacting-springs F will quickly throw the trough forward and upward, bringing its stop-projection *k* into forcible contact with the bumper *e*, and causing the contents of the trough to jump forward and upward. The sawdust and other refuse are delivered to this trough by means of a hopper leading from the saws. Next to this leading trough C is arranged the succeeding conveyer or trough, C′. This trough is also seated on anti-friction rollers, its forward end being supported by an adjustable standard, G. Its rear end, which is under the discharging end of the leading trough, is provided with a catch or ledge on its bottom, to one side thereof, and is supported on a turn-table, H.

A rotating disk, L, having two or more working-studs, *l*, serves, as the disk turns, to engage the catch and carry it to the rear, when it suddenly becomes disengaged and allows the trough to be thrown forward by the reacting-springs F′, whereby it is connected to the standard G. This disk L is provided with a stem or spindle, *s*, which extends downward through the turn-table H, and a supporting-frame, N, carries on its lower end a ratchet-wheel having radial teeth on its upper surface as well as edge teeth. The latter engage with a spring-pawl, *m*, which prevents the ratchet from turning backward, and the former engage with a drop-pawl, *p*, which is pivoted to one end of a short lever, *n*, working on the stem *s*, the other end of which is pivoted to a connecting-bar, K, which is joined to a post or arm, L′, extending downward from the bottom of the leading trough C.

It is apparent that intermittent motion is communicated from the leading trough to the disk L′, and by the latter to the second trough,

C′, which is also provided with a bumper, E′. The motion of the latter trough is, however, usually slower than that of the leading trough.

The turn-table H has side walls which extend upward beyond the sides and end of trough C′, and are sufficiently flared outward to form a hopper, whereby the dust and chips or other refuse are guided into this end of the second trough from the discharging end of the preceding trough, whether the second trough be in line with the first or turned at an angle therewith upon its turn-table. In the latter case its standard is moved around into corresponding position. This enables the mass of dust and refuse to be deposited at different points, and prevents the end of the machine from becoming clogged.

It is evident that this arrangement can be extended by the introduction of other conveying-troughs and working parts, according to the height and distance to be traversed.

The troughs are usually covered with lids fixed to post to keep out the rain.

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

1. The combination, with the stepped reciprocating troughs C C′, of the reacting-springs F F′, the bumpers *e* E′, and intermittent driving machinery, substantially as specified.

2. The combination, with the cam B, slide D, trough C, springs F, and bumper E, the trough C′, its turn-table H, springs F′, bumper E′, adjustable support G, and operating mechanism connected to the trough C, substantially as specified.

3. The elevator and conveyer consisting of a series of stepped troughs, having reciprocating motion and reacting against bumpers, and having turn-tables and adjustable supports, to change the direction of the series when desired, all constructed and arranged to operate by suitable mechanism, as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

FREDERIC MARTIN, JR.

Witnesses:
JOHN N. BEACH,
MILO S. MCNEAL.