(No Model.)

E. ROAT.

STARCH MACHINERY.

No. 254,158. Patented Feb. 28, 1882.

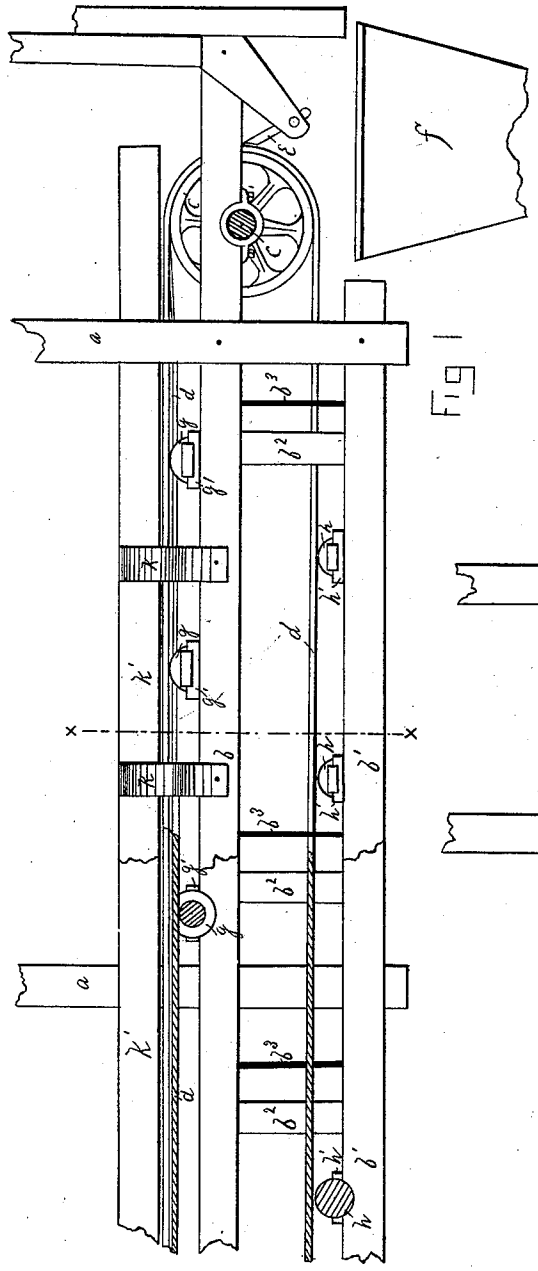


Fig 1

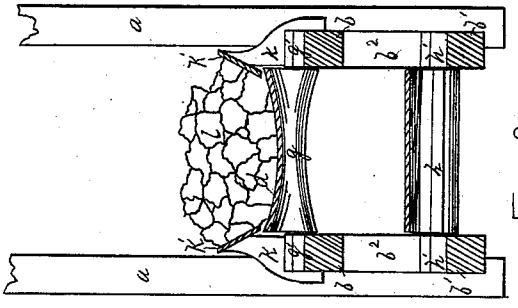


Fig 2

WITNESSES:

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EDWIN ROAT, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO HARRY HAMLIN, OF SAME PLACE.

STARCH MACHINERY.

SPECIFICATION forming part of Letters Patent No. 254,158, dated February 28, 1882.

Application filed October 3, 1881. (No model.)

To all whom it may concern:

Be it known that I, EDWIN ROAT, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Starch Machinery; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to machinery used in the manufacture of starch.

Endless bands or carriers unsupported, except upon their ends, or supported at intermediate points by plain cylindrical rollers, have been commonly used for a variety of purposes; but they have not been found practicable for conveying the starch as it comes from the settling tables or tanks to any point desired, both on account of their limited capacity to do the work required and the liability of the lumps of starch to fall back into the table or tank during their transit. My improved carrier is designed to obviate these difficulties; and to this end it consists in an endless band or carrier supported from the ceiling over the settling tank or table, the upper portion of which carrier is supported upon rollers made in concave form and having, in addition thereto, inclined sides to keep the starch from falling off the carrier while it is in transit thereon.

In the drawings, Figure 1 is a side elevation of a portion of my improved carrier with one end thereof shown in central longitudinal section. Fig. 2 is a transverse section thereof, taken on the line *x x*.

Referring to the drawings, *a a* are the hangers, which are secured to the ceiling and support the frame-work carrying the endless belt. *b b b' b'* are longitudinal stringers, which are keyed into the hangers *a a*. These stringers are braced at intervals by the upright posts b^2 b^2 and tie-rods b^3 b^3. Near one end of the upper stringers, *b b*, is located the pulley *c*, which revolves upon journal *c'*, operated by belt and pulley. (Not shown.) Around this pulley *c* passes the endless band or carrier *d*, the corresponding pulley at the other end not being shown in the drawings. The usual scraper for clearing the carrier of adhering starch is shown at *e*, and just below the scraper is located the hopper *f*, into which the starch falls from the carrier.

g g represent a series of rollers made in concave form, as clearly shown in Fig. 2. These concave rollers revolve in boxes *g'*, secured upon the upper side of the stringers *b b*. A series of plain cylindrical rollers, *h*, revolving in boxes *h'* upon the upper side of stringers *b' b'*, serve to support the under portion of the endless band or carrier and prevent undue sagging thereof.

Upon the stringers *b b*, at suitable intervals, are secured the brackets or supports *k*, to which are attached the longitudinal strips *k'*. These strips *k'* are inclined outwardly from the sides of the carrier, at which sides their lower edges are located so as to be almost in contact therewith.

My improved carrier is located, as before stated, over the settling tables or tanks, and is put in motion by revolving the end pulley, *c*, around which the carrier passes. The lumps of starch are shoveled from the tank or table below upon the endless band, as shown at *l* in Fig. 2. The weight of the starch causes that portion of the endless band passing over the concave rollers to conform to the concave surface thereof, thereby giving additional carrying-space not otherwise secured, and this, taken in connection with the additional carrying-space afforded by the inclined strips or sides, serves to give to my device improved functions not possessed by the common form of carrier now in use for this purpose.

I do not wish to confine myself in this my invention to the sole object of conveying starch from one point to another, as my improved device is obviously applicable to many other purposes.

I do not claim the combination, with a starch-depositing table, of an endless conveyer-belt arranged horizontally over the table at a height at which the starch from all parts of the table can be conveniently deposited upon the conveyer-belt for the purpose of being conveyed to the proper receptacle.

I claim—

1. An apparatus for conveying starch, &c., consisting of a frame-work suspended from the ceiling and having mounted therein a series of concave rollers, upon which the upper portion of an endless band or carrier travels, and inclined sides or strips for keeping the starch, &c., upon the carrier while in transit thereon, substantially as shown and described.

2. In an apparatus for conveying starch, &c., the combination of the endless band or carrier with the concave supporting-rollers, substantially as shown and described.

3. In an apparatus for conveying starch, &c., the combination of the endless band or carrier with the concave supporting-rollers and the inclined strips or sides for keeping the starch upon the carrier while in transit thereon, substantially as shown and described.

EDWIN ROAT.

Witnesses:
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