(No Model.)

P. H. GRIMM.

STARCH SEPARATOR.

No. 261,445. Patented July 18, 1882.

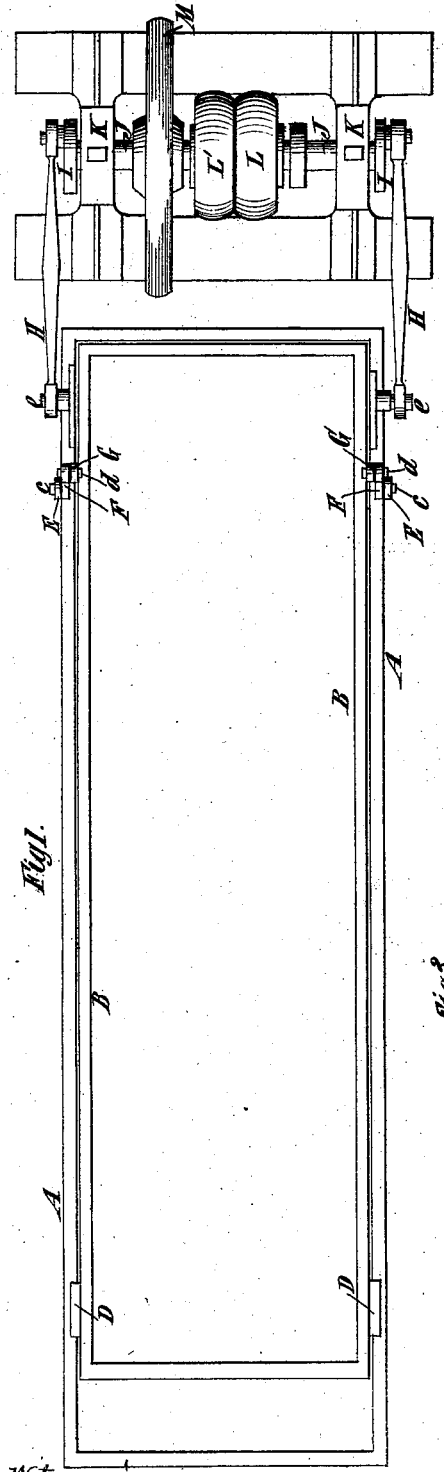

Fig1.

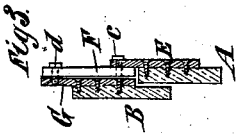

Fig3.

Fig4.

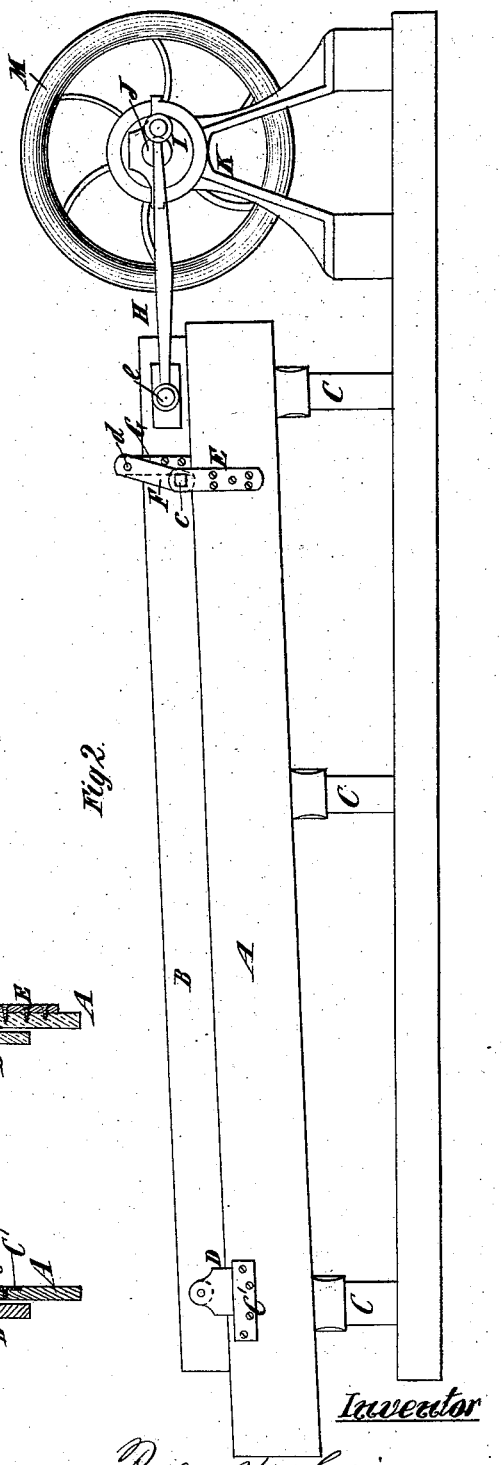

Fig2.

Witnesses
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UNITED STATES PATENT OFFICE.

PAUL H. GRIMM, OF GLEN COVE, NEW YORK, ASSIGNOR TO THE GLEN COVE MANUFACTURING COMPANY, OF SAME PLACE.

STARCH-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 261,445, dated July 18, 1882.

Application filed April 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, PAUL H. GRIMM, of Glen Cove, in the county of Queens and State of New York, have invented certain new and useful Improvements in Starch-Separators, of which the following is a specification.

My invention relates to that class of separators in which are employed frames having bottoms composed of bolting-cloth or other reticulated or foraminous material, in which the starch stock is placed, and which are agitated or shaken to separate the coarser particles of stock from the finer amylaceous particles, which pass through said bottoms, and which are afterward manipulated to form starch.

The invention consists in the combination, with such a separator bolting-frame, of a novel combination of devices, hereinafter particularly described and claimed, for supporting the same, so as to provide for shaking or reciprocating it rapidly and for imparting such a motion to it.

In the accompanying drawings, Figure 1 represents a plan of a machine embodying my invention. Fig. 2 represents a side view thereof. Fig. 3 represents a transverse section of one side of the bolting-frame and its supporting-box, showing the devices for supporting one end of said bolting-frame; and Fig. 4 represents a similar view, showing the devices which support the other end of said bolting-frame.

Similar letters of reference designate corresponding parts in all the figures.

A designates the stationary box or receiver of the machine, which has an imperforate bottom, at one end of which may be an opening for the discharge of the material delivered into it.

B designates the shaking-frame, which has a bottom of bolting-cloth or other reticulated or foraminous material, and which fits above and within the box A, both it and the box A being in an inclined position, as clearly shown in Fig. 2. The stationary box A rests on and is supported by a frame-work, C, while the shaking-frame B is supported by the said stationary box. One end of the bolting-frame B has a sliding support, while the other end has a swinging support. The sliding supports are formed by tracks C′ on the box A and shoes or slides D on the bolting-frame B. The tracks C′ are here shown as composed of angle-pieces, which rest upon the top edges of the sides of the box A and are screwed or bolted to the outer sides thereof, as clearly seen in Fig. 4, and the shoes or slides D are bolted or otherwise secured to the sides of the frame C and run in grooves *b* in the tracks C′.

At the end of the box A opposite to that at which are the sliding supports are upright standards or bearings E, to the upper ends of which, above the box A, are pivoted links or bars F, which are adapted to swing or vibrate on their pivots *c*. At the sides of the bolting-frame B are secured standards or bearings G, which project above the frame B and are connected to the upper ends of the links or bars F by pivots *d*. The standards or bearings E and G may be considered as parts of the box A and frame B, respectively, and it is obvious that the links or bars F may swing freely back and forth to permit of the reciprocation of the bolting-frame B. The links or bars F are short, and hence it will be seen that as the bolting-frame B is reciprocated it also has a rising-and-falling motion at one end, due to the arcs described by the pivots *d*, and such rising-and-falling motion renders the bolting-frame much more effective in its operation. By this arrangement of links or bars F, I am not only enabled to make them short, but with a given amount of longitudinal movement of the screen I obtain a relatively great rising-and-falling movement. To enable me to make these links or bars F so short, I pivot them at their lower ends to the side walls of the receiver, as before stated, all of which is of considerable advantage over those machines of a similar nature wherein long vibratory arms are connected at their lower ends to a horizontal transverse shaft rocking in bearings secured to the bed-frame of the machine.

H designates pitmen or connecting-rods connected directly to wrist-pins *e* on opposite sides of the bolting-frame B, and actuated by cranks I on the ends of the shaft J, which is mounted in suitable bearings, K, and may be rotated by a belt, for which are provided fast and loose pulleys L L′. The shaft J may also have a fly-wheel, M, for making its rotation more uniform.

In lieu of the two rods H, a single rod con-

nected to the bolting-frame B at about the middle of its width might be used.

The starch stock is placed in the bolting-frame B, and by its reciprocation all the finer amylaceous particles which are to be manipulated to make starch are caused to pass through the reticulated or foraminous bottom thereof, while the coarser particles are retained thereon and are delivered separately.

I am aware that the bolting-frame of a starch-separator has been suspended above a stationary box or receiver by upright arms connected with the bolting-frame and pivoted at their lower ends to the floor which supports the box or receiver; but such I do not claim.

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

In a starch-separator composed of a stationary box or receiver, a bolting-frame, and mechanism for reciprocating the latter, the herein-described devices for supporting the bolting-frame on and above the box or receiver, consisting of the vertical standards E E, rigidly secured to and projecting above the side walls of the box or receiver, the vertical standards G G, rigidly secured to and projecting above the side walls of the bolting-frame, and the short links F F, having their lower ends pivoted to the standards on the box or receiver and their upper ends pivoted to the standards on the bolting-frame, all substantially as shown and described.

P. H. GRIMM.

Witnesses:
FREDK. HAYNES,
ED. MORAN.