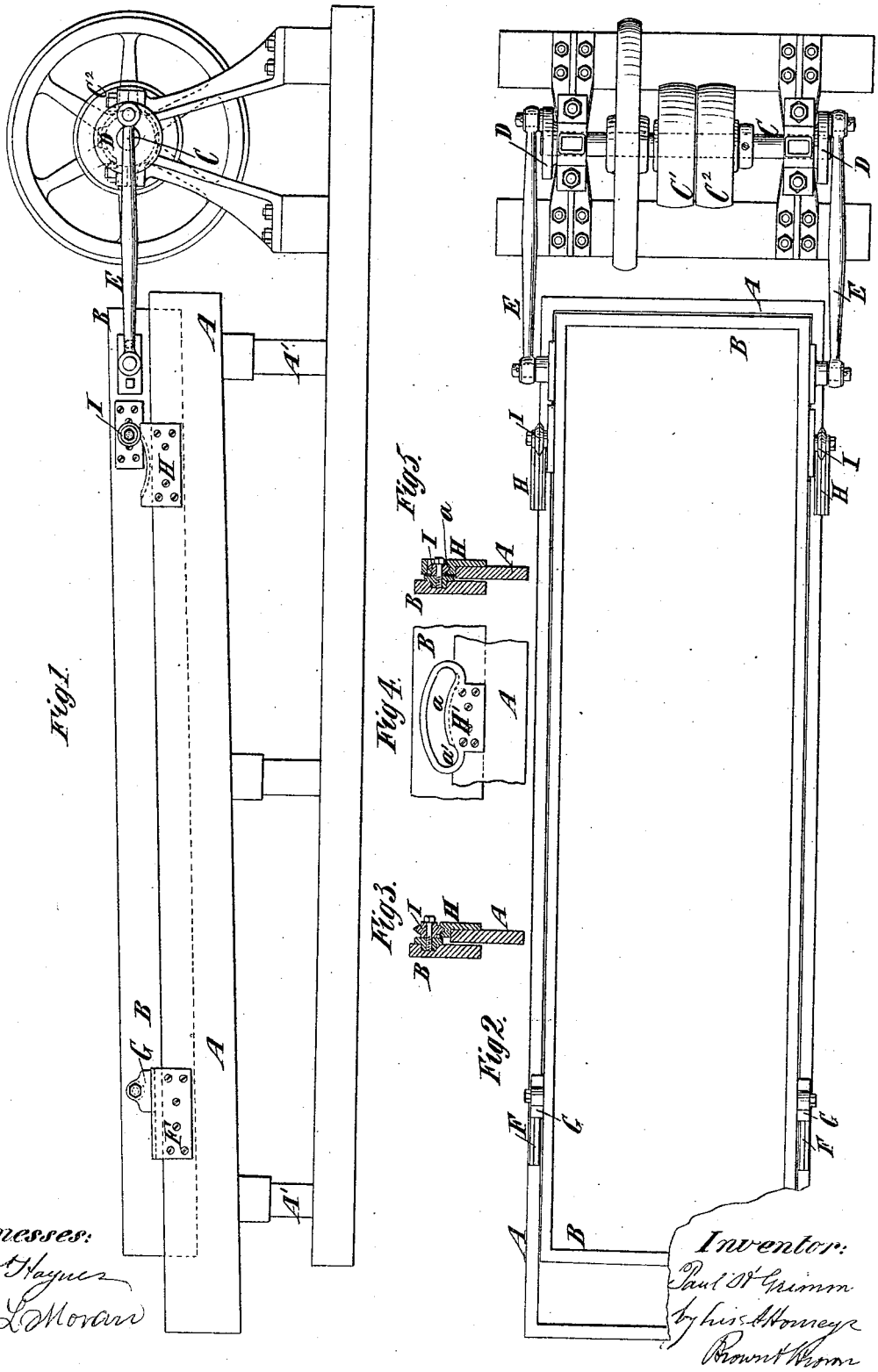
(No Model.)

P. H. GRIMM.

STARCH SEPARATOR.

No. 266,136. Patented Oct. 17, 1882.



Witnesses:
Wm. Hayes
Ed. L. Moran

Inventor:
Paul H. Grimm
by his Attorneys
Brown & Brown

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. 266,136, dated October 17, 1882.

Application filed July 24, 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 a new and useful Improvement in Starch-Separators, of which the following is a specification.

My invention relates to the kind of starch-separator which comprises a reciprocating screen, into which the water containing the amylaceous substances is allowed to run, and through which the finer amylaceous particles pass into a box or receptacle below the screen. This screen has been supported at one end by swinging arms pivoted to the stationary box or receptacle, or projecting from a rock-shaft arranged below the same, and where so supported the screen has, in addition to its reciprocating motion, a slight rising and falling motion, which is due to the arc-shaped path described by the ends of the arms, and which is advantageous.

My present invention consists in the combination, with the box or receptacle, the screen, and devices for reciprocating it, of novel means, hereinafter described, for supporting the screen, which are simpler than the rock-shaft and arms, and which enables a greater rising and falling motion to be obtained, if desired, with an equal reciprocating motion.

In the accompanying drawings, Figure 1 represents a side elevation of a starch-separator embodying my invention. Fig. 2 represents a plan thereof. Fig. 3 represents a transverse section of one side of the screen and box or receptacle and the devices whereby the screen is supported. Fig. 4 represents a side view of a portion of the screen and box or receptacle, with supporting devices of slightly modified form; and Fig. 5 represents a sectional view of the parts shown in Fig. 4.

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

A designates the stationary box or receptacle, which is supported on a frame-work, A′; and B designates the screen, which is smaller than the box or receptacle, and is received inside of and above the same. The screen is composed of a rectangular frame with a bottom of fine wire-guaze or other reticulated or foraminous material. (Not here shown.)

C designates a shaft provided with fast and loose driving-pulleys C' C^2, over which a belt may be passed for rotating it, and also provided at each end with a crank, D, from which motion is transmitted by rods E to the screen B.

Both the box or receptacle A and screen B are set in a slightly-inclined position, as shown in Fig. 1, and at their lower ends they are provided with devices of ordinary form for supporting the screen. To the sides of the box or receptacle are rigidly secured pieces F, the upper surfaces of which are grooved or otherwise prepared to form bearings for shoes on runners G, attached to the sides of the screen. As the screen reciprocates the shoes on runners G travel back and forth over the bearings F in a well-understood manner. At the other or higher end of the screen the box or receptacle A has secured to it on each side a plate or piece, H, the upper surface of which is curved or arc-shaped, and which forms a bearing for a roller, I, secured to the side of the screen. The bearings H may have their upper surfaces grooved, as shown best in Fig. 3, and the roller may have a V-shaped periphery, which fits the grooved bearing, and thus prevents lateral movement or displacement of the same.

It will be observed that in addition to its reciprocating movements the screen has a rising and falling movement, which is due to the arc shape or curve of the bearings H, and it is obvious that the same result would be attained if the bearings, instead of being curved, had their upper surfaces formed by two reversely-inclined planes pitching from both ends toward the center.

Instead of the roller I, I may employ a simple shoe or runner, like the shoe or runner G, and it is evident that a like rising and falling motion would be imparted to the screen if the bearings H and rollers I were reversed in position, the bearings being attached to the screen and the rollers to the box or receptacle, which would be equivalent to the arrangement shown in the drawings and hereinabove described.

A single curved or arc-shaped bearing and a single roller placed midway of the width of the screen at the higher end might be employed, in connection with the bearings on both sides of the screen at its lower end.

In Figs. 4 and 5 I have represented a bearing, H′, of slightly-modified form, in that it is provided with a curved or arc-shaped slot, *a*, the bottom surface of which is grooved, so as to receive a roller, I, on the side of the screen B, as best shown in Fig. 5. At the end of the slot *a* is a larger part or opening, *a′*, through which the roller may be inserted, so that it may be run into the groove in the bearing.

Instead of having the arc-shaped or curved bearings at one end only of the screen, I may, if desired, place them at both ends, so that both ends will have a rising and falling motion.

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

1. The combination, with the box or receptacle A, the screen B, and devices for reciprocating the screen, of a roller or runner, I, and a curved or double inclined bearing, H, substantially as specified.

2. The combination, with the box or receptacle A, the screen B, and devices for reciprocating the screen, of curved or double inclined bearings H, attached to the box or receptacle, and rollers or runners I, attached to the screen, substantially as specified.

PAUL H. GRIMM.

Witnesses:
WM. H. EASTMENT,
E. T. PAYNE.