2 Sheets—Sheet 1.

N. KIBLER.

GRAIN-SEPARATOR.

No. 189,045. Patented April 3, 1877.

Fig 1.

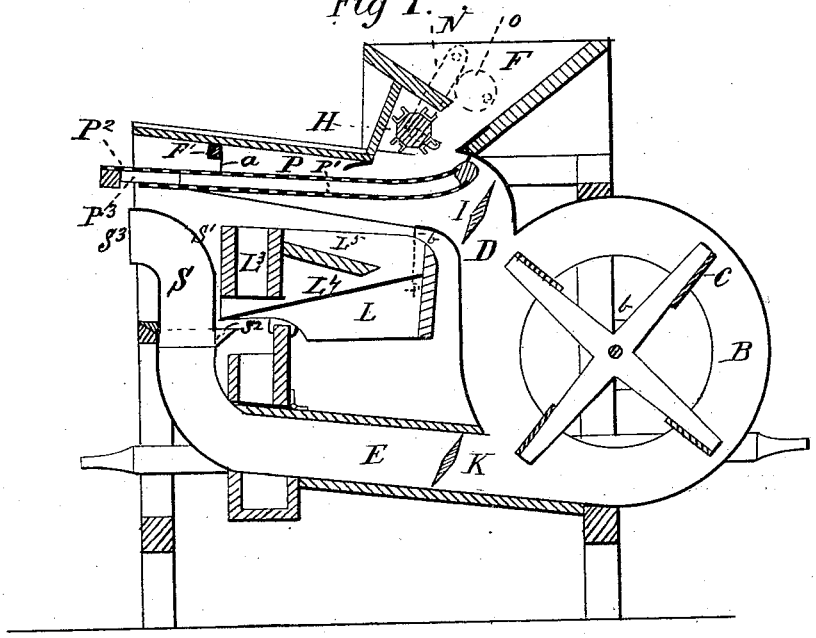
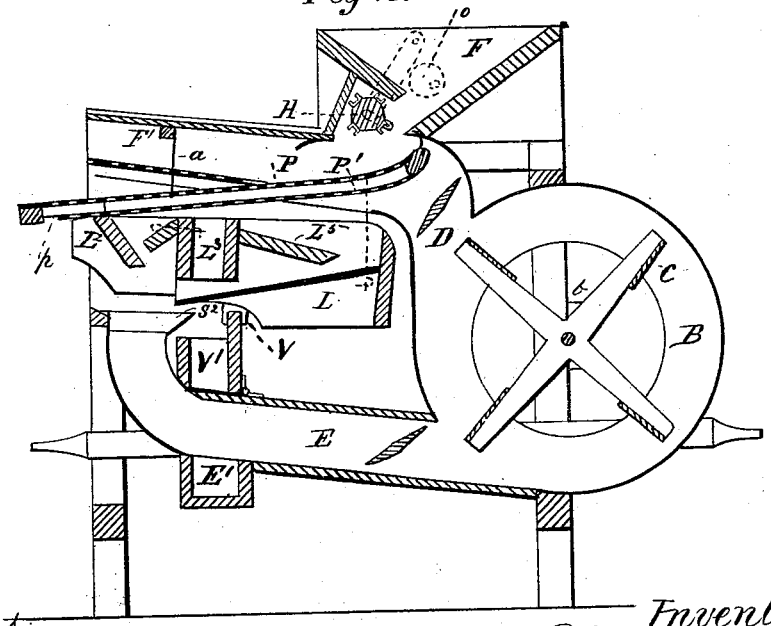


Fig 2.



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GRAIN-SEPARATOR.

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Fig 3.

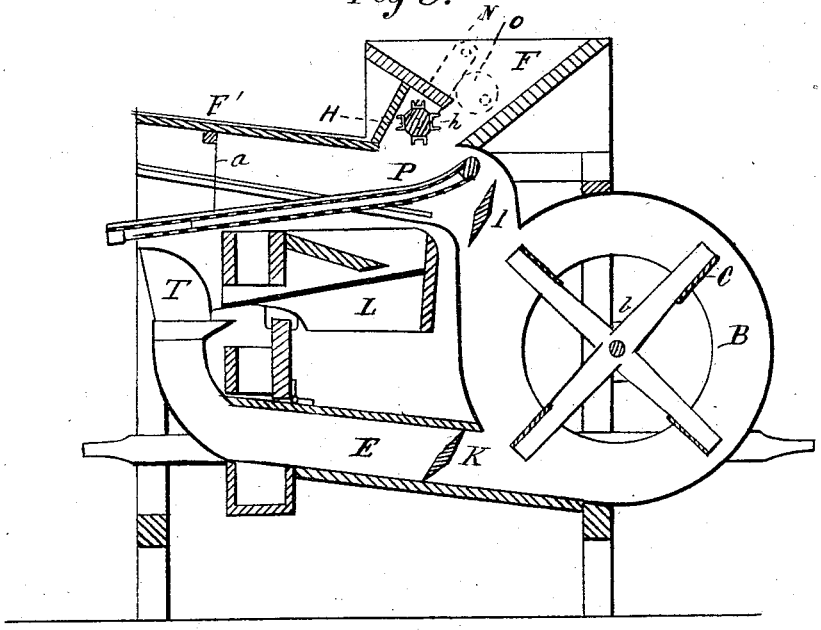


Fig 5.

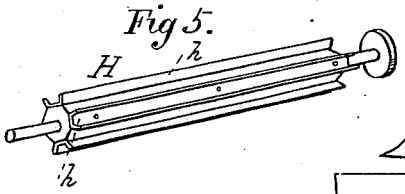


Fig 4.

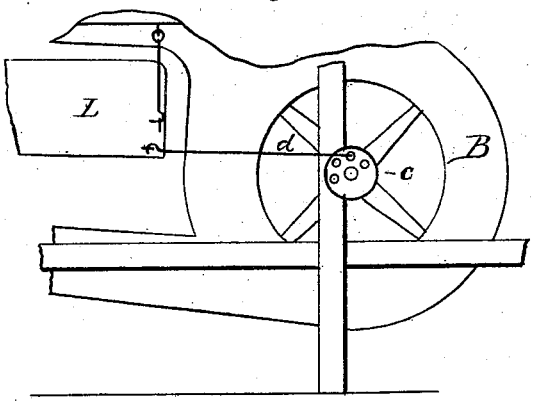
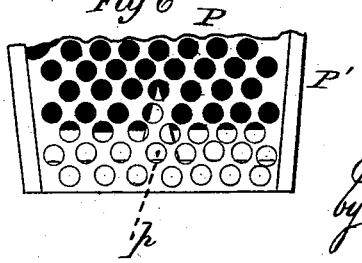


Fig 6



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UNITED STATES PATENT OFFICE.

NATHAN KIBLER, OF PITTSFIELD, ILLINOIS.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **189,045**, dated April 3, 1877; application filed May 9, 1876.

To all whom it may concern:

Be it known that I, NATHAN KIBLER, of Pittsfield, in the county of Pike, and State of Illinois, have invented an Improved Fan-Mill.

The following description, taken in connection with the accompanying plate of drawings, hereinafter referred to, forms a full and exact specification, wherein are set forth the nature and principles of the invention, by which the same may be distinguished from others of a similar class, together with such parts thereof as are claimed as new, and are desired to be secured by Letters Patent of the United States.

My invention relates to that class of fanning-mills which are made use of for cleaning grain; and consists in certain features of construction therein, all of which will be hereinafter more fully described.

In the accompanying plate of drawings, in which corresponding parts are designated by by the same letters—

Figures 1, 2, and 3 are sectional side elevations, showing various attachments; Fig. 4, side elevation, showing crank-disk and connecting-rod; Fig. 5, perspective view of the feed-roller; Fig. 6, detail view of the front end of shoe.

In said drawings, B designates the cylinder or casing, within which are arranged the wings C, which are revolved in the usual manner. D′ is the upper channel for currents of air, and E is the lower channel. F is the hopper, in which is placed the feed-roll H. Said feeder, being arranged so as to be adjustable, is also made to revolve upon a shaft, which has a pulley connecting it with the main driving-wheel. I and K are valves in said air-channels for regulating the currents of air. L is the shoe, in which sieves are arranged, which shoe is vibrated longitudinally by a connecting-rod, *d*, attached to the main shaft, and is provided with an additional receiving-spout, L^3. This is for the purpose of delivering any light stuff which is too light to roll back down the incline L^5 onto the surface L^4, and has also an additional extension, L^2, which is held to the shoe L by hooks at the side.

The grain or seed is fed from the hopper by means of the octagonal revolving feeder H, the alternate sides of which are provided with iron plates *h*, having outwardly-projecting edges, which form wings of much greater strength than those let into the wood of which the feeder is composed.

The said feeder has its bearings in the arms N, pivoted to the frame of the hopper, which may be adjusted by the cams *o* in such a manner as to regulate the said feeder, and raise it out of the way when desirable.

P designates a curvilinear shoe, made use of in cleaning spring wheat. The said shoe is narrowest toward its outer end, and is provided with two or more sheets of perforated zinc, which are arranged about half an inch apart, and are screwed to the frame P^1 of said shoe, so as to be concave on their upper surface in the line of feed. The upper sheet P^2 extends over the end rail of the shoe, but the lower one, P^3, is shorter, in order to let the grain drop out, and are kept in place by small pointed blocks *p*.

The shoe P is raised or lowered by turning the cross-bar F^1, to which are attached the bands *a*.

S designates a cap-piece, having a curvilinear top, which is fitted to the top of the lower air-channel, to throw out the air with the small oats that may pass through the screen.

Said connection S is constructed with the outer covering S^1 short, so as to leave a space, S^2, between the lower air-passage E and the said connection S, for the purpose of receiving grain, &c., from shoe L, and by this elevated attachable connection S the pressure in the channel E is increased, so that light materials are forced out at S^3, while heavier fall back from S^2 into the delivery-spout E^1.

There is a grading-screen that is arranged in the lower grooves in the main shoe L, with a sheet-iron fall-board nailed on the under side of the screen-frame, and extending to within an inch of front cross-rail of said screen, where the small wheat is discharged at the opening S^2, base of spout S.

The machine as thus adjusted is used for cleaning spring wheat.

The small discharge-spout T is taken out in cleaning spring wheat.

When it is required to clean grass-seed the

upper part of the lower air-channel is taken off, and spout S is removed. The shoe-extension L^2 is put on, and the screen is placed in the lower inclined groove, so that the trash will work off more readily. The shoe-extension L^2 forms the upper part of said air-channel, in order that light stuff that runs through the screen may be blown out.

The rubber rings V are used to hold the shoe firmly down on the shoe-support, which, vibrating, forms a delivery-spout for stuff that may be blown back from opening S^2, and at the same time supports the shoe L. The third construction, Fig. 3, in which the spout T is used, is also similar to the use made of spout S, except that, by being shorter, the pressure of lower air-channel E is not so great as in the case of the use of S.

I claim and desire to secure by Letters Patent of the United States—

1. The curvilinear shoe P, having two or more sieves, concave in the line of feed, and tapering toward the discharge end, substantially as shown and described.

2. The combination, with the fan and the curvilinear shoe P, of the shoe L, having removable extension L^2, and the air-trunk E, having removable extensions S or T, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand.

NATHAN KIBLER.

Witnesses:

JOSEPH G. PETTINGILL,

V. A. GRIMES.