(No Model.) 2 Sheets—Sheet 1.

A. H. WALKER.

THRASHING MACHINE.

No. 316,587. Patented Apr. 28, 1885.

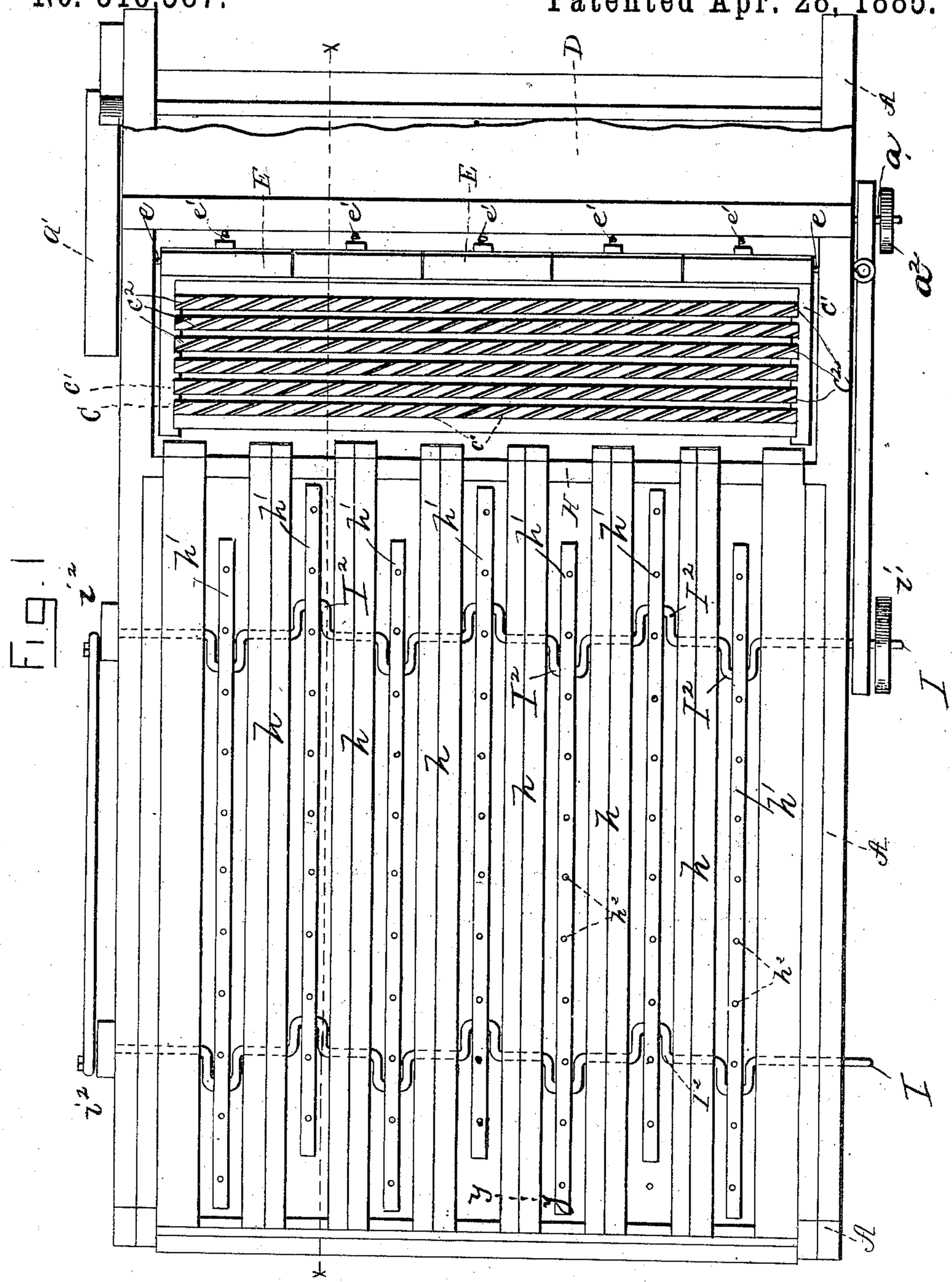

Fig. 1

WITNESSES.
H. A. Clark.
P. B. Durpin

INVENTOR
Albert H. Walker
By R. S. & A. Lacey
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(No Model.) 2 Sheets—Sheet 2.

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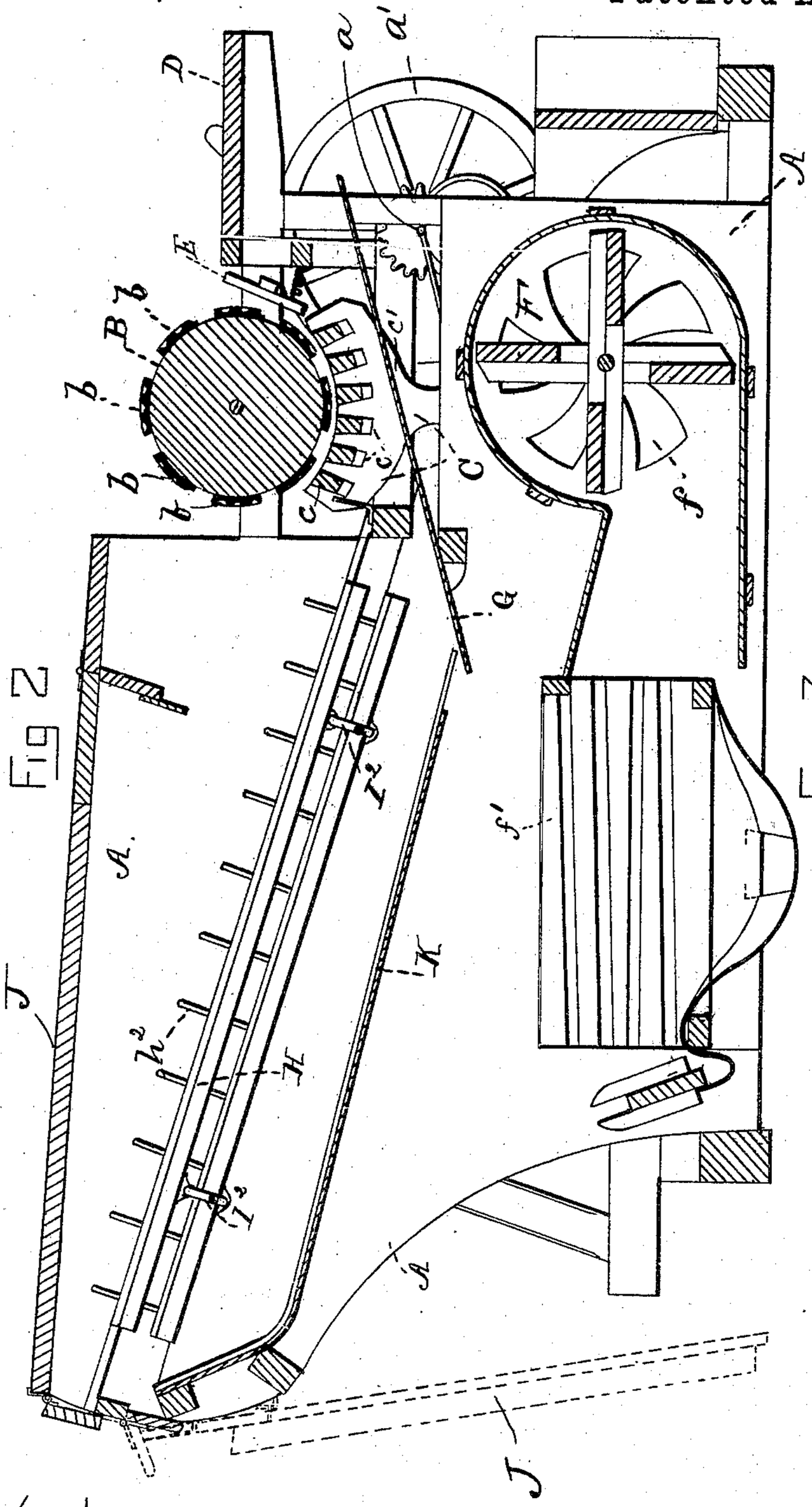

Fig 2

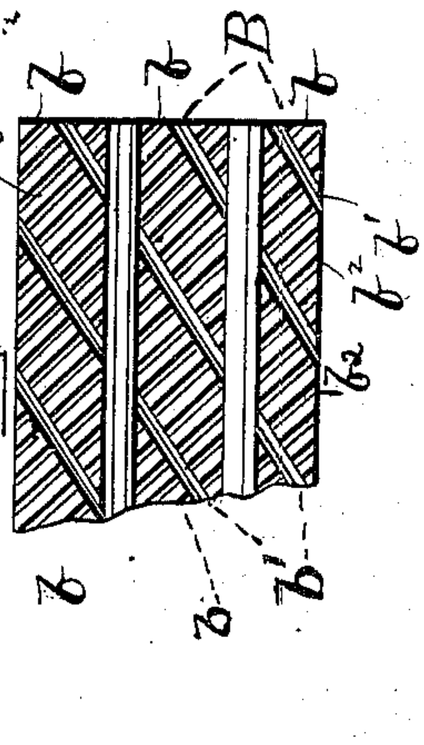

Fig 3

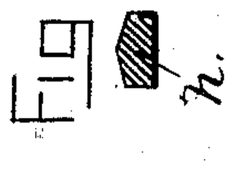

Fig 4

WITNESSES:
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P. B. Turpin.

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UNITED STATES PATENT OFFICE.

ALBERT H. WALKER, OF EKLO, MARYLAND.

THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 316,587, dated April 28, 1885.

Application filed June 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. WALKER, a citizen of the United States, residing at Eklo, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Thrashing-Machines; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to thrashing-machines.

The invention consists in certain novel constructions and combinations of parts, which will be described and claimed.

In the drawings, Figure 1 represents a plan view of the machine with the separating-cylinder and top board removed. Fig. 2 is a longitudinal vertical section of the machine. Fig. 3 is a detail view of the separating-surface of the cylinder, with sections attached; and Fig. 4 is a detached section on line *y y*, Fig. 1.

In the accompanying drawings, A is a proper frame for the machine, having journaled transversely across it near its front the main shaft *a*, provided with the driving fly-wheel *a'* on one end and on the other with the pulley a^2.

B is a cylinder journaled transversely across the top of the frame A, near its front, and a little to the rear of the main shaft *a*.

b b are sections of cast-iron or other proper material, fixed longitudinally to said cylinder, each of which has the crossing sets of inclined grooves b^2 *b'*, the grooves in the first set being much more numerous than those in the other, as shown in Fig. 3. The walls of the grooves in these sections serve as surfaces by which to force the grains out of the heads, and the grooves themselves serve to receive the grains and to prevent their being crushed by the action of the cylinder and concave. By inclining these grooves in opposite direction, as shown, their walls serve efficiently to force out the grains, while they properly lead the grain back to the larger receiving spaces between the section, as will be seen most clearly in Fig. 3. The cylinder may be revolved by suitable belt or other gearing with the drive-shaft.

C is a frame composed of the rectangular transverse bars *c c* and the uprights *c' c'*. The bars *c c* have their ends fitting into similar opposite recesses in the upper concave edges of the uprights *c' c'*, which are fixed to the sides of the frame A at opposite points on the same. The upper edges of the bars *c c* form a concave slightly below the convex surface of the cylinder B and attached sections, and concentric with the same. The said upper edges are crossed by a set of inclined grooves, c^2, as shown in Fig. 1.

D is a stationary horizontal feed-board fixed to the top of the front end of the frame A, in a plane slightly above that of the center of the cylinder B, and E E are supplementary yielding feed-boards interposed between the inner edges and of the board D and the said cylinder. The boards E E are pivoted to a suitable support-rod, *e*, fixed in proper position transversely across the frame A. The boards E E stand closely together across the frame A, and have their lower edges pushed toward the cylinder B by spiral springs *e' e'*, the rear ends of which are secured to a bar or other proper support fixed transversely across the frame A. When in its usual position, the lower edge of each board E reaches to the front edge of the concave upper surface of the frame C, and has about the same distance between it and the sections on the cylinder as there is between the sections and the said concave surface; but should any large hard substance attempt to pass between it and the sections *b b* it will give back, its proper spring, *e'*, being compressed.

F is a proper fanning-mill fixed in the lower part of the frame A, the fan or blower *f* of which is situated vertically below the cylinder B, and is run by proper pulleys and belt gearing or other means from the main shaft *a*.

The screen-frame or shaker *f'* of the mill is at a suitable distance to the rear of the fan, as shown in Fig. 2.

G is an inclined plane or chute fixed across the frame A between the fan *f* and the lower edges of the bars *c*. The said chute inclines backward and downward, and has its lower

end over shaker *f'*, so as to discharge upon the same.

H is a frame inclining backward and upward from the rear edge of the concave top of the frame C, and having its end adjacent thereto formed properly for the same to deliver on it. The frame H is composed of suitable transverse end bars fixed within the frame A, and of the longitudinal bars *h h*, secured by their ends at right angles to the same. Each bar *h* is thicker along its central longitudinal line than on its edge, its transverse section being V-shaped, with the point of the V in its upper surface.

h' h' are longitudinal reciprocating and vibrating bars, each situated between two adjacent bars, *h h*, and provided at proper points in its length with teeth or holders h^2 h^2 at right angles to its upper surface. The bars *h' h'* are actuated by the crank-shafts I I, the front one of which has on its journal a pulley, *i*, rotated by a belt from the pulley a^2 on the main shaft, a motion being communicated to the crank-shaft by equal crank-wheels i^2 i^2 and a proper connecting-rod, which wheels and rod are on the opposite side of the machine to that on which is the pulley *i*.

I^2 I^2 are the cranks on the shafts I I, the opposite one on the two shafts corresponding in direction, but every second one on each shaft having its direction reversed, so as to make every second bar *h'* vibrate and reciprocate in opposite directions to those on each side of it. A cover-board, J, is provided which may be adjusted to the position shown in dotted lines, Fig. 2, to serve as a chute to carry the straw from the machine when the latter is in use, and to prevent the chaff from the fanning-mill from mixing with the same. When not in use, it may be attached as a cover over the frame H.

K is an inclined plane or chute fixed within the frame A below the frame H, which chute inclines forward and downward from the tail of the machine, with its lower end over the shaker *f'*, so as to discharge thereon.

The operation of my machine is as follows: Should any large piece of stone, wood, or other foreign substance be fed in with the bundles of unthrashed grain, when it comes between one of the feeding-boards E and the cylinder B, the former will give and let it drop on the chute G, whence it will be delivered to the shaker *f'* and separated from the grain, as shown in full lines, Fig. 2. As the straw passes between the cylinder B and the concave face of the frame C most of the grain will be separated therefrom, and will drop between the bars *c c* onto the chute G, and thence descend to the shaker to be winnowed. The straw will pass onto the frame H, and by means of the reciprocating and vibrating bars *h' h'* and attached holders h^2 h^2 will be carried up said frame and delivered to the chute J. Such grain as it still contains, being shaken out of it by the action of the bars *h h*, falls upon the chute K, and is thence delivered to the shaker *f'*. The form of the bars *h h* is for the purpose of keeping the straw away from the surface of the bars *h' h'* till the holders h^2 h^2 can take well hold of it.

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

1. A cylinder provided with sections *b*, having in their outer or circumferential faces inclined grooves b^2 and *b'*, the grooves *b'* being inclined in an opposite direction to and made larger than the grooves b^2, substantially as and for the purposes specified.

2. The combination, in a thrashing-machine, with a straw-carrier and a fan, of the cover-board J, adjustable upon or over the rear end of the machine, whereby it may serve as a top for the machine, and as a chute by which to convey the straw and prevent the latter from mixing with the chaff, substantially as set forth.

3. In a thrashing-machine, the combination with the frame A, feed-board D, and cylinder B, properly journaled in the frame A, and provided with the sections *b b*, having the sets of grooves *b'* and b^2, of the frame C, provided with the bars *c c*, having the set of grooves c^2, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT H. WALKER.

Witnesses:

J. S. HERBST,

HENRY SEITZ.