2 Sheets--Sheet 1.

D. PEASE.

Machines for Cleaning Buckwheat.

No. 152,679. Patented June 30, 1874.

Fig. 2

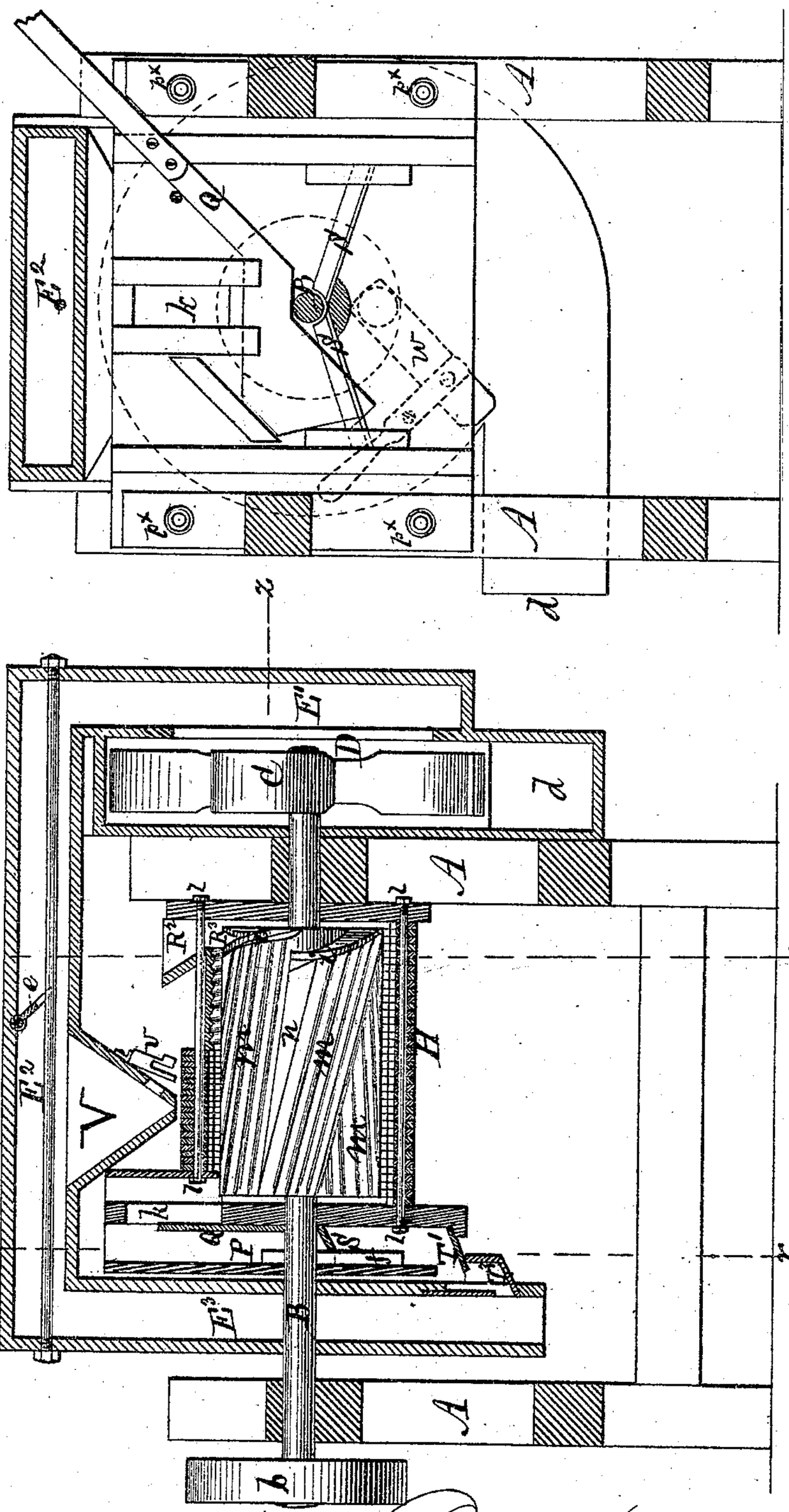

Fig. 1

Witnesses:
Michael Ryan
Fred Haynes

Dan Pease
by his Attorneys
Brown & Allen

2 Sheets--Sheet 2.

D. PEASE.

Machines for Cleaning Buckwheat.

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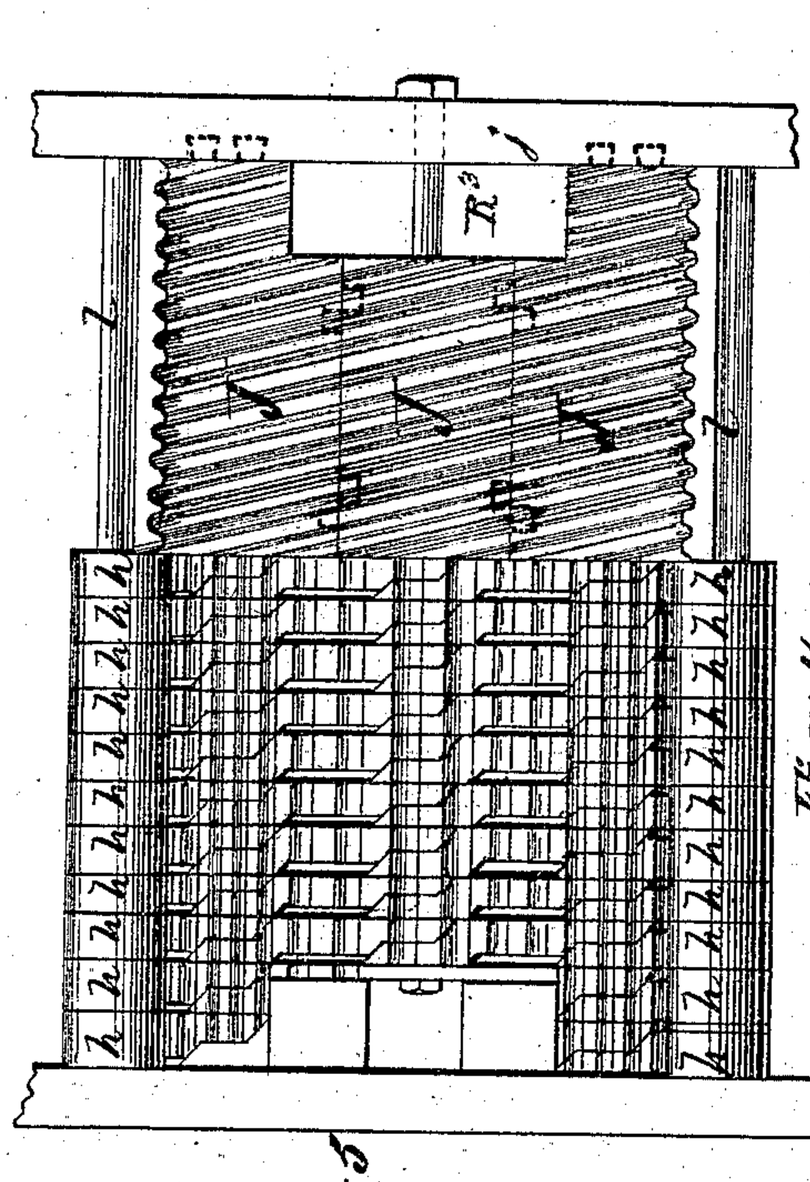

Fig. 5

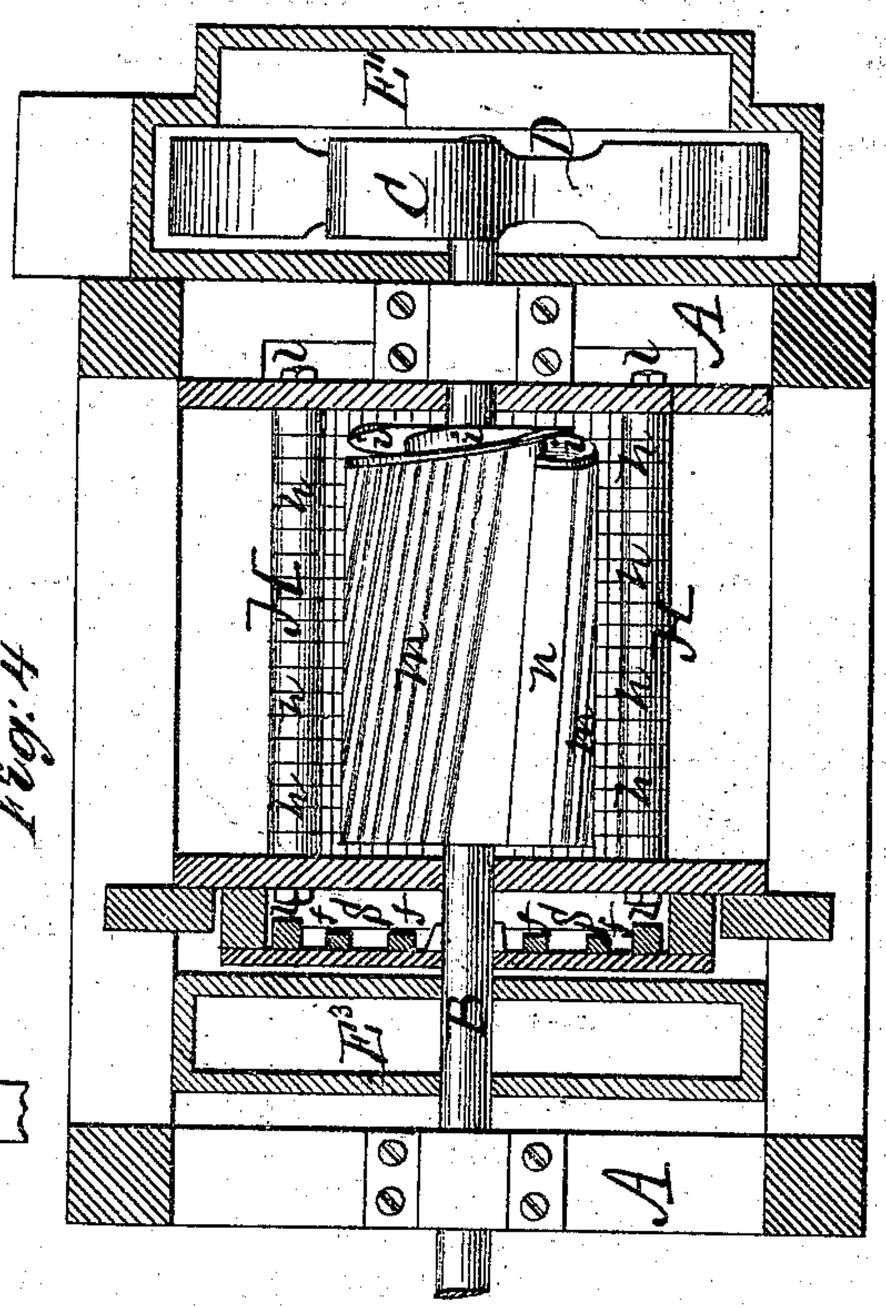

Fig. 4

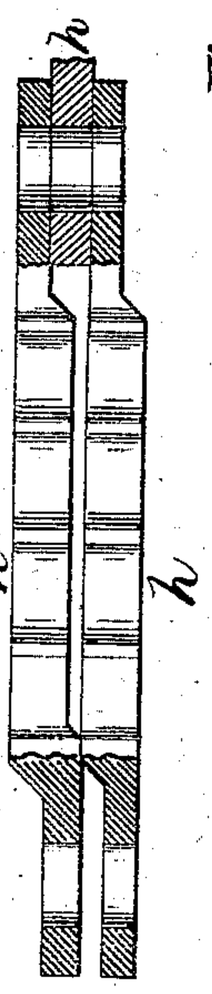

Fig. 6

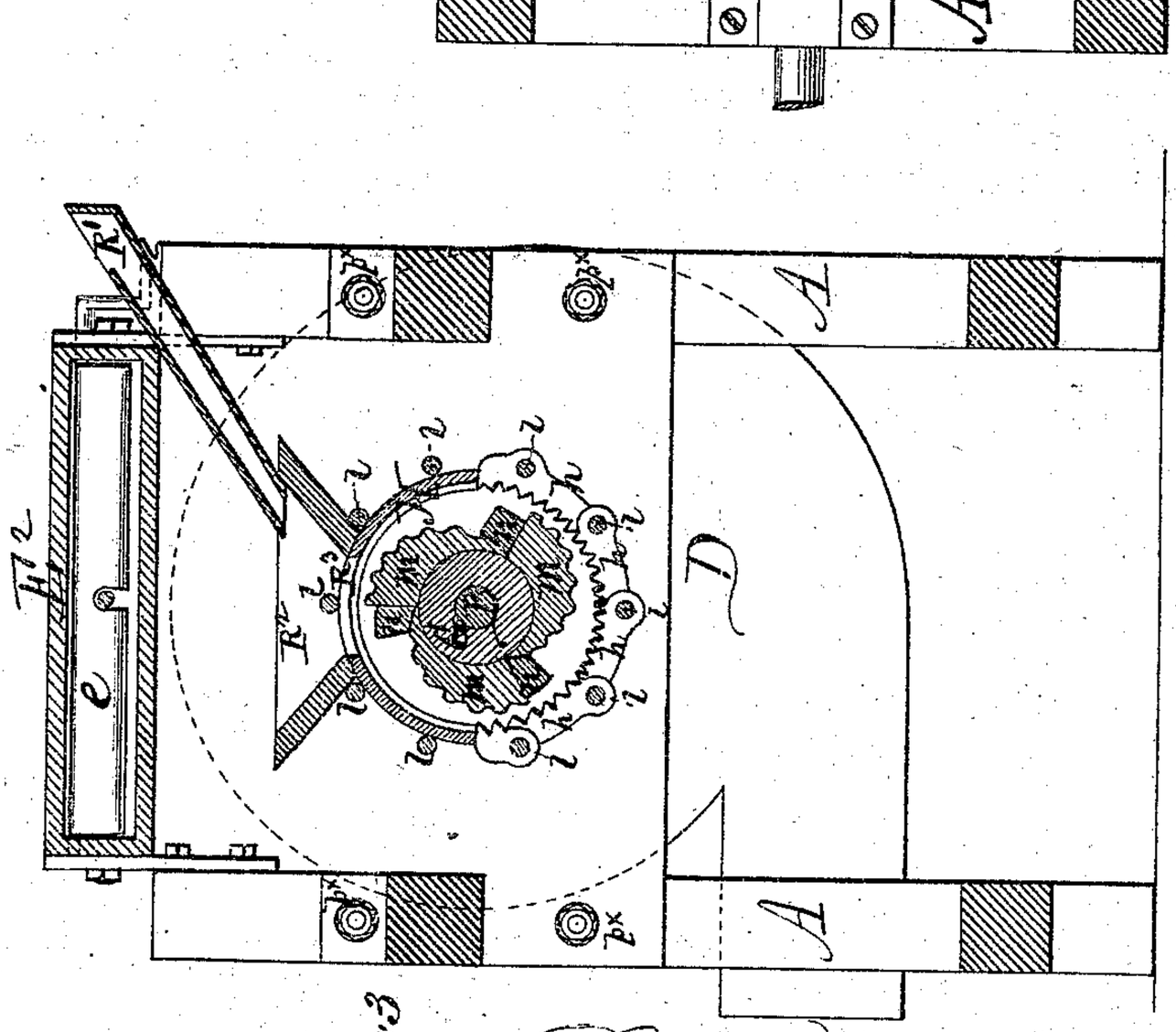

Fig. 3

Witnesses:
Michael Ryan
Fred Haynes

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UNITED STATES PATENT OFFICE.

DAN PEASE, OF FLOYD, NEW YORK.

IMPROVEMENT IN MACHINES FOR CLEANING BUCKWHEAT.

Specification forming part of Letters Patent No. **152,679**, dated June 30, 1874; application filed May 14, 1874.

To all whom it may concern:

Be it known that I, DAN PEASE, of Floyd, in the county of Oneida and State of New York, have invented certain Improvements in Machines for Cleaning Buckwheat, of which the following is a specification:

My invention relates to certain improvements on the machine for cleaning buckwheat for which Letters Patent No. 4,628 were granted to me on the 14th of July, 1846.

The present invention consists in an outer cylinder, formed of cast-metal bars or links, with notches on their inner surfaces, and with spaces between them when in place, and of notched links and spirally-grooved plates or staves, in the manner and for the purpose hereinafter particularly described. The invention further consists in the combination of double-inclined planes, which scatter the grain between ribs or bars, and of flues, a fan, and a chamber, whereby the dirt is conveyed off from the grain, as hereinafter described.

In the accompanying drawing, Figure 1 is a central longitudinal vertical section of my improved machine. Fig. 2 is a transverse vertical section, taken in the line *x x* of Fig. 1. Fig. 3 is a transverse vertical section, taken in the line *y y* of Fig. 1. Fig. 4 is a horizontal section taken in the line *z z* of Fig. 1. Fig. 5 is a view of the under side of the cover or upper half of the cylinder. Fig. 6 is a detail view, hereinafter referred to.

The frame-work A, which supports the working parts of the machine, may be of similar construction to that shown in my patent aforesaid, or of any other suitable construction. At or near the center or upper part of the frame-work is journaled a horizontal shaft, B, on one end of which is a driving-pulley, *b*, and on the other end a fan-wheel or blower, C.

In my patent aforesaid, the fan-wheel or blower was arranged to blow a current of air across or through the lower portion of the frame-work, for the purpose of separating the light particles of dirt from the grain.

In my present invention, the fan-wheel operates by suction. The fan-chamber D communicates with a vertical flue, E^1, which is connected, by a horizontal flue, E^2, running over the top of the frame, with a vertical flue, E^3, at the opposite end, extending down considerably below the center of the frame A, and having its lower end entirely open. As the fan-wheel revolves it creates a current of air, which passes upward through the flue E^3, along the horizontal flue E^2, down through the flue E^1, and out through the outlet-passage *d*. The horizontal flue E^2 is provided with a draft-regulator or damper, *e*, for the purpose of regulating the force of the current passing through the flues. On the shaft B is secured a cylinder, G, which is provided with section-screws *i*, and wedge-shaped rubbers *m n*, which are of similar construction, and for the same purpose as those described in my patent aforesaid, and therefore do not require further description here. The cylinder G revolves inside of an outer cylinder, H. In my patent aforesaid, the outer cylinder was composed of a series of staves, each of which was grooved longitudinally for a portion of its length, and transversely in a spiral direction for the remaining portion, so as to form a screw, the longitudinal grooves being to prevent the grain from sliding while being rubbed by the revolving cylinder with its wedge-shaped rubbers, and the spiral grooves being to convey the grain in a spiral direction to the opening through which it escaped from the cylinder. The bottom of said outside cylinder was composed of a piece of sheet metal, which was perforated to allow the escape of dirt. In the present invention, the hollow outer cylinder is made in two sections, of semi-cylindrical form, the upper section resting upon the lower one. The lower section is composed entirely of a series of cast-metal bars or links, *h*, of curved form, having eyes at their ends for the reception of rods or bolts *l*, for securing them together by passing through the heads. The inner edges of the links *h* are notched, as shown in Figs. 3 and 6. At each end of each link is formed a shoulder by means of which the ends of the links are made to fit each other so as to leave between the sides of the links sufficient space to allow of the escape of dirt, but sufficiently small to prevent the grain from falling through. The links which form the edges of the half-cylinder have the shoulders formed on the inner ends only, so that where the outer ends come together they are enlarged so as to fit closely, as shown in Figs. 4 and 5.

The upper half of the cylinder H has only a portion composed of the links *h*, the remaining portion being composed of plates or staves J, with transverse spiral grooves formed therein, (see Fig. 5,) which spiral grooves serve to convey the grain, as it is carried around by the rubbers, to the longitudinal grooves in the upper half of the cylinder H, and from thence to the outlet-opening *k*, which terminates in a flue, P, communicating with the flue E^3 and provided with a regulating-slide, Q, similar to that shown in my patent aforesaid, which may be raised and lowered in order to increase or diminish the pressure of the grain between the rubbers and the outer cylinder, according to the degree of dryness or dampness of the grain. If the grain be dry and light, the slide is raised, and if it be damp and heavy, the slide is lowered The staves J are held in place by means of tenons fitting in mortises in the head-piece *j* and by means of overlapping lugs on the outside of said staves, as shown in dotted lines in Fig. 5. The grain is fed to the cylinder through a spout, R^1, emptying into a hopper, R^2, (see Fig. 3,) and passing through an opening, R^3, into the cylinder, where it is engaged by the wedge-shaped rubbers, which convey it, as above described, to the outlet-opening *k*. On entering the flue P through the opening *k*, the grain falls to a double-inclined plane, S, which commences near the shaft B and inclines downward toward the outer sides of the machine and also toward the flue E^3. The edge toward the flue E^3 abuts against a series of vertical bars or ribs, *f*, which form channels for the passage of the grain. As the grain falls on the shaft B and double-inclined plane S, it is divided and passes down between the vertical ribs *f*, dropping upon an inclined shelf, T^1, at the bottom of the flue P and passing from thence to another inclined shelf, T^2, and thence into the flue E^3, where it is spread and scattered so freely as to allow the current of air passing up the flue E^3 to circulate through the grain and separate the dirt therefrom, carrying the dirt up through the flues and allowing the grain to fall of its own weight and drop below the flue E^3 into a suitable receptacle. In case of any small light grains being carried up the flue E^3, they will fall into a hopper, V, extending downward from the horizontal flue E^2 and provided with a valve, *v*, which will open when the hopper becomes sufficiently full and allow said light grains to fall outside of the cylinder H and be carried by a spout to a suitable receptacle. In case the cylinder H becomes clogged, or from any other cause it is desired to empty it, a slide, *w*, shown in dotted lines in Fig. 2, is opened so as to allow the grain to escape through an opening in the lower half of the cylinder. The pins $p^{\times}$ for holding the parts in place are similar to those shown in my patent aforesaid.

I am aware that a smut-mill has been constructed with an outer cylinder composed of small cast-iron pieces jointed together, but such is not my invention.

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

1. The outer cylinder of a buckwheat-cleaner composed of the notched pivoted bars or links H and spirally-grooved plates or staves, J, substantially as and for the purpose described.

2. The combination of the double-inclined plane S with the bars or ribs *f*, the flues E^3 E^2 E^1, and fan and chamber, substantially as described, for conveying off the dirt from the grain, as set forth.

DAN PEASE.

Witnesses:
MICHAEL RYAN,
FRED. HAYNES.