

(No Model.)

2 Sheets—Sheet 1.

C. ROBERTS.

WINNOWER FOR THRASHING MACHINES.

No. 339,582.

Patented Apr. 6, 1886.

Fig. 1

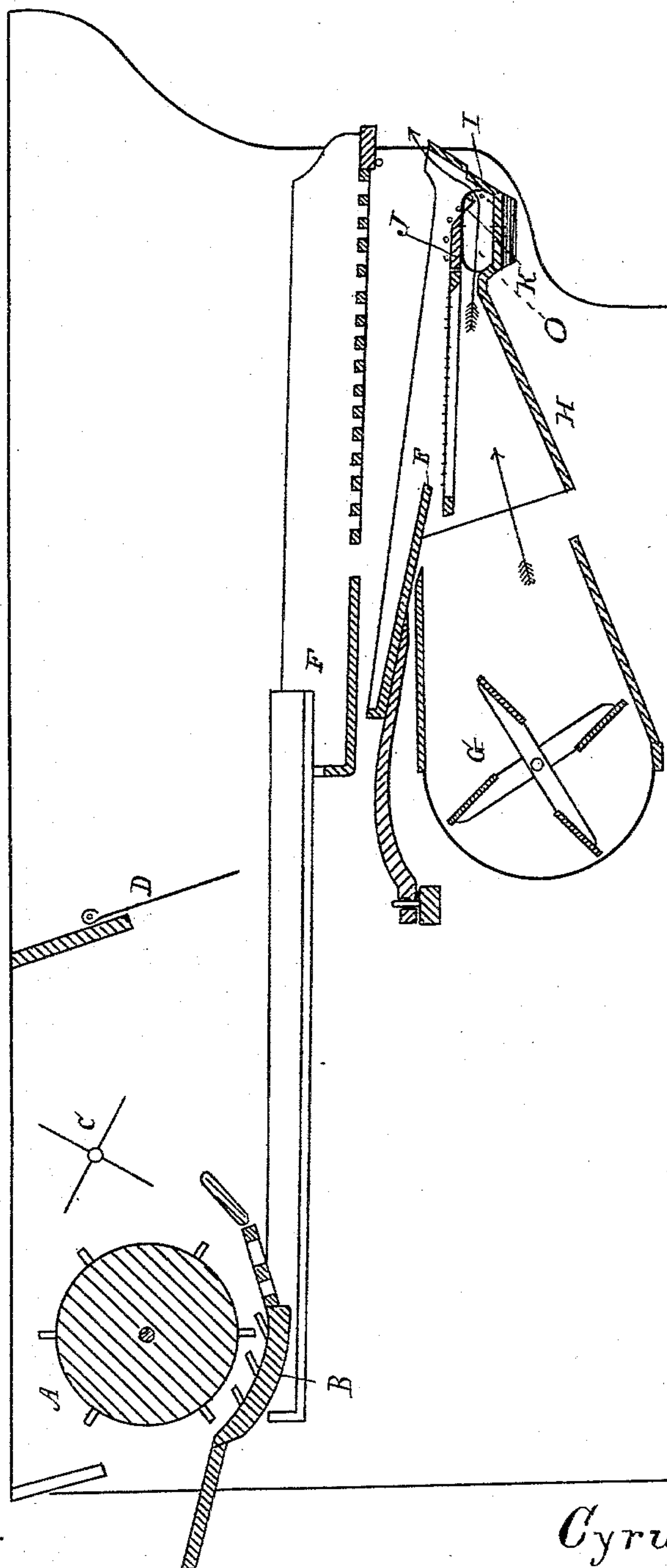
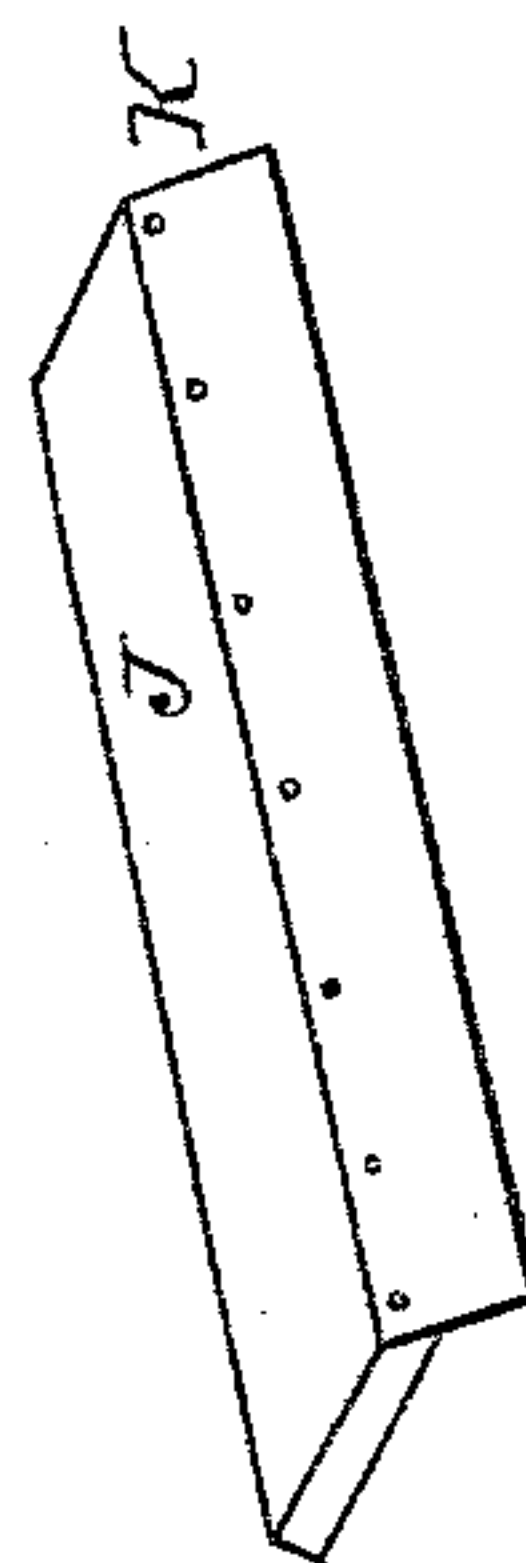


Fig. 2



Attest:
John Schumann.
[Signature]

Inventor:
Cyrus Roberts.
by his Atty.
[Signature]

(No Model.)

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FIG. 3.

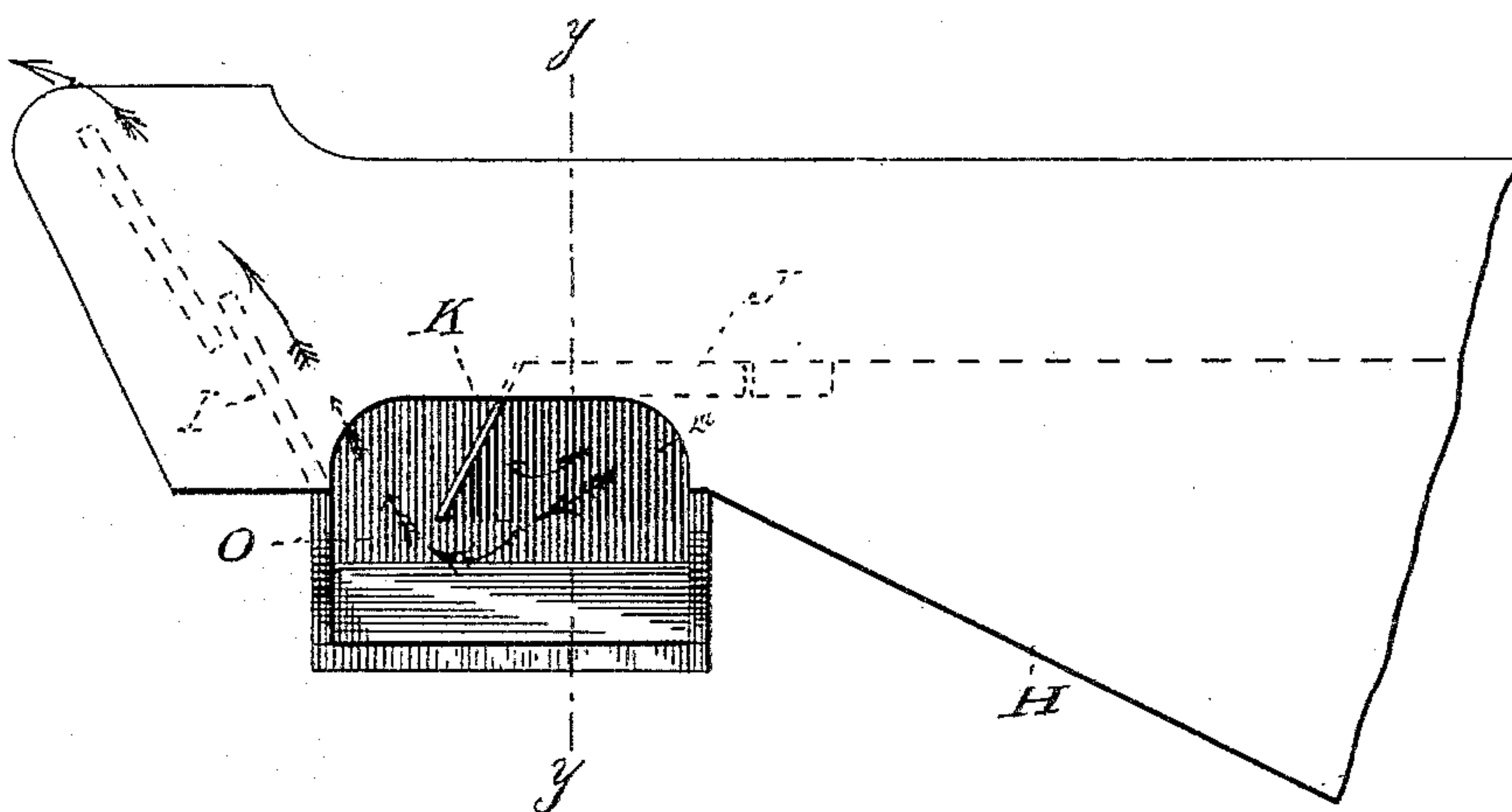
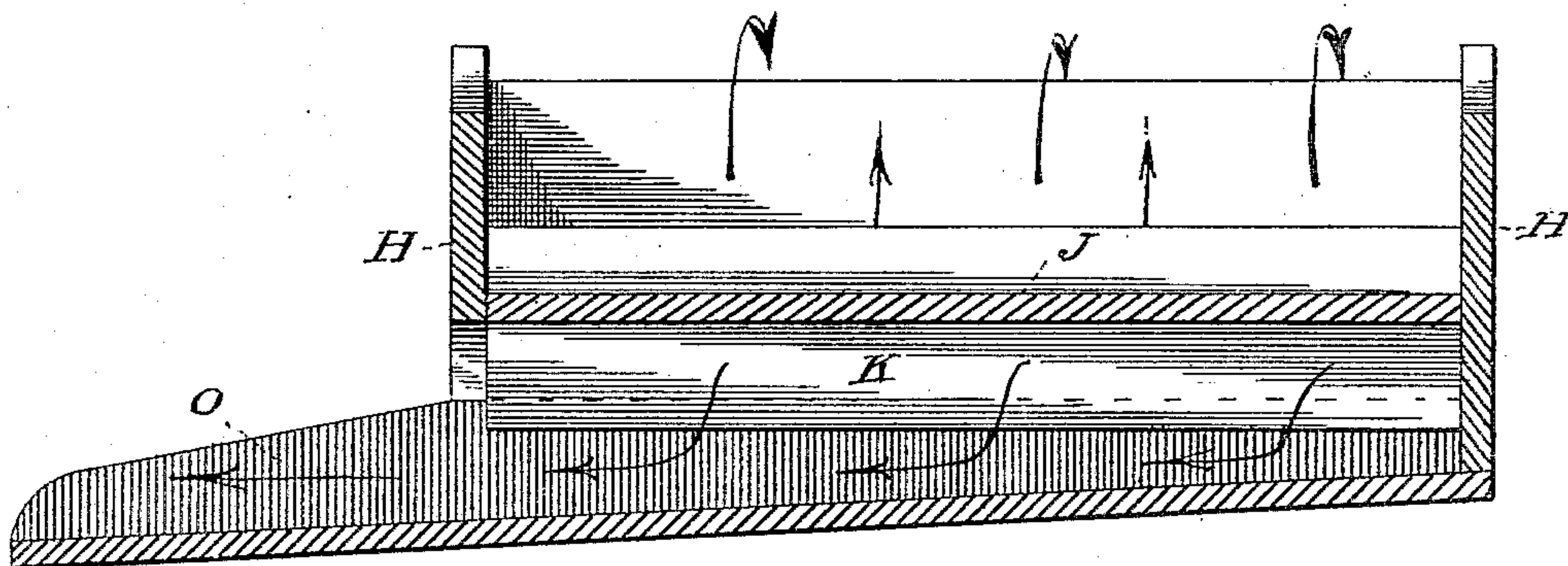


FIG. 4.



WITNESSES

Chas. H. Raeder.

E. H. Bond.

INVENTOR

Cyrus Roberts.

By J. W. Robertson

Attorney

UNITED STATES PATENT OFFICE.

CYRUS ROBERTS, OF THREE RIVERS, MICHIGAN.

WINNOWER FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 339,582, dated April 6, 1886.

Application filed November 5, 1884. Serial No. 147,197. (No model.)

To all whom it may concern:

Be it known that I, CYRUS ROBERTS, of Three Rivers, in the county of St. Joseph and State of Michigan, have invented new and useful Improvements in Winnowers for Thrashing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in thrashing-machines, by means of which very effectual means are provided for removing from the trough or spout of the shoe at the rear of the cleaner such light kernels, chaff, and heads of grain as are apt to collect there, and it is designed as an improvement on the device described in the Patent No. 176,382, issued to J. A. Throp, April 18, 1876.

It frequently happens in the operation of thrashing-machines and cleaners that the shaking-pans of the machine discharge onto the riddles of the shoe such matters or things which it is not desired should be found in the grain as it is delivered from the cleaner, and this foreign matter passing over the riddles into the spout or trough of the shoe, if not removed, compels a second cleaning of the grain. Therefore the object in view in the present invention is to so effectually remove such extraneous matter as to avoid the necessity of such second cleaning.

The invention consists in the construction and combination of the various parts, as more fully hereinafter described and claimed.

Figure 1 is a longitudinal vertical section through the body of a thrashing-machine, showing my improved construction. Fig. 2 is a detached and enlarged perspective view of the direction-board and its flange. Fig. 3 is a side elevation of a portion of a thrashing-machine, showing my improvement. Fig. 4 is a section through the line *y y* of Fig. 3.

In the accompanying drawings, which form a part of this specification, A represents the cylinder; B, the concave; C, a beater; D, swinging pans; E, shaking-pans; G, blow-fan; H, the shoe; I, the trough thereof, and J, the riddle, and as these parts are all of the well-known constructions, except as hereinafter specified,

a description thereof is deemed unnecessary here. The trough I has inclined sides, as shown, and open end O, whereby it discharges at the side of the machine.

J is a direction-board, extending across the shoe and secured thereto immediately in rear of the riddle E, and on its rear edge there is secured a rearwardly and downwardly projecting flange K, such direction-board being directly above the trough I and the flange projecting therein well toward the rear side of such trough. Now, in operation, the fan sends the current of air under the riddle E, along which the grain, by the vibrations of the riddle, is being sent to the rear to fall into the trough, and this current of air passes underneath such direction-board in a line parallel to such board, and finds an exit around the lower edge of the projecting flange, and as lighter or withered kernels of grain, chaff, heads of the straw, or other similar matter lighter than the kernels of grain which it is desired to preserve pass over the top of such direction-board and down the inclined plane formed by the projecting flange, they are caught by such current at that point and forced over the rear edge of the trough, as shown by the arrows in Fig. 1. It will be noticed that by this arrangement such extraneous matter, lighter than the grain to be preserved, is not allowed to fall to the bottom of the trough, but is intercepted by the current of air, which is of sufficient force to throw them over the rear edge of the trough, while not strong enough to prevent the grain to be preserved from falling into such trough, whence it is discharged in the usual manner.

By attaching the inclined deflecting-board K to the rear end of the board J, instead of to the front end, as heretofore, it projects downward toward the rear side of the trough, thus permitting a great part of the blast to pass lengthwise of the trough and out at the side of the machine, thereby much weakening the current which escapes under the edge of the deflector and out over the tail-board and lessening the chance of valuable grain being blown thereover.

I am aware of the Patent No. 176,382, of 1876, in which the deflecting-flange is located near the center of the direction-board, and the lat-

ter is continued beyond the deflecting-flange. In my improvement I cut off the direction-board at the deflecting-board, thus extending it only to the center of the shoe-spout. It will
5 further be noticed that in my improvement the grain falls rearward over the direction-board, and, reaching the deflecting-board, gravitates at once downward out of the range of the upper blast, thence through the chamber
10 formed back of the deflecting-board, and is then brought in contact with the lower blast at the bottom of the shoe and at its center; whereas in former constructions the grain does not touch the deflecting-board at all, but is
15 carried over and beyond it, following in the range of the upper blast until brought in contact with the blast from below. The grain in thus receiving the full force of the united blasts at one time, and so near the rear edge of the
20 shoe-spout, and at this critical point the grain receiving its greatest impetus, the liability of blowing over and wasting the grain is greatly increased. My improvement effectually overcomes this objection, because cutting off the
25 direction-board at the deflecting-board the grain not only receives the full effect of the upper blast, but after reaching the deflecting-

board gravitates at once out of range of the upper blast downward through the chamber, and, separated from the dust and refuse following upper blast, receives the full contact of the lower blast near the bottom and center of shoe-spout, and thus effectually overcomes the great liability of blowing over and wasting the grain as in the case cited. 30 35

What I claim is—

In a grain-separator for thrashing-machines, the combination, with the fan and with the trough I, having inclined sides and discharging at the side of the machine, of the riddle- 40 frame, carrying board J, arranged over the trough, and the inclined deflecting-board K, secured to the rear edge of the carrying-board and projecting well down into the trough toward the rear edge thereof, whereby part of 45 the blast is allowed to escape laterally through the discharge end of the trough, and the grain passing over the carrying-board is shielded from the blast by the deflecting-board until it reaches the bottom of the trough, as set forth.

CYRUS ROBERTS.

Witnesses:

J. D. SALSIG,

GEORGE A. ROBERTS.