

(Model.)

2 Sheets—Sheet 1.

J. P. BOND.
GRAIN CLEANER.

No. 249,141.

Patented Nov. 1, 1881.

Fig. 1.

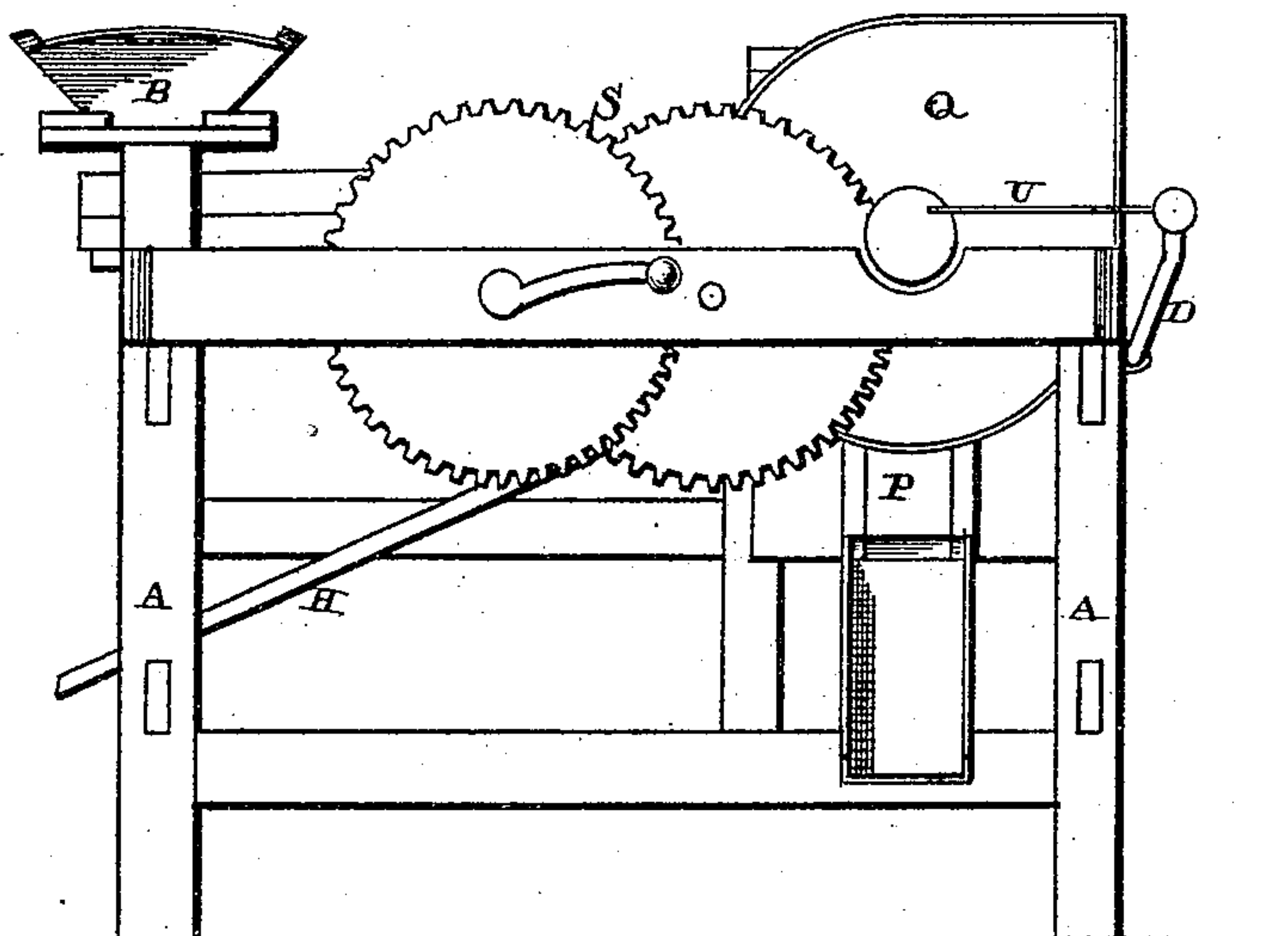
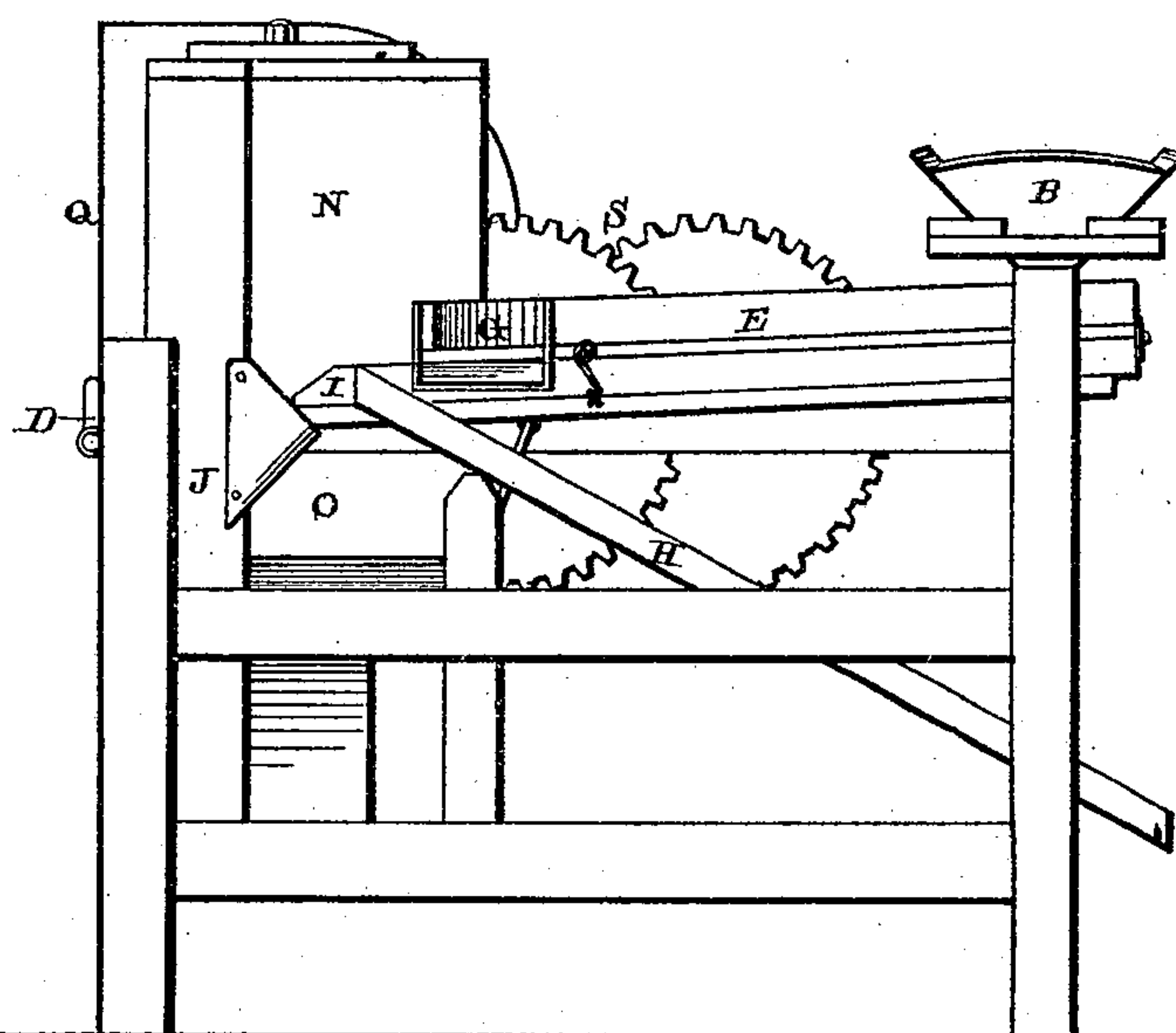


Fig. 2.



Witnesses.

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per

F. A. Lehmann,
Atty.

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Fig. 3.

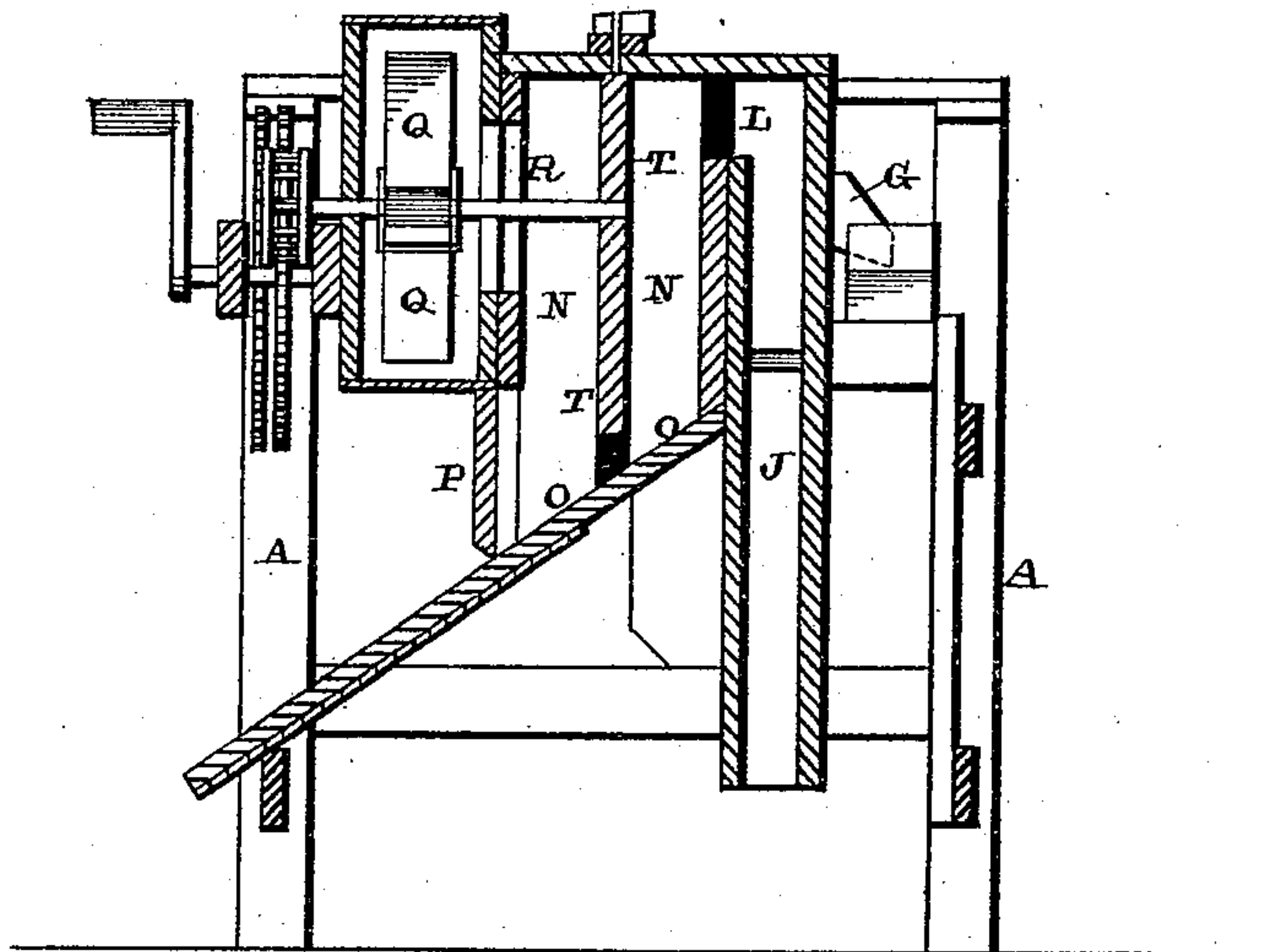
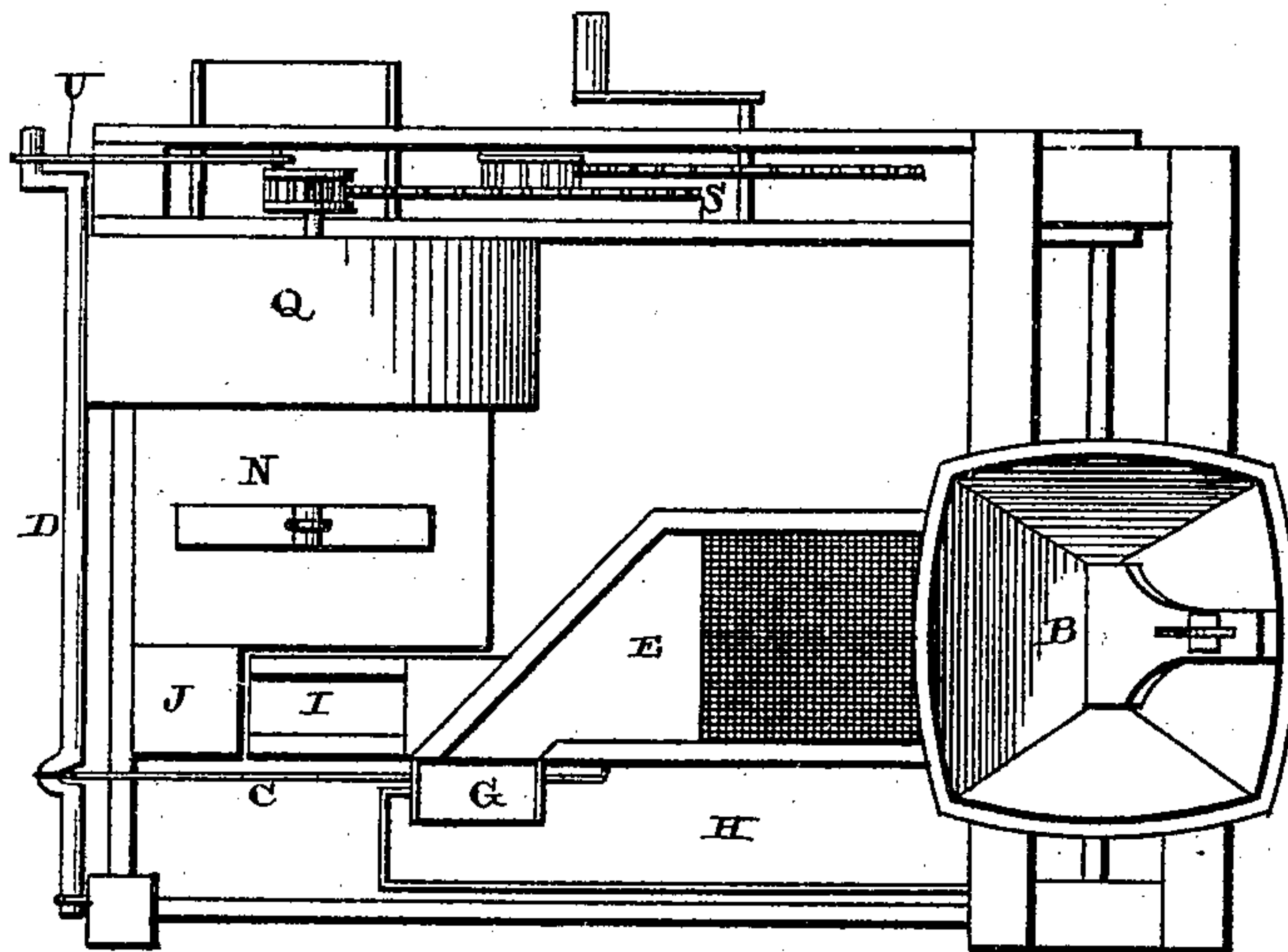


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN P. BOND, OF WARSAW, INDIANA.

GRAIN-CLEANER.

SPECIFICATION forming part of Letters Patent No. 249,141, dated November 1, 1881.

Application filed March 11, 1881. (Model.)

To all whom it may concern:

Be it known that I, JOHN P. BOND, of Warsaw, in the county of Kosciusko and State of Indiana, have invented certain new and useful Improvements in Grain-Cleaners; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in that class of grain-cleaners in which a suction-blast is employed for separating the dust, chaff, and light dirt from the grain; and it consists in the combination and arrangement of the hopper, the vibrating shoe provided with two discharge-spouts, the vertical spout into which the grain is discharged, the divided air-chamber having an inclined bottom, the suction-fan, and operating mechanism which drives both the fan and vibrates the shoe at the same time, as will be more fully described hereinafter.

The object of my invention is to combine a suction-fan with a shaking shoe in such a manner as to separate the dust, dirt, and chaff from the grain which is to be passed through the screen or screens much more effectively than can be done with many of the machines now in use.

Figures 1 and 2 are side elevations of my invention, taken from opposite sides. Fig. 3 is a vertical cross-section taken through the end of the machine at which the suction-fan is located. Fig. 4 is a plan view of the machine.

A represents the frame, of any suitable size or construction that may be preferred, and which has the hopper B placed upon one end to receive the grain which is to be cleaned.

Pivoted upon suitable supports, and connected by the rods C with the cranked shaft D, is the shaking shoe E. This shoe extends underneath the hopper, and as the grain pours from the hopper it is received upon the screen in the shoe, and all of the chaff and dirt passed off through the spout G upon the stationary inclined shoe H and is carried outside of the frame. All of the grain which passes through

the screen makes its escape from the shoe through the spout or channel I and is dropped into the vertical pipe S, which is connected by the air-passage L with the divided air-chamber N, which is provided with an inclined bottom, O, and a gate, P, for controlling the discharge of the grain therefrom. This divided air-chamber is placed next to the fan Q, and is connected therewith by a large opening, R, through which the air is drawn from the chamber as the fan is made to revolve by means of a suitable driving mechanism, S.

The chamber N has a partition, T, placed in it, and has an opening made underneath this partition, so that the dust, dirt, and light grain which are carried by the suction-blast into the chamber N will be carried downward and dropped upon the inclined floor or bottom. All of the light chaff will be drawn from the inclined bottom by the force of the suction-blast and forced by the fan outside of the machine.

The driving mechanism may consist of any desired number of wheels, according to the speed at which it is desired to run the machine, and this mechanism which drives the fan also serves to operate the cranked shaft by means of the connecting-rod U.

It will be seen that it is only necessary to start the flow of grain from the hopper upon the shoe, and then, by starting the driving mechanism, the grain is cleaned successively both by means of the screen and the suction-blast.

Having thus described my invention, I claim—

The combination and arrangement of the hopper, the vibrating shoe provided with two discharge-spouts, the vertical spout into which the grain is discharged, the divided air-chamber having an inclined bottom, the suction-fan, and operating mechanism which both drives the fan and vibrates the shoe at the same time, substantially as described.

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

JOHN P. BOND.

Witnesses:

SILAS D. THOMAS,

WILLIAM B. WOLFORD.