

H. H. KURTZ.

Separators for Thrashing-Machines.

No. 135,821.

Patented Feb. 11, 1873.

FIG. 1.

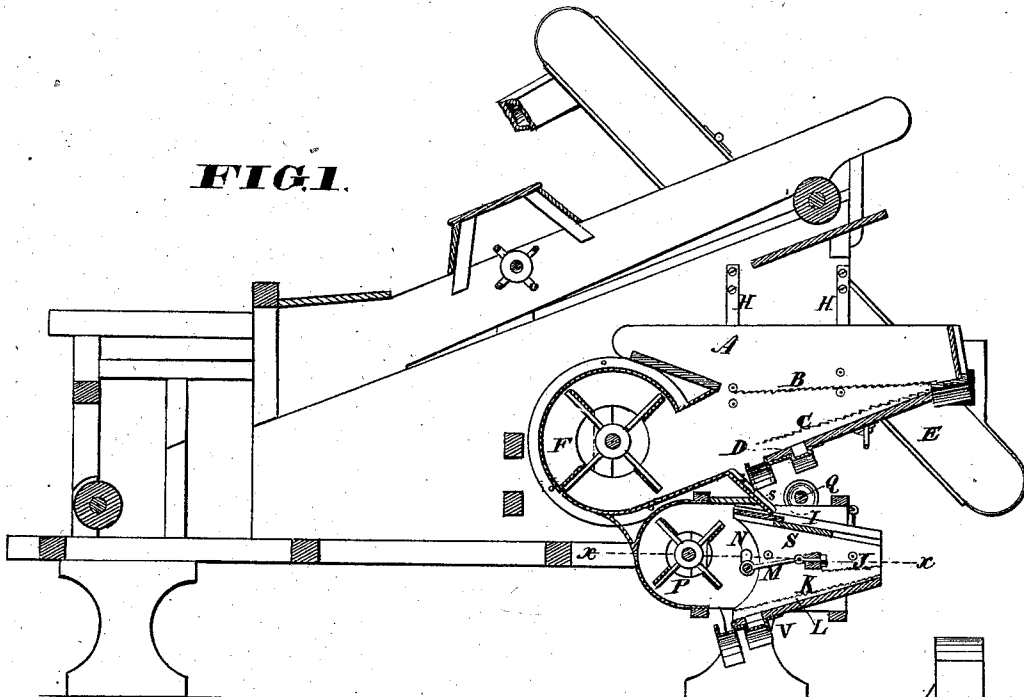


FIG. 2.

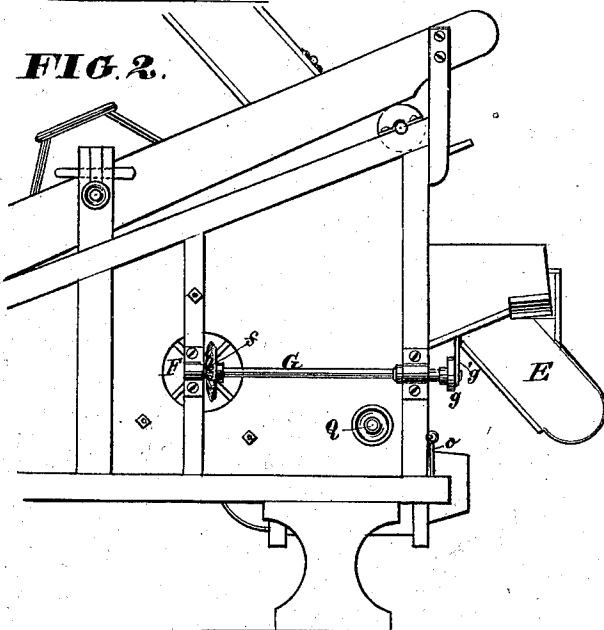
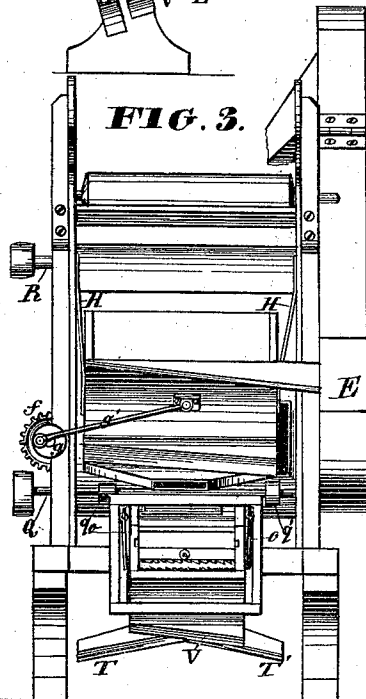


FIG. 3.



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FIG. 4.

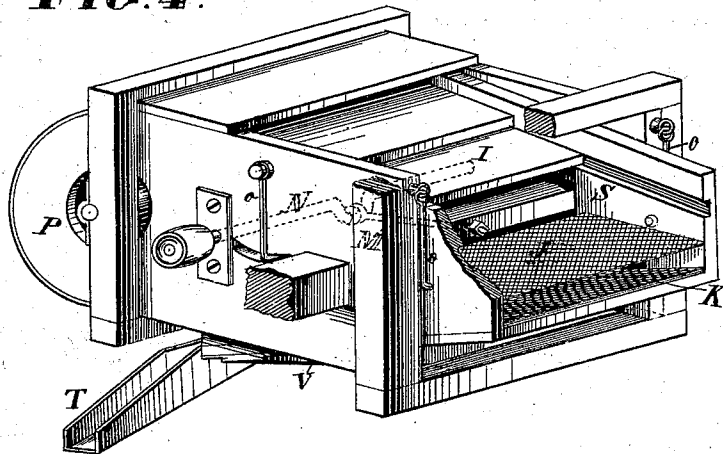


FIG. 5.

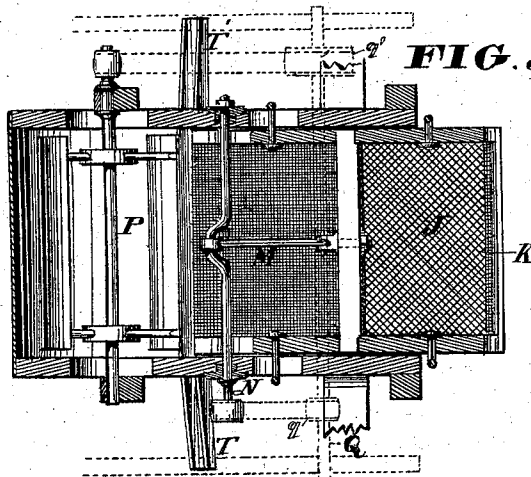


FIG. 6.

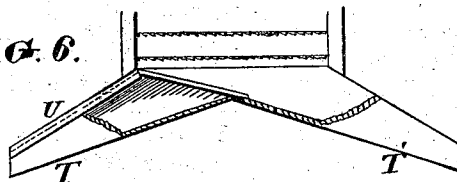
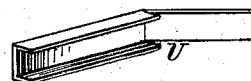


FIG. 7.



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UNITED STATES PATENT OFFICE.

HENRY H. KURTZ, OF SALISBURY, PENNSYLVANIA.

IMPROVEMENT IN SEPARATORS FOR THRASHING-MACHINES.

Specification forming part of Letters Patent No. 135,821, dated February 11, 1873.

To all whom it may concern:

Be it known that I, HENRY H. KURTZ, of Salisbury, in the county of Lancaster and State of Pennsylvania, have invented an Improvement in Grain-Separators, of which the following is a specification:

Nature and Objects of the Invention.

My invention relates to cleaning attachments to thrashing-machines; and it consists in the employment of a supplementary shoe and fan applied under the customary chaffing or cleaning shoe having a longitudinal reciprocating movement and being of less width for the purpose of taking the grain from the first shoe and completing the cleaning operation. The supplemental shoe and conductors are so boarded in as to protect the grain from flying dust and deliver it in a clean condition.

General Description.

In the accompanying drawing, Figure 1 is a longitudinal section of the cleaning apparatus of a thrashing-machine illustrating my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a rear view thereof. Fig. 4 is a perspective view of my supplementary shoe detached. Fig. 5 is a horizontal section thereof on the line *x x*, Fig. 1. Fig. 6 is a sectional elevation of the grain-discharging spouts. Fig. 7 is a perspective view of an adjustable cap used in connection therewith.

The thrashing and straw-separating apparatus are not fully represented because they do not form any essential part of my invention; but I have represented the outline of a thrashing-machine sufficiently to illustrate the mode of applying my improved separating apparatus thereto.

A is the hopper, from which the combined grain and chaff are received from the thrashing apparatus. B represents the first riddle; C, the screen; D, the grain-board; E, the tailing-elevator; and F, the fan of a customary cleaning apparatus, of any suitable form. The fan F may be belted directly to any convenient part of the machine, and may connect, by bevel-gearing *f*, longitudinal shaft G, crank *g*, and rod *g'*, with the primary shoe to impart a transverse shake thereto, said shoe

being suspended by hangers H or supported in any other usual and suitable manner. A chute, *s*, conducts the partially-cleaned grain into the secondary shoe S, which is provided with an adjustable chute, I, riddle J, screen K, and grain-board L, and receives a longitudinal reciprocating movement through the medium of a rod, M, connecting it with the crank-shaft N. *o o* are hangers supporting the shoe S. P is a fan working in connection therewith. Q is a transverse shaft, driven by a belt from the beater-shaft R, or any other convenient part of the machine, and carrying within the main frame of the machine, but external to the narrower frame of the supplemental shoe S, two pulleys *q q'*, the former and smaller of which is belted to the crank-shaft N to shake the shoe, while the larger pulley *q'* is belted to the shaft of the fan P to drive the latter at a higher velocity. T T' are twin spouts, which discharge the clean grain. U is a removable cap, formed to cover either of the spouts at will, and to form a continuous chute in connection with the bottom of the other spout, as illustrated in Fig. 6. This removable cap is shown detached in Fig. 7. By its means either of the spouts is covered and the other brought into use so as to deliver the grain into the bag or bushel on either side of the machine. The screenings are discharged from the secondary shoe through the spout V.

It will be observed that for the chaffing or first cleaning of the grain the primary shoe requires a much larger area than is necessary in the secondary shoe S. The latter, as it has to operate on the grain after the bulk of the chaff and impurities are removed, is considerably reduced in width. The space thus afforded between the sides of the main frame and the frame of the supplemental shoe gives free access of air to the fan and permits the play of the belts, through which the shoe and fan are operated.

By means of this supplemental shoe having an independent fan and its own shaking mechanism, and constructed and operated as I have described, I am enabled to completely remove short straws, white caps, imperfect grains, and all impurities, and deliver the good grain into

the bag or bushel in perfect readiness for market, thus dispensing entirely with the necessity of hand cleaning.

I do not claim, broadly, the use of two separating-shoes in a thrashing-machine, as I am aware that two shoes have been combined before; but

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

The combination, with the customary chaff-

ing-shoe of a grain thrashing and separating machine, of the supplemental shoe S having a longitudinal shake and made of less width so as to have room at its sides for the operating mechanism and for the free passage of air to the fan P, as described.

HENRY H. KURTZ.

Witnesses:

OCTAVIUS KNIGHT,
WALTER ALLEN.