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G. A. ROBERTS & C. SCHAFER.

GRAIN SEPARATOR.

No. 265,637. Patented Oct. 10, 1882.

Fig. 1.

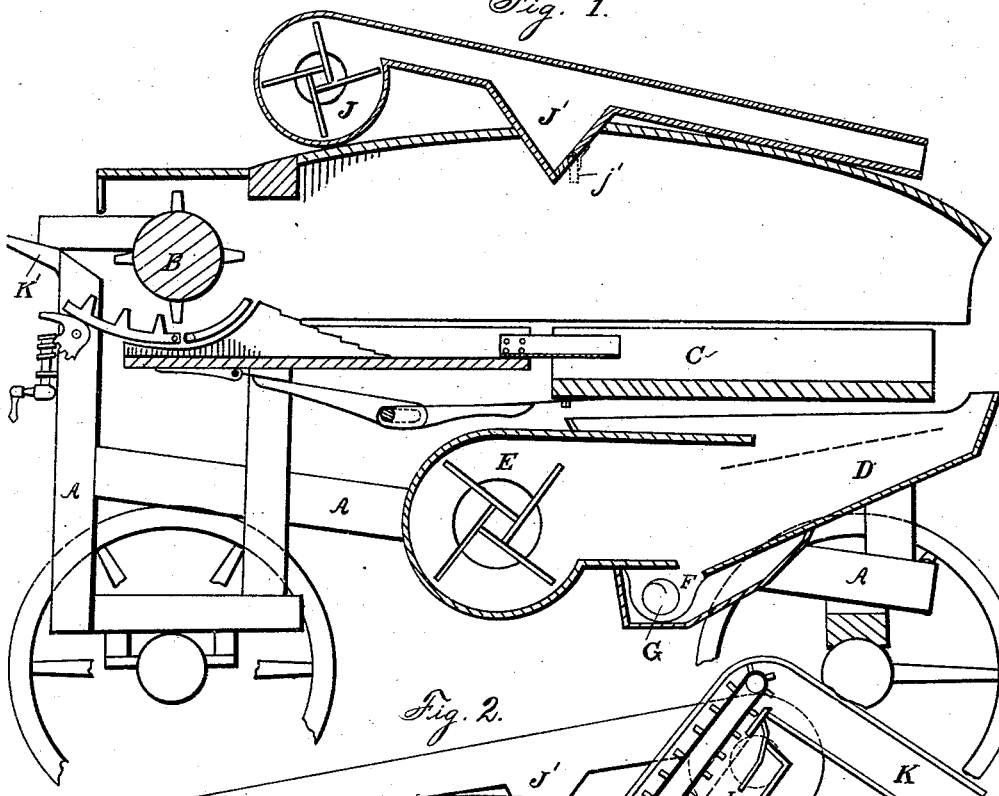
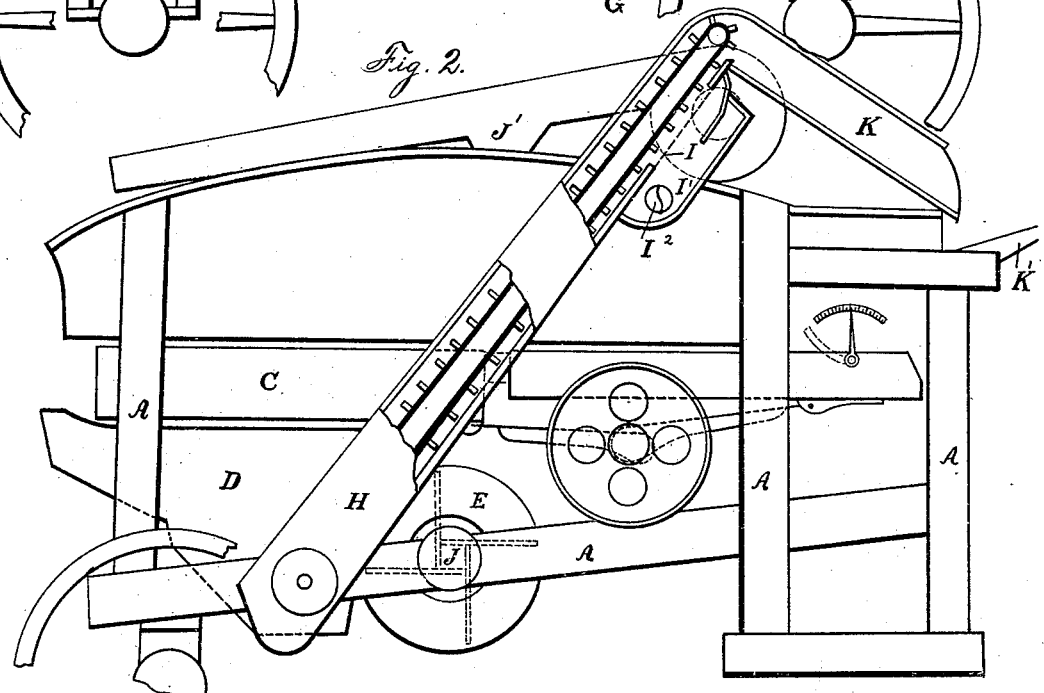


Fig. 2.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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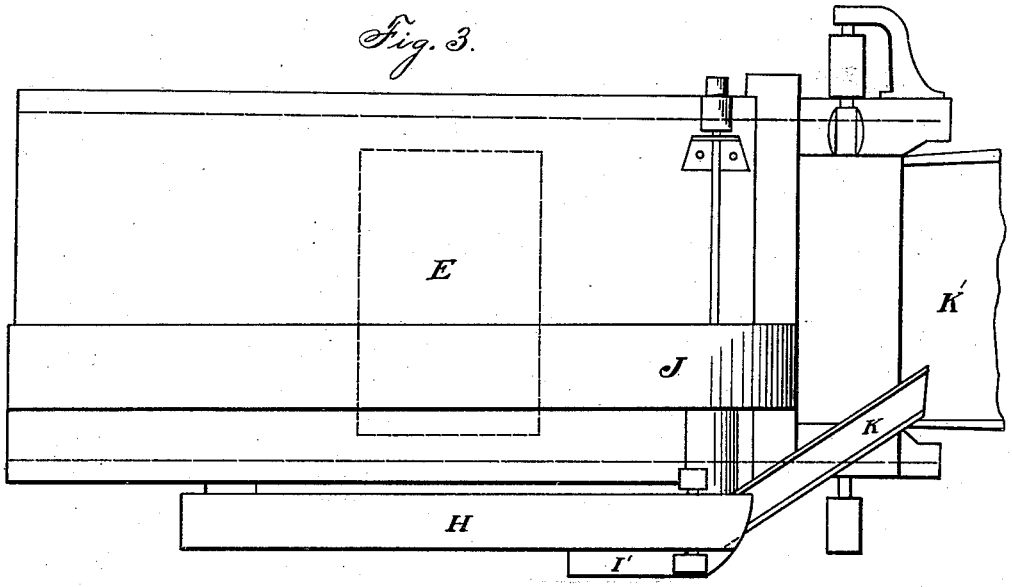
Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE A. ROBERTS AND CHRISTIAN SCHAFER, OF THREE RIVERS, MICH.

GRAIN-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 265,637, dated October 10, 1882.

Application filed March 23, 1882. (No model.)

To all whom it may concern:

Be it known that we, GEORGE A. ROBERTS and CHRISTIAN SCHAFER, of Three Rivers, county of St. Joseph, State of Michigan, have invented a new and useful Improvement in Grain-Separators; and we declare the following to be a full, clear, and exact description of the same, 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 a part of this specification.

Our invention consists of the combination of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a longitudinal section of a thrashing-machine embodying our invention. Fig. 2 is a side elevation, illustrating the elevating mechanism and showing in section the auxiliary separator at its top. Fig. 3 is a plan view, illustrating the dust-fan located on the top of a machine and showing in dotted lines the location of the main fan beneath the machine.

The object of our invention is to construct a thrashing-machine which will accomplish a thorough thrashing and cleaning of the grain in a single continuous operation and deliver it in a convenient position for bagging, thus obviating the separate use of a fanning-machine to finally clean the grain after it has been thrashed, and saving time and labor in transferring the grain to bags.

In carrying out our invention, A is the frame of any ordinary thrashing-machine. B is its thrashing-cylinder.

C is the straw carrier or shaker.

D is the shoe; E, the main fan beneath the machine.

F is a trough at the base of the shoe, into which the seed and unthrashed heads fall.

G is a spiral conveyer, which leads the mass out to the side of the machine into the elevator H. At the upper end of this elevator is the auxiliary separator, consisting of a screen or riddle, I, over which the mass is dragged by the elevator-slides, and through which the grain falls. The grain in falling drops through a space, I′, and thence is chuted into a bag or other receptacle located at the mouth I^2. Communicating with the space I′ is a suction-fan, J, located on the top of the machine, which draws into it any imperfect seeds, dust, chaff, or cheat, &c., that may drop through the riddle I with the perfect grain. In this way the grain is thoroughly cleaned, ready for market. Should any perfect grain be drawn in by the fan J, there is provided in advance of the fan a settling-chamber, J′, with a gravity-valve, *j*′, into which the perfect or heavy grain will settle, and when the accumulation is sufficient will be dropped through the gravity-valve onto the separators or straw-shaker C.

K is a chute leading from the top of the elevator onto the feed-board K′ at the entry to the thrashing-cylinder, so that whatever chaff or unthrashed heads are elevated pass again through the thrashing-cylinder and over the separators to be again operated upon.

The main fan E beneath the machine does not, as is the usual plan, extend from one side of the machine to the other, thereby rendering it necessary to obstruct the eye to a greater or less extent by the frame-work or the supports for the boxing of the fan-shaft; but the fan and its case are located free and clear from the sides of the machine and between the same, being shorter than the distance between the sides of the frame. In this way the eyes of the fan are left entirely open for the reception of air, and the air can enter the middle of the eye without obstruction.

What we claim is—

1. In a thrashing-machine, the combination, with the shoe arranged to receive the grain from the main riddle, of an elevator leading from said shoe, the sieve arranged under the upper end of the said elevator, a settling-chamber arranged under said sieve, and a suction-fan communicating with said settling-chamber, substantially as and for the purpose set forth.

2. The combination of the elevator, the casing thereof, constructed with a sieve-bottom near its upper end, a settling-chamber arranged beneath the sieve, and a suction-fan having its inlet communicating with said settling-chamber, substantially as described.

3. The combination, with the straw-shaker

C and the settling-chamber I′, of the suction-fan having its inlet communicating with the settling-chamber I′, and the settling-chamber J′, arranged in advance of the discharge of said fan and provided with a valved passage opening into the space above the straw-shaker C, substantially as and for the purpose set forth.

In testimony whereof we sign this specification in the presence of two witnesses.

GEORGE A. ROBERTS.
CHRISTIAN SCHAFER.

Witnesses:
J. D. SALSIG,
JAMES B. ROBERTS.