L. W. HASSELMAN.

Grain-Separator.

No. 218,437. Patented Aug. 12, 1879.

Fig. 1.

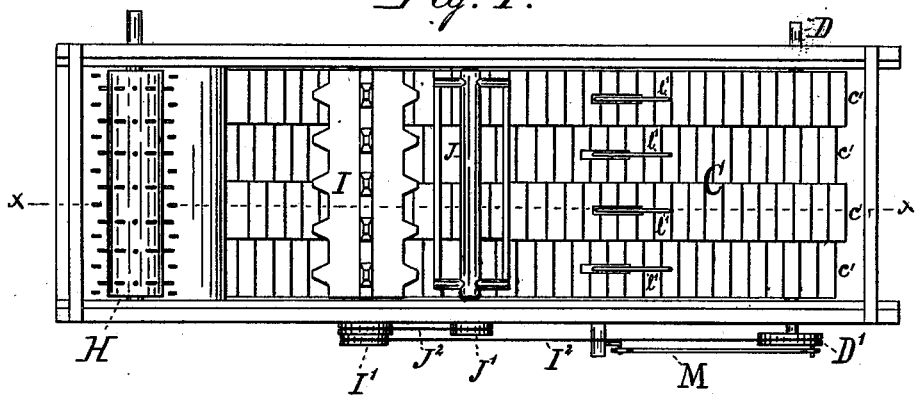
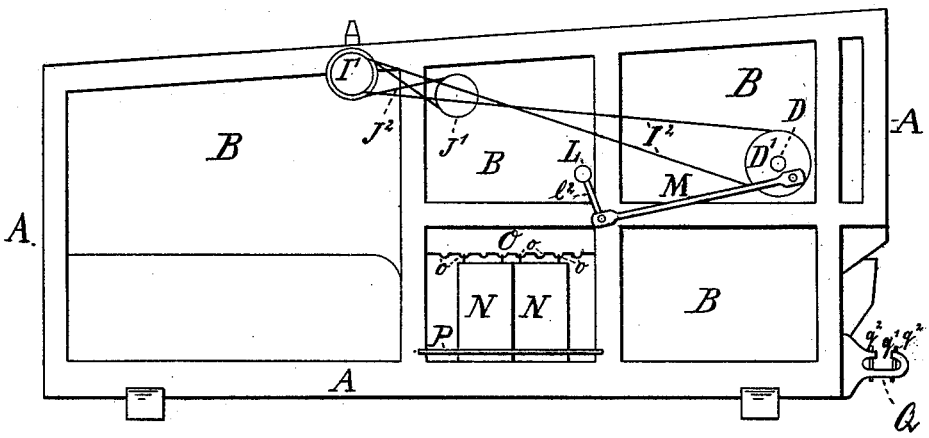


Fig. 2.



WITNESSES.

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R. P. Daggett

INVENTOR.

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Fig. 3.

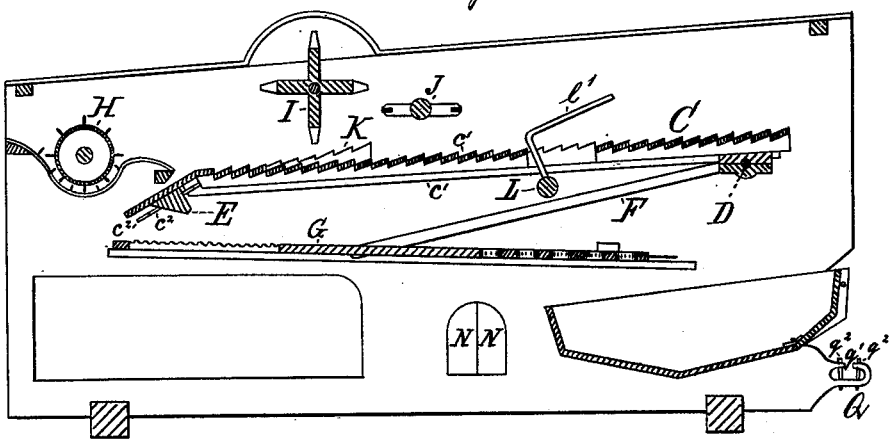

Fig. 4.

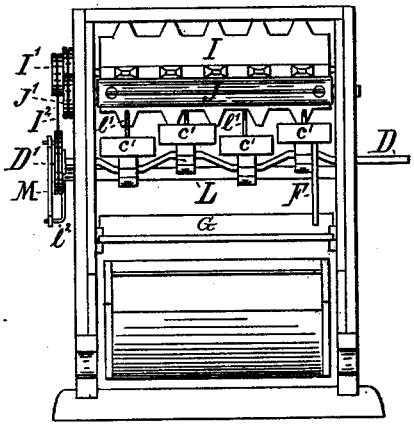

Fig. 5.

Fig. 6.

WITNESSES.

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UNITED STATES PATENT OFFICE.

LEWIS W. HASSELMAN, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **218,437**, dated August 12, 1879; application filed March 10, 1879.

To all whom it may concern:

Be it known that I, LEWIS W. HASSELMAN, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Grain-Separators, of which the following is a specification, reference being had to the accompanying drawings, which are made part thereof, and on which similar letters of reference indicate similar parts.

Figure 1 is a top or plan view of a machine embodying my invention, the top being removed. Fig. 2 is a side elevation thereof. Fig. 3 is a longitudinal vertical section. Fig. 4 is an elevation of the rear end of the machine. Fig. 5 is a separate view of the crank-shaft as used in my machine, and Fig. 6 of an equivalent shaft as ordinarily constructed.

In said drawings, those portions marked A represent the frame-work of the machine; B, the inclosing sides or walls; C, the straw-carrying floor, composed of reciprocating sections c^1 c^1 c^1 c^1; D, a crank-shaft, in which the cranks are sufficiently numerous to provide one for each section of the floor, and, if desired, for the connecting-rod F, and such other attachments as may be found necessary; E, a bar or rod over which the ends *c c* of the sections of floor, or attachments thereto, may slide; F, a connecting-rod attached to the floor C or shaft D, through which the lower or grain-carrier floor is driven; G, the said grain-carrier, upon which the grain falls as it leaves the floor C, and down which it moves until discharged upon the sieves below; H, the ordinary thrasher-cylinder or beater; I, a rotary deflector to assist the floor C in discharging the straw, and to keep the straw in contact with said floor immediately after leaving the beater H; J, a winged beater, which catches the top straw, which is longest and least broken, and subjects it to an additional beating, and jars out any kernels of grain which may still adhere thereto; K K, inclined pieces, preferably notched to correspond with the incline of the floor-slats, and are attached to and project upwardly from the floor-sections just in front of the beater J, which inclined pieces cause the long or partially-broken straw to rise sufficiently to come in contact with said beater, while the short and sufficiently-broken straw passes between them, underneath said beater, without coming in contact therewith; L, a rock-shaft passing through the machine, upon which several lifting-fingers, l^1 l^1, which serve to lighten up the straw and further shake out any grain that may still adhere thereto; M, a connecting-rod connecting the crank-arm l^2 of the shaft L either to a wrist upon the wheel D′, the grain-carrier floor G, or to some other revolving or reciprocating part of the machine; D′, I′, and J′, pulleys connected to the parts D, I, and J, upon which are the belts I^2 and J^2, which drive said parts I and J; N N, sliding doors, by which the size of the openings in the sides of the machine may be regulated; O, a rod upon which the sliding doors are hung, and which has bends or notches into which the loops attached to the doors fit, and are thus held in the position in which they are placed; P, a rod or cleat which prevents the doors N from swinging out from their proper position; Q Q, bearings in which are placed the gudgeons or pivots of a supplemental straw-conveyer, by which the straw is delivered at a considerable distance from the machine or upon a stack.

The crank-shaft D, I preferably construct in the form shown in Fig. 5 rather than in the common form, (shown in Fig. 6,) which contains more bends and of greater abruptness, and is therefore more expensive and less durable.

The sections c^1 c^1 of the floor C are confined to their place at the front end, where they pass over the bar E by the rods c^2 c^2, which are attached to said sections and run parallel with the ends thereof, which slide over the bar and through holes in said bar, thus effectually preventing said sections from being lifted therefrom.

The deflector I is not peculiar in itself, but is given a peculiar construction, which makes it more effective. The wings are provided with teeth formed somewhat like the frustum of a pyramid, which form prevents the straw from becoming entangled in the teeth and wrapped about the deflector, thus impairing its usefulness, which occurs when the deflector is constructed in the ordinary form.

The beater J is preferably constructed with two wings, as shown. It is aided in its pur-

poses by the deflector I, which forces the straw down to the floor; otherwise all the straw, short as well as long, would pass over the beater, and its usefulness would be greatly impaired by reason of having to operate on too great a volume, part of which does not need its services. As before stated, the pieces K K, when used, serve to guide the long straw to a point where it shall come in contact with this beater. An offset or depression in the straw-carrier floor C would accomplish practically the same result as the pieces K K, and is regarded by me as a mechanical equivalent therefor, though not quite so effective.

The lifting-fingers l^1 l^1 are different from those used in other machines, in that they are mounted on a shaft which is underneath and entirely independent of the straw-carrier floor, and are in no way dependent upon said floor for their movements. The location of the shaft is such that it in no way impedes the passage of the straw over the floor, as one above the floor must necessarily do.

The rod O as constructed is a very simple and effective device for the purpose, and is very cheaply constructed. A single blow upon a tool of the proper shape forms the notch or bend which holds the door.

The bearings Q Q are so constructed that the supplemental straw-carrier rests in the end of the bearings nearest the machine when in use, and when folded up against the end of the machine ready for transportation the other or outer end. The openings q^1, through which the gudgeons or pivots of the supplemental device enter, being in the center of the elongated bearing, each end forms a retainer for said gudgeons, which may, if desired, be made still more secure by the pins q^2 q^2.

These improvements are simply the perfecting of the different points of the well-known "Oscillator" thrashing-machines, in the manufacture of which I have been engaged for several years, and will be readily understood by an examination of the accompanying drawings.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the deflector I and the upwardly-projecting pieces K K, or their equivalent, the beater J, substantially as and for the purpose specified.

2. In combination with the sections of floor c^1 c^1, having the upwardly-projecting pieces K K, or their described equivalent, the beater J, substantially as herein shown and specified.

3. In combination with the alternately-reciprocating sections composing the straw-carrier floor of a thrashing-machine, lifting-fingers, the shaft which actuates said fingers being mounted in stationary bearings underneath said floor, while the fingers themselves pass through and operate above it, substantially as shown and specified.

4. The bearing Q, having an elongated recess therein, each end of which forms a bearing for one of the gudgeons of the supplemental straw-carrier, said recess having a central opening, q^1, to permit the application or removal of said gudgeon, substantially as shown and specified.

In witness whereof I have hereunto set my hand and seal at Indianapolis, Indiana, this 7th day of March, A. D. 1879.

LEWIS W. HASSELMAN. [L. S.]

In presence of—

C. BRADFORD,

WM. J. MILLNER.