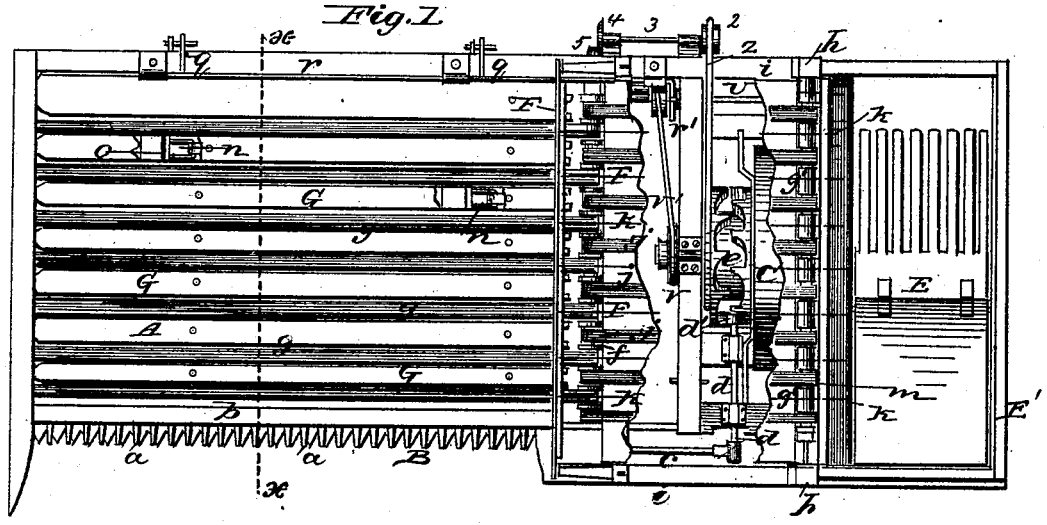
2 Sheets—Sheet 1.

H. A. HALVORSON.

Harvester-Dropper.

No. 211,730. Patented Jan. 28, 1879.

Fig. 1.



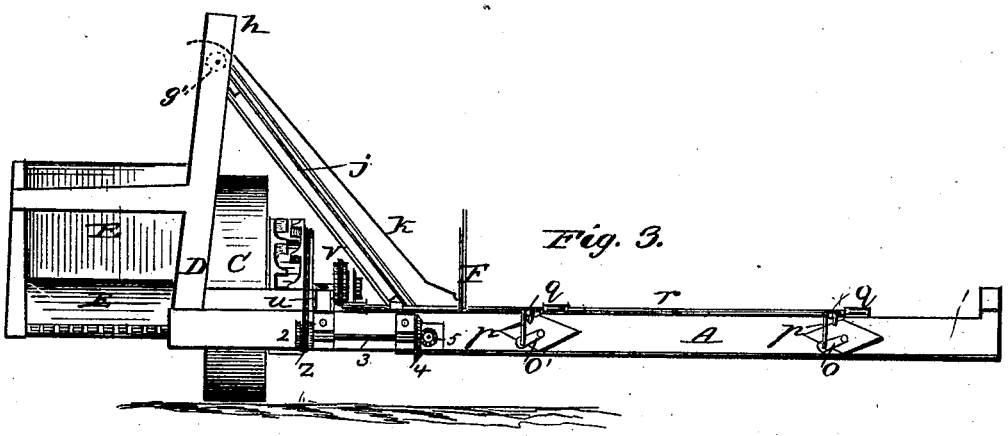


Fig. 3.

Fig. 2.

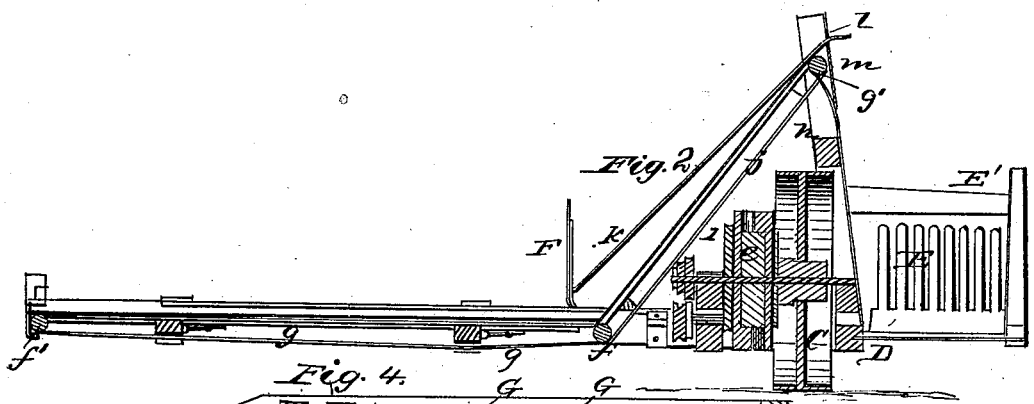
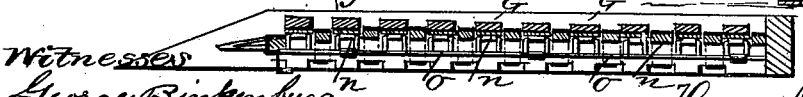


Fig. 4.



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2 Sheets—Sheet 2.

H. A. HALVORSON.
Harvester-Dropper.

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Fig. 5.

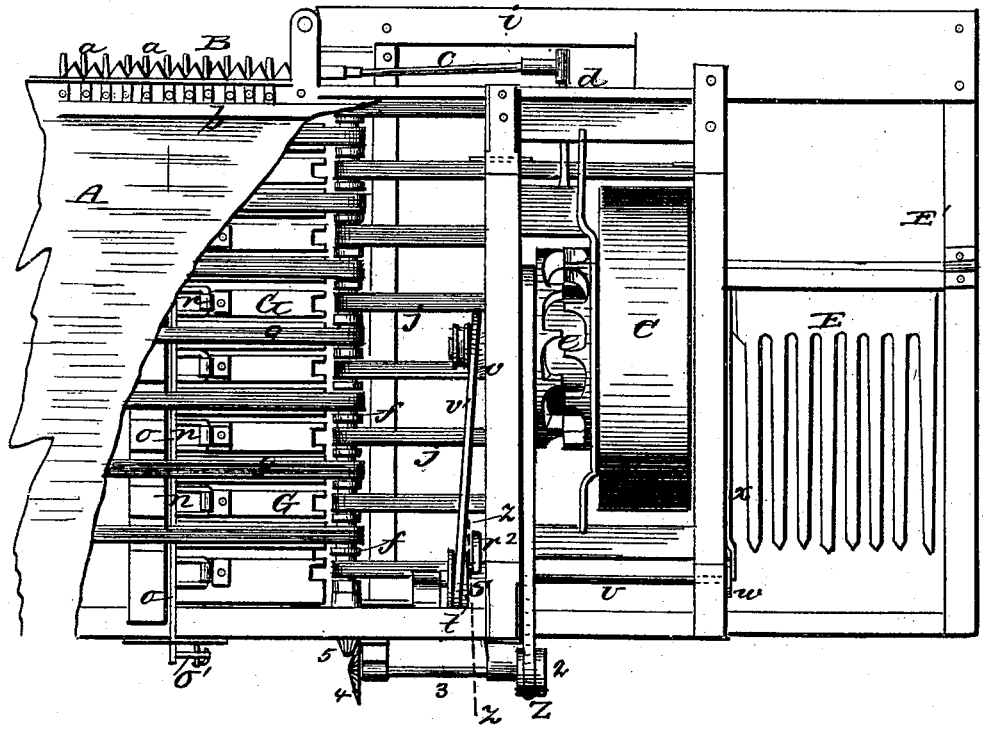


Fig. 6.

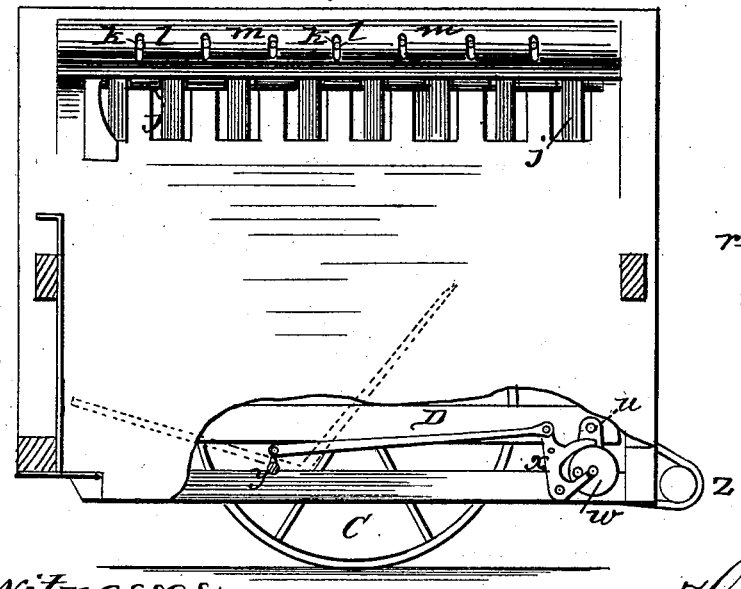
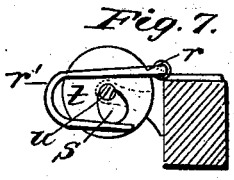


Fig. 7.



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UNITED STATES PATENT OFFICE.

HANS A. HALVORSON, OF DECORAH, IOWA.

IMPROVEMENT IN HARVESTER-DROPPERS.

Specification forming part of Letters Patent No. **211,730**, dated January 28, 1879; application filed October 28, 1878.

To all whom it may concern:

Be it known that I, HANS A. HALVORSON, of Decorah, in the county of Winneshiek and State of Iowa, have invented certain new and useful Improvements in Reapers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan view of a machine embodying my improvement, with a portion of the frame broken away. Fig. 2 is a longitudinal section. Fig. 3 is a rear elevation. Fig. 4 is a transverse section through the line *x x* of Fig. 1. Fig. 5 is a bottom plan, on an enlarged scale, of one end of the machine, showing the dropper and its operating mechanism. Fig. 6 is a similar side view, with, as in Fig. 5, a portion of the frame broken away to show the operating mechanism; and Fig. 7 is a detail section taken on line *z z*, Fig. 5.

Corresponding parts in the several figures are denoted by like letters.

My invention relates to the mechanism for carrying the cut grain from the platform which receives it to the elevator, by which it is deposited upon the dropper; and it consists in the construction and combination of a series of parallel grain-carrying bands arranged upon the platform alternately with a series of movable slats, substantially as hereinafter more fully set forth.

In the drawings, A refers to a platform, in front of which is disposed the sickle or cutter B, moving, in the usual way, between the fingers *a a*, secured to a bar, *b*, in which the cutter-bar is seated, and which is fastened to the forward end of the platform A. The sickle or cutter-bar receives its motion through a pitman, *c*, connected thereto, and to a crank-shaft, *d*, one end of which is provided, preferably, with a frictional roll, *d'*, engaging a spiral or cam groove, *e*, in a wheel upon the shaft of the driving-wheel C, hung or journaled upon the frame D.

Arranged at each end of the platform, a little below the upper surface of the cutter-bar, is a roller, *f'*, made in the form of a series of smaller rollers. Around these rollers is passed the straw or grain carrying belts *g g*. Passing around one of these rollers and a third roller, *g'*, supported in an elevated position at the upper ends of uprights *h h* of a frame, *i*, is a series of similar belts, *j j*, for receiving the grain from the carriers or belts *g g*, and elevating it preparatory to being dropped or falling upon the dropper proper, E.

A transversely-arranged board or plate, F, is secured to that end of the frame *i* which is next to the platform A. From the lower edge of the board F extends upwardly a series of wires or strips, *k k*, fastened at their upper ends in slots *l l* in a plate, *m*, extending to and between the uprights *h h*, to which it is fastened.

G G are a series of slats arranged between the grain-carrying belts *g g*, and secured upon cranks *n n* of transverse shafts *o o*, bearing in the frame of the platform A. The rear or projecting ends of the shafts *o* are provided with short right-angled arms *o' o'*, which are connected by wires *p p*, or other suitable means, to arms *q q*, extending at right angles from the rod or shaft *r*, bearing in eyes or boxes fastened to the frame of the platform A. One end of this shaft *r* (see Fig. 7) is bent or curved, as at *r'*, or otherwise formed so as to be operated upon by a cam or projection, *s*, upon one side of a pulley, *t*; or it may be attached to its shaft *u*, bearing in plates or other supports fastened to the frame D. The pulley *t* is connected to a similar pulley, *v*, upon the driving-wheel shaft or axle by a belt, *v'*.

Through this mechanism, it will be observed that the slats G G are operated, elevated at certain intervals so as to rise above the grain-carrying belts *g g*, and thus temporarily arrest the motion of the grain upon the platform.

The shaft *u* of the pulley *t* is also provided with an eccentric or disk, *w*, to which is connected one arm of a lever, *x*, pivoted to the frame D, and connected at its other end to a pitman, *y*, connecting with and operating the axis or shaft of the dropper E, by which it is tilted simultaneously with the arresting of the motion of the grain by the elevating of the slats G.

The grain-carrying belts are operated by the belt *z*, passing around a pulley, 1, upon the

driving-wheel axle or shaft, and around a pulley, 2, upon a short shaft, 3, hung in bearings secured to an extension of the platform-frame, the opposite end of the shaft 3 having a beveled cog-wheel, 4, gearing with a similar pinion, 5, upon the projecting end of the axis of one of the belt-operating rollers.

The dropper proper, E, is hung about centrally upon an axis or shaft within a receptacle or inclosure, E′, open at one end and its bottom. It consists of two parts, hinged together, and standing, one part, which is provided with fingers, at about an obtuse angle to the imperforated portion.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The elevator-frame *i*, having uprights *h h* and vertically-slotted plate *m*, in combination with the yielding or elastic rods *k*, secured at one end in the grain-board F, and their free curved ends inserted through the slots *l* in plate *m*, substantially as and for the purpose herein shown and described.

2. In combination, the rock-shaft *r*, having arms *q q*, connecting-links *p p*, transverse shafts *o o*, having arms *o′ o′*, operating-cranks *n n*, endless bands *g g*, and grain-slats G, substantially in the manner and for the purpose herein shown and described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

HANS ANDRIAS HALVORSON.

Witnesses:
L. O. BREKKE,
THOS. HALVORSON.