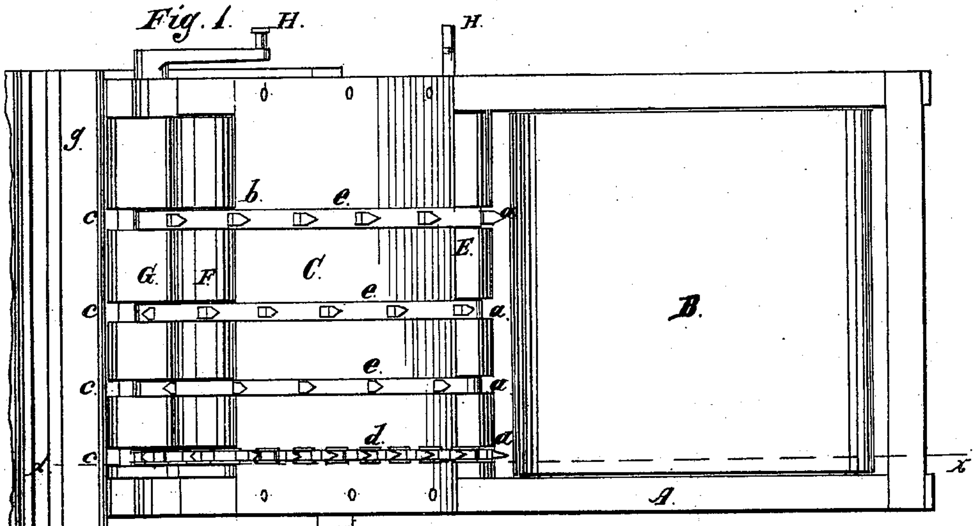
W. F. OLIN.

HARVESTER-ELEVATORS.

No. 195,156. Patented Sept. 11, 1877.

Fig. 1.



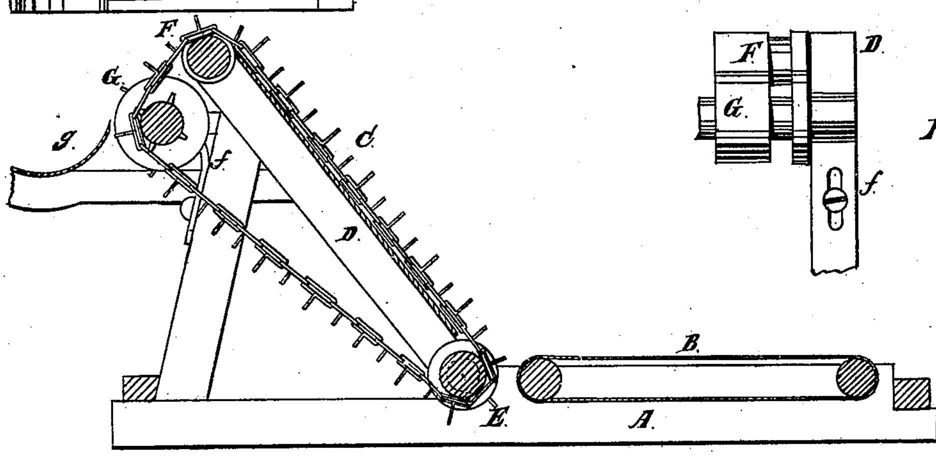


Fig. 3

Fig. 2.

Witnesses:
[illegible]
[illegible]

Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM F. OLIN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN HARVESTER-ELEVATORS.

Specification forming part of Letters Patent No. **195,156**, dated September 11, 1877; application filed October 24, 1876.

To all whom it may concern:

Be it known that I, WILLIAM F. OLIN, of the city of Chicago, Cook county, State of Illinois, have invented new and useful Improvements in Harvesters, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a top or plan view; Fig. 2, a longitudinal vertical section on line *x x* of Fig. 1; Fig. 3, a detail.

The objects of this invention are to improve the elevating device by bringing it nearer to the carrier, or diminishing the space between them, and to carry the grain partly downward into the receiver, or to an automatic binder when used in that class of machines; and its nature consists in providing the upper end of an elevator with a second or discharging roller, so as to give the grain a downward movement, such discharging-roller being grooved, so as to clear the grain from the projections on the elevating-belts and give the grain a more rapid movement at the discharging point or place, as is hereinafter more fully described.

In the drawings, A represents the main frame; B, the carrier; C, the backing; D, the frame of the elevator; E, the lower roller; F, the upper roller; G, the lower roller of the upper end, for discharging the grain; *a*, the grooves in the lower roller E; *b*, the guide-grooves in the upper roller F; *c*, the grooves in the lower or discharge roller *g* of the upper end; *d*, the chains; *e*, the belts; *f*, the adjustable bearings for the roller G; *g*, the receiver.

The frame A D is made in the usual manner of making frames for machines which are provided with carriers and elevators. The usual driving and supporting wheels, sickle, reel, and other appliances necessary to make a complete harvester are to be applied in the usual manner.

The elevator-frame is provided with a backing or back-board, C, against which the elevator-belts rest, and which prevents the grain from falling through.

The elevator is provided with three rollers. As shown, all these rollers are grooved. The upper roller F, however, may be grooved or not, as desired. Grooving the lower roller E, so as to take in the elevating-belts and a considerable portion of the elevating-teeth or projections, enables me to bring the lower end of the elevator and the discharging end of the carrier much nearer together than has been heretofore practicable.

By thus passing the grain from the carrier onto a roller, the surface of which moves faster than the elevating-belts, it not only prevents the grain from falling between the carrier and elevator, but, as the butts are bulkier than the tops, it also, to some extent, assists in straightening the grain.

The roller G is provided with grooves deep enough to entirely cover the points of the elevating-teeth, so as to insure the discharge of the grain from the elevator to the receiver or binder, in case a binder is used.

By this arrangement the grain is thrown off and away from the elevator by a positive movement, as it will be seen that the outer surface of the roller travels considerably faster than the elevating-belts, and, as the elevating-belts pass from the upper roller F into the grooves of the roller G, as soon as the grain comes in contact with the discharging-roller G, it is lifted from the teeth of the elevating-belts gradually until completely discharged, and is delivered by a rapid quick motion onto the receiver.

By the use of the grooved discharge-roller G the receiver *g* can be placed in close contact, or so nearly close, therewith, that it is impossible for the grain to pass between the discharge-roller and the receiver, no matter what quantity of grain there may be in the receiver.

The discharge-roller G is journaled upon sliding bearings *f*, which bearings are slotted, as shown at Fig. 3, so that they can be raised or lowered, and thereby adjust the roller to the receiver, and also regulate the tension of the elevating-belts.

The chain *d* is run on sprocket-wheels, so that power can be applied to either of the rollers E, F, or G, for operating the elevator.

Cranks H H′ are shown; but in a completed machine a pulley or gear-wheel will take the place of whichever one that is to be used for driving the elevator, and the other will be omitted.

It will also be seen that the grooves in the rollers may be varied in depth, so that the

running speed of the elevator-belts may be graduated from the front to the rear of the elevator, and thereby straightened in its passage from the bottom to the discharge-point.

As shown, the receiver *g* is permanently attached to the elevator-frame; but it may be adjustably attached thereto; or it may be attached to the adjustable bearings *f*, so as to move with them.

What I claim as new, and desire to secure by Letters Patent, is as follows:

The combination of the lower roller E and upper roller F with the grooved discharge-roller G and spur-belts *e*, whereby the grain is given a positive downward movement, and is lifted from the elevator by a more rapid movement of the discharge-roller, substantially as described.

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Witnesses:
N. S. KETCHUM,
C. W. FRACKER.