

BINDING ATTACHMENT TO HARVESTERS.

Patented Mar. 5, 1861.

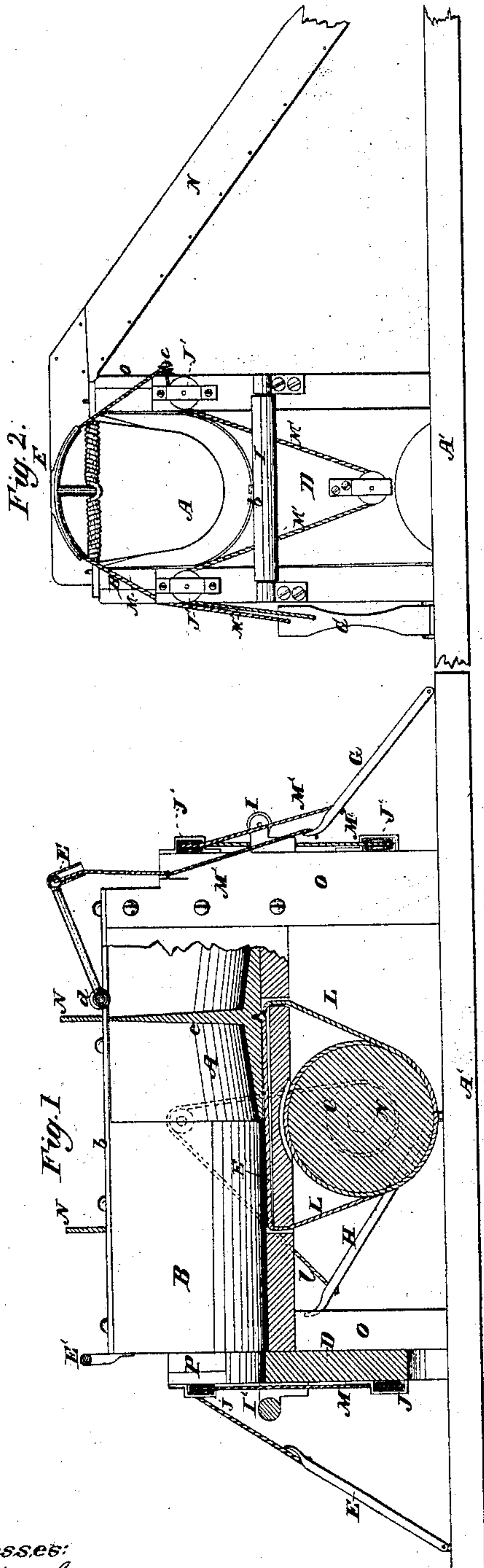


Fig. 2.

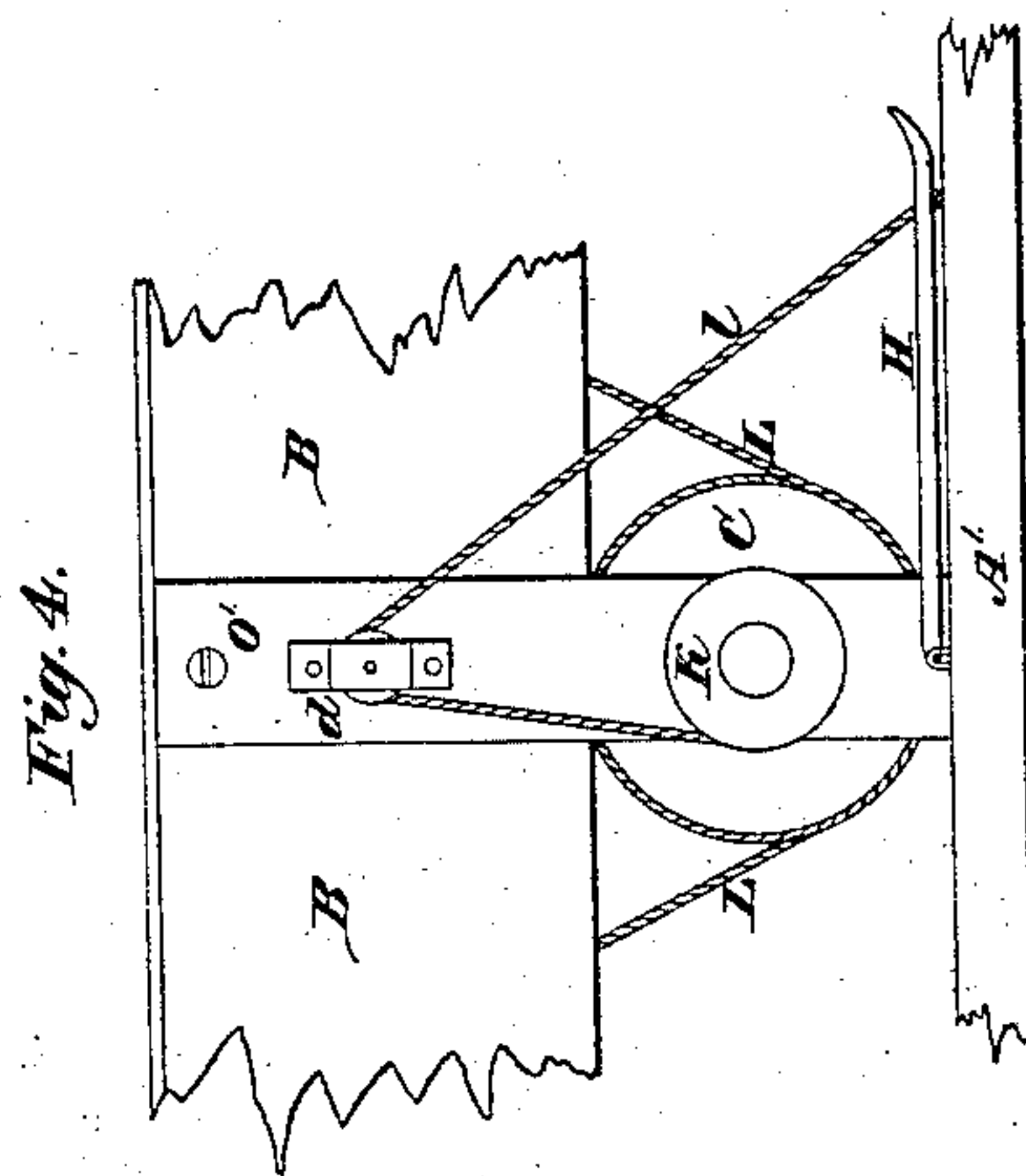


Fig. 4.

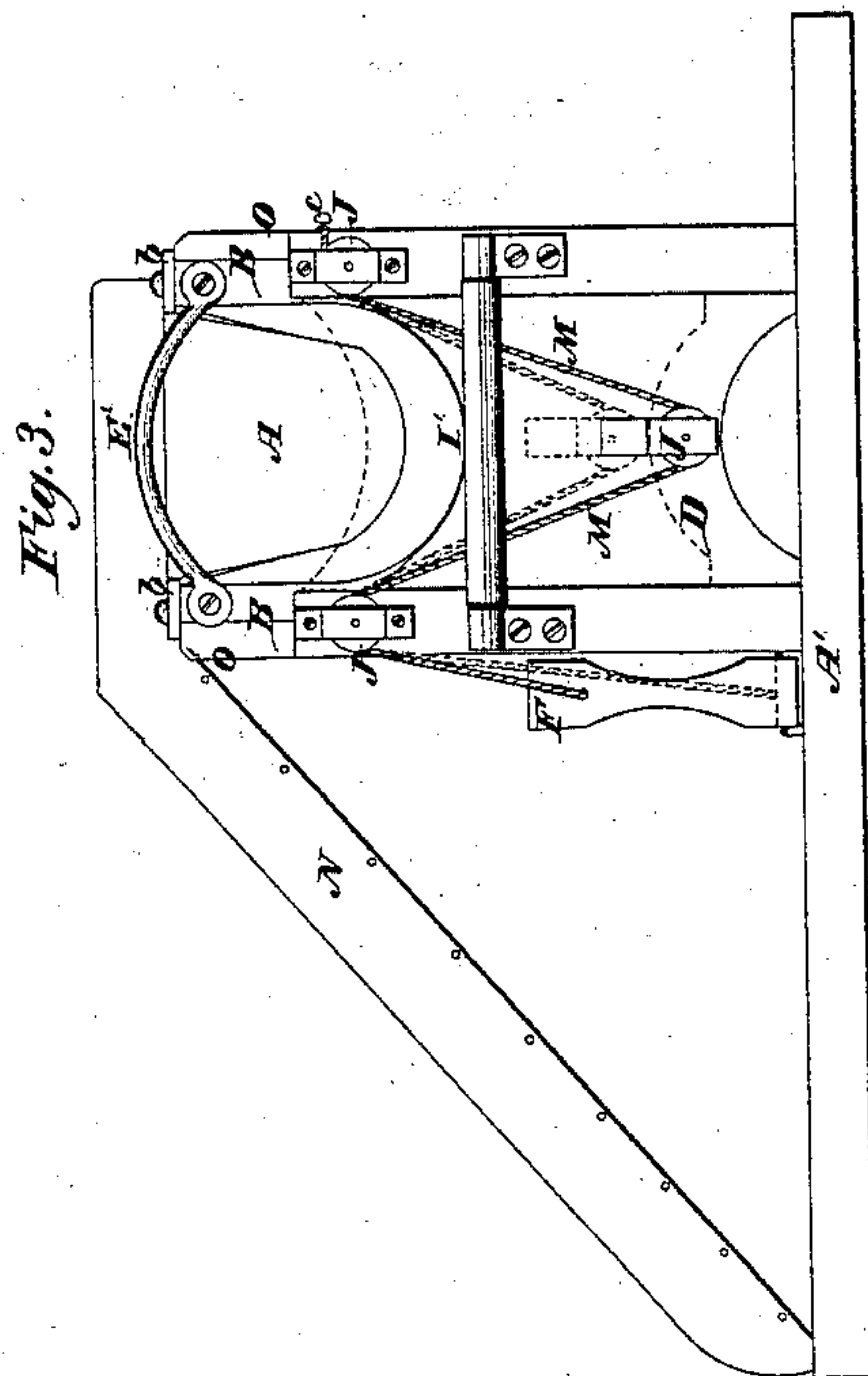


Fig. 3.

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IMPROVEMENT IN BINDING ATTACHMENTS TO HARVESTERS.

Specification forming part of Letters Patent No. 31,584, dated March 5, 1861.

To all whom it may concern:

Be it known that I, CLARK ALVORD, of the town of Westford, county of Dodge, and State of Wisconsin, have invented a new and useful Machine for Binding Grain to be used with harvesters for binding grain cut by them; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a side section, except so much as refers to pressing, which is a side view. Fig. 2 is an end view, showing the end in which both portions of the presser operate. Fig. 3 is the other end in elevation, showing the lower presser only operating, while the upper portion of the presser is stationary. Fig. 4 is a section of the side, in elevation.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

In the construction of my invention, in Fig. 1, A' is the platform on which the machine rests; B, the trough or body of the machine, which is about six feet long, eighteen inches deep, and sixteen inches wide on the inside, and is of a semicircular form at the bottom. In the bottom, on the inside, is a small groove, extending nearly from end to end, or it may extend from end to end. Holes at each end of this groove pass through the bottom. (See portion of cord L, in Fig. 1, which presents the holes and grooves.) This trough is placed on posts O, raising it about two feet above the platform. These posts O are plowed out, as seen at P, in Fig. 1. D, the lower presser or gate, has its upper end cut out, so as to correspond with the bottom of the trough B, and has on each side a tongue to fit into the grooves P, in which it slides. E', is an arched stationary presser, firmly attached to the end near the upper edge of trough B. E is a movable presser, formed with an arched tube, through which a cord passes, and is fastened to an arm running back to a cross-bar, which rests on the upper part of the trough B, as seen at a, and is held in place by staples. Around this cross-bar is a spiral spring, which elevates the outer end when it has been compressed in binding. b are strips screwed firmly down on the top

edges of the box B, and serve to keep gavel-carrier A down to its place. This gavel-carrier A is about half the length of the trough, and is constructed in form corresponding with the bottom of the box, and has a partition in the center, as seen at e in Fig. 1. This gavel-carrier, in the operation of the machine, has a reciprocating motion from end to end, for the purpose of carrying the gavel from the center to each end alternately, to be bound, or it may be used to convey all gavels to one end of the trough only. This carrier operates alternately against the butts and heads of the gavel. C is a drum about two feet in diameter, having its bearings in posts O', and around which drum is cord L, which cord passes through holes in the bottom of trough B, and is fastened to gavel-carrier A, as seen in Fig. 1, directly under partition e, and in a corresponding groove of gavel-carrier A, as seen in Fig. 2 at f. Treadle H and the cord L, (further seen by dotted lines,) which passes over a pulley and is attached to wheel K, (also seen in dotted lines constitute the means by which the gavel-carrier A is made to reciprocate. I is a roller to prevent the gavel from falling out of the machine before it has been operated on by the presser and bound. M is a cord fastened to the frame at C, Fig. 3, and passes around pulleys J, the lower pulley J being attached to presser D. The other end of the cord M is attached to treadle F, by which it is operated. Fig. 3 shows the presser D elevated in the position for binding. Treadle G in Fig. 2, to which are attached cords M', is for operating gate D and presser E at the same time. N, the inclined plane for carrying the grain up to the machine. In Fig. 2 the same letters refer to the same parts as shown in Fig. 1. At the right-hand end, (shown in side elevation,) the cords M' are both attached to the frame, as shown at C, the upper cord passing through presser E to treadle G, while the lower cord M' passes around pulleys J to same treadle G, and when treadle G is depressed it brings gate D and presser E closer together, thus compressing and holding the bundle to be bound. In Fig. 3 the letters refer to like parts as in Fig. 1, except so much as is in side elevation. In Fig. 4, O' are up-rights fastened to the sides of the machine, to serve as bearings for the shaft of drum C,

and on the ends of which are pulleys *k*. These pulleys are of much smaller diameter than the drum, which gives a quick motion to the gavel-carrier A. Cords *l* are fastened to pulleys *k*, and pass over small pulleys *d*, and are attached to treadles H, for operating the gavel-carrier. The whole machine is fastened permanently to platform A'. The treadles are attached to it by pivots and staples.

The object of my invention is to facilitate the binding of grain by attaching it to a reaper, in the manner most convenient to allow the grain to be deposited in the center of the box or trough B, by the direction indicated by inclined plane N.

In the operation of my invention, the gavel-carrier being located at one end of the box B, and a sufficient amount of grain having been deposited in the center of box B, the man located at the opposite end presses with his foot on the treadle H, thus moving gavel-carrier to that end of the machine, thus bringing the grain forward into the compressor, and then presses on treadle F, by which the pressers are brought to operate on the grain thus brought forward to be bound. While held in this condition he binds it with a straw band, after which he removes his foot, and the bundle is thrown off from the machine. In the meantime, enough grain to form another

bundle having been deposited in the trough or box on the other side of the partition *e* of the gavel-carrier, the man at the opposite end of the machine operates the gavel-carrier by pressing on the treadle H, which brings the gavel-carrier forward, carrying the grain to the reverse end of the trough, where it is pressed and bound, as before described. In compressing the bundle at this end of the machine the man presses on treadle G, which is the equivalent of treadle F, before described.

Having thus described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The reciprocating gavel-carrier A, constructed and operating as described, for the purposes set forth.

2. The combined pressers D and E, constructed and operating as described, and for the purposes set forth.

3. The combination of the reciprocating gavel-carrier A with the pressing apparatus D and E at both ends of the machine, or at but one end, as set forth.

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Witnesses:

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