

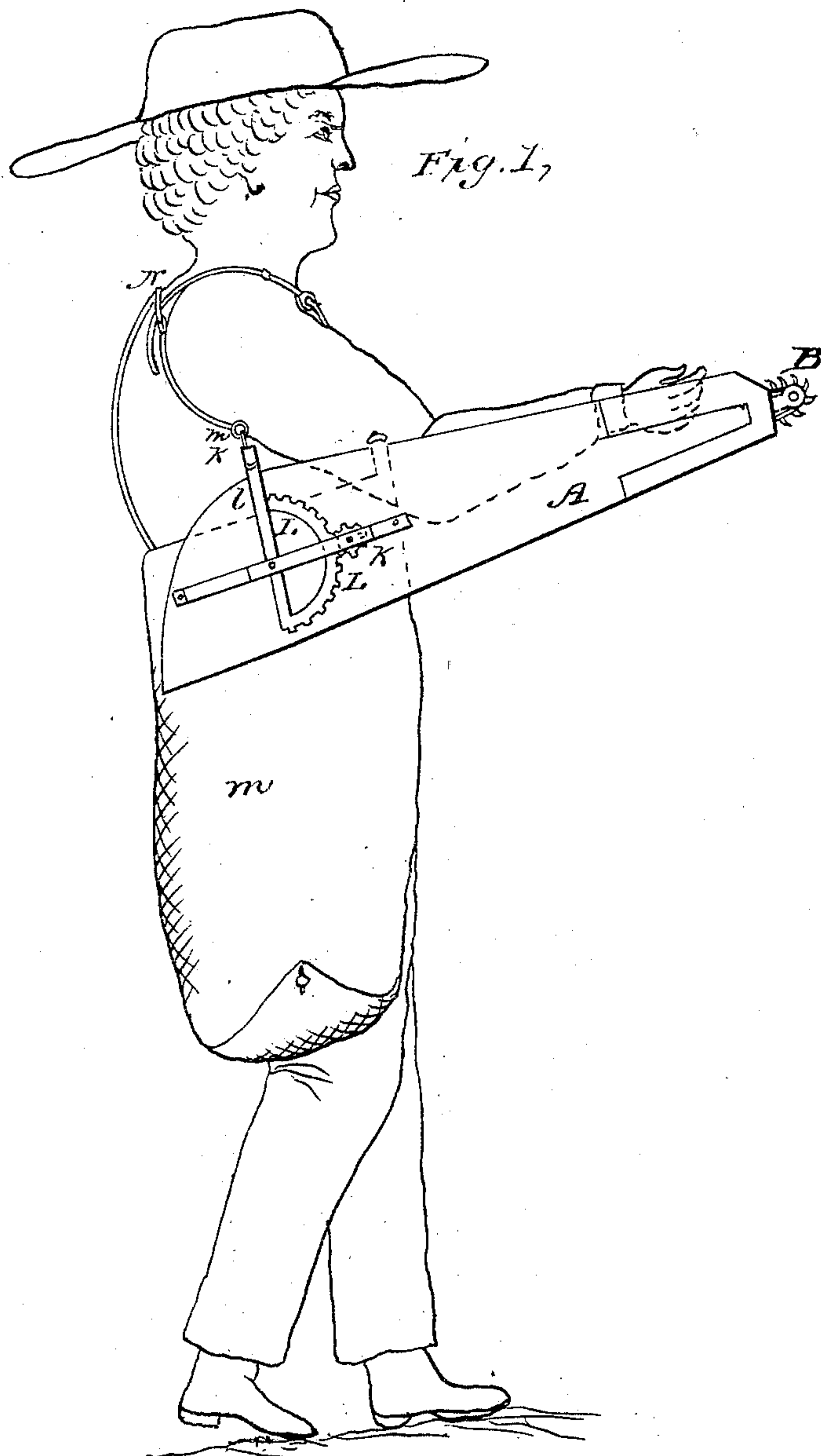
HOSFORD & AVERY.

2 Sheets—Sheet 1.

Cotton Harvester.

No. 20,066.

Patented April 27, 1858.

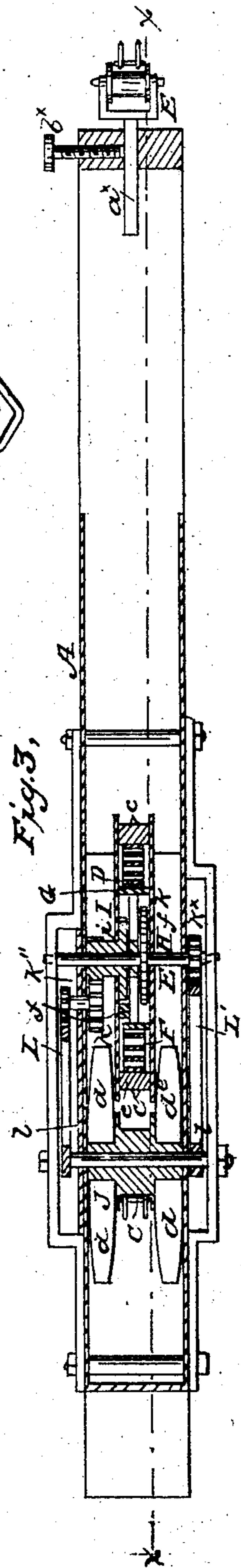
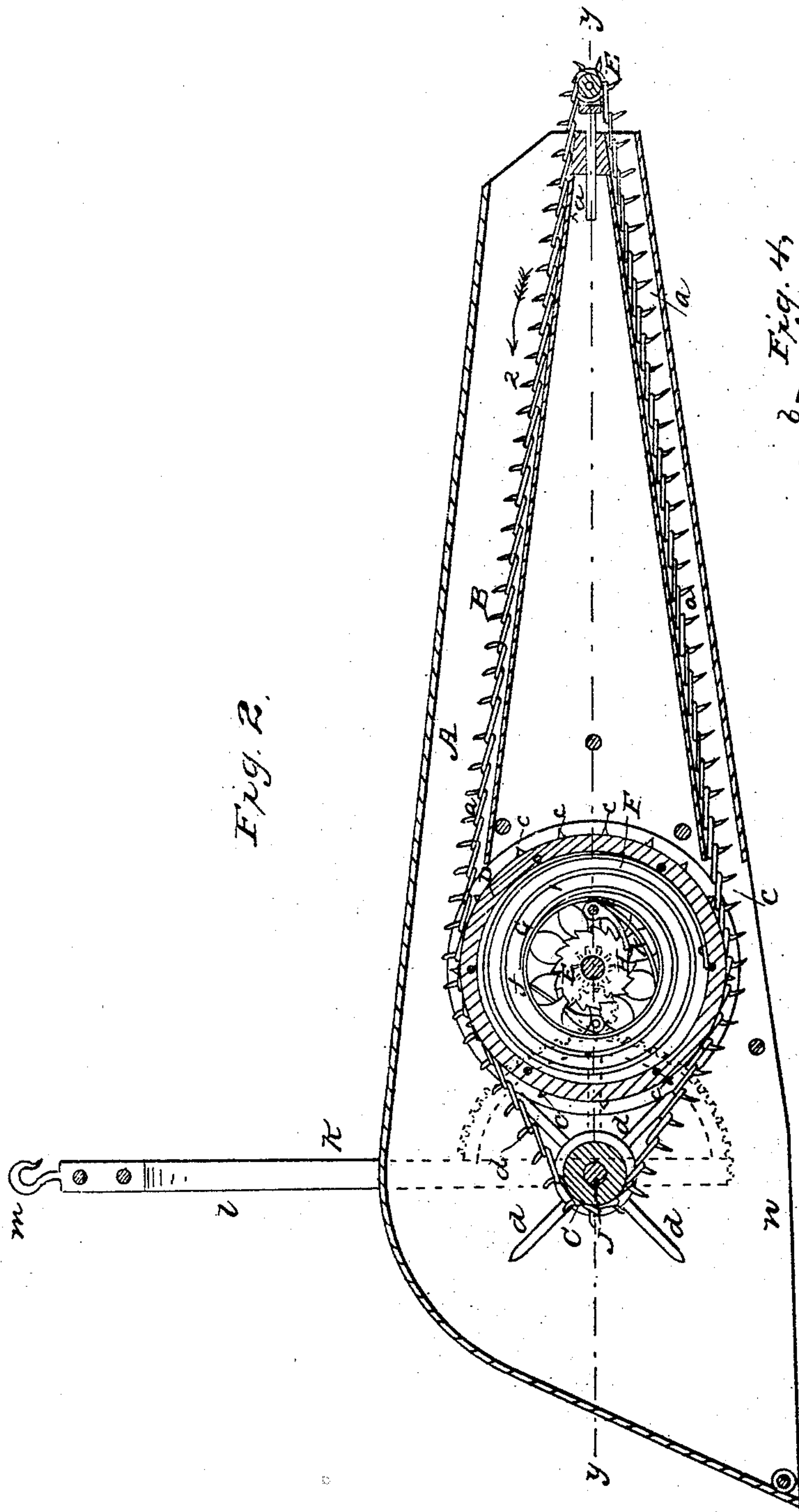


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# UNITED STATES PATENT OFFICE.

M. HOSFORD AND J. C. AVERY, OF MACON, MISSISSIPPI.

## IMPROVEMENT IN COTTON-HARVESTERS.

Specification forming part of Letters Patent No. 20,066, dated April 27, 1858.

*To all whom it may concern:*

Be it known that we, MILES HOSFORD and J. C. AVERY, of Macon, in the county of Noxubee and State of Mississippi, have invented a new and Improved Machine or Implement for Harvesting Cotton—that is to say, for picking or gathering it from the standing plants in the field; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a view of our improvement applied to an operator. Fig. 2 is a longitudinal vertical section of the same, taken in the line *xx*, Fig. 3. Fig. 3 is also a longitudinal section of the same, taken in the line *yy*, the two planes of sections crossing each other at right angles. Fig. 4 is a detached view of a portion of the endless chain of pickers.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in applying a system of gearing to an endless chain of pickers, which is fitted in a suitable frame or case, and so arranged that as the frame or case is moved and the pickers thereby adjusted to the bolls the movement of said case will, through the medium of the gearing aforesaid, wind up a spring which serves as a reserve power to operate the endless chain of pickers when the frame is stationary, and the pickers properly adjusted to the bolls, so that the cotton will be picked therefrom and deposited in a proper receptacle or bag attached to the machine.

The object of the invention is to obtain a self-operating device, so that two can be applied to each operator, who may operate one with each arm and hand.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents a frame or case, which may be constructed of wood or sheet metal, and B is an endless chain, which works over pulleys C D E, the pulleys C D being within the case and the pulley E attached to its outer end. The chain B is formed of a series of wire links, *a*, so bent that each link is provided with two pointed hooks, *b b*, which serve as pickers as well as a means of connection. (See more particularly Fig. 4.)

The pulley D is the driving-pulley. This

pulley is considerably larger than the other two pulleys, C E, and it has spurs *c* projecting from its periphery, said spurs passing through the links and preventing the slipping of the chain B. To each side of the pulley C four radial arms, *d*, are attached. The pulley D is hollow, and it may be formed of an annular wooden rim, *e*, having a metal disk, *f*, secured to each side of it. The pulley D is fitted loosely in its shaft E, and a coil-spring, F, is placed within the pulley, the outer end of the spring being attached to the rim *e*, as shown at *g*, the inner end of the spring being attached to the periphery of a wheel, G, which is placed loosely on the shaft E of pulley D.

To each side of the wheel G a pawl, *h*, is attached, and these pawls catch into ratchets H I, one of which, H, is attached to the shaft E, and the other, I, is attached to a hollow arbor, *i*, which passes through the center of one of the sides *f* of the pulley D.

To the outer end of the arbor *i* a pinion, *j*, is attached, and to the outer end of the shaft E, at the opposite side of the frame or case, a pinion, *k*<sup>\*</sup>, is attached. The pinion *j* of arbor *i* gears into a pinion, *k'*, the axis of which passes through the side of the case A, and has a pinion, *k''*, on its outer end.

The shaft J of the pulley C projects through the sides of the frame or case A, and a frame, K, is fitted loosely thereon, said frame being formed of two side bars, *l l*, connected at their upper ends, and terminating in a hook, *m*.

To the bars *l l* semicircular gears L L' are attached, one to each, the gear L' working in the pinion *k* and the gear L working in the pinion *k''*.

M is a bag, which is fitted to the back end of the case A, the bottom of the back part of the case being open, as shown at *n*; and N is a strap which passes around the shoulder of the operator, said strap having an eye at its lower part, at the armpit, the hook *m* of the frame fitting in the eye of strap N.

The operation is as follows: The frame A is attached to the operator, as described, and shown in Fig. 1, and as the outer end of the case A is raised and lowered in order to move the outer end of the belt B from boll to boll the wheel G and pulley D will be rotated in the direction of arrow 1, in consequence of the gears L L' and pinions *k*<sup>\*</sup> *k'* *k''* *j* and ratchets H I and pawls *h h*, the gears L L' rotating



the wheel alternately in consequence of the intermediate pinions,  $k'$   $k''$ , the gear  $L'$  rotating the wheel as the outer end of the case is raised and the gear  $L$  rotating it as it descends, the pulley rotating in the same direction at all times. By thus rotating the wheel  $G$  and pulley  $D$  the spring  $F$  is wound up in consequence of the wheel  $G$  rotating at first faster than the pulley  $D$ , which, on account of its inertia, allows the spring  $F$  to be wound up sufficiently before an equal speed is communicated to it, and each time the outer end of the belt  $B$  is presented to a boll the spring  $F$  will have sufficient power to operate the belt, which moves in the direction of arrow 2, so that the belt will detach the cotton from the boll and carry it around to the back part of the case, where it is stripped from the belt by the arms  $d$ , the cotton falling into the bag  $M$ . Thus it will be seen that the device is self-operating, the spring  $F$  being the power which drives the belt and the spring being wound up as fast or rather faster than its power is expended by the movement of device as it is adjusted from boll to boll. An operator therefore may have an implement attached to each arm, as no extraneous power is required to operate them.

We would remark that the pulley  $E$  is attached to an arbor,  $a^x$ , which may be adjusted longitudinally in the end of the case and secured at any desired point by a set-screw,  $b^x$ .

We are aware that an endless belt of pickers for gathering or harvesting cotton has been previously used, and such device was patented by George A. Howe, the Letters Patent bearing date December, 4, 1855. In the device of Howe's, however, the endless belt of pickers is operated directly by hand, and consequently only one can be used by each operator.

We do not claim an endless belt of pickers placed within a case or frame and so arranged that it may detach the cotton from the bolls, for such device has been previously used; but,

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

Operating the endless chain of pickers  $B$  through the medium of the pulley  $D$ , spring  $F$ , wheel  $G$ , ratchets  $H$   $I$ , with pawls  $k$   $k$ , and the gearing  $k^x$   $k' k'' j$  and  $L L'$ , or any equivalent device, whereby a reserve power is obtained as the implement is moved from boll to boll, so that the cotton may be picked or gathered therefrom as the implement is adjusted to the bolls.

MILES HOSFORD.  
J. C. AVERY.

Witnesses:

H. O. CARBART,  
E. Y. SMITH,