

J. HOLLINGSWORTH.

Improvement in Corn-Stalk Chopper.

No. 132,578.

Patented Oct. 29, 1872.

Fig. 1

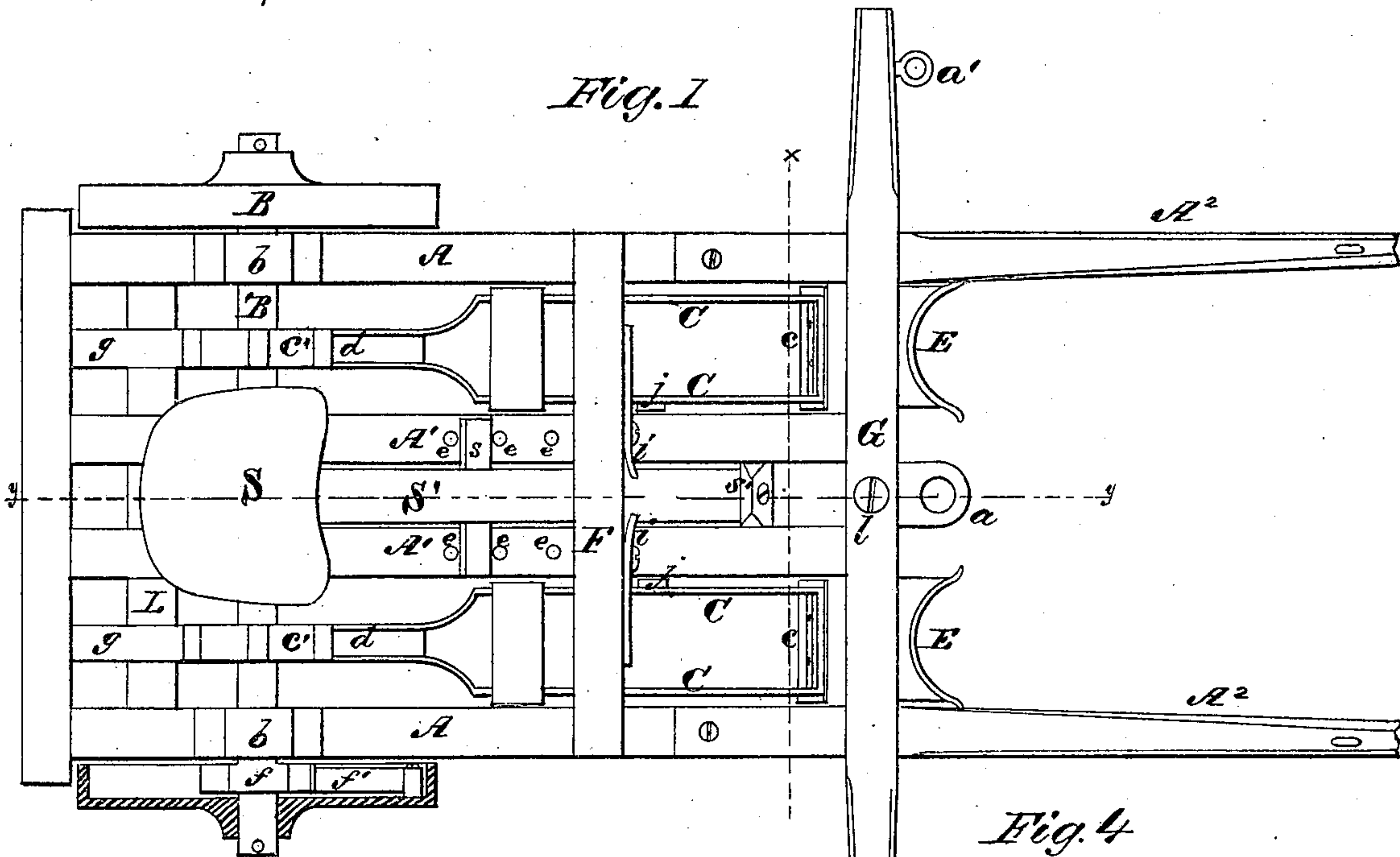


Fig. 2

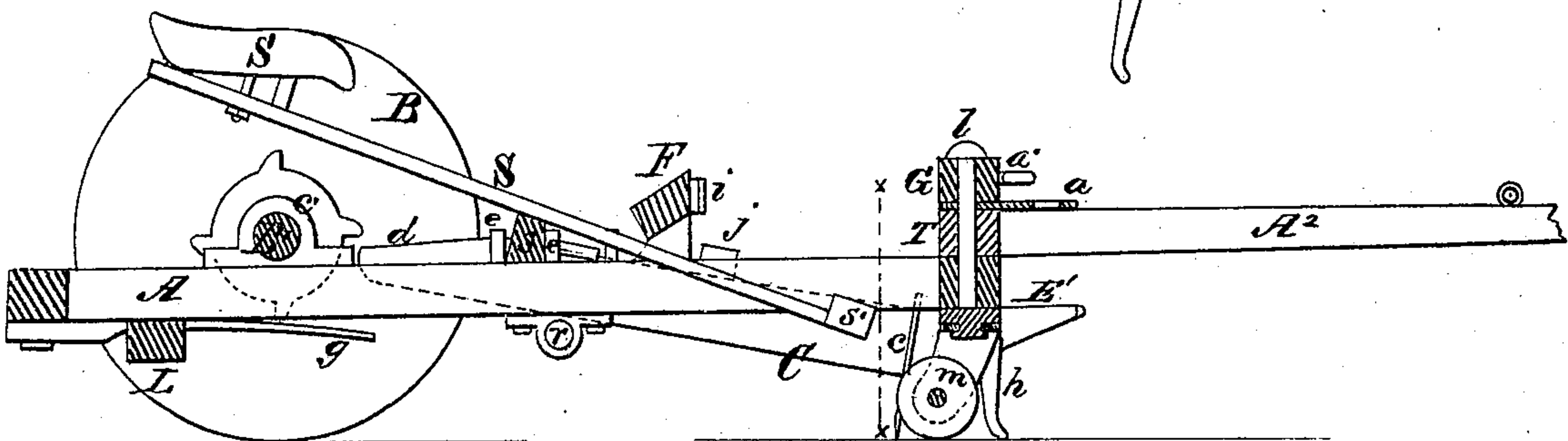


Fig. 3

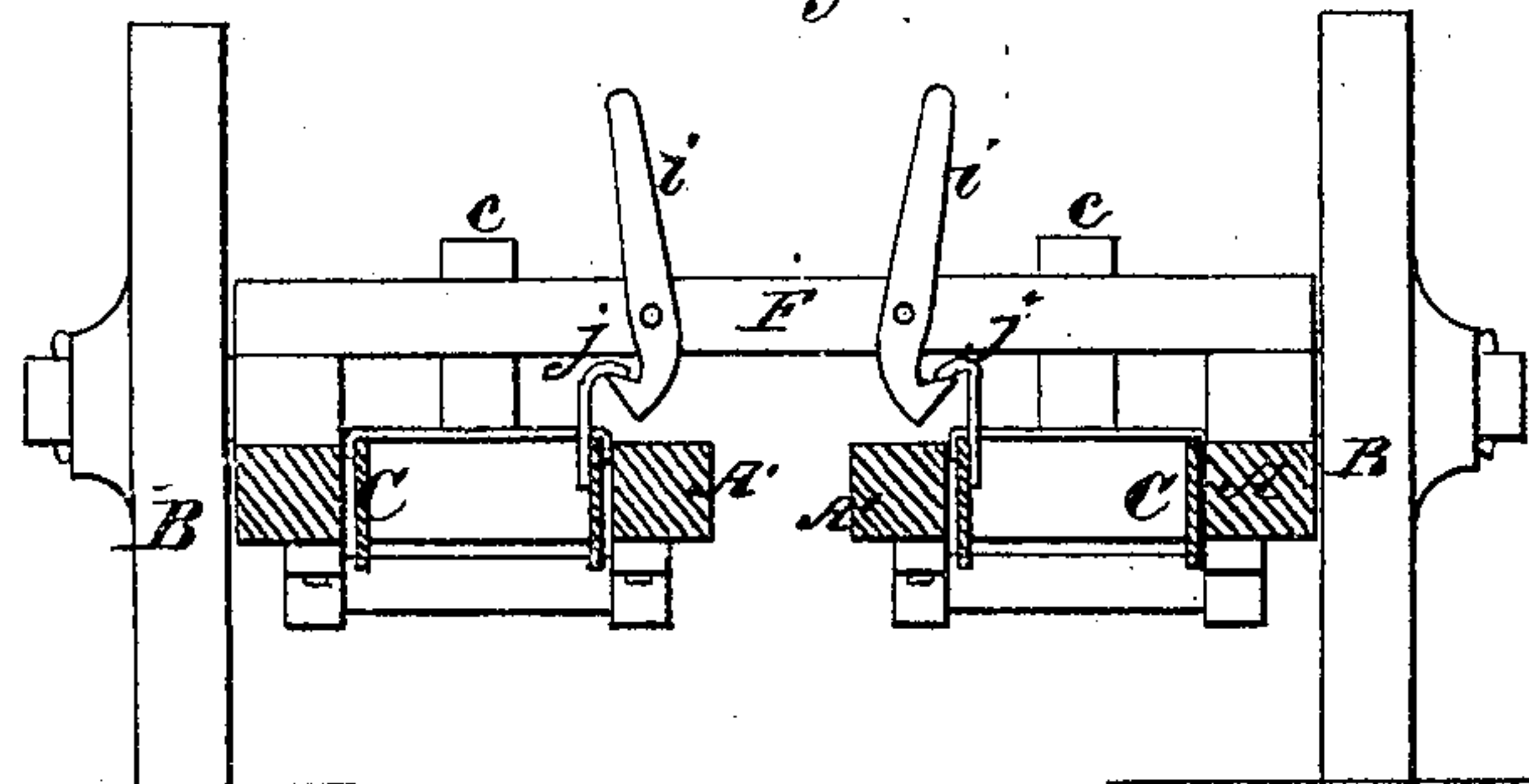
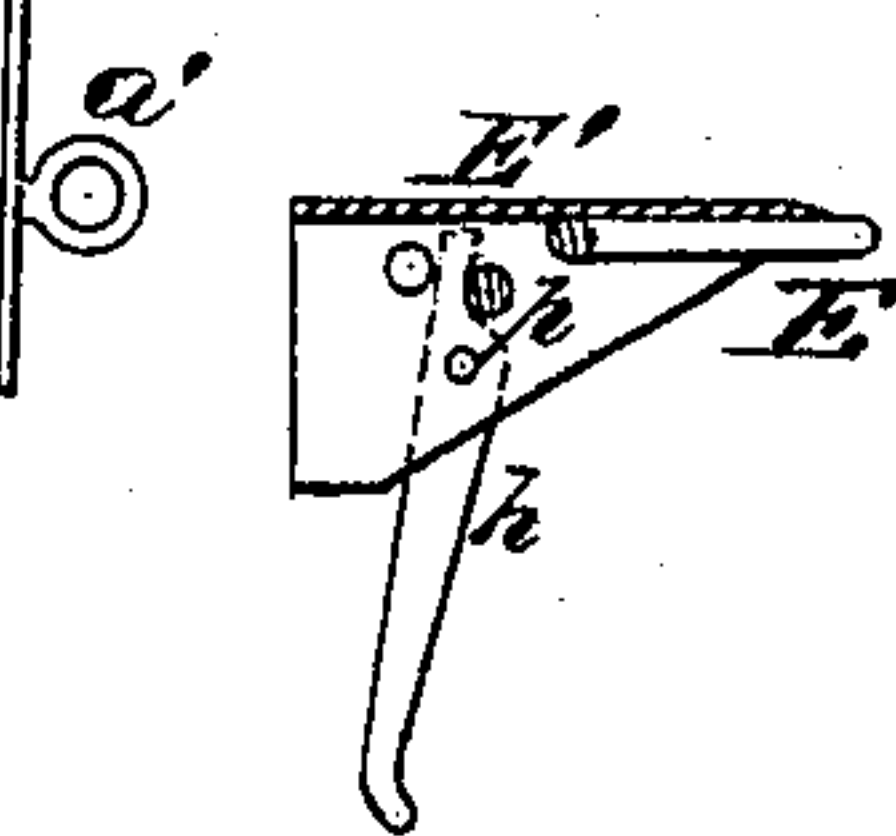


Fig. 4



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# UNITED STATES PATENT OFFICE.

JAMES HOLLINGSWORTH, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN CORN-STALK CHOPPERS.

Specification forming part of Letters Patent No. 132,578, dated October 29, 1872.

*To all whom it may concern:*

Be it known that I, JAMES HOLLINGSWORTH, of Chicago, in the county of Cook and State of Illinois, have invented an Improved Machine for Chopping Corn-Stalks in the Field; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a top view of the improved machine; Fig. 2 is a section taken vertically and longitudinally through the machine in the plane indicated by dotted line *x x*, on Fig. 1; Fig. 3 is a section through the machine taken in the vertical plane indicated by dotted line *x x*, on Fig. 1; and Fig. 4 is a sectional view of one of the arched gatherers.

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

This invention relates to certain improvements on machines which are designed for breaking down and chopping up corn-stalks in the field preparatory to plowing them under, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to understand it.

The frame of the machine is composed of four parallel beams, *A A A<sup>1</sup> A<sup>1</sup>*, arranged longitudinally and secured at their ends by means of transverse beams. This frame is suspended from the axle *B'* of two driving and transporting wheels, *B B*, by means of journal-boxes *b b*, which are secured upon the four longitudinal frame-beams, on which axle tappet-wheels *c' c'* are keyed. Each one of the wheels *B* is applied loosely on its axle *B'* outside of the frame, and turns loosely thereon when the machine is backed, but when the machine is moved forward a spring-pawl, *f'*, engages with a ratchet-wheel, *f*, which is keyed on said axle and thus turns the latter. The tappet-wheels, which are arranged between the beams *A A<sup>1</sup>*, are designed for raising the choppers *c*, while beneath the tappet-wheels are springs *g g*, which quickly and forcibly throw down the choppers and give the cutting-strokes thereto. Each chopper is a flat plate, *c'*, presenting a straight cutting-edge. It is secured to the front transverse head of an open vibrating lever, *C*, which has its fulcrum at *r*, and which

extends backward far enough to be acted upon by its tappet-wheel *c'*, as shown in Figs. 1 and 2. In rear of the fulcrum of each lever *C* its bars are contracted and secured to a piece, *d*, which is the part acted on by the tappet-teeth above and spring below. In front of the choppers and secured rigidly to the lower side of the front cross-beam of the main frame are two flanged plates, *E E*, which present concave gathering edges shod with round bars *E'*. These devices are designed for gathering in the leaning stalks and breaking down all the stalks which stand in their path. The flanged sides of the box of each gatherer and breaker are perpendicular to the front beam of the main frame, and to these sides are pivoted stalk-arms *h h*, which are held in working position, as indicated in Figs. 2 and 4, by means of a wooden pin, *p*, passed transversely through said flanges in front of the upper ends of the arms *h*, as shown in Fig. 4. The wooden pin *p* is sufficiently frail to break should any one of the arms *h* meet with such an obstruction in its path as would be liable to break it. In such an event the arm so obstructed would fall back and pass freely over the obstruction. The arms thus described are designed for straightening and bringing into line with the choppers any stalks which may have been trampled down and moved to one side of the rows. The driver rides upon the machine, and a seat, *S*, is provided for him, which is secured upon the rear end of an inclined bar, *S'*. The bar *S'* is sustained in an inclined position by means of two cross-pieces, *s s'*, one of which, *s*, rests upon the two frame-beams *A<sup>1</sup> A<sup>1</sup>*, and the other, *s'*, is arranged beneath these beams and is pressed upward against them by the weight on the seat *S*. By means of pins *e e* on the two beams *A<sup>1</sup> A<sup>1</sup>*, the bar *S'* and its seat are prevented from casually moving forward or backward, but said pins (there are three sets of them) will allow the attendant to adjust the seat and its bar forward or backward. When the driver is in his seat he may rest his feet upon the intermediate beams *A<sup>1</sup> A<sup>1</sup>*, or he can raise with his feet the choppers and secure them up out of operation. In front of the driver's seat and secured firmly upon the main frame is a cross-bar, *F*, which may be used by the driver as a foot-rest, for which purpose its upper surface is inclined in the



proper direction. To the front edge of this bar F two hand-levers, *i i*, are pivoted, which levers have hooks on their lower ends for engaging with hooked lugs *j j* on the inner bars of the chopping-levers C C, and supporting the choppers *c* in elevated positions out of operation. The levers *i i* are in such close relation to the seat S that the driver can conveniently hook up the levers C whenever he desires to do so. Upon the front ends of the two outer frame-beams A A two draft-tongues, A<sup>2</sup> A<sup>2</sup>, are firmly secured, between which and upon the front beam of the frame a bar, T, is secured, as shown in Fig. 2. On this bar T, and pivoted centrally to it by a vertical king-bolt, *l*, is a triple-tree, G, which is provided with a central eye, *a*, between the tongues A<sup>2</sup> A<sup>2</sup>, and two eyes, *a' a'*, outside of these tongues, as shown in Fig. 1. These eyes *a' a'* are designed for the attachment of single-trees for three horses abreast, one of which will be harnessed between the tongues and the other two will be harnessed outside of the tongues. Directly beneath the king-bolt *l* and connected to the lower side of the front beam of the main frame is a caster-wheel, *m*, for supporting the front end of the machine. There may be more than one caster-wheel employed, but I believe one will answer the purpose when arranged as described.

By means of the machine above described, I secure, first, the advantage of the common hand-hoe strokes of the choppers, which will cut through either dry or wet stalks with great facility, owing to the action of the springs *g g*. Second, the arrangement of the two tongues A<sup>2</sup> A<sup>2</sup> allows three horses to be hitched to the machine abreast, each horse walking between

the rows so as to allow two rows of stalks on each side of the middle horse to be chopped at every passage of the machine across a field; at the same time the driver has full control over his horses, and they can all draw to advantage. Third, by sustaining the forward end of the main frame upon caster-wheels the driving-axle can be placed well back on the frame, thereby allowing very long levers to be used for the choppers, and also allowing the latter to be arranged close to the heels of the animals and in front of the driver. Fourth, the arms which depend from the gatherers collect the stalks into line with the choppers while the gatherers break down the stalks and lay them in position for being cut up. Fifth, the driver's seat is so arranged relatively to the rear arms of the chopping-levers and to the hooked levers *i i* that the driver can at pleasure, whether the machine be in operation or at rest, raise the choppers out of operation and keep them in this condition.

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

1. One or more beams, C, vibrating on a fulcrum, *r*, and provided with a chopping-blade, *c*, in combination with a spring, *g*, and tappet-wheel *c'*, substantially as described.

2. The concave and rigid stalk gatherers and breakers E, arranged in front of and in close relation to the vibrating stalk-choppers, substantially as described.

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Witnesses:

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