

**No. 662,192.**

**Patented Nov. 20, 1900.**

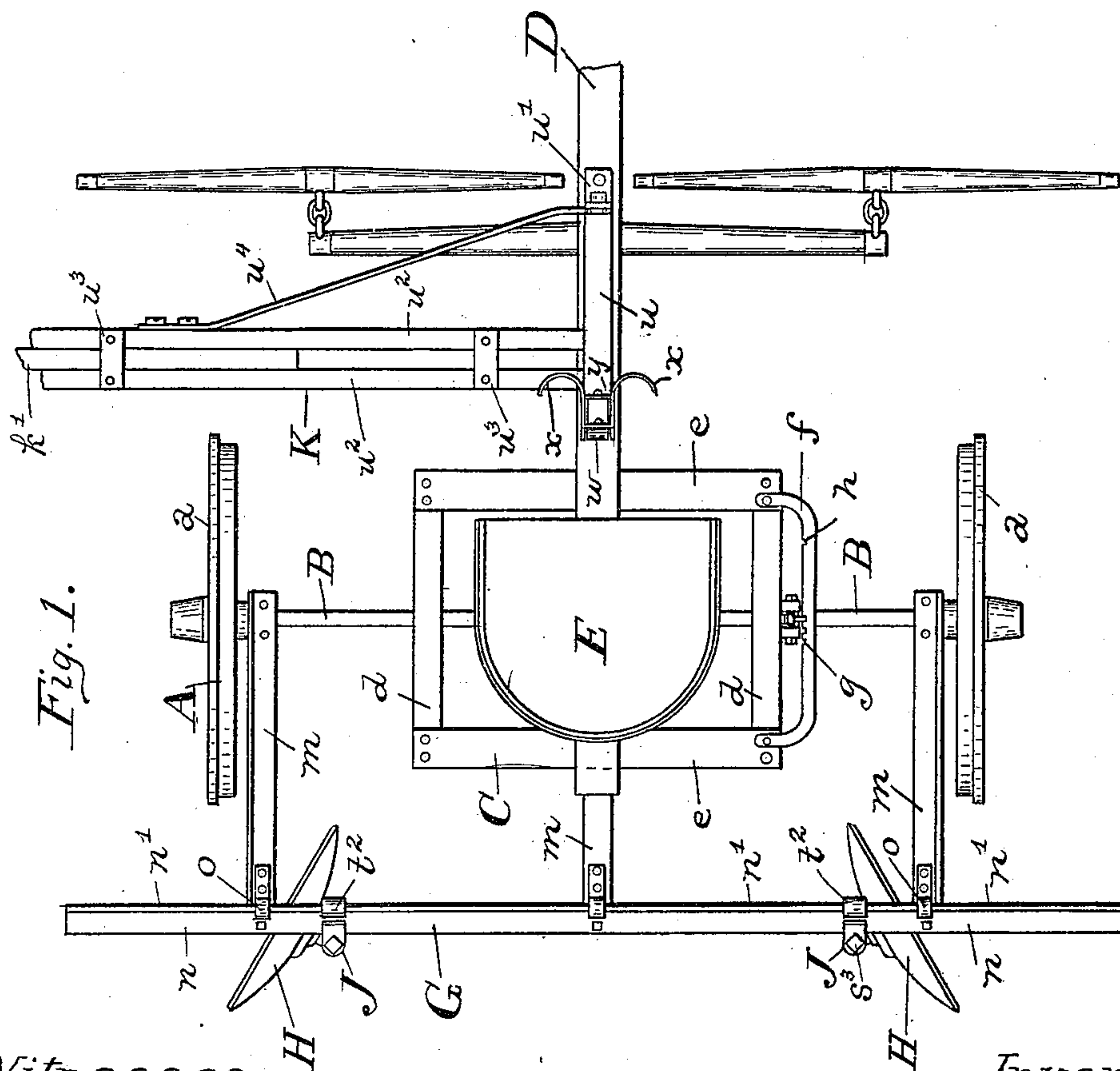
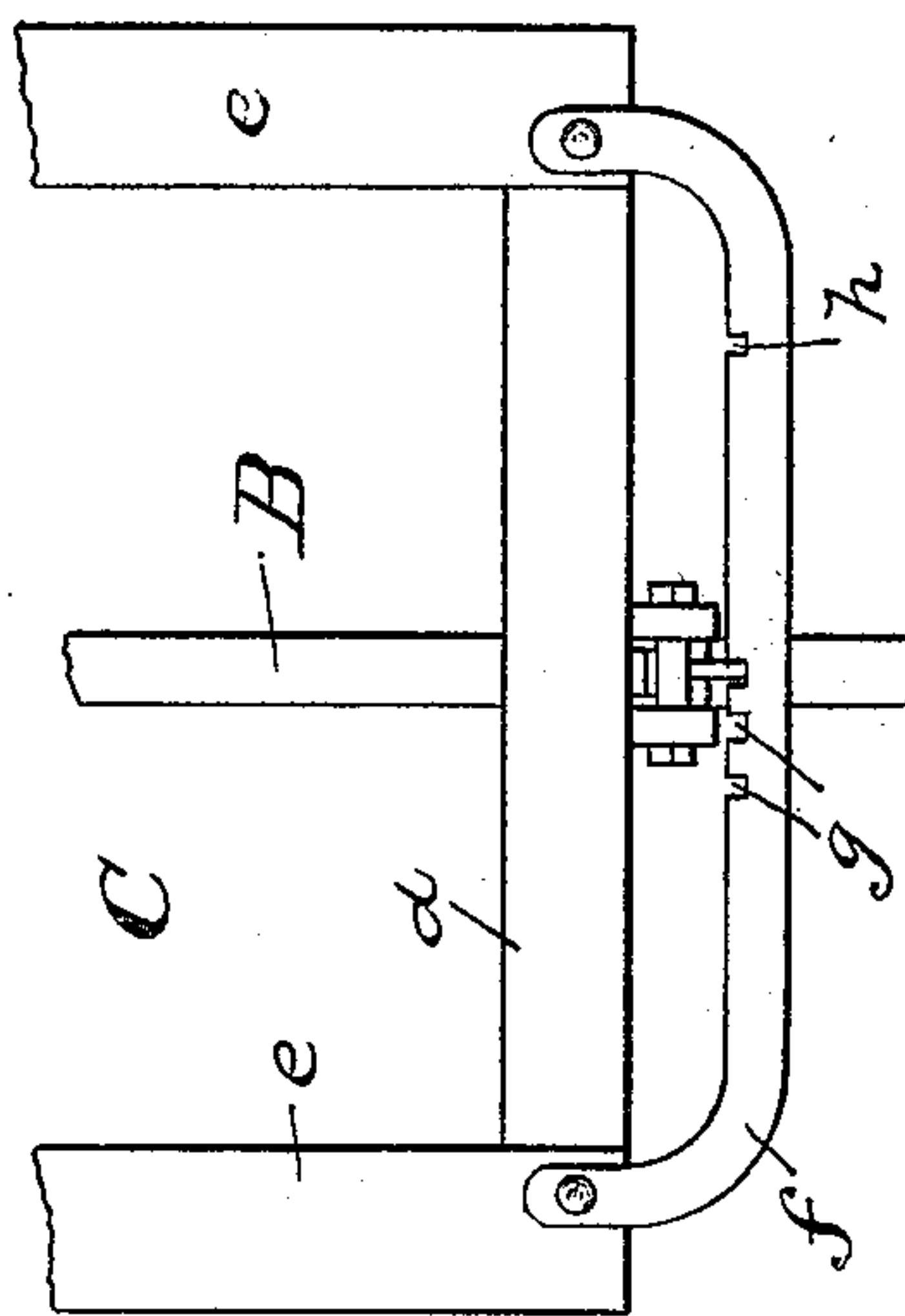
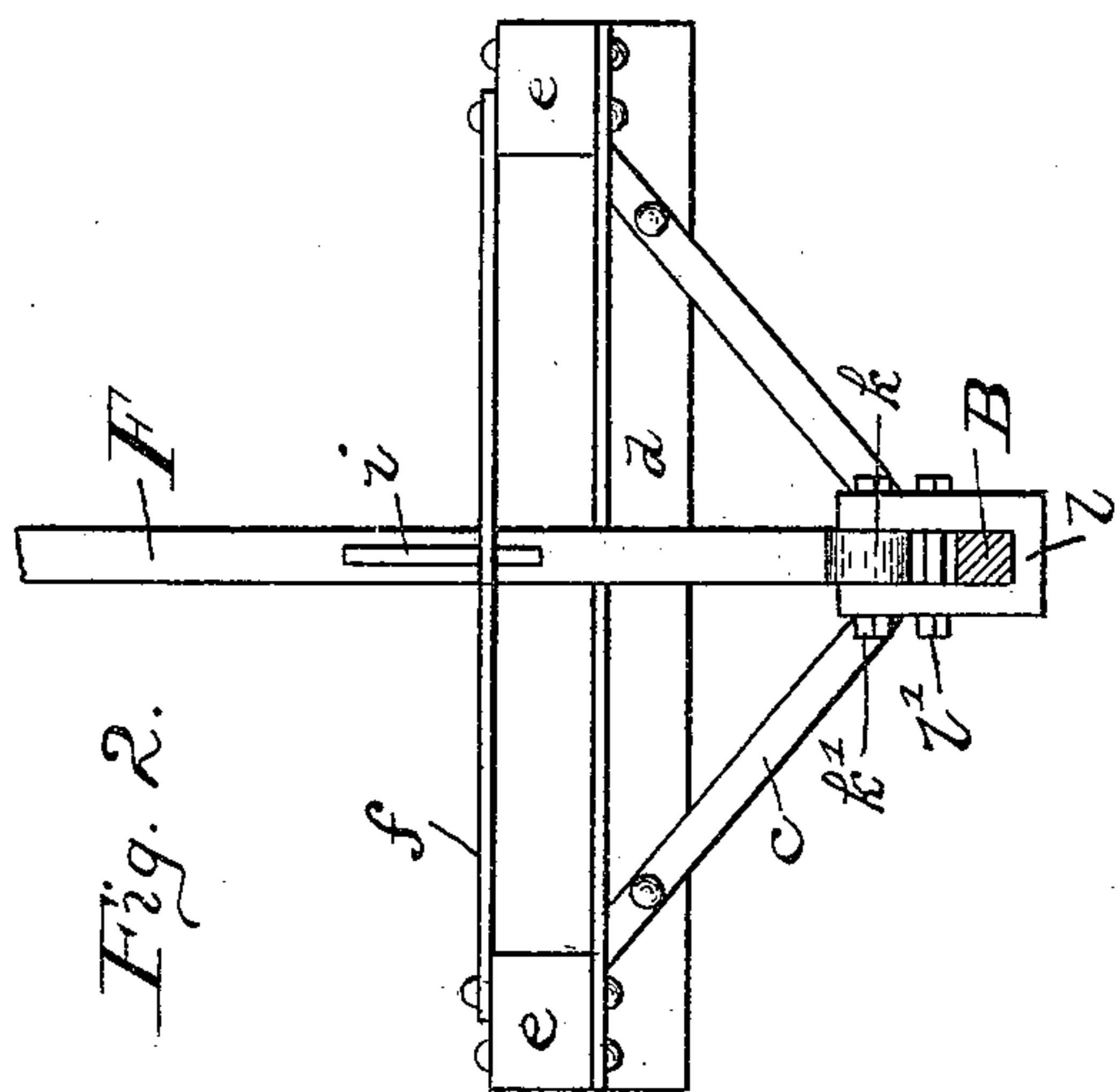
**A. GILTZ.**

**COMBINED FURROW OPENER, MARKER, AND COVERER.**

(Application filed May 31, 1900.)

·(No Model.)

**2 Sheets—Sheet 1.**



Witnesses.  
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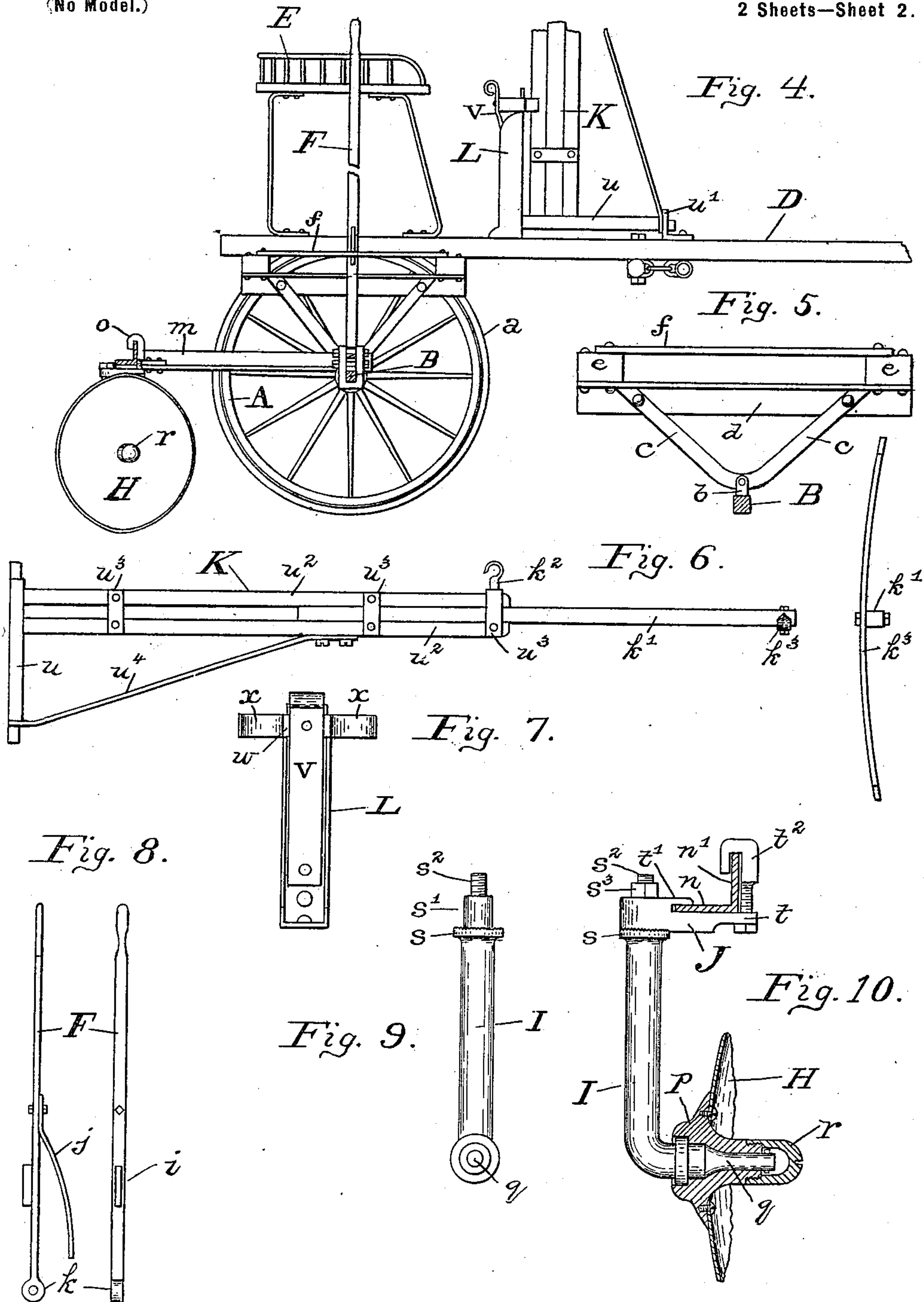
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## COMBINED FURROW OPENER, MARKER, AND COVERER.

(Application filed May 31, 1900.)

(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

ADAM GILTZ, OF HARMANS, MARYLAND.

## COMBINED FURROW OPENER, MARKER, AND COVERER.

SPECIFICATION forming part of Letters Patent No. 662,192, dated November 20, 1900.

Application filed May 31, 1900. Serial No. 18,650. (No model.)

*To all whom it may concern:*

Be it known that I, ADAM GILTZ, a citizen of the United States, residing at Harmans, in the county of Anne Arundel and State of Maryland, have invented certain new and useful Improvements in a Combined Furrow Opener, Marker, and Coverer, of which the following is a specification.

My invention is an improvement in combined furrow openers, markers, and coverers; and its object is to provide a machine of this character which will be of simple construction and easy of operation.

The invention consists in certain constructions and arrangements of the furrow opening and covering disks whereby they may be adjusted in a horizontal plane at different angles to the direction of travel of the machine, and also whereby they may be conveniently elevated and lowered.

The invention also consists in the construction of the marker and the means for holding it elevated when not in use.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a plan view of the machine. Fig. 2 is a detail side elevation of the frame which supports the driver's seat and the lever for elevating and lowering the furrow opening and covering disks. Fig. 3 is a plan view thereof. Fig. 4 is a side elevation of the machine with one of the running-wheels removed. Fig. 5 is a detail side elevation of the frame for supporting the driver's seat, illustrating the rocking connection between said seat and the axle. Fig. 6 illustrates a side view of the marker-beam detached and an end view of its extensible arm with its marking-fingers. Fig. 7 is a detail rear elevation of the keeper for holding the marker-beam elevated when not in use. Fig. 8 illustrates two views of the lever for elevating and lowering the furrow opening and covering disks. Fig. 9 is a detail view of one of the disk-carrying arms; and Fig. 10 is a detail view of the said arm, showing a portion of a disk and its hub in section and also showing the manner of clamping said arm to its supporting-beam.

Referring to the drawings, A designates the running-wheels, provided with flanged rims *a* and journaled on an axle B square in cross-section. The axle B is provided with two

upwardly-extending ears *b*, each of which is pivoted to an approximately V-shaped standard *c*, as shown in Fig. 5. These standards at their upper ends are rigidly attached to side bars *d*, connected rigidly together by front and rear cross-bars *e*. This pivotal connection between the ears *b* and V-shaped standards *c* enables the axle B to rock about its longitudinal axis for the purpose of elevating and lowering the furrow opening and covering disks, hereinafter described. The side bars *d* and cross-bars *e* together form a rectangular frame C, and the draft-pole D and driver's seat E are supported by said frame.

Secured to the right-hand ends of the cross-bars *e* is a curved latch-bar *f*, formed with a plurality of closely-spaced notches *g* and another notch *h* some distance from the notches *g*. Any one of these notches *g* and *h* is adapted to receive a lug *i* on a hand-lever F to lock said lever at various positions, and said lever is provided with a spring *j*, bearing against the adjacent side bar *d*, to cause the lever to normally engage with the latch-bar. At its lower end the hand-lever F is formed with an eye *k*, pivotally mounted on a bolt *k'*, passed through the ends of a rectangular U-shaped strap *l*. The square axle B is received in said strap and is held therein by a cross-bolt *l'*. From the arrangement just described it will be seen that the hand-lever F has two movements—to wit, an independent pivotal movement in a lateral direction toward and from the driver's seat E to disengage the lug *i* from any of the notches *g* and *h* and a forward or backward movement which will by means of the strap *l* and the pivotal connection between the axle B and standards *c* cause said axle to rock about its longitudinal axis to raise and lower the furrow opening and covering disks, whose specific arrangement and construction I shall now describe.

Rigidly clipped to the axle B are three rearwardly-extending arms *m*. A straight transverse beam G of angle-iron has its horizontal member *n* riveted to the rear free ends of said arms and is further secured thereto by hooks *o*, which take over the vertical member *n'* of said beam G and are riveted to the arms *m*. Upon the beam G the two disks H for opening and covering the furrows are carried and are adjustable thereon. As these disks are



both constructed and arranged alike, I shall describe but one, having special reference to Figs. 1, 4, 9, and 10. The disk H is of concavo-convex form and is riveted or otherwise fastened on a central hub  $p$ , mounted to rotate on a stub-spindle  $q$ , which projects laterally from the lower end of a vertical arm I. The outer end of the said stub-spindle is covered by a dust-cap  $r$ , screwed on the screw-threaded end of the hub  $p$ , as shown particularly in Fig. 10. The vertical disk-arm I is provided near its upper end with a circular flange  $s$ , whose upper surface is serrated. A reduced smooth shank  $s'$  extends above said flange, and the upper extremity  $s^2$  above the shank is screw-threaded, as shown in Fig. 9. The shank  $s'$  fits in a circular opening in an adjustable clamp J, which is formed on its lower face with serrations adapted to engage the serrated upper surface of the circular flange  $s$ , so that the vertical disk-arm I may be adjusted axially—that is, turned more or less in the clamp. A nut  $s^3$  screws on the threaded upper extremity  $s^2$  of the arm to hold the latter rigid after it has been thus adjusted. The clamp J has a horizontally-extending flat tongue  $t$ , which fits underneath the horizontal member  $n$  of the angle-beam G, while a lip  $t'$  on the clamp takes over the edge of said horizontal member. A hook  $t^2$  overhangs the vertical member  $n'$  of the angle-beam and has a threaded shank which passes down through the tongue  $t$  and is secured thereto by a nut. By this construction it is evident that the disks H can be adjusted at any angle to the direction of travel of the machine and that the adjustable clamp J can be readily slid along the transverse beam G to place the disks H near or far from each other, according to the width of the furrows, and said clamp, with the disks, can also be readily removed from the beam G when desired. It is also evident that the driver by manipulation of the hand-lever F can conveniently rock the axle B and raise the arms  $m$  and transverse beam G to regulate the depth of the disks in the ground or to elevate them so that they will be entirely clear of the ground.

In order to mark the ends of furrows to indicate the return-paths of the machine, I have provided a marker-beam K, having at one end a foot  $u$ , pivotally mounted in bearings  $u'$  on the draft-pole D in front of the driver's seat E, so that said marker-beam may swing in a vertical plane from one side of the machine to the other. From said foot  $u$  extend outwardly two spaced-apart parallel bars  $u^2$ , connected by metal straps  $u^3$  and braced by a rod  $u^4$ , and between said bars an extensible marker-arm  $k'$  is adapted to slide and is held at various extensions by means of a set-screw  $k^2$ . The sliding arm carries at its outer end a strip  $k^3$ , attached at its center and forming oppositely-extending marking-fingers, which are beveled at the ends.

Upon the draft-pole D, just in the rear of

the marker-beam K, is mounted an upright hollow post L. (Shown particularly in Figs. 1, 4, and 7.) A leaf-spring  $v$  is at one end riveted in said post and extends upwardly therein, and to the upper free end of said spring is secured a spring-clip  $w$ , having its middle portion riveted to said spring  $v$  and provided with two oppositely-curved ends  $x$ , extending forwardly outside the hollow post L into the path of the marker-beam K, so that when the said beam is swung upward to a vertical position it will press back the spring-clip  $w$  and be held upright in the space  $y$  between the curved ends  $x$ .

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

1. A machine of the character described, comprising running-wheels; an axle supported by said wheels and mounted to rock about its longitudinal axis, and provided with upwardly-extending ears; V-shaped standards to which said ears are pivotally connected; a frame for the driver's seat rigidly attached to the upper ends of said V-shaped standards and provided at one side with a latch-bar; a strap secured to said axle; a hand-lever secured to said strap to move the same whereby to rock the axle and arranged for engagement with the latch-bar; rearwardly-extending arms rigidly secured to said axle; a transverse beam secured to said arms; and disks supported by said beam.

2. In a machine of the character described, the combination of a horizontal disk-supporting beam which is L-shaped in cross-section; a clamp having a tongue and lip engaging the horizontal member of said beam and slidable along the same; a hook engaging the vertical member of said beam and having a shank connected with the tongue of the said clamp, said clamp being also formed with an opening and a serrated lower face around the opening; a disk-carrying arm having a shank axially adjustable in said opening and provided with a serrated flange adapted to engage the serrated lower face of said clamp; and a revolvable disk on said arm.

3. In a machine of the character described, a marker-beam arranged to swing in a vertical plane from one side of the machine to the other; a rigid upright post adjacent the pivot of said beam; an upwardly-extending spring secured at one end to said post; and a spring-clip secured to the free end of said spring and having oppositely-curved ends extending outside of said post into the path of said beam and forming a space between the ends to receive the beam and hold it in vertical position, as and for the purpose set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

ADAM GILTZ.

Witnesses:

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F. S. STITT.