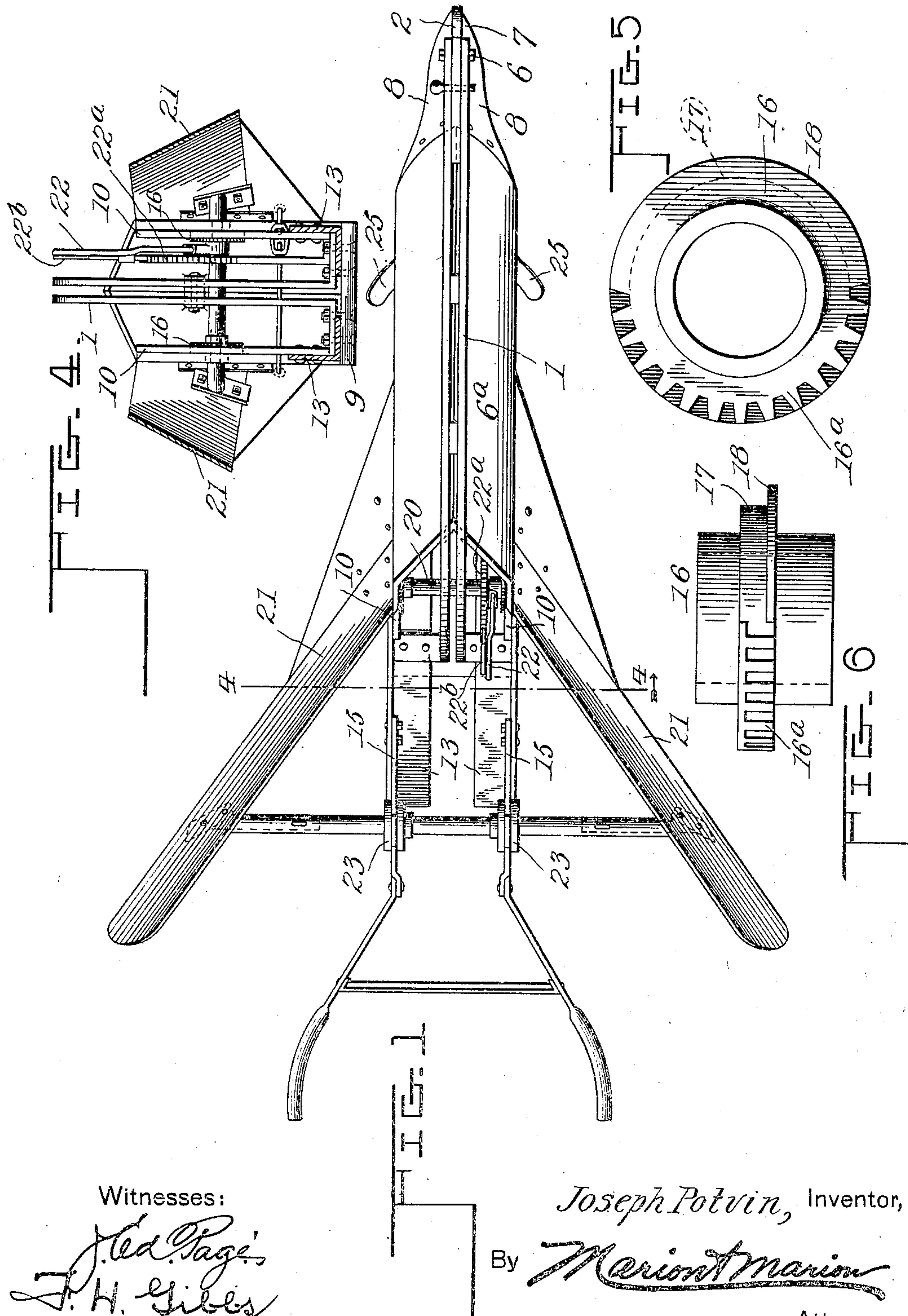


No. 792,450.

PATENTED JUNE 13, 1905.

J. POTVIN.
DITCHING MACHINE.
APPLICATION FILED SEPT. 23, 1904.

2 SHEETS—SHEET 1.



Witnesses:

J. Ed. Page
J. H. Gibbs

Joseph Potvin, Inventor,

By

Marion Marion

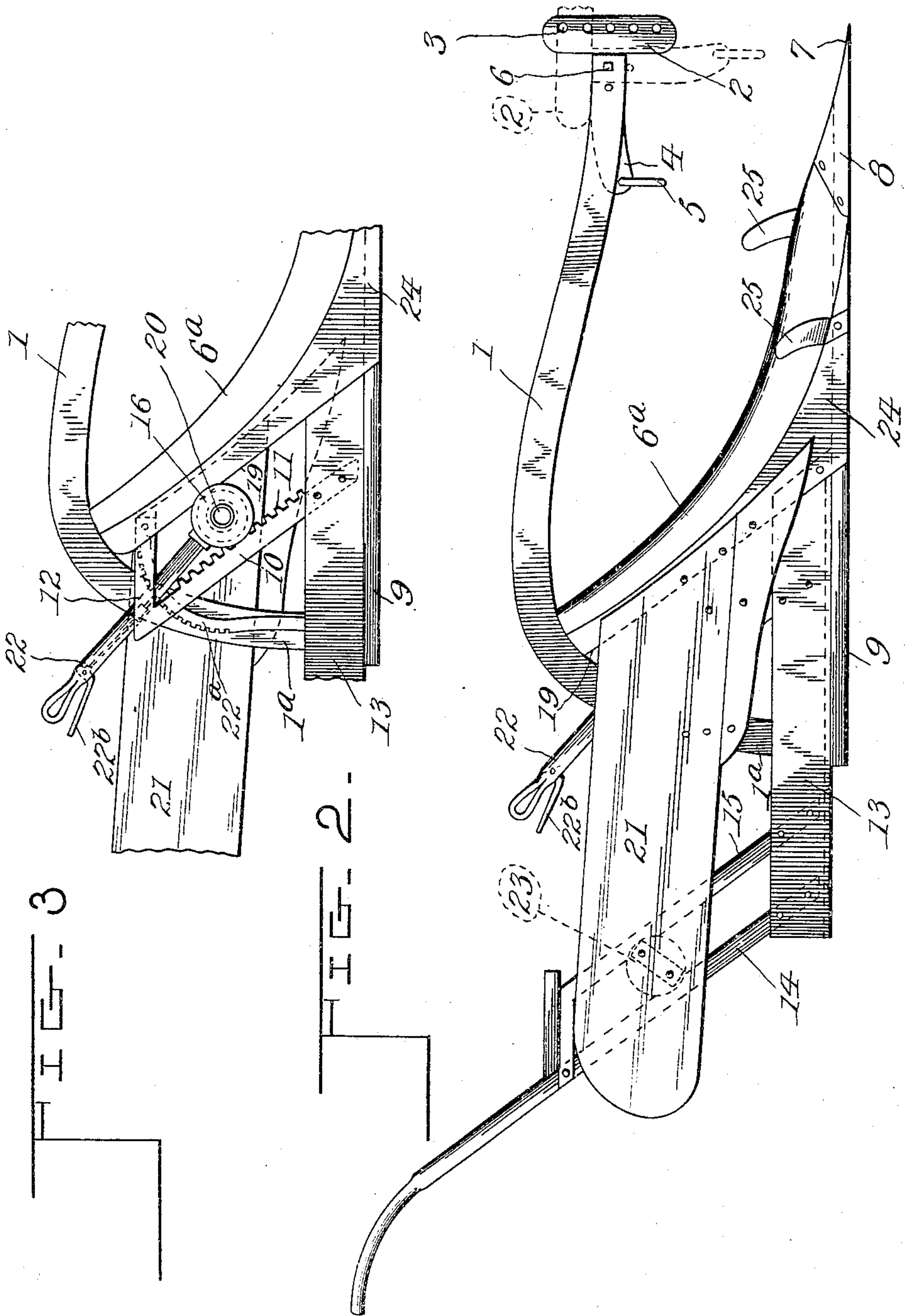
Attorneys

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Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH POTVIN, OF ST. DAVID, CANADA.

DITCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 792,450, dated June 13, 1905.

Application filed September 23, 1904. Serial No. 225,557.

To all whom it may concern:

Be it known that I, JOSEPH POTVIN, a subject of the King of England, residing at St. David, county of Yamaska, Province of Quebec, Dominion of Canada, have invented certain new and useful Improvements in Ditching-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in ditching-machines; and it consists in certain features of novelty in the detail construction and arrangement thereof, all as hereinafter more fully described, and specifically pointed out in the claims.

The object of the invention is to provide an apparatus of the character described which will be simple in construction and durable in operation and which may be adjusted to any depth of ditch within predetermined limits, the apparatus comprising a relatively fixed beam, point, and share, with vertically-movable moldboards adapted to cooperate therewith, and all supported upon a suitable runner, which is adapted to travel upon the bottom of the ditch when the apparatus is in use.

Referring to the annexed drawings, in which similar numerals of reference indicate corresponding parts in all the views, Figure 1 is a plan view of the apparatus. Fig. 2 is a side elevational view thereof. Fig. 3 is a side elevational view with one of the moldboards removed. Fig. 4 is a sectional view on line 4 4 of Fig. 1. Fig. 5 is an enlarged detail of the lifting-gear hereinafter referred to, and Fig. 6 is a top plan view of the same gear.

Referring to the parts, 1 is a beam to which is pivotally connected the clevis 2, which clevis is provided with the usual draft-eyelets 3, whereby draft appliances may be connected to the same when in use, and said clevis is also provided with the rearwardly-extending arm 4, in which is carried the draft-link 5, to which draft-link may be connected the draft appliance when it is desired to move the apparatus from place to place over the surface of the ground and perform no function in

cutting the same. The clevis and arm referred to are pivotally connected at 6 to the beam, so as to be rockable thereupon for the purpose of placing them in the position shown in full lines in Fig. 1 for use in digging ditches or in dotted lines, as shown in the same figure, when the device is to be transported from place to place. Extending from the beam forwardly is the share 6^a, which is provided with the point 7, having oppositely-inclined faces 8, as shown. Connected with the share and point and extending rearwardly therefrom to the downwardly-curved portion 1^a of the beam is a runner 9, comprising a single plank, which serves as a supporting means for the machine. Behind the share, as best shown in Fig. 3, is a rack-frame 10, provided with the rack 11 upon one face thereof and having the horizontal bar 12, adapted to connect the same with the share before referred to. One of these rack-frames is provided at each side of the machine and is connected with the angle-irons hereinafter referred to.

Extending rearwardly from the share, as best shown in Fig. 2, are angle-iron members 13, to which the handle-standards 14 and seat-braces 15 are connected, the said members 14 and 15 being hereinafter referred to as "guides." Meshing with the racks 11 are pinions 16, the teeth 16^a of which extend only part way around the circumference thereof, as best shown in Fig. 5, and the intermediate portion of said pinions is provided with a continuous circular face 17 and the flanges 18, as shown, the said face 17 contacting with the rear edge 19 of the share and the flanges 18 lying inside of the frames—that is, nearer the longitudinal axis of the machine. Carried by the gear 16 is a stub-shaft 20, which extends through and is connected at opposite ends with the moldboards 21. The moldboards referred to are preferably adjustable vertically for the purpose of accommodating the machine to ditches of various depths, and for that purpose the rack and gear before referred to are provided, and connected with the shaft 20 is an operating-lever 22, which is adapted to rotate the said gear 16, whereby the same may be caused to travel up or down in contact with said rack 11, thereby raising

or lowering the moldboards 21, which moldboards are guided at their rear end portions by means of the rollers 23, which slide between the guides before referred to, so that both ends of the moldboards are simultaneously adjusted. To secure the moldboards in position when adjusted, a segmental rack 22^a is provided, with which engages a pin operated by the finger-lever 22^b, as shown in Fig. 3. Connected with the forward portion of the share or to the cheek-plates 24 are knives 25, which extend upwardly, terminating at their free ends some distance above the plane of the runner 9 referred to. The function of the knives 25 is to shear the earth from the sides of the ditch after it has been raised by the point 7, thereby facilitating the progress of the machine through the earth.

While I have shown in the accompanying drawings the preferred form of my invention, it will be understood that I do not limit myself to the precise form shown, for many of the details may be changed in form or position without affecting the operativeness or utility of my invention, and I therefore reserve the right to make all such modifications as are included within the scope of the following claims or of mechanical equivalents to the structures set forth.

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

1. In a ditching-machine, a runner, a ditching-point forwardly thereof, angle-irons connected with said runner, a beam connected with said angle-irons and extending forwardly thereof, a rack-frame, vertically-movable moldboards, a shaft connecting said moldboards, gears on said shaft meshing with racks in said rack-frame, and means for rocking said shaft to raise said moldboards.

2. In a ditching-machine, a runner, a ditching-point forwardly thereof, angle-irons connected with said runner and extending rearwardly thereof, a beam connected with said angle-irons and extending forwardly thereof, a rack-frame, vertically-movable moldboards, a shaft connecting said moldboards, gears on said shaft meshing with racks in said rack-frame, and means for rocking said shaft to raise said moldboards.

3. In a ditching-machine, a runner, a ditching-point forwardly thereof, angle-irons connected with said runner, a beam connected with said angle-irons and extending forwardly thereof, a rack-frame connected with said angle-irons, vertically-movable moldboards, a shaft connecting said moldboards, gears on said shaft meshing with racks in said rack-frame, and means for rocking said shaft to raise said moldboards.

4. In a ditching-machine, a runner, a ditching-point forwardly thereof, angle-irons connected with said runner and extending rearwardly thereof, a beam connected with said angle-irons and extending forwardly thereof, a rack-frame connected with said angle-irons, vertically-movable moldboards, a shaft connecting said moldboards, gears on said shaft meshing with racks in said rack-frame, and means for rocking said shaft to raise said moldboards.

5. In a ditching-machine, a runner, a ditching-point forwardly thereof, angle-irons connected with said runner, a beam connected with said angle-irons and extending forwardly thereof, a rack-frame, vertically-movable moldboards, a shaft connecting said moldboards, gears on said shaft meshing with racks in said rack-frame, and a lever for rocking said shaft to raise said moldboards.

6. In a ditching-machine, a runner, a ditching-point, upwardly-projecting knives connected with said runner, vertically-movable moldboards, guides for the rear ends of said moldboards, and means for adjusting the vertical position of such moldboards.

7. In a ditching-machine, a runner, angle-irons connected with said runner, a beam connected with said angle-irons, a point, vertically-adjustable moldboards, and means for changing the vertical position of such moldboards.

8. In a ditching-machine, a runner, angle-irons connected with said runner, a beam connected with said angle-irons, a point, vertically-adjustable moldboards, guiding means for the rear ends of said moldboards, and means for changing the vertical position of such moldboards.

9. In a ditching-machine, a runner, a point, vertically-adjustable moldboards, a shaft connecting said boards, gears on said shaft, obliquely-disposed racks meshing with said gears, and a lever adapted to rotate said gears whereby the vertical position of said moldboards is adjusted.

10. In a ditching-machine, a runner, a point, vertically-adjustable moldboards, a shaft connecting said boards, gears on said shaft, obliquely-disposed racks meshing with said gears, and a lever adapted to rotate said gears whereby the vertical position of said moldboards is adjusted, and means for locking said moldboards in position.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

his
JOSEPH + POTVIN.
mark

Witnesses:

J. D. PEPIN,
L. N. JOYAL.