

**No. 616,300.**

**Patented Dec. 20, 1898.**

**A. ESTY.  
DITCHING PLOW.**

(Application filed Dec. 11, 1897.)

(No Model.)

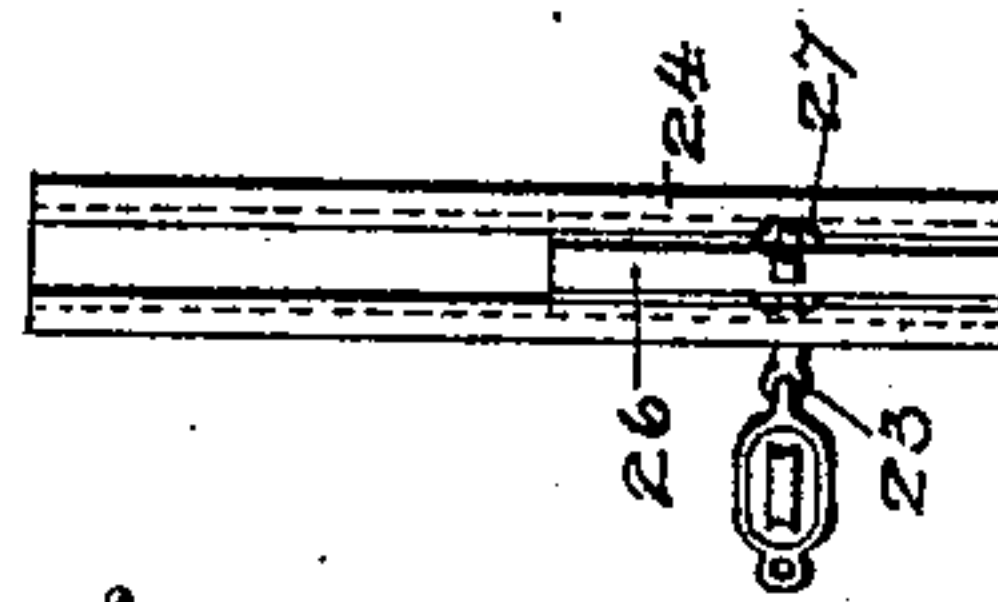
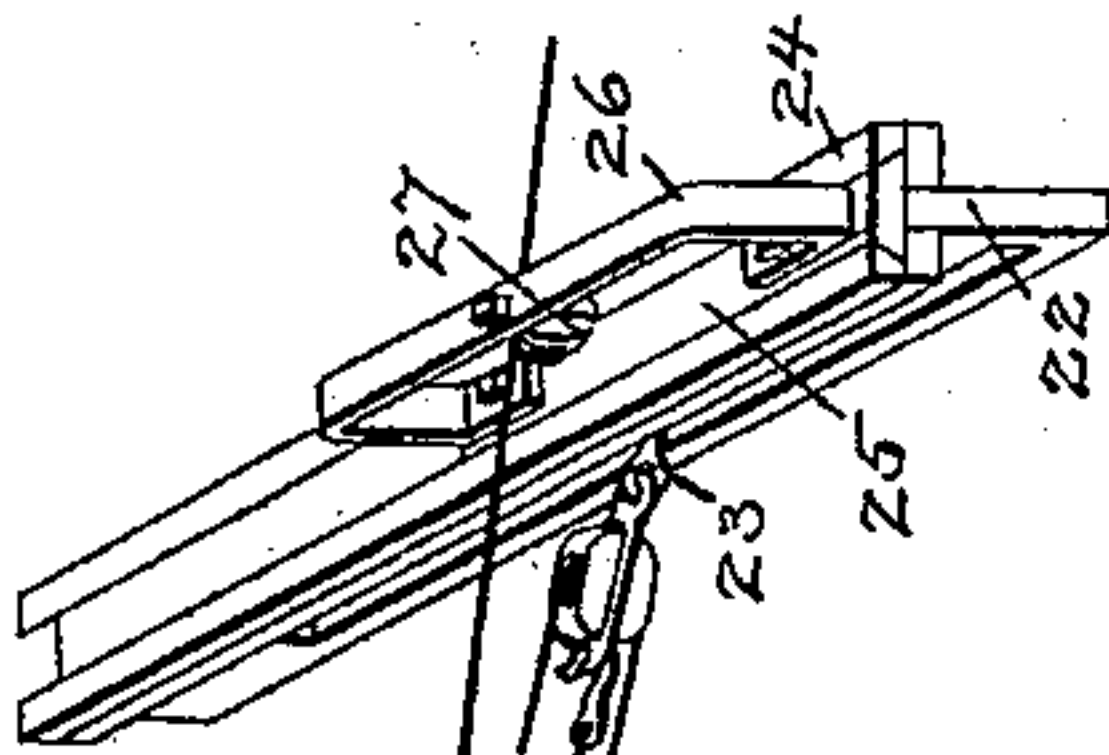


Fig. 3

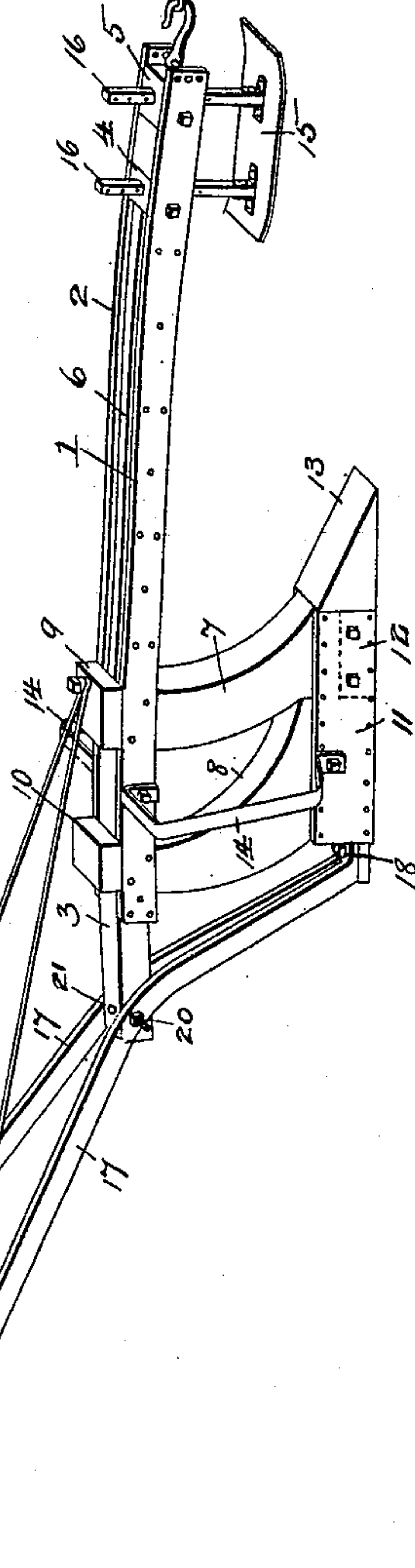


Fig. 1

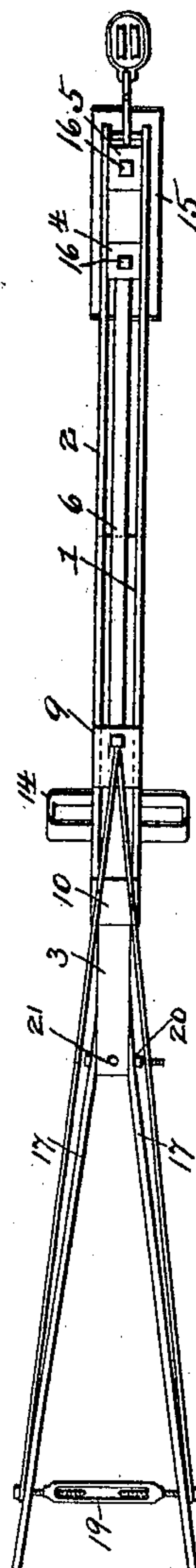


Fig. 2

*Witnesses*

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# UNITED STATES PATENT OFFICE.

ANDREW ESTY, OF CALAIS, MAINE, ASSIGNOR OF ONE-HALF TO GEORGE  
DOWNES, OF SAME PLACE.

## DITCHING-PLOW.

SPECIFICATION forming part of Letters Patent No. 616,300, dated December 20, 1898.

Application filed December 11, 1897. Serial No. 661,582. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW ESTY, a citizen of the United States, residing at Calais, in the county of Washington and State of Maine, have invented certain new and useful Improvements in Ditching-Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in ditching-plows, and covers a construction which will combine strength and effectiveness in the plow and will permit the use of a light draft animal or machine to do the heavy work necessary in drawing the plow through hard clay or gravel.

My invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of my improved plow and draft device; Fig. 2, a plan view of the plow, and Fig. 3 a plan view of the stationary support.

In all the above views corresponding parts are designated by the same numerals.

The plow-beam is made up of several parts, there preferably being two side pieces 1 and 2, bolted together, as shown in the drawings, and having between them blocks 3, 4, 5, and 6, which are provided for purposes to be enumerated.

Near the rear end of the plow-beam are attached two posts 7 and 8, one behind the other. These posts pass between the side pieces 1 and 2 of the plow-beam and are fitted with heads 9 and 10, which rest upon the side pieces and may be attached thereto. The feet of the posts are attached to a metal shoe 11, which consists of two side plates bolted to a bottom plate. The foot of the post 7, though firmly attached to the shoe 11, is cut away, so as to form a socket between it and the bottom plate of the shoe for the seating of the pin 12 of the plow-point 13. When the plow-point is in place, the post 7 and the shoe 11 form the continuation of the plowshare.

On either side of the plow, just behind the post 7 and attached to the side pieces of the plow-beam and the sides of the shoe 11, is a bail-shaped knife 14. These two knives cut the side of the ditch above the line of the

plow-point. It will be seen that these knives, as well as the plow-point, may be easily removed for renewal or sharpening.

The depth of the cut made by the plow is regulated by means of a gage-shoe 15, which, as shown, has two uprights 16 16 passing through holes in the blocks 4 and 5. These uprights are provided with a number of holes, through which bolts may pass and fix the distance of the gage-shoe 15 from the plow-beam. The shoe passing over the ground prevents the cutting of too deep a furrow.

The plow is provided with handles or stilts 17, which are pivoted at the point 18 to the rear end of the shoe 11. Near their outer ends they are connected with a turnbuckle 19, so that the spaces between the ends may be adjusted to any desired width. Being pivoted at the point 18, the handles may be swung laterally, if desired. They may be held to one side or the other, as well as rigidly connected to the plow-beam, by means of the bolt 20, which has a number of holes through its shank and which is also threaded for some distance. The pin 21 may be passed through the piece 3 and one of the holes in the bolt 20 to fasten the head of the bolt to one side and thus hold the handles either to one side or the other of the plow-beam or in a central position. The utility of this arrangement is obvious for the making of ditches near hedges, &c. In the figures the handles are shown as contracted to their narrowest spread.

In order to permit one draft-animal to do the heavy work of cutting out a ditch, I usually employ blocks and tackle, attached in any suitable way to the plow to connect it with a stationary support at the end of the ditch or at a convenient distance ahead of the plow. A convenient form of support is shown and consists of a slotted station-board 22, placed on edge transversely across the line of the ditch. This station-board is planted or held in place in any suitable way. A hook 23, which may be attached to a block of wood larger than the slot in the station-board, protrudes through the slot and hooks into one of the running-blocks of the tackle. The upper edges of the station-board 22 are attached to pieces of wood which form between them



a bevel-shaped track or bed 24. In this track or bed slides a bevel-carriage 25, carrying a bail 26, to which is attached a tail-block 27.

By means of the tackle, whose free end 5 passes through the tail-block on the sliding carriage and which has its other running-block attached to the plow, the draft-animal may draw the plow toward the station-board. The hook 23 may be adjusted in the slot so as to 10 direct the plow along the exact line desired. Thus any changes in direction in which the power may be applied will not change the direction of movement of the plow.

Having thus described my plow, which com- 15 bines with cheapness of construction the advantages of cutting edges which may be removed and conveniently sharpened as occasion requires and an arrangement which enables a small power to do the heavy work 20 necessary, I claim—

1. A ditching-plow having in combination a plow-beam, posts attached to the plow-beam, a shoe fitting over the feet of said posts, a removable plow-point, knives for cutting the 25 sides of the ditch, handles for directing the plow, and an adjustable gage for regulating

the depth of furrow made by the plow, substantially as set forth.

2. A ditching-plow, having a plow-beam, a tackle attached thereto, a fixed support and a movable member to which said tackle is attached and toward which the plow is drawn, said movable member having lateral motion, whereby the line of movement of said plow can be changed without moving the support, 3 substantially as set forth.

3. A ditching-plow having in combination a plow-beam, posts attached to the plow-beam, a shoe fitting over the feet of said posts, a removable plow-point, knives for cutting the 4 sides of the ditch, an adjustable gage for regulating the depth of furrow made by the plow, and handles for directing the plow and movable laterally, and having means for adjusting the distance between them, substantially 45 as set forth.

This specification signed and witnessed this 4th day of December, 1897.

ANDREW ESTY.

Witnesses:

J. M. BECKETT,

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