No. 850,006. PATENTED APR. 9, 1907.

C. T. HOWELL.

DITCHING PLOW.

APPLICATION FILED NOV. 3, 1906.

Fig. 1

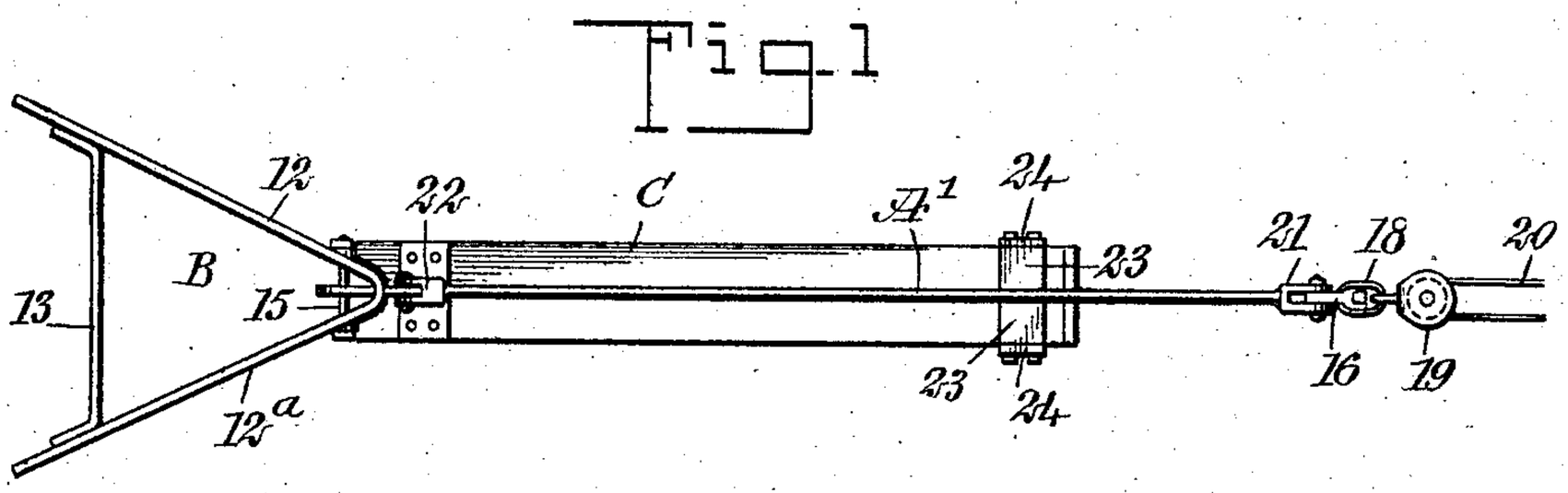


Fig. 2

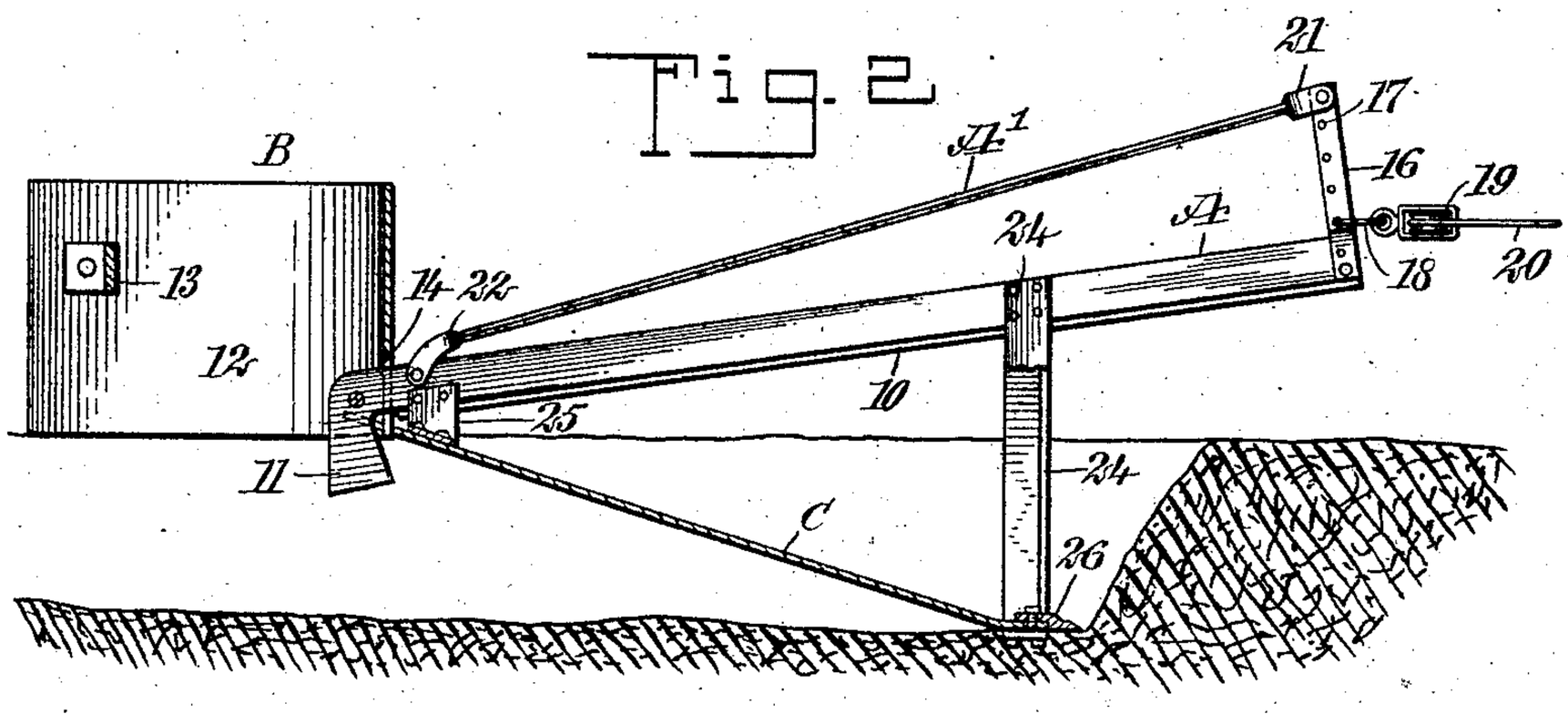
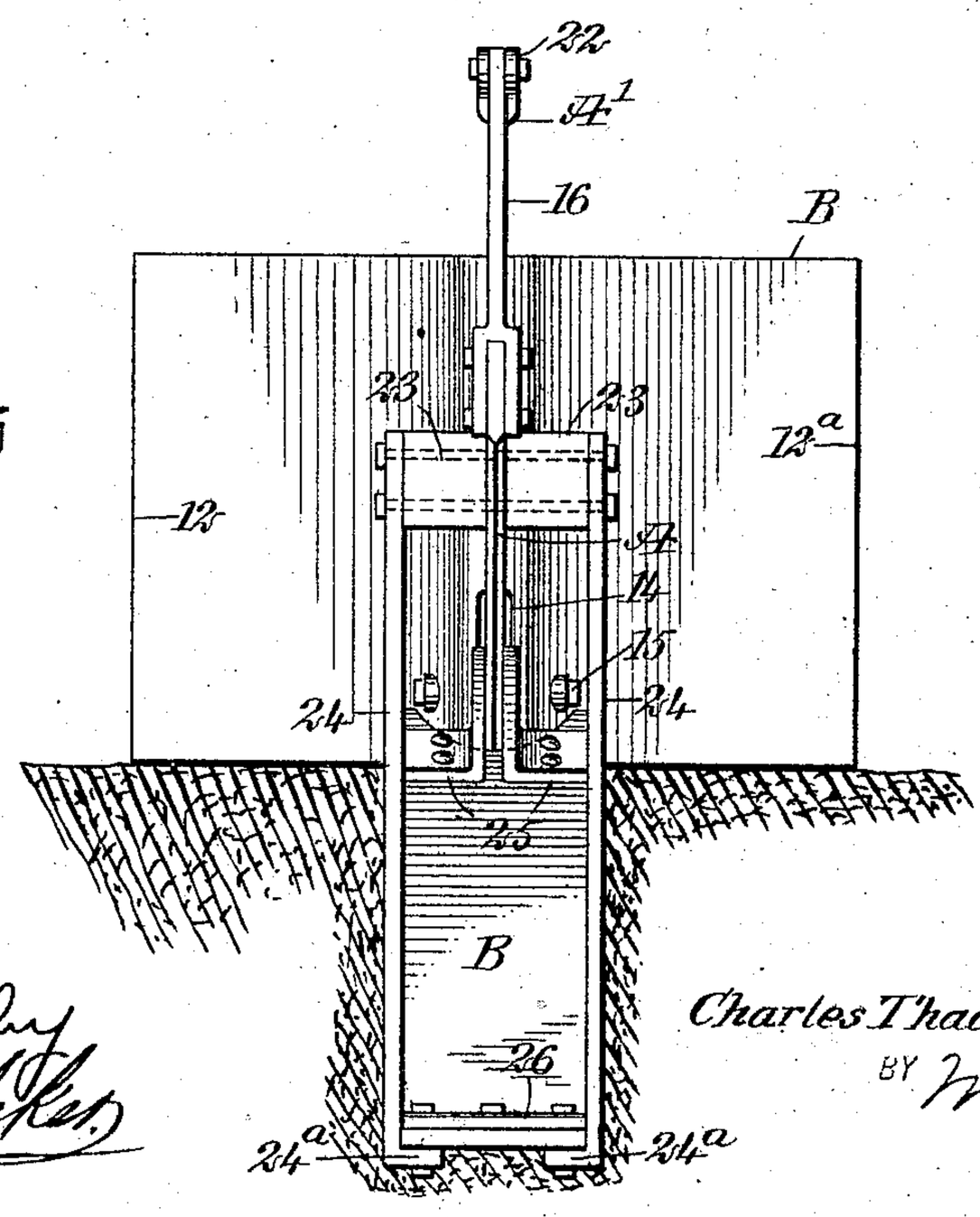


Fig. 3



WITNESSES

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CHARLES THADIUS HOWELL, OF KIRKMAN, IOWA.

DITCHING-PLOW.

No. 850,006. Specification of Letters Patent. Patented April 9, 1907.

Application filed November 3, 1906. Serial No. 341,845.

To all whom it may concern:

Be it known that I, CHARLES THADIUS HOWELL, a citizen of the United States, and a resident of Kirkman, in the county of Shelby and State of Iowa, have invented a new and Improved Ditching-Plow, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a simple, durable, and economic construction of plow for digging tiling-sewer ditches or draining-ditches and which is light of draft and capable of effective service in any character of soil.

A further purpose of the invention is to provide a plow of the character described which can be readily transported and which is especially adapted to be drawn by a traction-engine.

Another purpose of the invention is to construct a ditching-plow with an inclined conductor from the gutter to wings that move over the surface of the ground and remove the excavated material from the edges of the ditch.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the plow. Fig. 2 is a sectional side elevation of the plow in action, and Fig. 3 is a front elevation of the same drawn upon a larger scale.

The beam A of the machine is provided with a sharpened lower edge 10 and with a downwardly-extending heel 11. This beam A has an upward and forward inclination from a cleaner B, which is of triangular shape, being provided with diverging wings 12 and 12^a, bent from one piece of material, the wings being connected at their rear portions by a brace-bar 13, as is shown in Figs. 1 and 2. The said cleaner B, which is adapted to travel over the surface of the ground and remove the excavated material from the edges of the ditch, is provided at its front lower portion with a vertical slot 14 or the equivalent thereof, through which the heel portion of the beam A is passed, and said heel portion of the beam is pivoted in the cleaner B by means of a pin 15, which is passed through the forward portions of the wings 12 and 12^a, as is particularly shown in Fig. 1.

A clevis-bar 16 is made to straddle the forward end of the beam A and is secured thereto, which clevis-bar extends a desired distance above the upper edge of the beam and is provided with a series of apertures 17, which apertures are adapted to receive a link 18, with which a pulley-block 19 is connected, the said block 19 being adapted to receive a cable 20, that is passed to the windlass or drum of a traction-engine or like motor for the purpose of drawing the plow forward.

A draft-bar A′ is provided at its forward end with a fork member 21 and at its rear end with a similar member 22, and the fork member 21 of the said draft-bar A′ is pivotally attached to the upper portion of the clevis-bar 16, while the rear fork member 22 of the said draft-bar is pivotally attached to the heel section of the beam A. A block 23 is secured to each side of the beam A between its center and its forward end, and parallel hangers 24 are secured to the said blocks preferably by means of the same bolts that attach the blocks to the beam, as is shown in Fig. 3. The said hangers 24 have their lower edges inwardly and horizontally bent, as is shown at 24^a in Fig. 3. These hangers extend down some distance below the beam A and serve to hold the said beam in its upper and forwardly-inclined position. A conducting element C for the excavated material is secured to the inwardly-directed lower members 24^a of the hangers 24, and the said conducting or elevating element C is carried upward and is made to fit around the forward portion of the cleaner B, as is particularly shown in Fig. 1. Said element C is secured at its upper rear end to the heel portion of the beam A by means of brackets 25 or like devices, as is particularly shown in Fig. 3. This elevating or conducting element C is in the nature of a flat strip of metal, and the width of this strip corresponds to the width of the space between the hangers 24. The width of said hangers 24 gage the width of the ditch to be dug.

A blade 26 is secured to the forward end of the said elevating or conducting element C, the forward or cutting edge of which blade is inclined, and the bottom of the blade at its cutting edge is flat, as is particularly shown in Fig. 2.

In operation the blade will enter the earth more or less deeply as the plow is drawn forward, according to the position of the block

19 upon the clevis-bar 17, and as the ditch is dug the material excavated is forced by wedge-power up the elevating or conducting element C to the surface of the ground, where said excavated material is met by the cleaner B, whose wings direct the said excavated material from the edges of the ditch.

An implement or machine of the character described may be made very light and durable and at little cost. It is exceedingly effective in operation, particularly light of draft, and may be readily loaded upon a truck or other conveyance for transportation from place to place.

In the operation of the machine or implement the lower edge of the beam A tends to separate the material, which is forced up on the conducting or elevating element C, and thus tends to direct said excavated material equally to each side of the ditch.

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

1. A ditching-plow, comprising a beam, hangers extending down from the forward portion of the beam, an elevating element in the form of a flat plate, secured to the hangers and to the rear end of the beam, a blade on the forward end said plate, and a triangular cleaner pivoted to the rear end of the beam.

2. A ditching-plow, comprising a beam having an upward and forward inclination, downwardly-extending hangers at the forward end of the beam, said hangers having inwardly-extending lower ends, an elevating-plate having its forward end secured to the inwardly-extending ends of the hangers and its rear end secured to the rear end of the beam, and a blade at the forward end of said plate.

3. In a ditching-plow, the combination with a beam, a triangular cleaner pivotally connected to the heel of the said beam, the said beam having upward and forward inclination from the said cleaner, a clevis secured to the forward end of the beam, a draft device adjustably connected with the clevis, a draft-bar attached to the upper portion of the said clevis and the heel portion of the said beam, hangers extending down from the opposite sides of the beam, a conducting or elevating element secured to the lower portions of the hangers, having an upward and rearward inclination, said conducting or elevating element extending to the forward lower portion of the cleaner, means for connecting the elevating or conducting element to the heel-section of the beam, and a knife located at the forward end of the said elevating or conducting element for the purpose described.

4. In a ditching-plow, the combination with a triangular cleaner adapted to travel over the surface of the ground, the said cleaner being provided with an opening at the lower portion of its front projecting portion, and a beam having a sharpened lower edge passed through the opening in the cleaner and pivotally connected with said cleaner, of hangers connected with opposite sides of the beam, an elevating or conducting element secured to the lower portions of the said hangers at its forward end and attached at its rear end to said beam, the rear extremity of the said element being in close engagement with the forward portion of said cleaner, a knife attached to the forward end of the said elevating or conducting element, a clevis secured to the forward end of the beam, extending upward therefrom, and a draft-bar attached to the upper portion of the said clevis and to the rear portion of the said beam.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES THADIUS HOWELL.

Witnesses:
FRANK DEKLOTZ,
JAS. GREGERSON.