

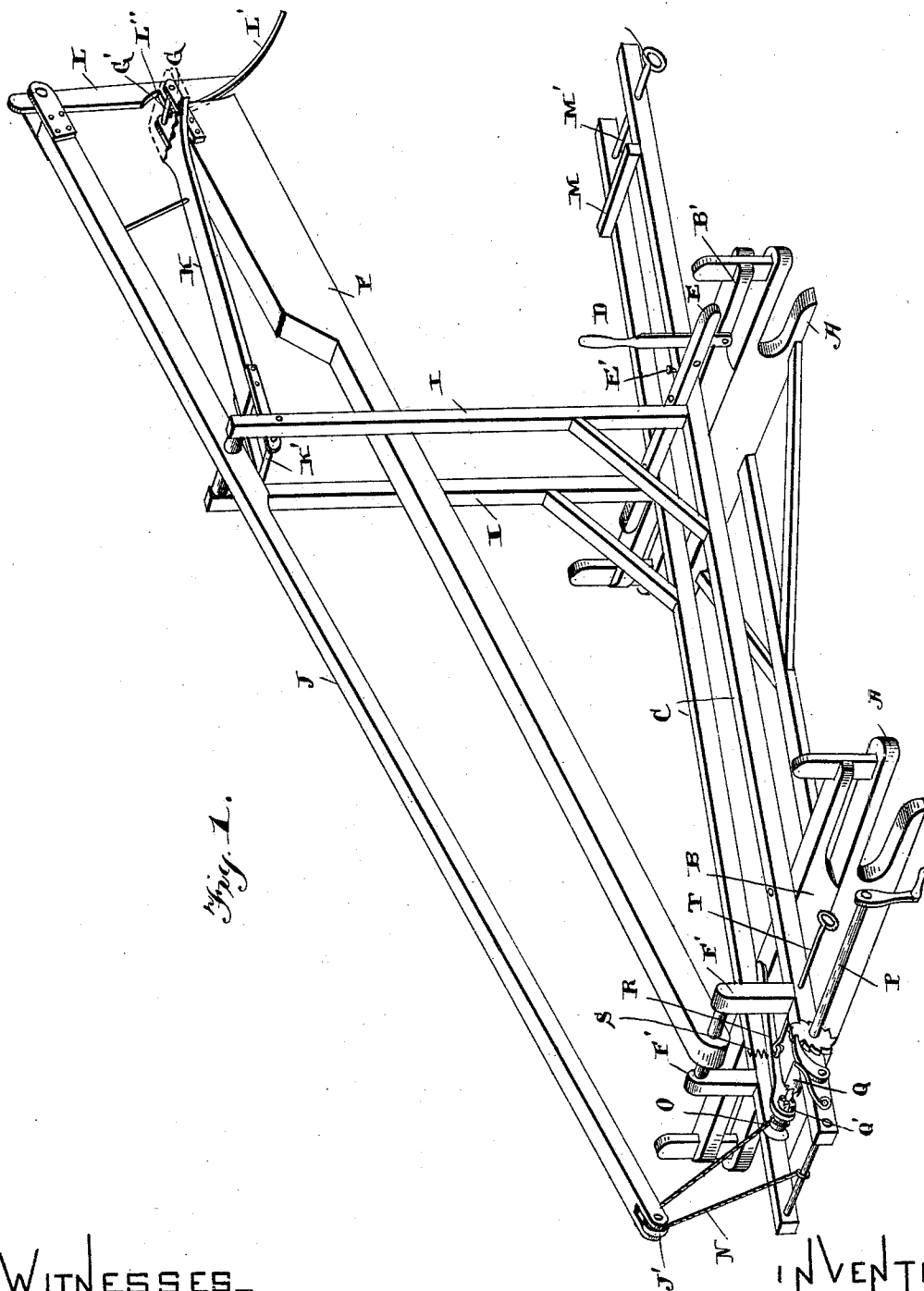
(No Model.)

2 Sheets—Sheet 1.

C. T. CANNON.
POST DRIVER.

No. 513,379.

Patented Jan. 23, 1894.



WITNESSES.
Geo. C. Frick,
Roland A. Fitzgerald.

INVENTOR—
C. T. Cannon
By *Lehmann, Patterson & Nesbit*
attys

(No Model.)

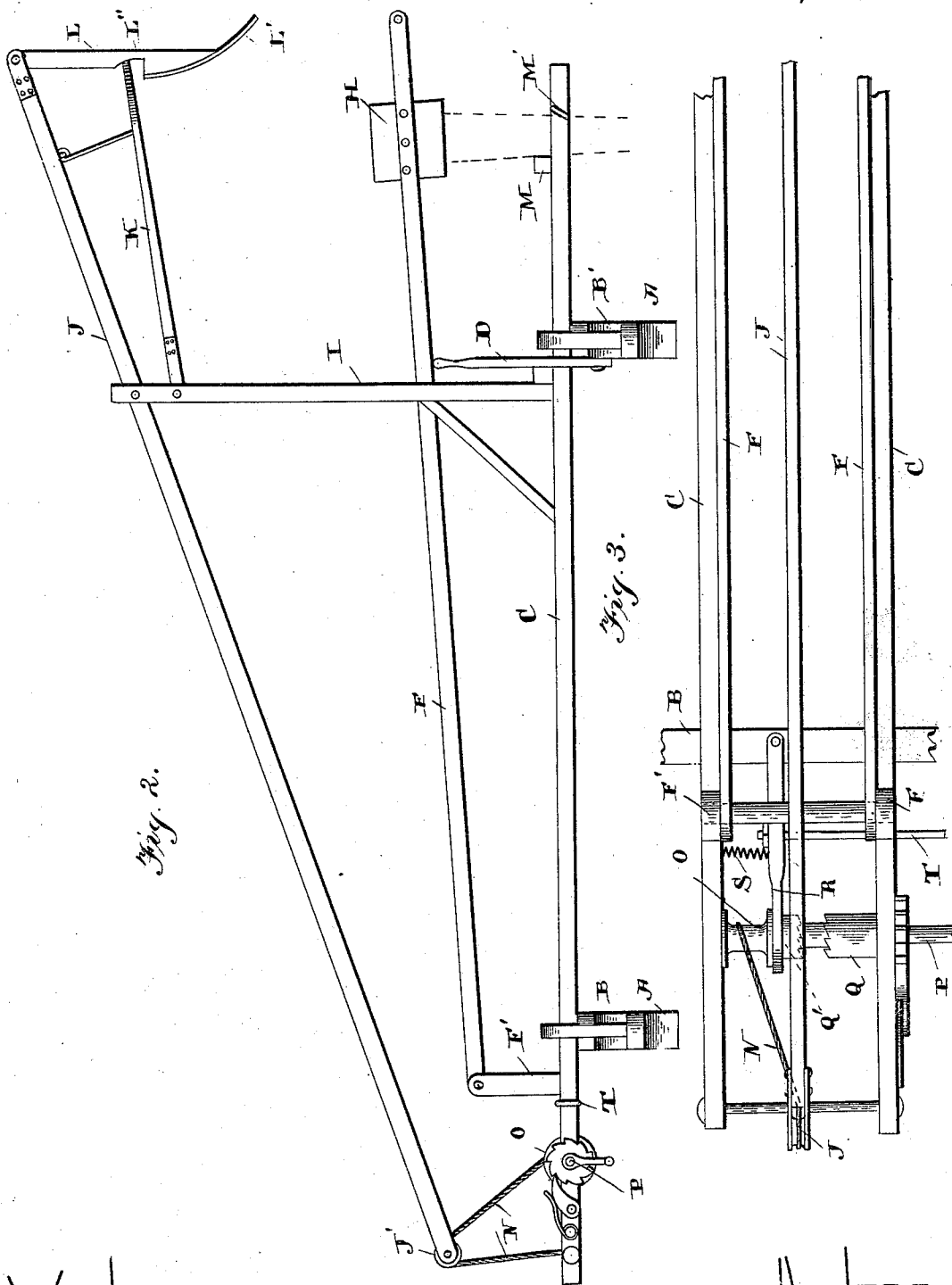
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2 Sheets—Sheet 2.

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No. 513,379.

Patented Jan. 23, 1894.



WITNESSES—
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INVENTOR—
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UNITED STATES PATENT OFFICE.

CHARLES TULLY CANNON, OF FOLEY, MISSOURI.

POST-DRIVER.

SPECIFICATION forming part of Letters Patent No. 513,379, dated January 23, 1894.

Application filed June 7, 1893. Serial No. 476,859. (No model.)

To all whom it may concern:

Be it known that I, CHARLES TULLY CANNON, of Foley, in the county of Lincoln and State of Missouri, have invented certain new and useful Improvements in Post-Drivers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in post drivers, and it consists in the novel features of construction hereinafter fully described and particularly pointed out in the claims.

The object of my invention is to provide an improved portable post driving machine in which a weighted driving arm is automatically released after having been elevated to a given height.

A further object is to provide an improved arm elevating mechanism which is automatically released from its actuating means when the arm falls, so as to follow the latter in its downward movement, for the purpose of securing a hold thereon for again elevating it.

Referring to the accompanying drawings: Figure 1, is a perspective view of my improved machine, showing it in position upon a wagon frame, the weight being held in an elevated position. Fig. 2 is a side elevation of the machine showing the position of the several parts when the weight has been released. Fig. 3 is a plan view of the front portion of the machine.

A designates the front and rear bolsters of an ordinary wagon, and B, B', cross bars confined in said bolsters, as shown. Extending longitudinally with the wagon and resting on the bars are the parallel beams C, which form the base of the machine frame, the same being pivoted to the front bar B, as shown. The rear ends of the beams rest loosely upon the rear bar B', and may be adjusted laterally thereon by the hand lever D pivoted at its lower end to bar B', as shown and connected above the said pivotal point with the transverse arm E connecting the beams C at this point. Thus it will be seen that the rear portion of the machine may be moved in either

direction and there held by pin E' which serves to lock one of the beams C to the bar B', as will be readily understood.

A weighted arm F is pivoted at its front lower end between the standard F' supported on beams C, and extended from the rear end of the said weighted arm are the straps G connected by the cross bar or bolt G', as shown. This weighted arm as shown in Fig. 1, is formed of a single piece of timber having its front end reduced in size where the weight is not required, while in Fig. 2, I show the same formed of two longitudinal arms or bars having confined between their outer ends an iron driving head H. Either construction may be employed which may be preferred as both operate in the same manner and are equally effectual. Extended upward over beams C immediately over the bar B' are the uprights I, between which the said arm extends and fulcrumed between the upper end of the standards is the long weight elevating lever J having depending from its rear end latch L having an outward-curved lower end L' and the notch L'' formed upon its inner side for engagement with the bar G', as illustrated in Fig. 1. Also pivoted at its rear end to the said standard I is the trip K, which at its opposite end is adapted to bear against the inner side of the latch L and thus prevent it moving inward past a predetermined point. This trip is connected to the extended portion of the lever I by rod K', as shown, so that its outer end is elevated with the corresponding end of the lever, as will be readily understood. The weighted arm F while being elevated describes the arc of a circle which has its center at the lower front end of the said arm, while a different circle is being described by the extended portion of the elevating lever J having its center between the upper end of the vertical standards I, so that as the upper end of the weighted arm is elevated it is also retracted, thus causing the latch L to move rearward with it and to this tendency the latch responds until its movement is arrested by the outer end of trip K, which as the upward movement of the weighted arm continues serves to disengage the weighted arm from latch L, thus releasing the former and permitting it to drop upon a stake arranged in its path and which is forced into

the ground in a most effectual manner. The stake is preferably arranged between a cross piece M and a removable transverse rod M' situated near the rear ends of the beams C.

5 It is apparent that the weighted arm is elevated and its disengagement with the notched arm K effected by lowering the forward end of the lever J, and the mechanism for accomplishing this purpose I will now proceed to describe.

10 Mounted in the end of lever J is roller J' over which passes a line N one end of which is permanently secured to the frame, while its opposite end is adapted to be wound upon
15 a drum O, mounted in the frame. A crank rod P is extended into the frame and secured to its lower end is a clutch head Q which is adapted to engage a corresponding head Q' which latter along with the drum O is adapted
20 to be moved longitudinally into the said engagement by the pivoted arm R. The coiled spring S arranged between this arm and one of the beams C serves to hold the said clutch heads normally separated and thus out
25 of engagement so that the drum can revolve independently of the said crank shaft. A rod T secured at its inner end to the said pivoted arm is provided for the purpose of drawing the same outward and bringing with it
30 the drum and engaging the clutch section against the pull of the said spring, so that by revolving the crank shaft the line N is wound upon the drum and the arm I and weighted arm F are thus operated. When the upper
35 end of lever J has been sufficiently depressed to effect the disengagement of the latch L with arm F, the latter drops and the lever being thus relieved of its weight cannot exert a sufficient pull upon the line and drum to
40 hold the clutch sections together, so that the latter in responding to the pull of the spring S separate, thus permitting the forward end of the said lever to rise and its rear end to lower until the latch L reaches the bar G'
45 which it automatically engages, as will be readily understood.

The machine is now ready for another operation which is accomplished by depressing the forward end of the lever J in the manner
50 before described.

The machine is simple in construction and the operative mechanism consists of few parts which are not liable to get out of order. The machine being mounted upon a wagon can
55 be readily removed from place to place without any material inconvenience.

The adjustment of the rear portion of the frame enables me to bring the same in line with the work being operated upon, so that
60 every stroke of the weighted arm may be rendered true and effectual.

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

65 1. In a post driving machine, the combination of a driving arm, a lever for elevating

said arm, a latch depending from the lever which is adapted to engage the driving arm, and a means for automatically disengaging the said latch from the arm, substantially as shown and described.

2. In a post driving machine, the combination of a weighted arm, a lever fulcrumed thereover, a latch loosely secured to and depending from the lever and which is formed
75 with a notch where it is adapted to engage the said weighted arm, and a means for automatically disengaging the latch from the arm, substantially as shown and described.

3. In a post driving machine, the combination of a vertically swinging driving arm, an elevating lever, a latch extending from the lever which is adapted to engage the weighted arm, and a means for automatically disengaging the latch from the arm when the latter
85 has been elevated, substantially as shown and described.

4. In a post driving machine, the combination of a driving arm, and an elevating lever which swing vertically in different circle arcs,
90 a detachable connection between the lever and arm, and a trip for disengaging automatically said connection, when the arm is in an elevated position, substantially as shown and described.

5. In a post driving machine, the combination of a vertically swinging weighted arm, a vertically swinging elevating lever fulcrumed over said arm, the said arm and lever moving in different circle arcs, a detachable connection between the lever and free end of the arm, and a trip arranged between the said members for disengaging the said connection when the arm has attained a predetermined elevation, substantially as shown and described.
105

6. In a post driving machine, the combination of a vertically swinging driving arm, an elevating lever fulcrumed over said arm, a latch depending from the rear end of the lever which is adapted to engage the corresponding end of the weighted arm, and a trip movable vertically with the said lever for disengaging the latch from the arm when the latter has reached a given elevation, substantially as shown and described.
115

7. In a post driving machine the combination of a vertically swinging weighted arm, an elevating lever fulcrumed over said driving arm, the said lever and arm moving in
120 different circle arcs, a latch depending from the outer end of the lever which is adapted to engage the corresponding end of the driving arm, a rearwardly extended trip pivoted beneath the fulcrum point of the lever and
125 which is adapted to disengage the latch from the driving arm when the latter has reached a predetermined elevation, and a connection between the rear portions of the lever and the said trip, substantially as shown and described.
130

8. The combination of a vertically swinging

driving arm, an elevating lever fulcrumed over said arm, the said lever and arm swinging in different circle arcs, a notched latch depending from the rear end of the lever, a transverse bolt supported by the outer end of the driving arm which the said latch is adapted to engage, and a trip arranged between the driving arm and the lever for disengaging the said latch when the arm has reached a predetermined elevation, substantially as shown and described.

9. The combination with a driving mechanism and a lever for elevating the same, of a line for depressing one end of said lever, a longitudinally movable drum upon which the same is wound, a crank mechanism for rotating said drum, a clutch arranged between the crank and drum, and a spring for moving the drum from the crank mechanism when the pull upon the said line has been removed, substantially as shown and described.

10. The combination with a driving mechanism and a lever for elevating the same, of a line for depressing one end of the lever, a drum upon which said line is wound, a crank mechanism for rotating the drum, a clutch between said mechanism and the drum, an arm extending laterally from the drum, and a spring connected to said arm for retracting the same and thus releasing the drum from the crank mechanism when the pull upon the former has been removed, substantially as shown and described.

11. The combination of a post driving mechanism, a lever fulcrumed between its ends over said mechanism, a detachable connection between the rear end of the lever and the said mechanism, a means for automatically disengaging the said connection when the driving mechanism has been elevated, a drum and a line leading therefrom to the forward end of the lever for depressing the latter when the driving mechanism is being elevated, a means for rotating the drum, a clutch connecting the said rotating means with the drum, and a spring retracted device for separating the said clutch sections when the said depressing line has been relieved of its strain by the driving mechanism being detached

from the elevating mechanism, substantially as shown and described.

12. The combination of a post driving mechanism, a lever for elevating the same, a detachable connection between the lever and the driving mechanism, a trip arranged between the lever and the mechanism for automatically disengaging the said connection, a line for depressing the forward end of the lever, a drum upon which the said line is wound, a mechanism for rotating the said drum, clutch faces carried by the drum and the said rotating mechanism which are adapted to remain in engagement against the pull of the spring when the driving mechanism is being elevated, but which are disengaged by the clutch faces when the driving mechanism has been released and the depressing line relieved of its strain, substantially as shown and described.

13. The combination of a post driving mechanism, a lever fulcrumed between its ends over said mechanism for elevating the same, a detachable connection between the lever and the mechanism, a trip for disengaging the said connection, a line for depressing the forward end of the lever, a longitudinally movable drum upon which the line is wound, a drum rotating mechanism, clutch faces carried by the said mechanism and the drum, a spring retracted arm in engagement with the drum for holding it away from the said rotating mechanism, a means for moving the drum to the rotating mechanism against the pull of the said spring arm, thereby engaging the clutch faces and enabling the drum to be rotated for winding up the line when the driving mechanism is being elevated, but which spring retracted arm breaks the said clutch connection when the driving mechanism has been released from the said elevating lever, in the manner substantially as herein shown and described.

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

CHARLES TULLY CANNON.

Witnesses:

W. S. DUNN,

A. G. CHENNING.