

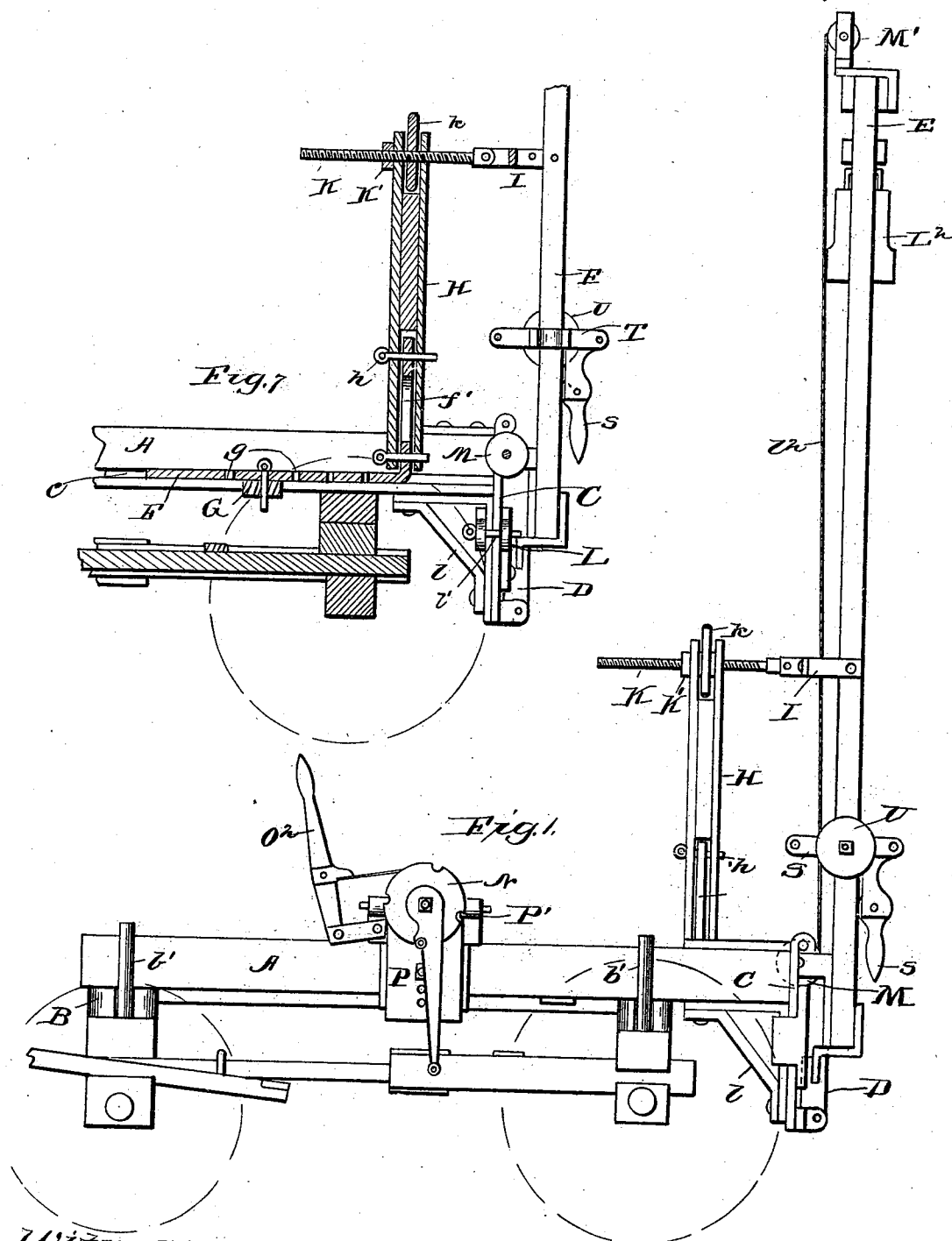
(No Model.)

R. HEATON.
POST DRIVER.

4 Sheets—Sheet 1.

No. 516,649.

Patented Mar. 20, 1894.



Witnesses
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Thomas Durant

Inventor
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Attorneys

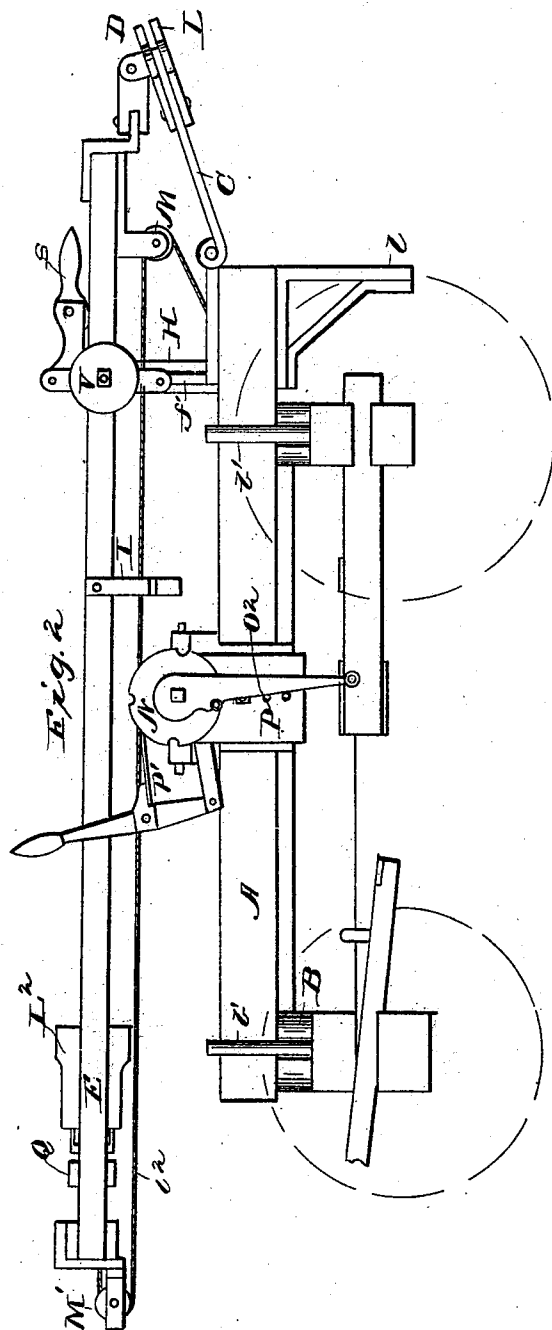
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4 Sheets—Sheet 2.

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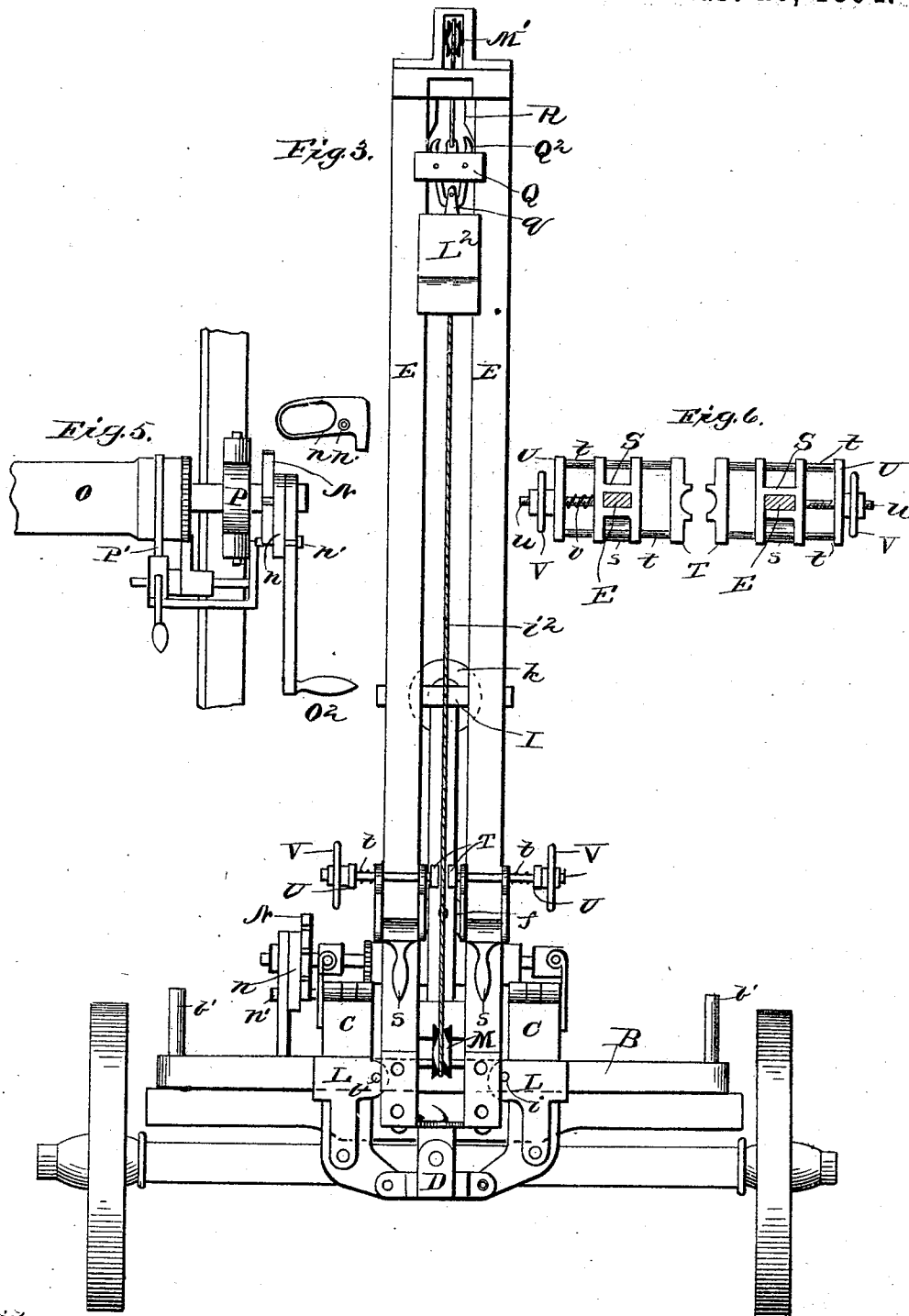
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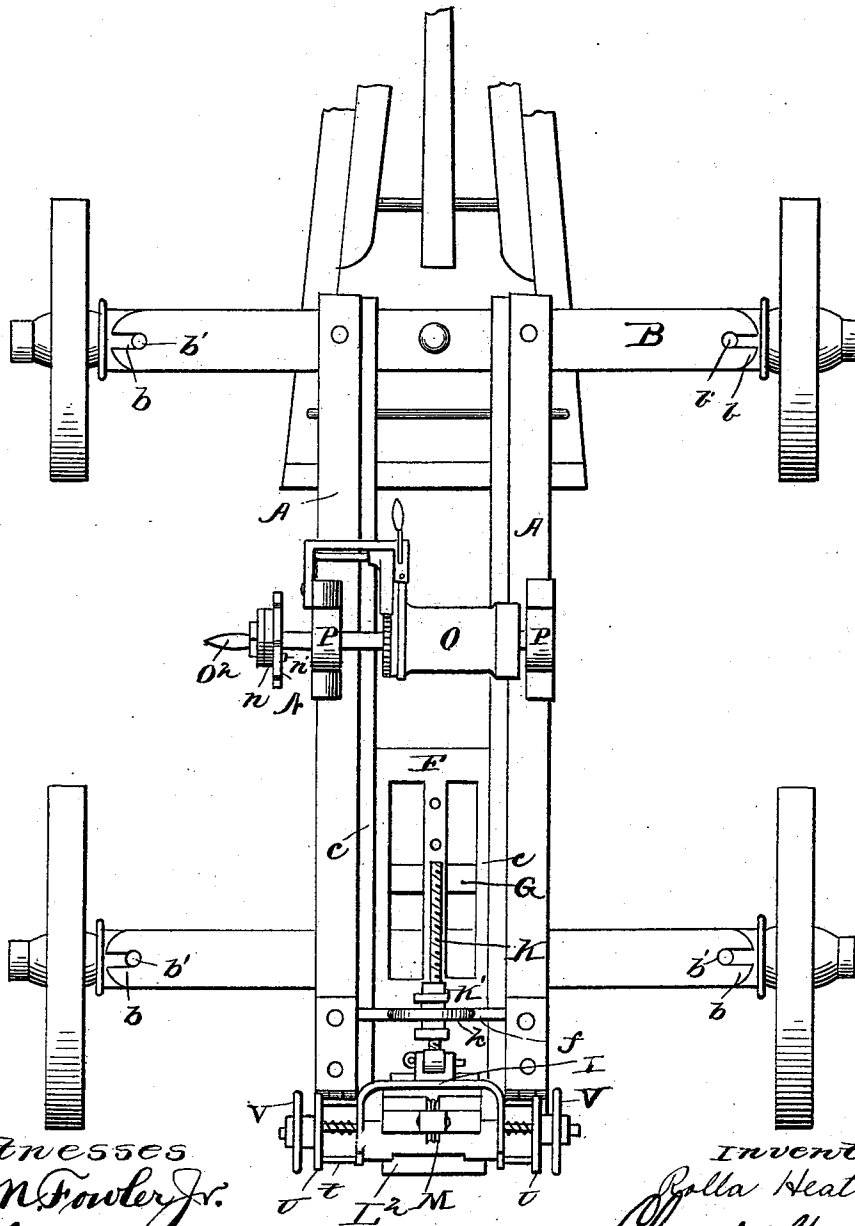
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Fig. 4.



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UNITED STATES PATENT OFFICE.

ROLLA HEATON, OF CANTON, MISSOURI.

POST-DRIVER.

SPECIFICATION forming part of Letters Patent No. 516,649, dated March 20, 1894.

Application filed March 28, 1893. Serial No. 468,062. (No model.)

To all whom it may concern:

Be it known that I, ROLLA HEATON, of Canton, in the county of Lewis and State of Missouri, have invented certain new and useful
5 Improvements in Post-Drivers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the
10 letters of reference marked thereon.

This invention relates to improvements in devices for facilitating fence building and particularly the setting of the posts by driving, and although primarily intended and
15 adapted for such use, it is apparent that it may be used for other purposes where it is desirable to utilize the force of a falling weight for any purpose.

The invention consists in certain novel details of construction and combinations and arrangements of parts all as will be now described and pointed out particularly in the appended claims.

Referring to the accompanying drawings:
25 Figure 1 is a side elevation of a machine constructed in accordance with my invention, mounted on a wagon or running gear with the wheels in dotted lines. Fig. 2 is a similar view with the slide ways folded down on the
30 body of the running gear. Fig. 3 is a rear elevation. Fig. 4 is a top plan view. Fig. 5 is a detail of the crank handle and connected parts for the hoisting drum. Fig. 6 is a detail section through the slide ways showing the post clamps in top elevation. Fig. 7 is a
35 longitudinal section taken through the rear part of the frame and lower part of the slide ways.

Similar letters of reference in the several
40 figures indicate the same parts.

In carrying this invention into practice, I have constructed the frame work for the driving mechanism proper, of longitudinal timbers A A, with transverse timbers or bolsters
45 B B adapted to rest on the bolsters of the running gear of an ordinary lumber wagon. The latter is of ordinary construction and will not be described specifically, especially as it is obvious that it may be modified in accordance with the manufacturer's ideas of what
50 a proper running gear is. The timbers or bolsters B have their ends notched at *b* for

the accommodation of the standards *b'*, and together with the timbers A form a rigid frame work, upon the rear end of which is hinged
55 the depending yoke frame C, which in turn carries at the lower end the block D pivotally connected thereto, both the pivots between this block and yoke and between the yoke and
60 frame A being arranged to turn on centers transverse to the length of the frame so as to swing in the same vertical plane therewith.

The slide ways lettered E, are pivotally connected at their lower ends to the block D so as to swing in a plane transverse to the
65 length of the frame, thus the said slide ways may be tilted forward, backward, or to either side and in order to hold them in the desired position of adjustment the following mechanism is provided.

The timbers A have longitudinal ways or tracks *c* formed thereon, preferably on the inner sides, and mounted to slide thereon is a slide frame F having the rear end formed into a segment *f*, arranged transversely to
75 the length of the main frame, and the whole held in any desired position of adjustment by a pin or bolt passing through any one of a series of holes *g* in the bottom of the slide frame, and into a corresponding hole in a
80 cross bar G secured to the main frame A.

On the segmental part of the slide frame is pivoted a standard H, which may be held in any position of lateral adjustment by means of a pin *h* or equivalent holding device for locking it to the segment.

The slide frame, segment and standard H are made strong so as to support the lateral strain of the slide ways up and down which the weight travels, and a connection is formed
90 between the top of the standard H and said slide ways by means of a yoke I fastened to the slide ways at each side, and detachably connected in front to a screw rod K passing through the top of the standard where it is
95 adjustably held by the threaded hand wheel *k*, mounted on the rod between forks of the standard, and if desired, by means of a lock nut K', in addition to the hand wheel.

The adjustment of the slide ways by means
100 of the screw it will be seen, is forward and backward, and enables said ways to be kept vertical when the machine is working up or down hill, and by swinging the standard to

one side or the other, by turning the standard on the segment of the slide frame, the ways may be kept vertical when working on a side hill.

5 When it is desired to fold the slide ways down for transportation, as shown in Fig. 2, the standard is disconnected from them by
10 breaking the connection between the yoke and screw rod, moving the standard to one side and allowing the slideways to turn down forward, pivoting on the hinge joints connecting the rear of the frame and depending yoke, thereby raising the said ways above the
15 top of the frame and allowing it to fold down into horizontal position. When in raised or vertical position the ways are prevented from moving on the hinge centers, just mentioned, by clamps L which clamp the depending yoke
20 firmly to the rear faces of the depending brackets l on the end of the frame A. The particular construction of these clamps is not material, but as shown, they consist of U-shaped pieces pivotally mounted on the depending yoke and adapted to swing up and
25 clamp the sides of the yoke and brackets, in which position they are held by pins l'.

A driver or weight L² is mounted to reciprocate on the slide ways in any ordinary or approved manner, and is adapted by its im-
30 pact on the top of the post, located between the ways at the bottom, to force the same into the ground. This weight is elevated by means of a rope l² or equivalent passing through guides and around a pulley M' at the top of
35 the ways, thence down to a pulley M, at the bottom of the ways and thence forward to the winding or hoisting drum O journaled in vertically adjustable bearings P secured to the sides of the frame A.

40 Each end of the drum shaft is squared for the reception of a notched disk N, outside of which, on the round portion of the shaft, is mounted a pawl n having a limited movement transversely of the shaft, secured by forming
45 the aperture through which the shaft passes oblong or elliptical as shown. The pawl carries at the outer end, oppositely extending projections n' with enlarged heads, the projection on one side being adapted for engage-
50 ment with the notches in the disk and on the other, for engagement with a notch in the handle O² which latter is journaled loosely on the end of the shaft and held in place by a nut.

55 The pawl as before stated, has a limited movement transversely of the shaft, the object of which is to permit of its ready disengagement from the drum or disk, to allow the latter to turn backward rapidly, as the weight
60 descends, and when it is not desired to disconnect the weight from the rope. At such times, the drum is under the control of the friction brake P' of ordinary construction. When the pawl is in engagement with the
65 disk, it is prevented from becoming disengaged therefrom so long as the handle is pressed forward, by the notch in the handle

into which the outer projection on the pawl drops when the inner projection is in a corresponding notch in the disk, and from which
70 it cannot escape until the handle is given a relative backward movement, as will be readily understood from the drawings.

While the weight may be controlled from the drum and caused to reciprocate by wind-
75 ing the drum in the proper direction to raise the weight, then releasing the drum so that the weight can descend, I do not design to operate it in this way under ordinary circum-
80 stances, but prefer to employ an automatic trip, formed by a sliding cross head Q connected to the rope by a central eye, and having a pair of pivoted pawls or catches Q² with their lower or hook ends adapted to gravitate
85 into position to engage a bar or equivalent device q on the top of the weight, and having their rear or more properly upper ends extended above the cross-head and curved into proper position to engage the inner faces of
90 inclines R secured at the top of the ways, whereby the said upper ends of the pawls are forced toward each other and their lower ends separated so as to release the weight, as soon as it reaches the top of the ways, allowing it
95 to descend upon the post at the bottom of the ways.

To hold the post in proper alignment during the driving operation, guides are provided
adjustably mounted on the slide ways, such guides consisting of boxes or collars S mov-
100 able up and down the slide ways, and adapted to be clamped in position by cam levers s held between ears on the rear side of the boxes and adapted to engage the face of the slide ways
105 when turned down.

Journaled in ears or ways at front and rear of the boxes are guide rods t carrying at their forward ends clamp or guide faces or blocks
110 T centrally recessed or otherwise shaped for the reception of the post being driven. Cross heads U are mounted on the rear ends of the guide rods t and through them pass screws u connected at the inner ends to the boxes and carrying on their outer ends hand wheels V
115 whereby the guide blocks may be set forward to clamp or embrace more or less firmly the post held between the slide ways as will be readily understood. Springs v may be employed to move the guide blocks outward if
120 desired.

In operation the hoisting drum may be driven by any preferred power, manual for instance applied to the drum shaft through the crank handle, for raising the weight, and the post having been properly positioned be-
125 tween the guides at the bottom of the slide ways, it will be seen that when the weight is released, either by having the catches moved out of engagement therewith as before described, or by having the drum released, it
130 will descend and by its impact on the top of the post, drive the same into the ground.

The guides may be made tight or loose as desired, and may be set at any desired height

on the slide ways, thus in addition to guiding the post, will serve as a gage to determine the height of the posts, in order that they will all be of a uniform height throughout the line.

5 Having thus described my invention, what I claim as new is—

1. In a driver, such as described, the combination with the driver frame, of the depending yoke hinged to the rear end of the same, the slide ways hinged to the lower end of the yoke frame, adjustable connections between said slide ways and driver frame, the weight and means for actuating it; substantially as described.

15 2. In a driver, such as described, the combination with the driver frame, of the depending yoke hinged to the rear end of the same, with means for connecting said yoke rigidly thereto, the slide ways connected to the bottom of the yoke, a detachable connection between the slide ways and driver frame for holding the slide ways in vertical position and whereby the same may be folded down on said frame, the weight and means for actuating it, substantially as described.

25 3. In a driver, such as described, the combination with the driver frame, the yoke hinged to the rear end thereof, with means for forming a rigid connection between the yoke and frame, the slide ways hinged to the bottom of the yoke by a double hinge or universal joint, and an adjustable connection between the slide ways and the driver frame; substantially as described.

35 4. In a driver such as described, the combination with the driver frame, the depending yoke hinged to the rear end thereof, and the clamps for connecting said yoke and frame rigidly, of the block hinged to the bottom of the yoke, the slide ways hinged to the block, adjustable connections between the slide ways and driver frame, the weight and means for actuating the same; substantially as described.

45 5. In a driver, such as described, the combination with the driver frame, the standard adjustably connected thereto and the depending yoke hinged to the rear end of the said frame, of the slide ways hinged to the bottom of the yoke and an adjustable connection between the top of the standard and the slide ways with a weight and means for actuating the same; substantially as described.

50 6. In a driver, such as described, the combination with the driver frame, the slide frame adjustably mounted thereon and the standard adjustably mounted on the slide frame, of the slide ways adjustably connected to the rear of the driver frame and an adjustable connection between the top of the standard and slide ways, with a weight and means for actuating the same; substantially as described.

55 7. In a driver, such as described, the combination with the driver frame having the ways thereon, the slide frame mounted on said ways and having the transverse segment at the

rear end, the standard adjustably connected with said segment, of the slide ways adjustably connected to the rear end of the driver frame and an adjustable connection between the top of the standard and the slide ways; substantially as described.

8. In a driver, such as described, the combination with the driver frame, having the ways thereon, the slide frame mounted on said ways and having the transverse segment at the rear end, and the standard adjustably connected to said segment, of the slide ways pivotally connected to the rear end of the driver frame and a screw connection between the top of the standard and the slide ways; substantially as described.

9. In a driver such as described, the combination with the driver frame having the ways thereon, the slide frame mounted on said ways and having the transverse segment at the rear end and the standard adjustably connected to the segment, of the depending yoke hinged to the rear end of the driver frame, with means for connecting the same rigidly to the frame, the slide ways pivotally connected to the bottom of the yoke, the detachable screw connection between the top of the standard and the slide ways, the weight and means for actuating the same; substantially as described.

10. In a driver, such as described, the combination with the driver frame, slide ways carried thereby and the weight adapted to be reciprocated on the slide ways, of the post guides provided with cam levers, whereby they may be clamped in adjusted position on the slide ways; substantially as described.

11. In a driver, such as described, the combination with the driver frame, the slide ways carried thereby and the weight adapted to be reciprocated on the slide ways, the post guides adjustably mounted on the slide ways, of the rods journaled in ears at front and rear of said guides, and carrying guide blocks at their forward ends for the reception of the post being driven, and means for adjusting said guide blocks laterally; substantially as and for the purpose set forth.

12. In a driver, such as described, the combination with the driver frame, the slide ways carried thereby and the weight adapted to be reciprocated on the slide ways, the post guides adjustably mounted on the slide ways, the rods journaled in ears on the post guides, and carrying the cross head at their rear ends and the guide blocks at their forward ends, of the screws connected to the post guides and passing through the cross head, and carrying the hand wheel on their outer ends, whereby the post guides may be adjusted laterally; substantially as described.

13. In a device, such as described, the combination with the slide ways, and weight traveling thereon, of the winding drum, the disk carried by and rotating with the drum, the pawl provided with oppositely extending projections at its outer end engaging notches in the disk and handle respectively, whereby

said pawl will be held in engagement with the disk while the handle is being pressed forward; substantially as described.

14. In a driver, such as described, the combination with the driver frame, the slide ways, the weight and the winding drum, of the notched disk carried by the winding drum, the pawl having a movement transverse to

the axis of the drum and the handle having a notch for cooperation with the pawl to prevent such transverse movement; substantially as described.

ROLLA HEATON.

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