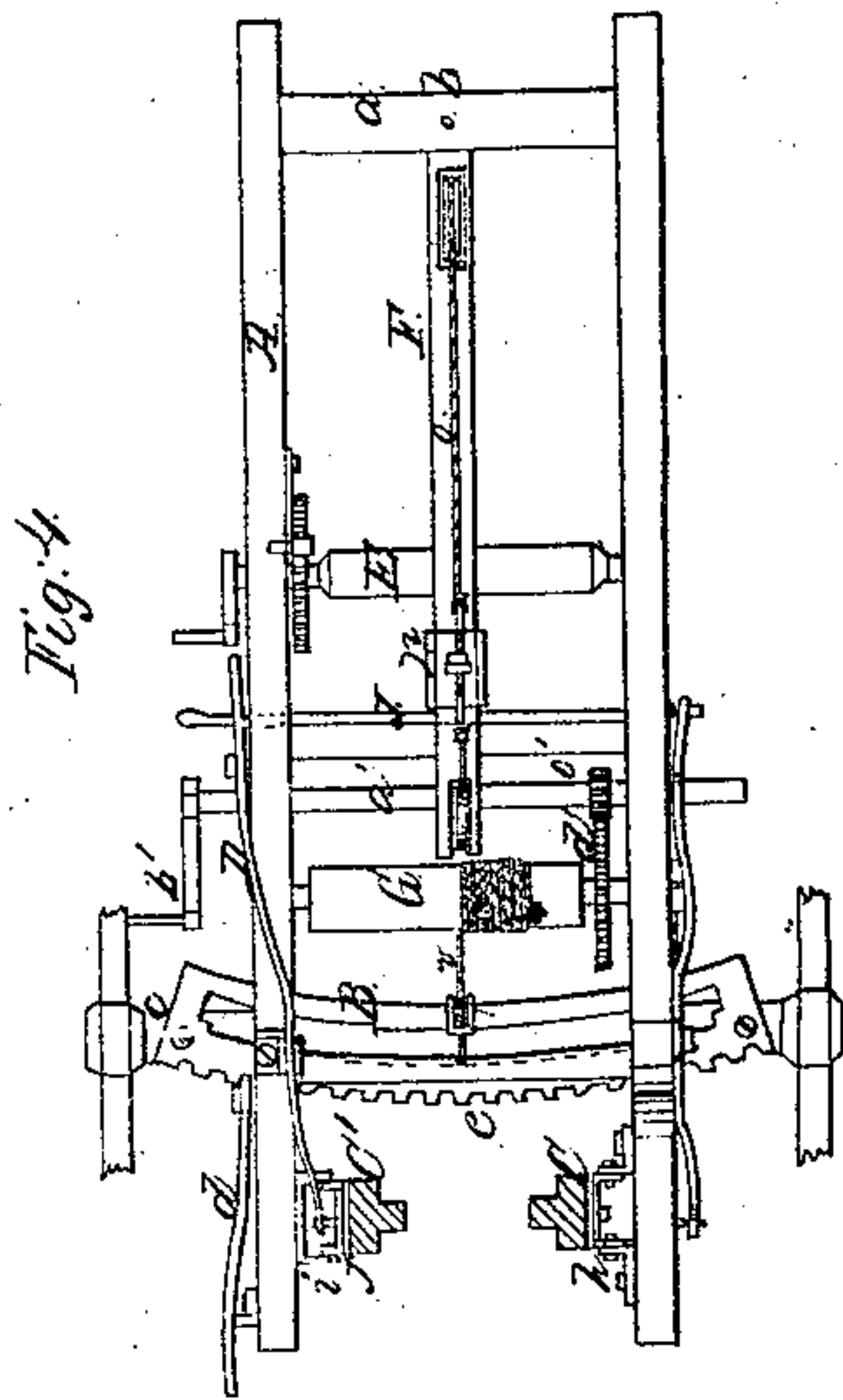
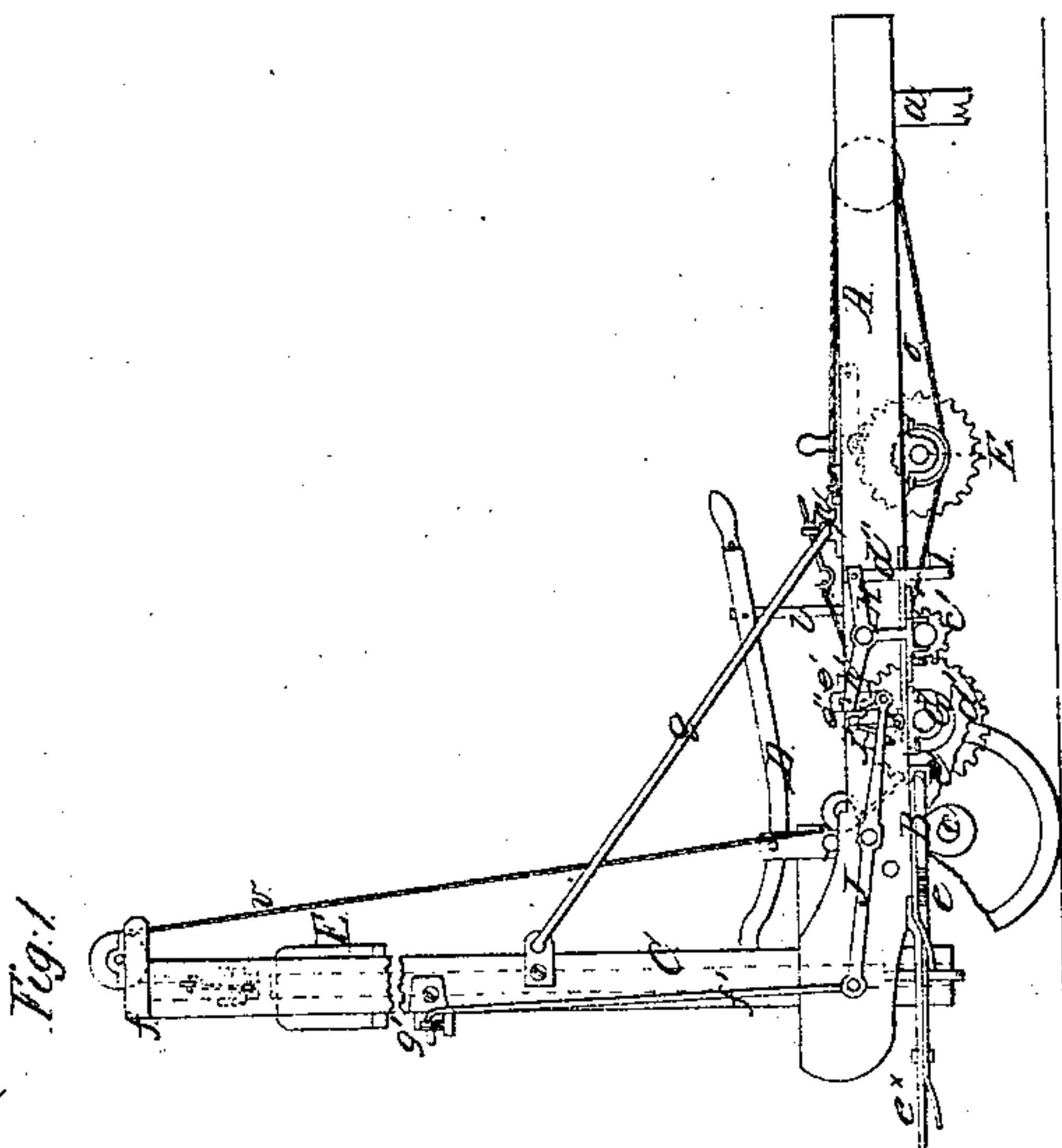
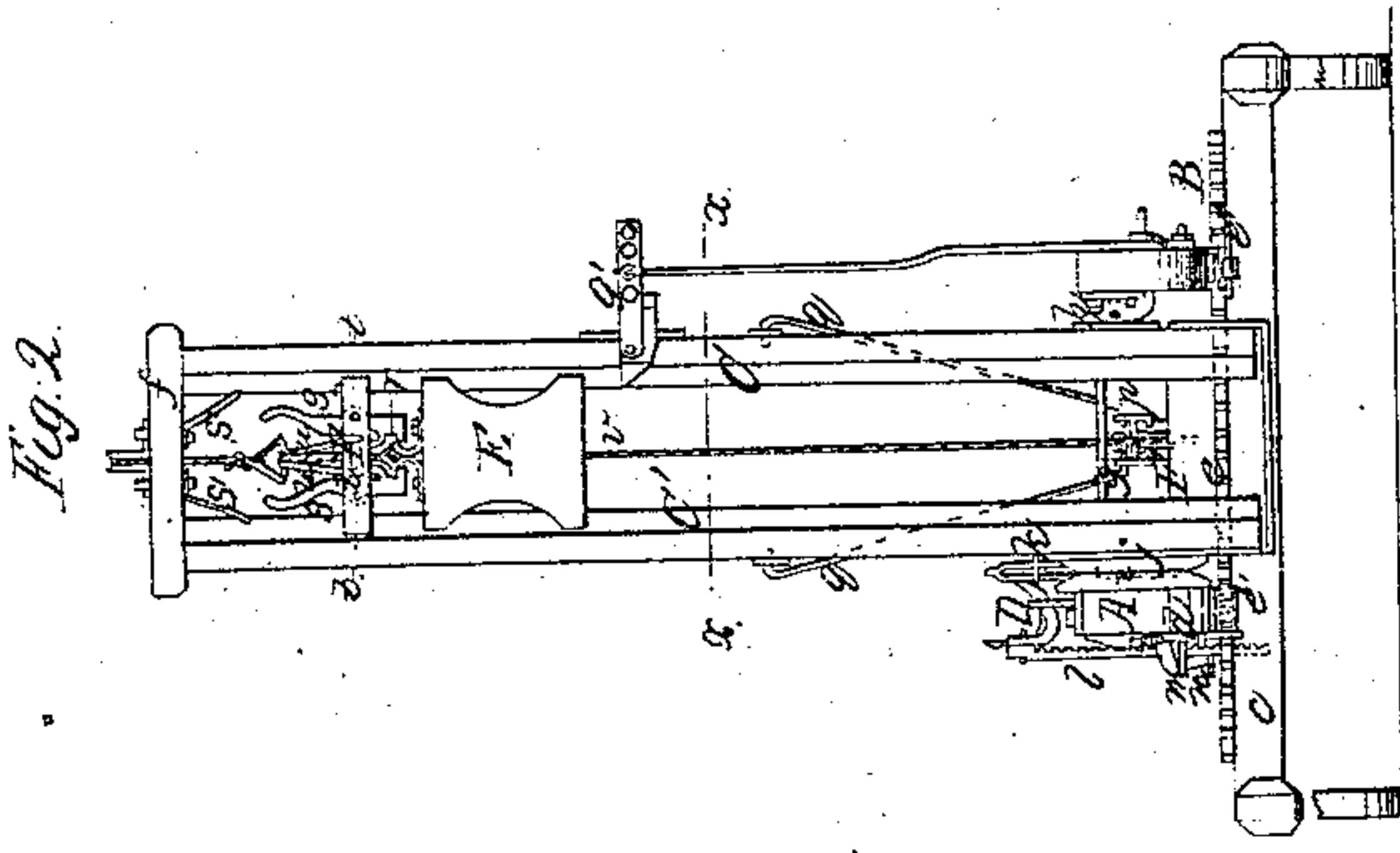
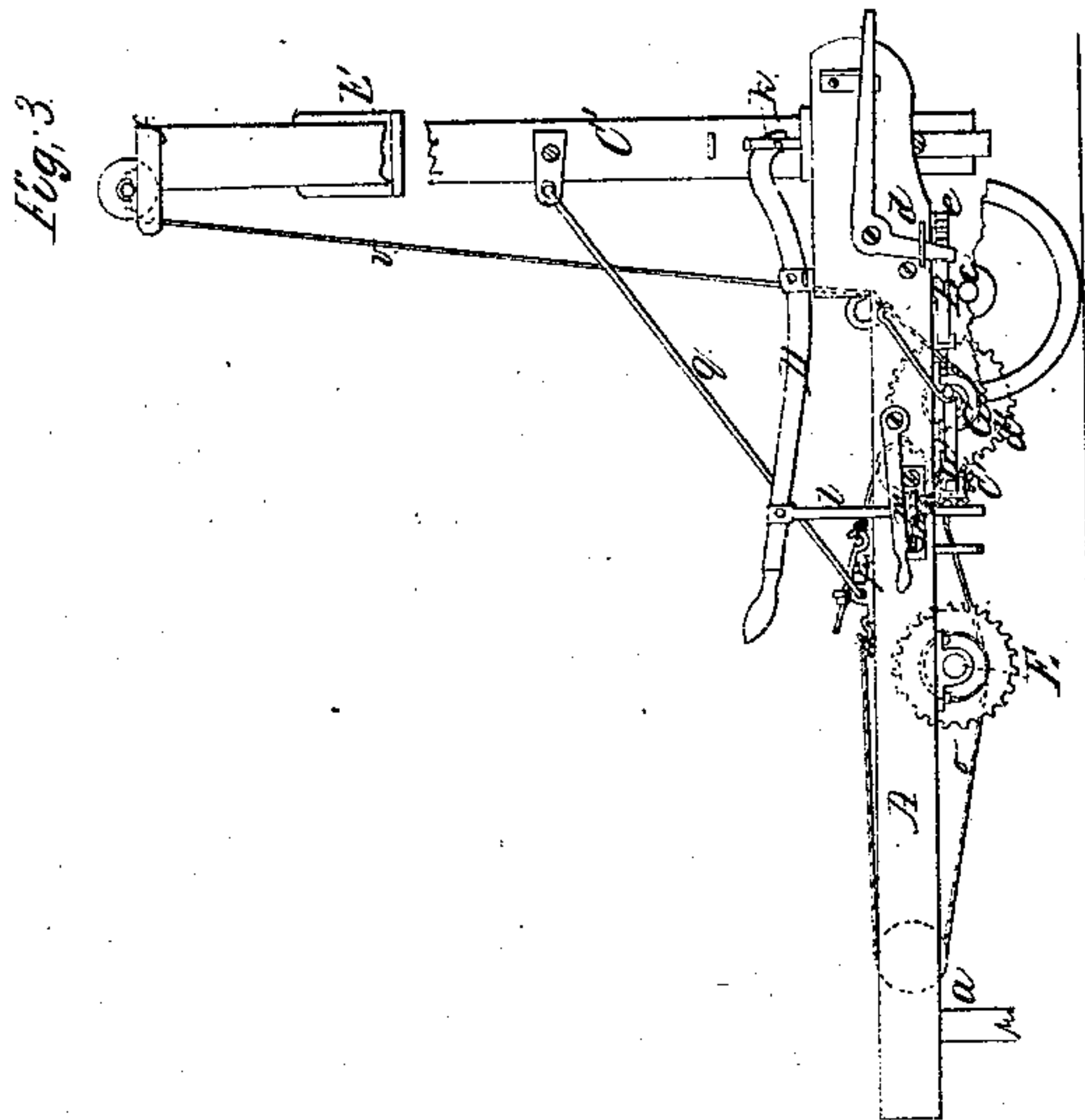


T. Place.

Pile Driver.

Nº 23,858.

Patented May 3, 1859.



Witnesses;
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UNITED STATES PATENT OFFICE.

THOMAS PLACE, OF ALFRED CENTER, NEW YORK.

ADJUSTABLE PILE-DRIVER.

Specification of Letters Patent No. 23,858, dated May 3, 1859.

To all whom it may concern:

Be it known that I, THOMAS PLACE, of Alfred Center, in the county of Allegany and State of New York, have invented a new and Improved Machine for Driving Piles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side view of my invention. Fig. 2, a front view of do. Fig. 3, a side view of do., opposite to the side shown in Fig. 1. Fig. 4, a horizontal section of do. taken in the line $x x$ Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a device that may be moved or conveyed from place to place with great facility, and made to conform to the inequalities of the surface of the ground so that the weight or monkey guides may always be in a vertical position when the machine is in use, and also adjusted so as to be readily applied to its work, and operated with great facility and very expeditiously.

The invention consists in a peculiar construction and arrangement of the frame and monkey guides and also in a peculiar manner of operating the monkey as hereinafter fully shown and described, whereby the desired end is attained.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a rectangular frame, the back part of which is attached to an axle a , by a bolt b , which passes through the center of the back crosspiece of the frame. The front part of the frame A, rests on a curved rack plate B, which is secured to the upper surface of an axle c , and is fastened thereto at any desired point by a catch d , which is attached to one side of the front part of the frame A, and catches into the rack e , on the front edge of plate B, as shown clearly in Figs. 2 and 3, and 4. The frame A, may be moved on the axle c , either to the right or left by throwing the catch d , out from the rack B, the frame working on the bolt b , as a center. This will be clearly understood by referring to Fig. 4. The frame A, is secured to the rackplate B, by guides e' , which clasp it at its front and back sides but still are allowed to slide freely on it, see

Figs. 1 and 2. The frame A, may be moved by a lever e^x , or any suitable device.

In the front part of the frame A, two weight or monkey guides C, C', are placed. The guides C, C', are connected at their upper ends by a traverse bar f , and they are connected at their lower parts by a bar g . The lower part of the guide C, is attached to the frame by a universal joint h , see Fig. 4, and the lower part of the guide C', is attached to the frame by a sliding joint or connection i , which is simply a guide plate j , to which the bar C', is pivoted, the plate j , fitting in a suitable socket and secured therein at any desired point by means of a lever D, one end of which is attached to plate j , by a link k , and the other end secured by a rack l , and wedge m , in a staple n , at one side of the frame, see more particularly Fig. 2.

By attaching the guides C, C', to the frame A, as shown the guides may be lowered so as to rest horizontally on the frame A, for convenience of transportation or be raised to a vertical position when designed for use. This operation of the guides is effected by means of a windlass E, the ropes o , of which are attached to a slide p , placed on a horizontal guide bar F, in the frame A, the slide being connected with the guides by means of rods q, q . Besides this raising and lowering movement the guides C, C', may be canted or inclined laterally by operating the lever D, the universal joint h , permitting such adjustment of the guides.

Between the two guides C, C', a weight or monkey E, is placed and allowed to slide freely up and down. This weight or monkey has a catch r , on its upper end, the form of which is plainly shown in Fig. 2.

F, is a catch block which is fitted between the guides C, C', and allowed to slide freely up and down. This catch block is simply a bar having two jaws s, s , fitted therein and working on pivots t . Each jaw s , has a link u , attached to it, the upper ends of the links being attached to a rope v , which is connected with a windlass G.

To the under side of the frame A, a shaft a' , is attached. This shaft has a crank b' , on one end of it, and a pinion c' , is also placed on it, said pinion gearing into a toothed wheel d' , of the windlass G. The bearing of the shaft a' , near the pinion C', is at the lower end of a T-shaped lever H, attached to the side of the frame A, see Fig.

1. One end of the upper part of the lever H, is connected by a link d'' , with a lever I, placed transversely under the frame A, and the opposite end of lever H, is connected by a link e' , with a lever J, the front end of which is connected by a rod f' , with a jointed stop or button g' , on the guide C, see more particularly Fig. 2. The link e' , is connected with lever H, by means of a pin h' . On said lever fitting in an oblong slot i' , in the upper end of the link, and a catch j' , which is attached to the frame A, fits under the front end of lever H, and retains the pinion c' , in gear with the wheel d' . This arrangement of the levers H, J, connecting link e' , and catch j is plainly shown in Fig. 1.

The operation will be readily seen: The monkey guides C, C', are placed in a vertical position by adjusting lever D, and by turning the windlass E, either or both, as occasion may require. The frame A, also is adjusted laterally so as to bring the monkey directly over the pile to be driven. The operator then raises the end of lever I, and thereby raises the front end of lever H, so that the catch j' , will pass under the front end of said lever and retain the pinion c' , in gear with the wheel d' . The shaft a' , is then turned and motion is given the windlass G, the rope v , elevating the monkey E, in consequence of the catch block F, being connected with it, the jaws s, s , being in the catch r , when the catch block reaches the top of the guides C, C', the monkey is released from it in consequence of the jaws s, s , striking against oblique bars s^x, s^x , at the upper parts of the guides. The monkey in descending strikes the button or stop g' , which actuates the lever J, the catch j' , being thrown out from underneath the front

end of lever H, and the pinion c' , thereby thrown out of gear with wheel d' . As soon as the pinion c' , leaves the wheel d' , the power shaft a' , is disconnected from the windlass G, and the catch block F, descends and almost immediately follows the monkey F, and connects with it ready for a succeeding elevation. Thus it will be seen that the monkey may be rapidly operated, for comparatively little or no time is lost in applying the catch block to the monkey, the work being done automatically and expeditiously.

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

1. Attaching the frame A, to the axles a, c , by means of the bolt b , and rack plate B, and guides e' , to admit of the lateral adjustment of the monkey guides C, C', substantially as described.

2. Securing the monkey guides C, C', in the frame A, by means of the universal joint h , and the sliding joint i , arranged with the lever D, and rack catch l , or their equivalents to admit of the lateral inclining of the guides as well as the forward and backward movement of the same for the purpose set forth.

3. The combination of the frame A, and guides C, C, when constructed and arranged to operate conjointly and to admit of the adjustment as described.

4. The arrangement of the button or stop g' , levers J, H, I, and catch j' , substantially as shown for automatically releasing the shaft a' , from the windlass, G, as and for the purpose set forth.

THOMAS PLACE.

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