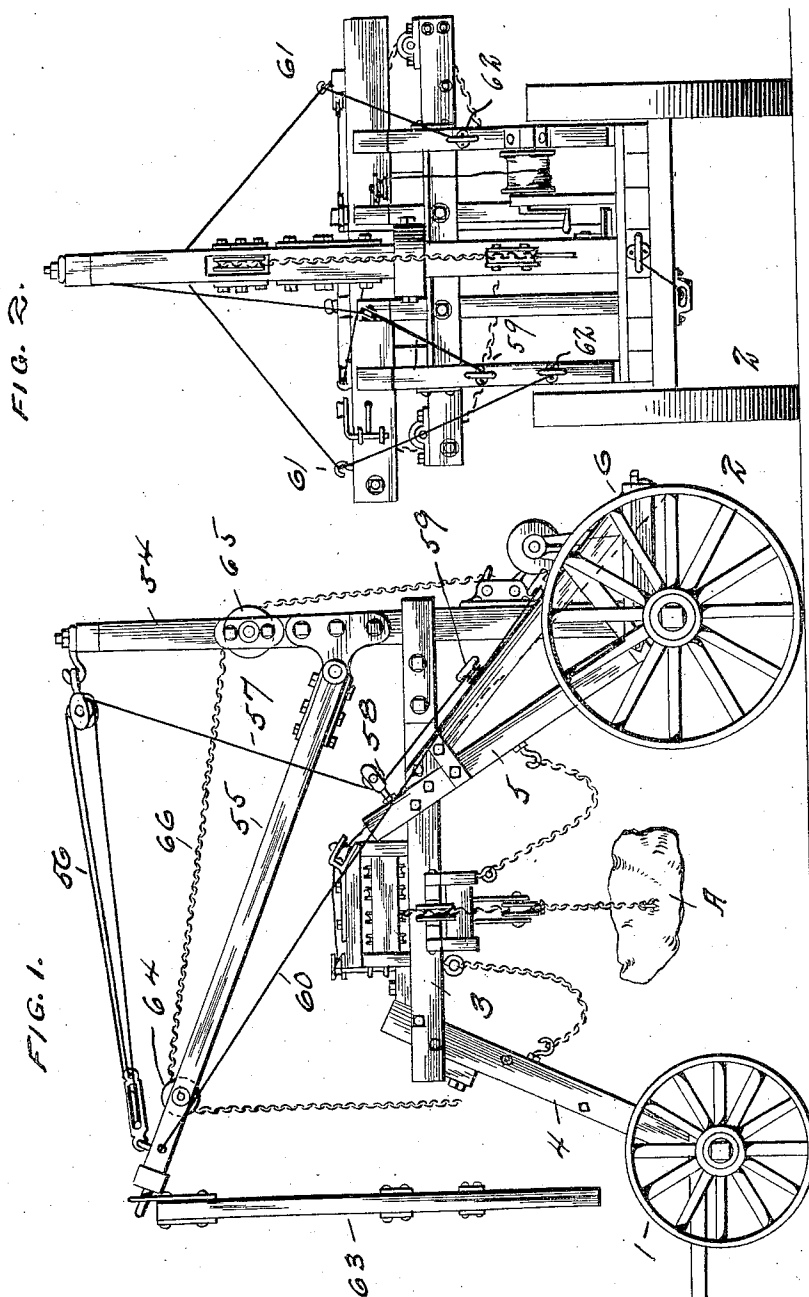


A. VILLENEUVE.
 STONE AND STUMP REMOVING MACHINE.
 APPLICATION FILED SEPT. 4, 1908.

935,132.

Patented Sept. 28, 1909.
 3 SHEETS—SHEET 1.



WITNESSES
 C. A. Davis

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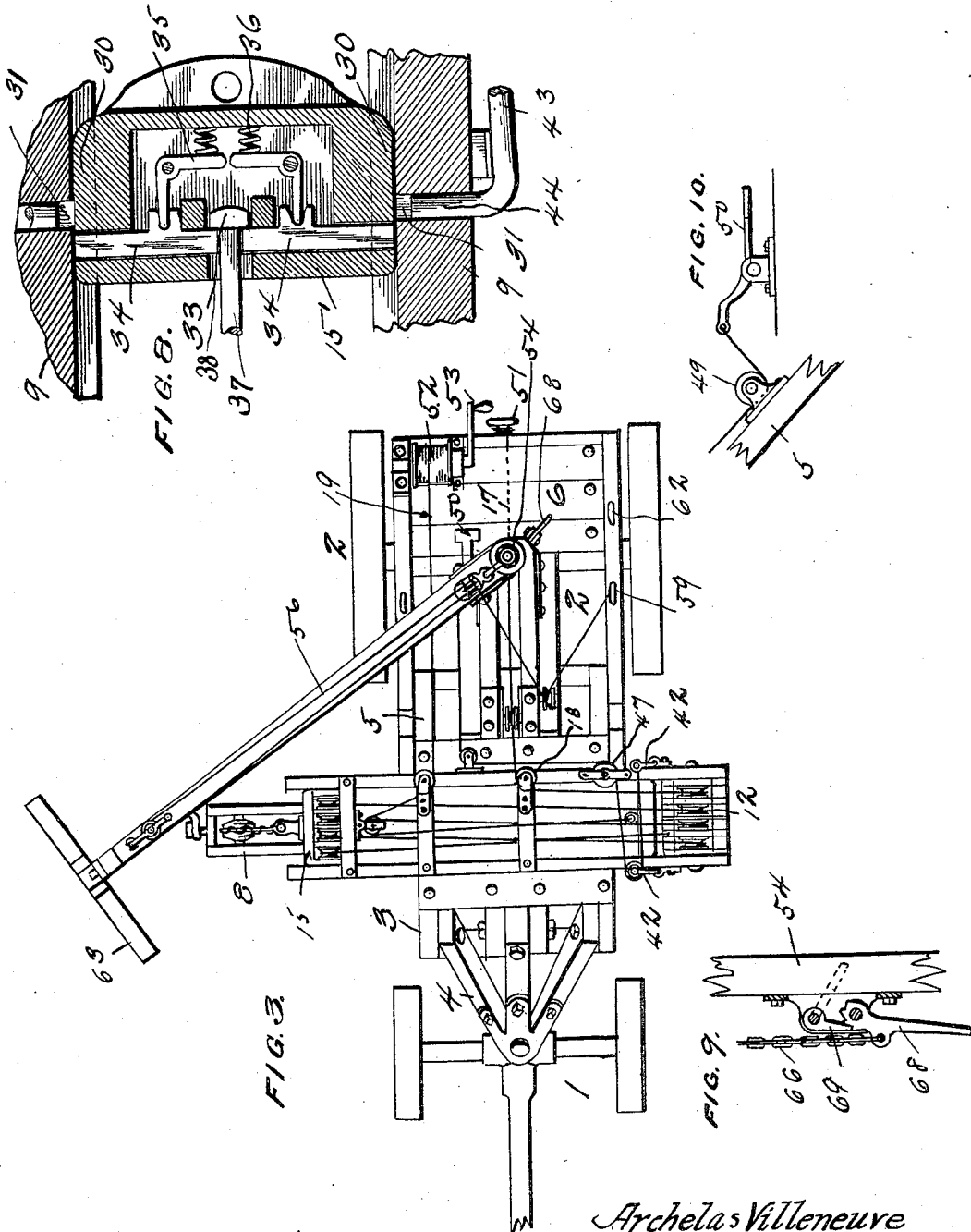
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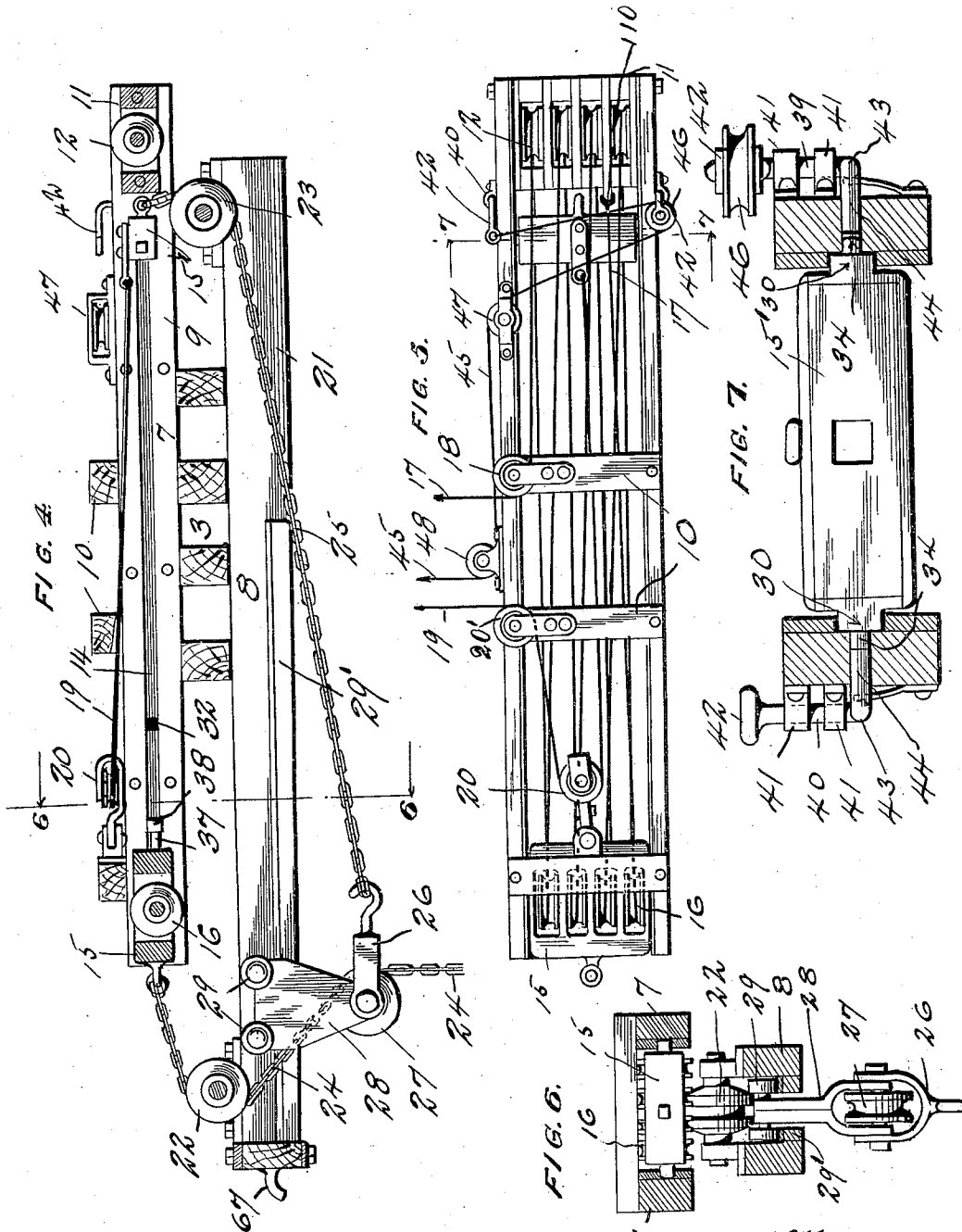
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UNITED STATES PATENT OFFICE.

ARCHELAS VILLENEUVE, OF CONCORD, NEW HAMPSHIRE, ASSIGNOR OF ONE-THIRD
TO ELMER TROMBLEY, OF CONCORD, NEW HAMPSHIRE, AND ONE-THIRD TO ARTHUR
LEFEVRE, OF SALISBURY, NEW HAMPSHIRE.

STONE AND STUMP REMOVING MACHINE.

935,132.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed September 4, 1908. Serial No. 451,694.

To all whom it may concern:

Be it known that I, ARCHELAS VILLENEUVE, subject of the King of Great Britain, and citizen of Canada, residing at Concord, in the county of Merrimack and State of New Hampshire, have invented certain new and useful Improvements in Stone and Stump Removing Machines, of which the following is a specification.

My invention relates to stone and stump removing machines, and particularly to a machine adapted to raise and move a stone or stump to one side at the same time, and to automatically release and drop the same at the limit of the sidewise movement.

In the accompanying drawings, which illustrate my invention, and form a part of this specification, and wherein like characters are used to designate like parts throughout the several figures, Figure 1 is a side elevation of my improved machine. Fig. 2 is a rear elevation thereof. Fig. 3 is a top plan view thereof. Fig. 4 is a longitudinal sectional view taken through the transverse tracks thereof. Fig. 5 is a plan view of the upper track detached. Fig. 6 is a transverse sectional view taken through the tracks on the line 6—6 of Fig. 4. Fig. 7 is a similar view, on an enlarged scale, taken through the upper track on the line 7—7 of Fig. 5. Fig. 8 is a fragmentary horizontal sectional view taken through the upper track, and the automatic locking block thereof. Fig. 9 is a fragmentary detail elevation of the supporting chair latch, and, Fig. 10 is a similar view of the locking block release lever.

In the practical embodiment of my invention, I provide a machine embodying front and rear wheeled trucks 1 and 2, supporting an elevated body 3, composed of spaced horizontal beams, by means of diagonal beams 4 and 5 respectively, extending upwardly therefrom and connected to said body 3. The rear truck 2 also supports a platform 6.

Mounted transversely of, and secured to, the body 3, respectively above and below the same, are the guide ways or tracks 7 and 8, the upper track 7 comprising a pair of spaced rails 9, secured by transverse upper strips 10, and provided at one end with a stationary block 11, having a series of transversely journaled pulleys 12. The rails 9 are also provided with central longitudinal slots 14 to receive projections extending from

sliding blocks 15 and 15', the former of which I term the movable pulley block, and the latter of which I term the locking and unlocking block. The movable pulley block 15 is provided with a series of pulleys 16 similar to the pulleys 12 of the stationary block 11, and connected therewith by a rope 17 trained over the same and provided with one end secured to said block 11 at 110, and its other end extending rearwardly of the device, about a pulley 18 journaled upon one of the transverse strips 10. The locking and unlocking block 15' is mounted to slide between the stationary and movable blocks 11 and 15, and toward the movable block 15 under actuation of a rope 19 secured at one end thereto and extending about the pulley 20 and rearwardly about a pulley 20' journaled upon one of the transverse strips 10 at the opposite end of track 7, to the stationary block 11.

The lower track 8 comprises side rails 21, and is provided with upper transversely journaled rollers 22 and 23 at the ends thereof, over which operating chains 24 and 25 pass, and are secured to the movable block 15, and the locking and unlocking block 15' respectively. The chain 25, connected at one end as just described, to the locking and unlocking block 15', is connected at its other end to a hook 26, swingingly mounted upon a bracket 28, provided with upper pairs of rollers 29 mounted to move upon longitudinal inwardly extending ledges 29' of the side rails of the lower track 8, upon the movement of said locking and unlocking block. The other chain 24, connected at one end to the movable block 15, and passing over roller 22, is projected through the rolling bracket 28, and over the roller 27 thereof, and is provided upon its free lower end with suitable grappling devices for engaging a stump or stone A, shown in Fig. 1, to raise the same.

In the position shown in Fig. 4, the stone or stump has been released after being raised and shifted to one side of its original position. Thus, it will be apparent that in order to raise another stone or stump and after the machine has been moved centrally thereover, the locking and unlocking block 15' is moved toward the movable block 15, by pulling upon rope 19 until the same becomes locked at a position adjacent said movable

block 14, when the roller mounted bracket 28 will be moved to a position approximately centrally of the lower bracket 8 and alined above the stump or stone to be moved. The
 5 grappling devices at the lower end of the chain 24, are then secured in their engagement with the stump or stone, after which the rope 17 is pulled, causing the block 15
 10 to move toward the locking and unlocking block 15', at the same time pulling the stone or stump upwardly and sliding bracket 28 toward the end of the lower bracket 8, provided with roller 22. In its movement, the
 15 movable block 15 contacts with and is locked into engagement with the locking and unlocking block 15', traveling with the same in the direction of the stationary block 11, until the said locking and unlocking block
 20 is in the position shown in Fig. 4, when it is automatically unlocked from said movable block 14, the rope 17 of which is released at the same time, to allow the weight of the
 25 stone or stump to draw the said movable block 15 rearwardly to the position shown in Fig. 4, in which position, the said stone or stump will rest upon the ground at a point removed from its original position.

The locking and unlocking block 15' comprises a hollow body arranged with its direction of greatest length extending transversely between the said rails 9 of the track 7, and provided at its ends with flanges 30
 30 extending into the longitudinal slots thereof, which slots have alined pairs of openings 31 and 32, extending therefrom and transversely through the said rails 9, respectively adjacent the stationary block 11, and adjacent the pulley 20 about which the locking
 35 and unlocking block actuating rope 19, passes. The hollow body of the block 15' is provided with openings leading through the end walls thereof, and with a single central opening 33 in its inner side wall. Mounted
 40 within the end wall opening, to be projected against the inner surfaces of the longitudinal slots of rails 9, are a pair of longitudinal movable locking members 34, terminating at their inner ends, adjacent the inner end of the side body opening 33, and pressed longitudinally outwardly by means of bell
 45 crank levers 35, mounted within the body of block 15' and engaging portions of said members 34, said bell crank levers being actuated by coil springs 36. Thus, the outer
 50 ends of the locking members 34 are pressed outwardly into engagement with the inner surface of the longitudinal slots of rails 9, and by the same means, will be projected within the alined pairs of slots 31 and 32
 55 when the same is moved into alinement therewith.

The movable block 15 is provided with a projecting stem 37, extending within and between the said rails 9, and toward the locking and unlocking block 15', and provided

with an enlarged head 38, adapted to be projected within the body side opening 33, and to pass between the inner ends of the locking members 34, when the same are projected outwardly within either of the alined
 70 pairs of rail openings 31 and 32. Thus, when the block 15' is in the position shown in Fig. 4, and it is desired to move the same toward the movable block 15, in order to project the roller bracket 28 centrally of its
 75 track 8, it is necessary to first release the locking members 34 from their engagement within the alined openings 31 with which they would be engaged in such position. For this purpose, I provide vertical rods 39
 80 and 40 journaled through brackets 41, upon the outer set of rails 9 adjacent the openings 31, and provided with upper and lower horizontal extensions 42 and 43, which lower extensions 43 are provided with angular ends
 85 44, projecting within said openings 31, to abut the ends of the locking members 34 of block 15', when the same are projected therein, whereby the said locking members 34 may be forced inwardly within block 15',
 90 when said rods 39 and 40 are rotated in their journals.

A rope 45, having its end secured to the apertured end of the upper horizontal extension of rod 40 and extending about a roller
 95 46 journaled at the end of the upper horizontal extension of rod 39, is trained over rollers 47 and 48, journaled upon one of the side rails 9, and serves to swing said upper horizontal extensions 42 inwardly toward
 100 one another, thus rotating the rods 39 and 40 to release the block 15', as just described. In its movement, toward the movable block 15, the locking and unlocking block 15', will of course, become locked in alinement with
 105 the pair of openings 32, by engagement of its spring actuated members 34 therein. Thus, upon the movement of the movable block 15 toward said block 15', its headed stem 37 is permitted to pass within the body
 110 side opening 33, between the inner ends of the locking members 34, until its head 38 presses against the ends of the bell crank levers 35, in opposition to the actuating springs 36 thereof, whereby the said levers
 115 will be rocked upon their pivots to draw the locking members 34 inwardly from the openings 32 and the said block 15' will then be free to move with said block 15, until said block 15' reaches the openings 31, and the
 120 block 15 will be released therefrom, as before described.

The rope 45 operating the releasing members 39 and 40 of block 15', extends downwardly upon the diagonal frame beams 5,
 125 and beneath a roller 49, journaled upon one of said beams, and is connected at its end to the apertured end of a rocking foot lever 50, mounted upon the platform 6, and shown particularly in Fig. 10. Pressure upon said
 130

foot lever 50 thus releases block 15 from its position shown in Figs. 4, 5 and 7. The actuating rope 17 of blocks 15 and 15' respectively, extends downwardly between the diagonal frame beams 5, and are connected to an anchor plate 51 and a frame 52 respectively, said frame 52 being operated by a handle 53, to draw block 15' along track 7 as shown in Figs. 2 and 3. Rotatably mounted upon and extending upwardly from the platform 6 is a derrick pole 54, provided with a boom 55 swingingly connected thereto at its inner end, and having a block and tackle connection 56 at the upper end thereof, with the outer end of said boom 55 to raise and lower the same, which block and tackle arrangement has its actuating rope 57 extending downwardly beneath a roller 58 journaled upon one of the diagonal frame beams 5 and adapted to be secured to an anchor plate 59. The pulley or upright 54 may be rotated, and the boom 55 thereby swung in either direction by ropes 60 connected at their outer ends adjacent the outer end of said boom, which ropes pass through hoops 61, extending upwardly from the upper track 7 adjacent each end thereof, and are adapted to be secured at their other ends to anchor plates 62. The boom 55 carries upon its outer end, a supporting frame 63, adapted to be lowered to rest upon the ground at an angular position with relation to the body of the machine, as shown in Fig. 3. The boom 55 and the pulley or upright 54 are provided with rollers 64 and 65 respectively from which a chain 66 extends, and is adapted to be secured at its free end beyond the boom roller 64, to a hook 67, carried by the end of the lower track 8 to which the stone or stump A travels before it is released, thus preventing the overturning of the machine. The opposite end of chain 66 beyond the pulley rollers 65, is secured to a ratchet lever 68, shown in Fig. 9, which ratchet lever is pivotally mounted upon the pulley or upright 54, and is controlled by a relatively engaging pawl 69 to maintain the said chain 66, taut.

From the foregoing description, the operation of my improved machine, it is thought, is to be perfectly understood, although it will be well to state that the side support for the same is provided in the form of a derrick in order that such support may be raised and swung upon and above the main frame when the machine is being transported from place to place.

Having fully described my invention, I claim:

1. In a stone and stump remover, the combination of a wheeled frame, a track mounted transversely of and extending beyond said frame, blocks mounted to slide upon said frame, said blocks being provided with means for temporarily locking each to the

other, means for sliding said blocks toward each other, and means for drawing said blocks when temporarily locked together to one end of said track, substantially as described.

2. In a stone and stump remover of the character described, the combination of a wheeled frame, a track mounted transversely of and extending beyond said frame, blocks mounted to slide upon said frame, said blocks being provided with means for temporarily locking each to the other, one of said blocks being provided with means for temporarily locking itself to said track, said means for locking said blocks together being releasable when one of said blocks is temporarily locked to said track, substantially as described.

3. In a stone and stump remover, the combination of a wheeled frame, superposed tracks mounted transversely of and extending beyond said frame, blocks mounted to slide upon the upper of said superposed tracks, a wheel bracket mounted to run upon the lower of said superposed tracks, means for sliding said blocks toward each other, means for temporarily locking said blocks together, means for drawing said blocks to one end of said track, means attached to said blocks and associated with said wheel bracket adapted to operate the same, substantially as and for the purpose described.

4. In a stone and stump remover, the combination of a wheeled frame, superposed tracks mounted transversely of and extending beyond said frame, blocks mounted to slide upon the upper of said superposed tracks, a wheel bracket mounted to run upon the lower of said superposed tracks, means for sliding said blocks toward each other, means for temporarily locking said blocks together, means for drawing said blocks toward one end of said track, means for temporarily locking one of said blocks to said upper track, and adapted to cooperate with said means for temporarily locking said blocks together, means attached to said blocks and associated with said wheel bracket and adapted to operate the same, substantially as, and for the purpose described.

5. In a stone and stump remover, the combination of a wheeled frame, superposed tracks mounted transversely of and extending beyond said frame, blocks mounted to slide upon the upper of said superposed tracks, means for sliding said blocks toward each other, means for temporarily locking said blocks together, means for drawing said blocks toward one end of said track, means for temporarily locking one of said blocks to said upper track, and adapted to cooperate with said means for temporarily locking said blocks together, means for unlocking said block from said upper track, means attached to said blocks and associated with said wheel

bracket and adapted to operate the same, substantially as and for the purpose described.

6. In a stone and stump remover, the combination of a wheeled frame, superposed tracks mounted transversely of and extending beyond said frame, blocks mounted to slide upon the upper of said superposed tracks, a wheel bracket mounted to run upon the lower of said superposed tracks, means for sliding said blocks toward each other, means for temporarily locking said blocks together, means for drawing said blocks to one end of said track, means attached to said

blocks and associated with said wheel bracket and adapted to operate the same, a derrick pole rotatably mounted upon said frame, a boom pivotally connected to said derrick pole and provided with a supporting member, and means for operating the same, substantially as and for the purpose described.

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

ARCHELAS VILLENEUVE.

Witnesses:

HARRY F. LAKE,
MARY A. BAUGHTON.