

997,613.

Patented July 11, 1911.

3 SHEETS-SHEET 1.

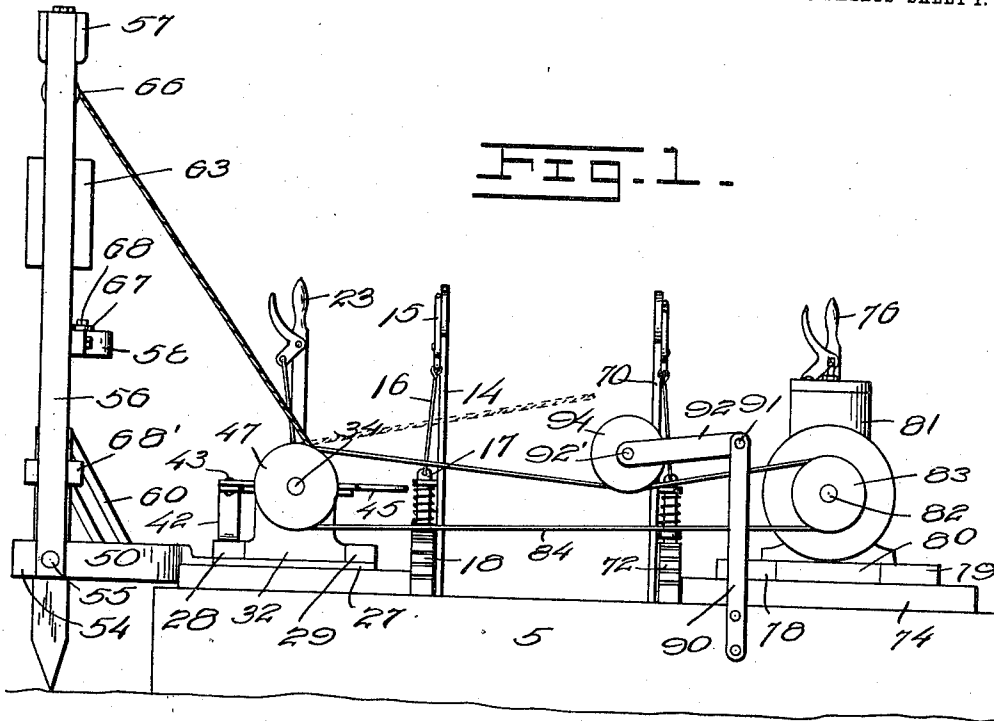
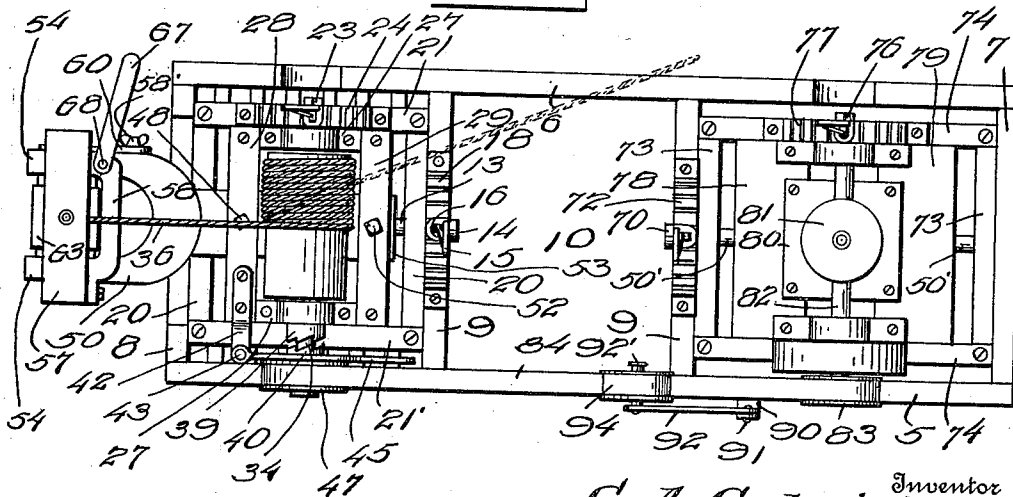


Fig. 2.



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POST DRIVING MACHINE.
APPLICATION FILED NOV. 8, 1908.

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3 SHEETS-SHEET 2.

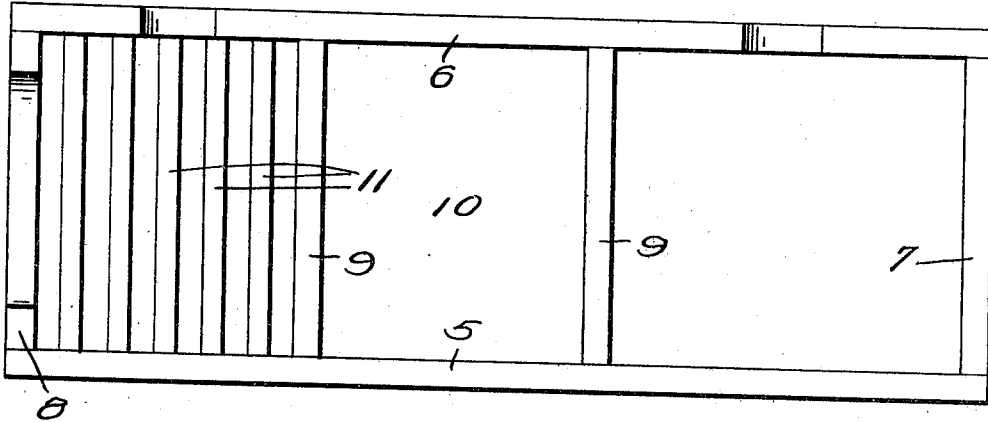


Fig. 3.

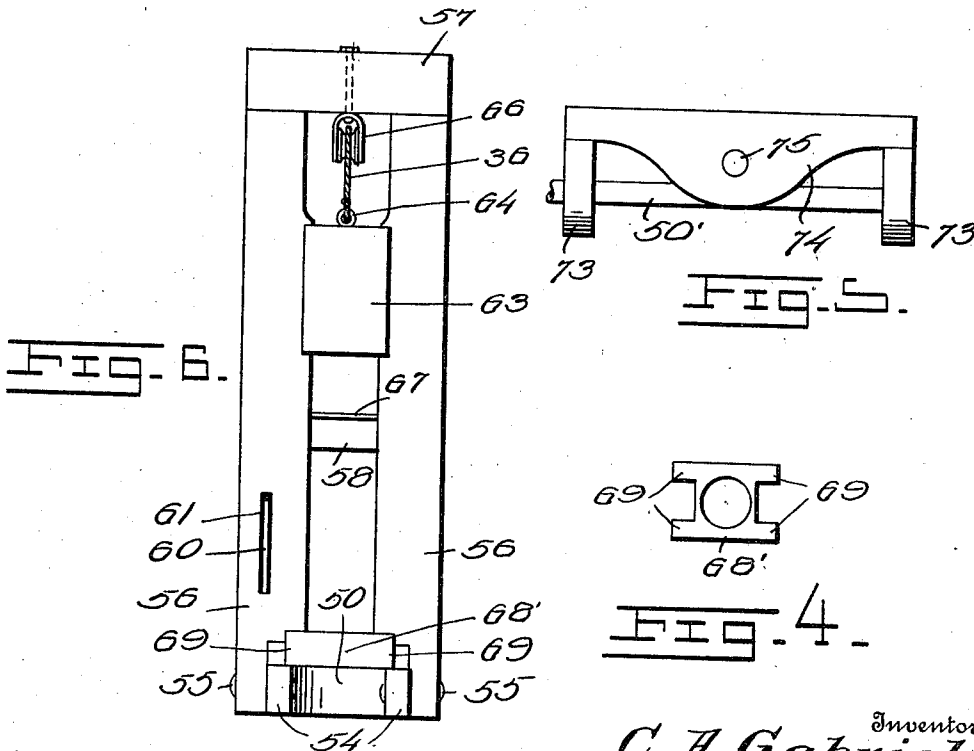


Fig. 6.

Fig. 5.

Fig. 4.

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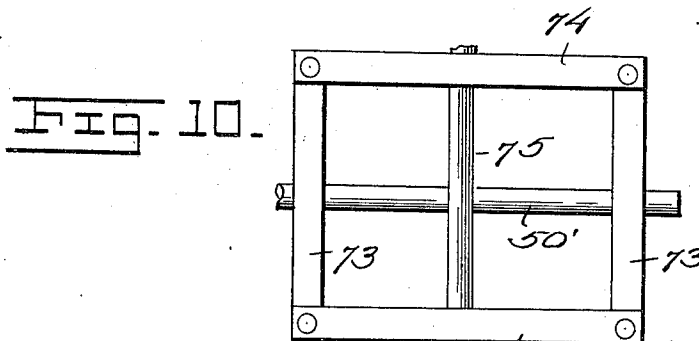
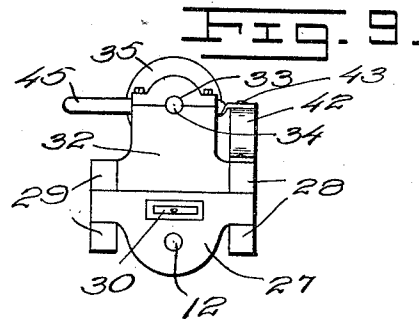
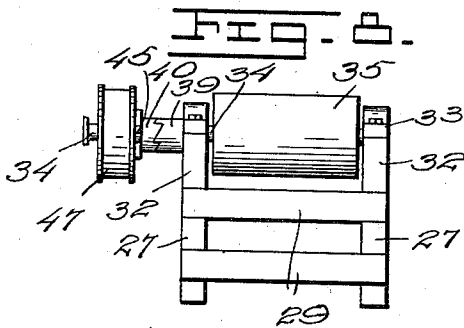
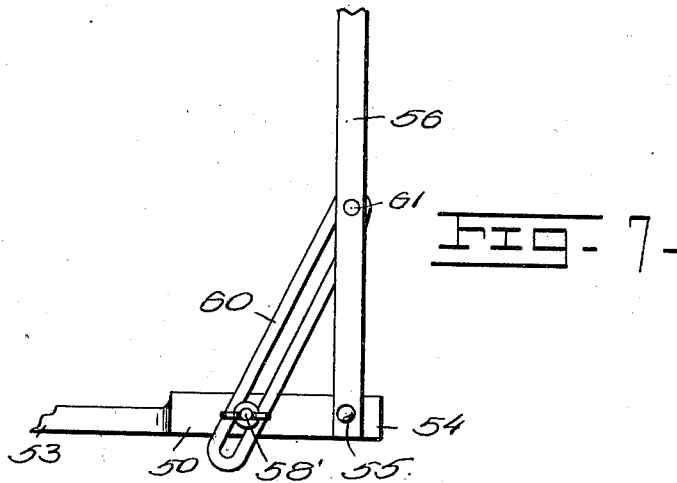
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3 SHEETS-SHEET 3.



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UNITED STATES PATENT OFFICE.

CARL ALBERT GABRIEL, OF UNDERWOOD, MINNESOTA.

POST-DRIVING MACHINE.

997,613.

Specification of Letters Patent.

Patented July 11, 1911.

Application filed November 8, 1909. Serial No. 526,912.

To all whom it may concern:

Be it known that I, CARL ALBERT GABRIEL, a citizen of the United States, residing at Underwood, in the county of Ottertail and State of Minnesota, have invented certain new and useful Improvements in Post-Driving Machines, of which the following is a specification.

This invention has relation to certain new and useful improvements in post driving machines.

My invention has for its primary object the provision of an improved machine which will operate in an efficient manner in driving posts upon level or uneven surfaces.

Another object of the invention is the construction of a light, portable post driving machine including a driving engine carried upon a platform and a post driving mechanism also carried upon an adjustably held platform which platforms are synchronously actuated for moving said engine and post driving mechanism into vertical position.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described and particularly pointed out in the appended claims, it being understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a part of this specification, and in which the numerals of reference indicate similar parts in the several views, Figure 1 shows a side elevational view of a post driving machine embodying my invention. Fig. 2 is a top view. Fig. 3 is an enlarged detail of the main carrying frame. Fig. 4 is a detail of the post carrying yoke. Fig. 5 shows a detached detail of one of the outer tilting frames. Fig. 6 shows a detail of the guide frame. Fig. 7 discloses the adjusting means for holding the guide frame. Fig. 8 shows a side view of the drum carrying frame. Fig. 9 shows a front view of the drum carrying frame. Fig. 10 shows an enlarged detached detail of the pivoted engine supporting frame.

In operating a machine for driving fence posts, as the earth's surface is likely to be at an angle to the perpendicular, as in driv-

ing posts upon a hillside, an adjusting means must be provided which will insure the posts being driven in a vertical position.

In the accompanying drawings, the numeral 5 indicates one of the sills and 6 the opposite sill of the main carrying frame as used in my invention, these sills being connected by means of the end members 7 and 8, and the transverse braces 9. Positioned between the braces 9 is a flooring 10 arranged to receive the operator. Extending transversely across the forward end of the frame are the cross bars 11. Held within the forward frame member 8, and the transverse member 9, is the rock shaft 13, to which is secured the operating lever 14 having the stub lever 15 to which extends the rod 16, connected to the latch 17, arranged to work in connection with the rack segment 18, so that the rock shaft 13 may be locked in any desired position. Fixed to the shaft 13 are the similar frame members 20, while these members are connected by means of the side bars 21 and 21'. Pivottally held within the side bars 21 and 21', is the transverse rock shaft 12 provided with an operating lever 23 constructed similar to the lever 14 above described, and which is arranged for coaction with the rack segment 24. By means of the lever 14, the outer frame comprising the members 20 and 21 may be tilted laterally.

Firmly held to the transverse rock shaft 12, is an inner frame comprising the side members 27, the two forward frame members 28 and the two rear frame members 29 as disclosed in Figs. 8 and 9. One of the frame members 27, has a portion removed to receive the spirit level 30, while spanning from the upper frame bar 28 to the frame bar 29, is the bearing bracket 32 carrying the bearing 33 arranged to revolvably receive the drum shaft 34. This shaft carries the drum 35 to which is secured the operating cable 36. This drum shaft 34 is provided with the clutch collar 39 arranged for coaction with the slidably held clutch collar 40, also carried upon this shaft. Secured to the upper frame member 28, is the bracket 42 having the pivot pin 43, which carries the shifting lever 45 revolvably secured to the slidably held clutch collar 40. Secured to and forming a part of the clutch collar 40 is the drive pulley 47, which loosely turns

upon the shaft 34. By means of the shifting lever 45 the drum 35 can be brought into connection with the drive pulley 47.

Held within the forward frame bars 28, is the bolt 48, which pivotally supports a forked yoke 50, while threading into the upper frame member 29 is the set bolt 52. The set bolt 52 is arranged to come into engagement with the end 53 of the yoke 50, so that this yoke which is pivotally held may be adjustably secured to its carrying frame. Extending from the yoke 50 are the two oppositely positioned arms 54 held in parallel and carrying the bolts 55, which pivotally support the guide frame bars 56 connected near the upper end by means of the cross bar 57 and intermediately by means of the bar 58. This yoke 50 upon one side carries the set bolt 58', upon which set bolt 58' is slidably held the slotted bar 60, which has its upper end pivotally secured by means of the bolt 61 to one of the guide frame bars 56. By means of the slotted bar 60 the guide frame may be held at any desired angle relative to the yoke forming its base.

Held between the guide frame bars 56, is the grooved hammer 63 having the eye 64 to which the cable 36 is secured. This hammer is vertically reciprocated between the guide frame bars, the cable 36 at its upper end passing over the sheave 66. The intermediate connecting member 58 is provided with the pivot bolt 68 supporting the lever 67 which may be brought below the hammer 63 when this hammer is held in an inoperative condition.

Slidably held within the side frame bars 56 is a collar 68' having the slotted ears 69, this collar being of a size to receive the posts to be driven. In Fig. 1 a post *a* is shown in position ready to be driven.

For convenience in leveling the outer frame carrying the drum, the member 20 near the inner end of the carrying frame is provided with the lever 14.

From the foregoing it will be seen that I provide a hammer guiding frame which is pivotally and adjustably secured to a yoke, that this yoke is pivotally and adjustably secured to a pivotally held drum carrying frame, and that this frame is again in turn pivotally secured to the main carrying frame.

Held within the main frame members 7 and 9 is the rock shaft 50' having the lever 70 arranged for coaction with the rack segment 72, this shaft being fixed to the end frame members 73 which in turn give support to the side frame members 74. Held within the frame members 74 is the rock shaft 75 having the operating lever 76 arranged for coaction with the rack segment 77. The shaft 75 carries a platform frame comprising the members 78 and 79 giving support to the platform 80 which carries

the driving engine 81 of any approved pattern. To the driving shaft 82 of the engine is secured the driving pulley 83 and passing over the pulleys 83 and 47, is the driving belt or chain 84. Secured to the main frame member 5, is the bar 90 carrying the pin 91 which in turn carries the bar 92, from which extends the arbor 92', carrying the tension pulley 94, which insures the belt 84 being held in positive working contact with the supporting pulleys.

Whenever the levers 14 and 23 are adjusted in bringing the guide frame in vertical position, the levers 70 and 76 are synchronously operated to bring the engine platform on a level with the drum platform. By means of these levers the platforms and their connecting frames may be adjusted in a horizontal plane.

The main carrying frame is of a size so that the same may be conveniently carried by an ordinary vehicle and when not in use, the slotted bar 60 is released at its lower end so that the guide frame may be folded back upon the drum.

The operation of my device is very simple. The post to be driven is placed within the collar 68'. The engine is then started to rotate the clutch pulley 47. The operator then, by means of the shifting lever brings this pulley into engagement with the drum 35 to wind up the cable 36 and raise the hammer, the proper height being attained, the pulley 47 is forced out of engagement with the drum permitting the hammer to drop upon the fence post. This dropping movement of the hammer is continued until the post has been driven the required depth. The device is readily operated and the platform adjustment can be speedily made.

If desired, the operating strand 36, may be wound about the drum one or more times, the end of the strand being held by an operator, so that as the rope or strand is drawn taut, the same is operated by the drum. On releasing the strand, from engagement with the drum, the weight 63, will drop.

Having thus described my said invention what is claimed is:

1. In a post driving machine the combination with a main oblong carrying frame including longitudinal members connected near their ends by transverse members and having transversely arranged cross bars between the center and the ends of said longitudinal members and connected thereto, a rock shaft rotatably held within the forward transverse frame member and one of the transversely arranged bars, an operating lever carrying a stub lever, said operating lever being secured to the said rock shaft and said stub lever being connected to a latch, a rack segment, said stub ar-

ranged to work in connection with said rack
 segment so that the rock shaft may be
 locked in various positions, transverse
 frame members connected by means of side
 5 bars, said transverse frame members being
 mounted upon the said rock shaft, a trans-
 verse rock shaft pivotally held within the
 said side bars, an operating lever carried
 by said transverse shaft, said last named le-
 10 ver carrying a lock arranged for co-action
 with a rack segment carried by one of said
 side bars, an inner frame secured to said
 transverse rock shaft, said frame compris-
 ing side members and front and rear mem-
 15 bers, bearing brackets mounted upon said
 last named frame and arranged to revolu-
 bly receive a drum shaft, a drum shaft rev-
 olubly carried by said frame, a drum
 mounted upon said shaft, an operating cab-
 20 ble secured to said drum, a hammer con-
 nected to said operating cable, a guide
 frame for said hammer, said guide frame
 being connected to the last mentioned for-
 ward and rear frame members, an engine
 25 mounted upon the said main frame, con-
 nections between said engine and said drum,
 means for disconnecting said drum and said
 engine.

30 2. In a post driving machine the combi-
 nation of a main frame and an auxiliary
 frame pivotally secured to two of the trans-
 verse bars of said main frame for trans-

verse rocking movements therein, means for
 locking said auxiliary frame in horizontal
 position, a second auxiliary frame mount- 35
 ed within the first auxiliary, said second
 auxiliary frame being pivotally secured to
 the longitudinal bars of the first auxiliary
 frame for longitudinal rocking movements
 therein, means for locking said second aux- 40
 iliary frame in horizontal position, an en-
 gine secured to said second auxiliary frame,
 a drum connected to said main frame, a se-
 ries of auxiliary frames connected to said
 main frame and to one another for transverse 45
 and longitudinal movement in respect to said
 main frame, said drum being mounted upon
 said series of auxiliary frames, a post driving
 hammer within a guide frame, said guide
 frame being pivotally connected with the 50
 said main frame, adjusting means upon said
 guide frame, means for locking said ham-
 mer in an inoperative position, connections
 between said engine and said drum, means
 for disconnecting said drum from said en- 55
 gine, a cable connection between said drum
 and said hammer.

In testimony whereof I affix my signa-
 ture, in presence of two witnesses.

CARL ALBERT GABRIEL.

Witnesses:

ARTHUR RAY SUCOY,
 BURT M. HALSTEAD.