H. C. UPCHURCH & T. H. HOUSTON.

POST DRIVER.

APPLICATION FILED SEPT. 27, 1916.

1,230,632.

Patented June 19, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

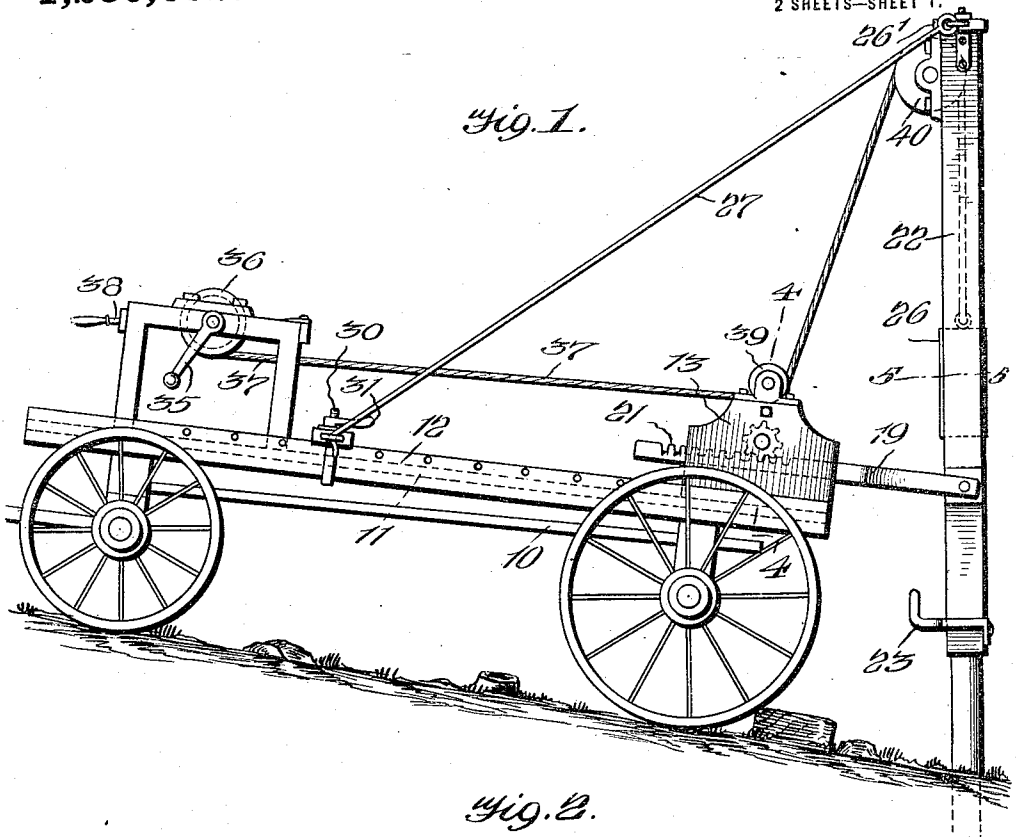
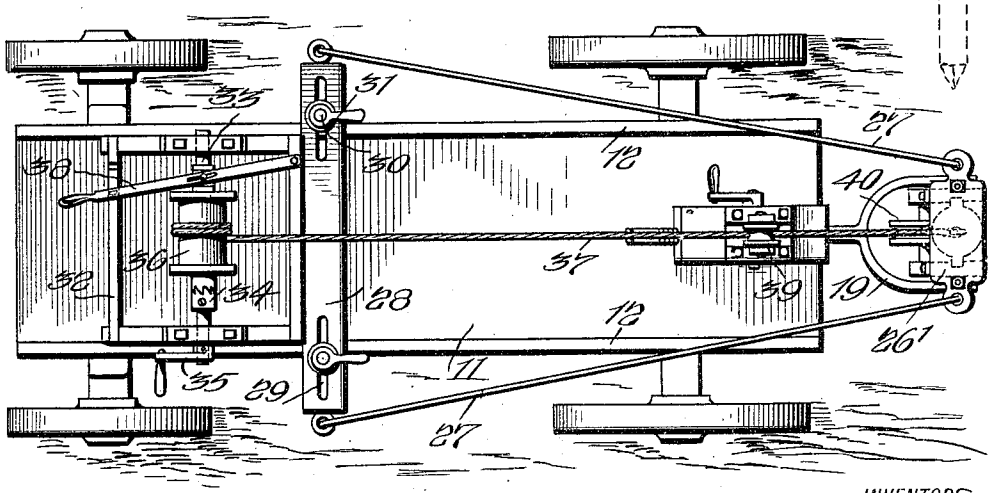


Fig. 2.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3

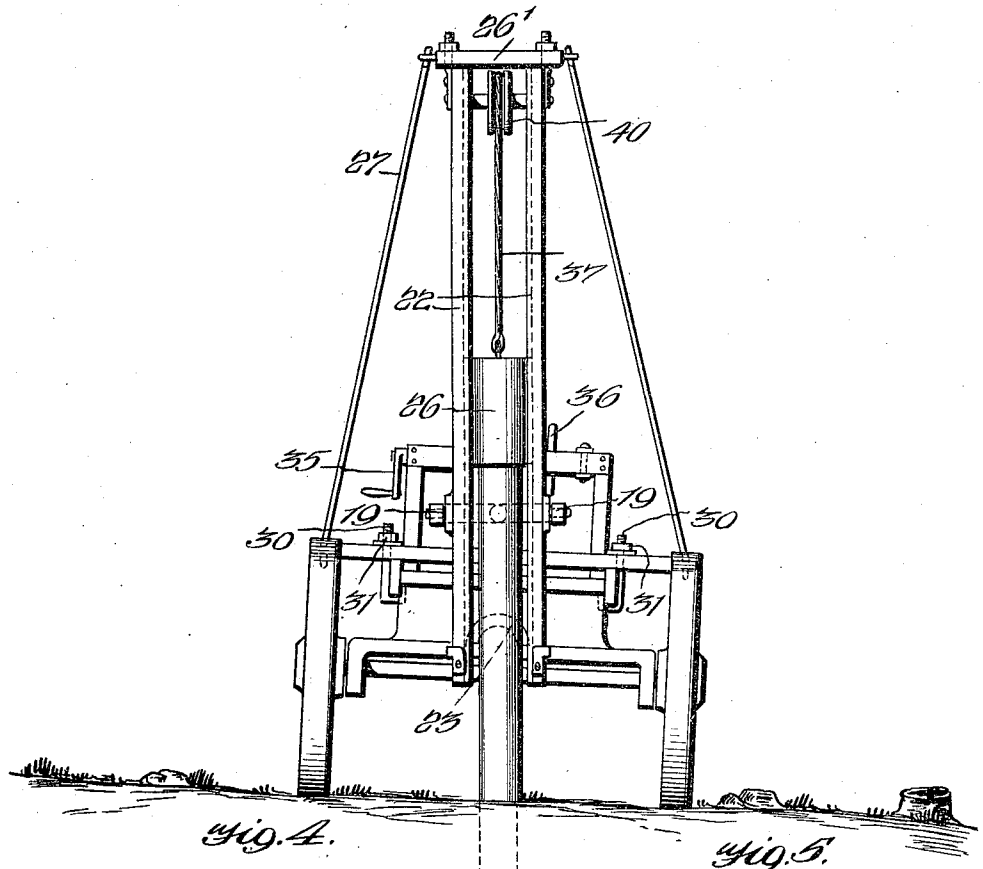


Fig. 4.

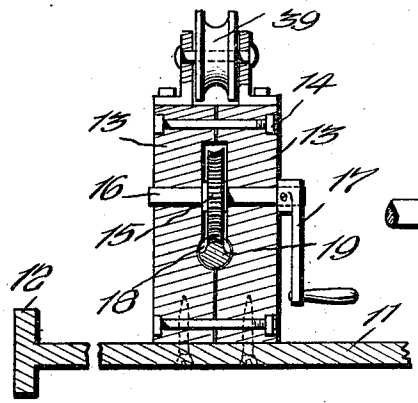
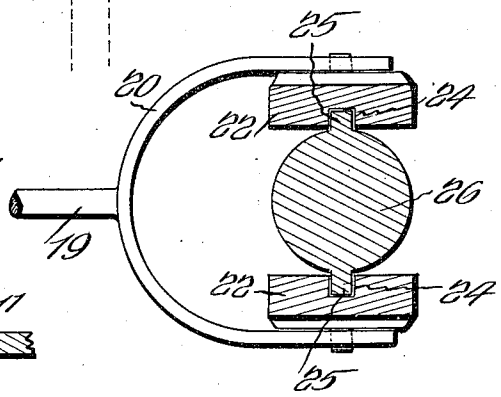


Fig. 5.



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UNITED STATES PATENT OFFICE.

HORACE C. UPCHURCH, OF STEELVILLE, AND THOMAS H. HOUSTON, OF SALEM, MISSOURI.

POST-DRIVER.

1,230,632. Specification of Letters Patent. **Patented June 19, 1917.**

Application filed September 27, 1916. Serial No. 122,493.

To all whom it may concern:

Be it known that we, HORACE C. UPCHURCH and THOMAS H. HOUSTON, citizens of the United States, and residents of Steelville, in the county of Crawford and State of Missouri, and Salem, in the county of Dent and State of Missouri, respectively, have invented a certain new and useful Improvement in Post-Drivers, of which the following is a specification.

This invention is an improvement in pile drivers and has particular reference to an apparatus for erecting fence posts.

An object of the invention is to facilitate the erection of the posts in a vertical position when a fence is being constructed on a hill-side or other uneven ground, and to this end, there is provided a portable platform bearing standards, which are adjustable relative thereto in a novel manner so that when such platform is in other than a horizontal position said standards may be adjusted to a vertical position whereby a post may be properly anchored.

Another object is the provision of an apparatus of this character, which is simple in construction, easy to manufacture, and effective in carrying out the purpose for which it is designed.

The inventive idea involved is capable of receiving a variety of mechanical expressions, one of which for the purpose of illustrating the invention is shown in the accompanying drawings, wherein;—

Figure 1 is a side elevation of the apparatus constructed in accordance with the invention;

Fig. 2 is a top plan view thereof;

Fig. 3 is an end elevation;

Fig. 4 is a section on the line 4—4 of Fig. 1; and

Fig. 5 is a section on the line 5—5 of Fig. 1.

There is illustrated in the accompanying drawings, what is now believed to be a preferred form of the invention, consisting of a wheeled frame 10 having mounted thereon a platform 11 having the sides 12, extending both above and below the same. At one end of the platform 11 the same has mounted thereon, a pair of oppositely disposed bearing blocks 13 having complemental recesses 14 formed therein to provide a space for the reception of a gear wheel 15, mounted upon a shaft 16, extending transversely through said bearing blocks and provided at one end with an operating handle 17. The lower ends of the recesses 14 are enlarged and concaved to form an opening 18 for the reception of the shank 19 of the standard supporting yoke member 20. This yoke member is capable of both longitudinal and axial movement relative to the platform 11, and for this purpose the shank is made circular in cross section and provided upon its upper surface with the rack teeth 21 which engage the gear wheel 15, so that when the handle 17 is operated said yoke member 20 will be moved back and forth.

In the ends of the yoke member 20 there is pivoted a standard 22 intermediate the ends thereof, said standards being connected at their lower ends by means of the bracket 23 and having on their inner or oppositely disposed faces the longitudinal groove 24 for receiving therein the diametrically disposed flanges 25 of the weight 26, which is moved longitudinally of said standard for the purpose of driving the posts or piles. The upper ends of the standards 22 are also connected by a cross piece 26′ and to each end of said cross piece, there is connected one end of a supporting rod 27, the other end of which is connected to one end of a transverse adjustable element 28 supported upon the top of the sides 12 of the platform 11. Adjacent each end of the element 28 the same is provided with a longitudinal slot 29 through which passes a J-bolt 30, the lower end of which is adapted to engage the bottom edge of the adjacent side 12, while the upper end thereof is screw-threaded and provided with a fastening nut 31, so that the transverse element may be securely fastened in an adjusted position. It will thus be seen that this element 28 is adjustable longitudinally of the platform 11 or may be swung to a diagonal position relative to the longitudinal axis of said platform, and it will therefore be apparent that

should the platform, when driving a post, be in the position, as shown in Fig. 1, this element 28 may be adjusted longitudinally of the platform in order to swing the upper ends of the standards 22 so that the same may assume a vertical position. It will also be understood that this adjustment, just described, may be accomplished by adjusting the yoke member 20 longitudinally, as previously described, in order that the standards may be made to assume a vertical position. Now should the platform be in a position as shown in Fig. 3, where one longitudinal edge will be lower than the other, it will be desirable to still maintain the yoke member 20 in a horizontal plane, and for this purpose, the element 28 may be adjusted to a diagonal position relative to the longitudinal axis of the platform 11 so that a pull, and push will be exerted upon the rods 27 in order to cause the standards and consequently the yoke member 20 to rotate about the shank 19 thereof, as an axis, and in this manner the standards 22 may be made to assume a vertical position.

Means for operating the weight 26 are provided in connection with the invention and include a frame 32, mounted upon the end of the platform 11 opposite the bearing blocks 13, and journaled in the frame there is a shaft 33, having a clutch 34 and operating crank 35. A drum 36 is carried by this shaft and has wound thereon the flexible element 37 in the form of a rope. A clutch lever 38 is pivoted to the frame 32 and also has a connection with a part of the drum so that the clutch 34 may be operated to connect and disconnect from the driving part of the said shaft. The flexible element 37 passes beneath a pulley 39, mounted upon the top of the bearing blocks 13 from whence said element 37 passes over a large pulley 40, journaled between the standards 22 and adjacent the top thereof. The extremity of the flexible element 37 is secured to the weight 26 so that when the handle 35 is rotated in one direction said weight will be lifted, and when the clutch 34 is thrown out, the weight will descend with sufficient force upon the upper end of the post to drive the same into the ground.

What is claimed is:—

1. In an apparatus of the class described, the combination of a platform, an element carried thereby and having longitudinal and axial adjustment relative thereto, standards pivotally connected to said element and adjustable therewith, means adjustable longitudinally of said platform and connected to said standards for also adjusting the same whereby to secure a vertical position thereof, and means for operating the weight between said standards for driving a post.

2. In an apparatus of the class described, the combination of a platform, an element carried thereby and having longitudinal and axial adjustment relative thereto, standards pivotally connected to said element and adjustable therewith, means adjustable longitudinally of and in a diagonal position relative to said platform and connected to said standards for also adjusting the same whereby to secure a vertical position thereof, and means for operating a weight between said standards for driving a post.

3. In an apparatus of the class described, the combination of a platform, a yoke member carried thereby and having longitudinal and axial movement relative thereto, standards pivoted between the extremities of said yoke member and adjustable therewith, means adjustable relative to said platform and connected to said standards for also adjusting the same whereby to secure a vertical position thereof, and means for operating the weight between said standards for driving a post.

4. In an apparatus of the class described, the combination of a platform, bearing blocks supported at one end thereof, a yoke member having a shank mounted between said bearing blocks and provided with rack teeth, a gear also mounted between said blocks and engaging said rack teeth for adjusting said yoke member longitudinally of said platform, standards pivotally connected to said yoke member and adjustable therewith, means adjustable relative to the platform and connected to said standards for also adjusting the same whereby to secure a vertical position thereof, and means for operating a weight between said standards for driving a post.

5. In an apparatus of the class described, the combination of a platform, bearing blocks supported at one end thereof, a yoke member having a shank mounted between said bearing blocks and provided with rack teeth, a gear also mounted between said blocks and engaging said rack teeth for adjusting said yoke member longitudinally of said platform, standards pivotally connected to said yoke member and adjustable therewith, a transverse member adjustably mounted upon said platform and provided with longitudinal slots in each end thereof, bolts extending through said slots and engaging said platform for securing the transverse member in its adjusted position, connections between said transverse member and said standards for adjusting the latter when said transverse member is adjusted, and means for operating a weight between said standards for driving a post.

6. In an apparatus of the class described, the combination of a platform, a yoke mem-

ber mounted on the platform and having longitudinal and axial adjustment relatively thereto, standards pivotally mounted on the yoke and adjustable therewith, means connected with the standards and adjustable relatively to the platform for adjusting the standards relatively to the yoke, and means for operating a weight between the standards for driving a post.

HORACE C. UPCHURCH.
THOMAS H. HOUSTON.

In the presence of—
E. D. COOPER,
ARKLESS HUMPHREY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."