

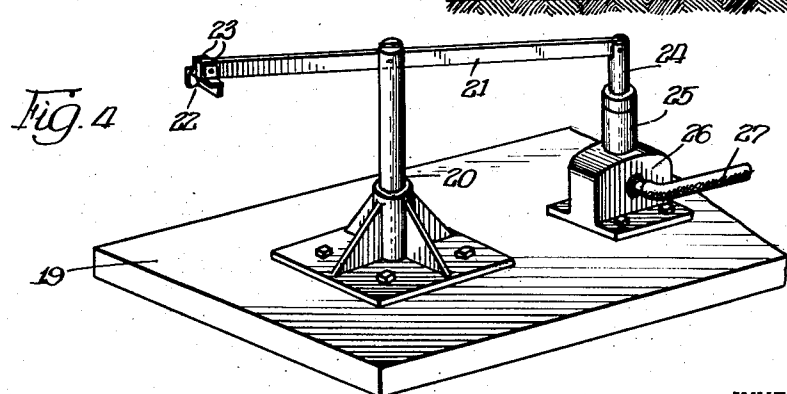
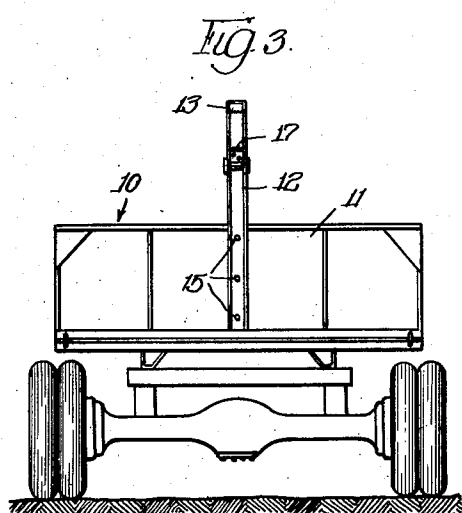
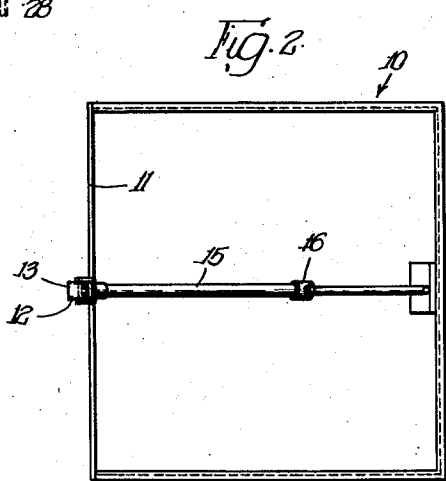
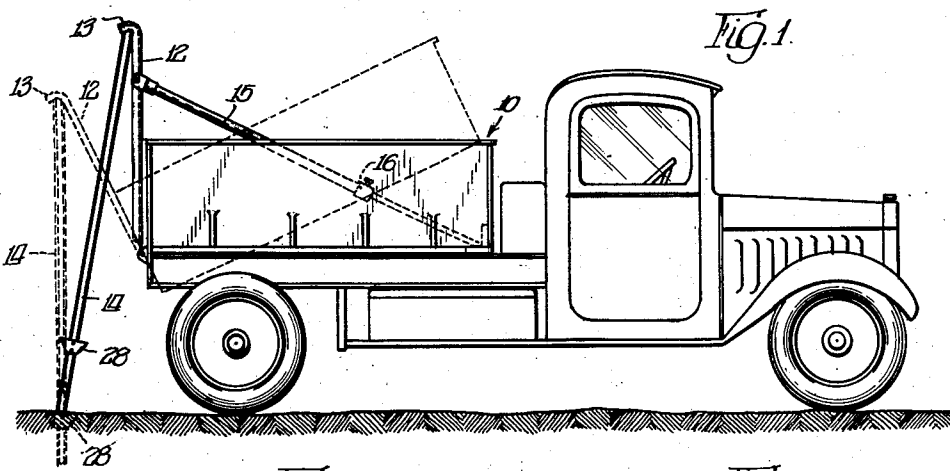
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POST SETTING APPARATUS

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POST SETTING APPARATUS

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My invention relates more particularly to power actuated means for setting or forcing metal posts into the ground to the desired depth, namely the usual metal posts employed for fencing as for example the posts employed for snow fences which are yearly erected at preselected localities to prevent excess drifts on adjacent highways; although my improved apparatus is equally adaptable for setting metal posts for any desired fencing or other purpose.

Fence posts of the character mentioned have heretofore been manually driven by the use of a sledge, requiring one man to position and hold the post in a perpendicular position and one or more men, in an elevated position, to successively apply the sledge hammer blows on the upper end of the post; an operation requiring considerable time and involving more or less of a hazard especially in so far as the post holder is concerned. These posts, usually of channel or angular cross-section, are generally provided with triangular or wedge-shaped wings or anchors at a distance removed from the lower end and therefore require considerable pressure to force the posts with the anchors into the ground, especially during dry weather, thus necessitating applying a considerable number of heavy blows on the upper end in order to force the post to the required depth of approximately two feet or more. As a result of the repeated hard blows, the upper ends of the metal posts are upset or become badly battered and the metal fractured, frequently causing metal particles to be broken off and more or less violently thrown into the face and eyes, especially of the man holding and steadying the post during the driving operation and whose attention is especially directed toward the upper end of the post to see that the swinging sledge hammer does not miss the post and strike his hand or arm.

My invention is desired to eliminate the dangers mentioned and to prevent the upsetting or fracturing of the post and hence advancing its useful life, while at the same time greatly decreasing the length of time heretofore required and enabling more uniformity in the correct positioning and depth of the posts.

More specifically stated, my invention involves post-top engaging or overlapping means adapted to have continuous gradual downward movement produced by tiltable leverage providing means operatively associated therewith and which may be actuated by suitable power operated mechanism, as for example a pneumatically or hydraulically driven piston.

The objects and advantages of my invention

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will be fully comprehended from the following detailed description of the accompanying drawing wherein:

Figure 1 is a side elevation of a dump truck provided with my post setting mechanism and a post positioned to be set; the truck body and mechanism in post setting position and the set post being shown in dotted lines.

Figure 2 is a top plan view of the truck body and applied mechanism; the forward part of the truck chassis being omitted.

Figure 3 is a rear end elevation.

Figure 4 is a perspective view of a modification of the post driving mechanism.

My invention contemplates means whereby continuous downward pressure on a metallic fence post, of angle or channel shape cross-section, may be exerted by power actuated mechanism possessing the required rigidity and strength and capable of tilting vertically about a fulcrum point in proximity to the point of post setting.

As my improved post setting means is especially adapted for use in the setting of posts of snow fences, which are yearly erected at preselected localities by State highway commissioners, I have adapted my invention to the well known type of dump truck employed and as generally shown in Figure 1 in which the body 10 may be tilted upwardly as shown in dotted lines, through the medium of hydraulically operated mechanism incorporated in dump truck construction.

In the exemplification, the tail-gate 11, preferably on its outer side, is provided with a post engaging member 12, which is shown in nature of a channel iron whose upper end is bent over outwardly into a hook-like fence post engaging head portion 13. The channel iron is of predetermined length to provide ample attachment, namely throughout the vertical width of the tail-gate, and to extend a sufficient distance above the tail-gate where the overhanging cupped or bowed head portion 13 will be positioned to engage the upper end of the fence post, shown at 14, in Figure 1, before being set.

The presser device preferably consists of a five inch width channel having flanges of approximately an inch and a half in width, with the upper end bent over toward the channel side and slightly downwardly to form a post-end receiving pocket or socket whereby the post-end is prevented from slipping out of position. The base portion of the channel preferably is removably secured to the tail-gate of the truck by a sufficient number of bolts as shown at 15, see Figure 3, so as to extend vertically; the presser element

being made to extend a sufficient distance above the truck tail-gate to receive the upper end of the fence post—which is approximately of seven feet length.

In view of the fact that the upper end of the presser element, when attached to the tail-gate of a dump truck, is caused to move through a downwardly inclined arc as shown in dotted lines in Figure 1, the fence post initially is placed at an inclination as shown in full lines; the post being brought to a perpendicular position by the outward pressure exerted by the head portion of the presser element 12 during the downward swinging movement of the truck body about its rear axle; the truck body in this instance constituting the leverage providing mechanism fulcrumed at the rear wheels of the truck. Posts of the type mentioned and for the purpose intended are generally driven to a depth of approximately two feet and as the truck body tilting mechanism may readily be controlled by the operator, it is apparent that the depth to which the post is to be driven or set may be readily controlled.

In order to afford sufficient rigidity, the upper end of the presser element is provided with the brace member 15 which preferably consists of a pair of telescopically arranged tubes in order to adapt the device to truck bodies of different lengths; the tubes being held in their telescopic relation in any suitable manner as for example by the use of a collar secured to one of the tubes and provided with a set-screw adapted to engage the inner tube and thereby hold it in place, as shown at 16. The upper end of the brace preferably is removably attached to the presser 12, as for example by a bolt passing through apertures in the upper end of the brace and apertures in the side flanges of the channel. The lower end of the brace may be placed in bearing relation with a plank or block placed at the front wall of the truck body, thus eliminating possible injury to the truck-body.

In order to adapt the apparatus to certain ground irregularities, as for example where the truck wheels encounter elevations in the ground above the place where the post is to be set, I provide the presser member 12, at a distance below the cupped head portion 13, with an auxiliary post engaging head or portion which, in the exemplification, consists of an angle 17 extending transversely of channel member 12 with one side of the angle bolted or otherwise suitably secured to the base of the channel between the side flanges. The angle plate 17, together with the side flanges of the channel, provide a pocket for receiving and holding the upper end of the post.

In Figure 4 I show an embodiment of my invention to be employed as a separate unit where a dump type truck is not available to constitute the lever mechanism for operating the post depresser. The unit as illustrated, which may be separately mounted on suitable running gear, is preferably intended to be placed in the bottom of a non-dump truck body and its operating medium obtained from the truck provided with a source of oil or air under pressure.

The structure as exemplified in Figure 4 involves a suitable plank or base member 19, preferably of length substantially equal to the inside length of a truck body; the base 19, adjacent its rear end, being provided with an upstanding and rigidly mounted post 20 of predetermined height and formed at its upper end to receive the lever bar 21 which is fulcrumed on the upright 20 to

oscillate vertically. The outer or rear end of the lever 21 has a dished or fence post end receiving cupped member 22, which may be formed integral with the lever 21, but, in order to compensate for the arcuate movement of the rear end of the lever, is shown pivotally connected to the end of the lever by means of the spaced upstanding apertured ears to receive a suitable bolt which passes through a registered hole in the lever, as shown at 23.

The inner or long arm of the lever is shown pivotally connected with the piston 24 which is reciprocatingly mounted in the cylinder 25 provided with the pressure medium receiving base 26, whose side wall is shown provided with a portion of the hose or tube 27 which is intended to connect with the oil or compressed air tank mounted on the chassis of a truck.

The fulcrum member or upright 20 is preferably arranged adjacent the rear end of the base 19 so that the short arm of the lever 21 with its fence post end receiving portion extends into a vertical plane somewhat beyond the tail-gate end of the truck and permitted to freely oscillate; the upright 20, in conjunction with the elevation of the bottom of the truck body, extending to a height to engage the upper end of the fence posts which usually are substantially seven feet in length and are driven to a depth of approximately two feet, so as to completely embed the post anchor, shown at 28 in Figure 1, sufficiently in the ground.

In order to prevent possibility of shifting movement, the base member 19 preferably at its forward end may be suitably anchored to the truck.

As is apparent, the construction of my post setting apparatus and its location in the truck body permit the truck to be loaded with a large number of posts of the type mentioned which can be set by two operators in a materially shorter period of time than has heretofore been the case, and with greater uniformity, while at the same time eliminating the hazards encountered during manual driving of the posts as well as extending the useful life of the posts by preventing the upsetting and fracturing of the upper ends of the posts resulting from the sledge hammer blows. With my apparatus, the posts are subjected to a uniform pressure and hence are less likely to flex, as, however, is the case when subjected to the repeated and non-uniform blows of a sledge hammer.

The simplest embodiments of my pressure drive apparatus have been shown in the exemplifications disclosed in the drawing, but structural modifications are possible and may be made without, however, departing from the spirit of my invention as defined in the appended claims.

What I claim is:

1. Post setting apparatus comprising the combination of a dump truck whose body is fulcrumed at the rear axle of the truck to permit the forward end of the body to move upwardly, with power actuated means for elevating the forward end of the truck body; an upright member secured to the rear end of the truck body so as to extend vertically thereabove, the upper end of said upright member being provided with a rearwardly overhanging post-end receiving socket; and means secured to said member whereby forward flexing of said member is prevented.

2. Post setting apparatus comprising the combination of a dump truck; the body whereof is fulcrumed about the rear axle of the truck to permit the forward end of the body to move ver-

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tically, with power actuated means for elevating the forward end of the truck body; and an upright member secured to the rear end of the truck body so as to extend vertically thereabove, said upright member at its top being provided with a rearwardly disposed post-end engaging surface.

3. Post setting apparatus comprising the combination of a dump truck, the body whereof is fulcrumed at the rear axle of the truck to permit upward movement of the forward end of the body, with power actuated means for elevating the forward end of the truck body; an upright member secured to the tail-gate of the truck body so as to extend vertically a predetermined distance thereabove, the upper end of said member being provided with a rearwardly overhanging post-end receiving socket; and a brace element secured adjacent the upper end of said up-

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right member and its forward end adapted to have bearing relation with the forward end of the truck body.

4. A post setting apparatus of the character described comprising, in combination with a truck provided with a tiltable body; a rigid vertically disposed member immovably secured to the downwardly tilting side of the truck body and provided at its top with immovable post-top engaging means.

5. Post setting apparatus comprising, in combination with a truck provided with a power actuated tiltable body; a vertically disposed rigid single piece member immovably secured to the downwardly tiltable end of the truck body, said member at the top having a post-top overlapping immovable portion.

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