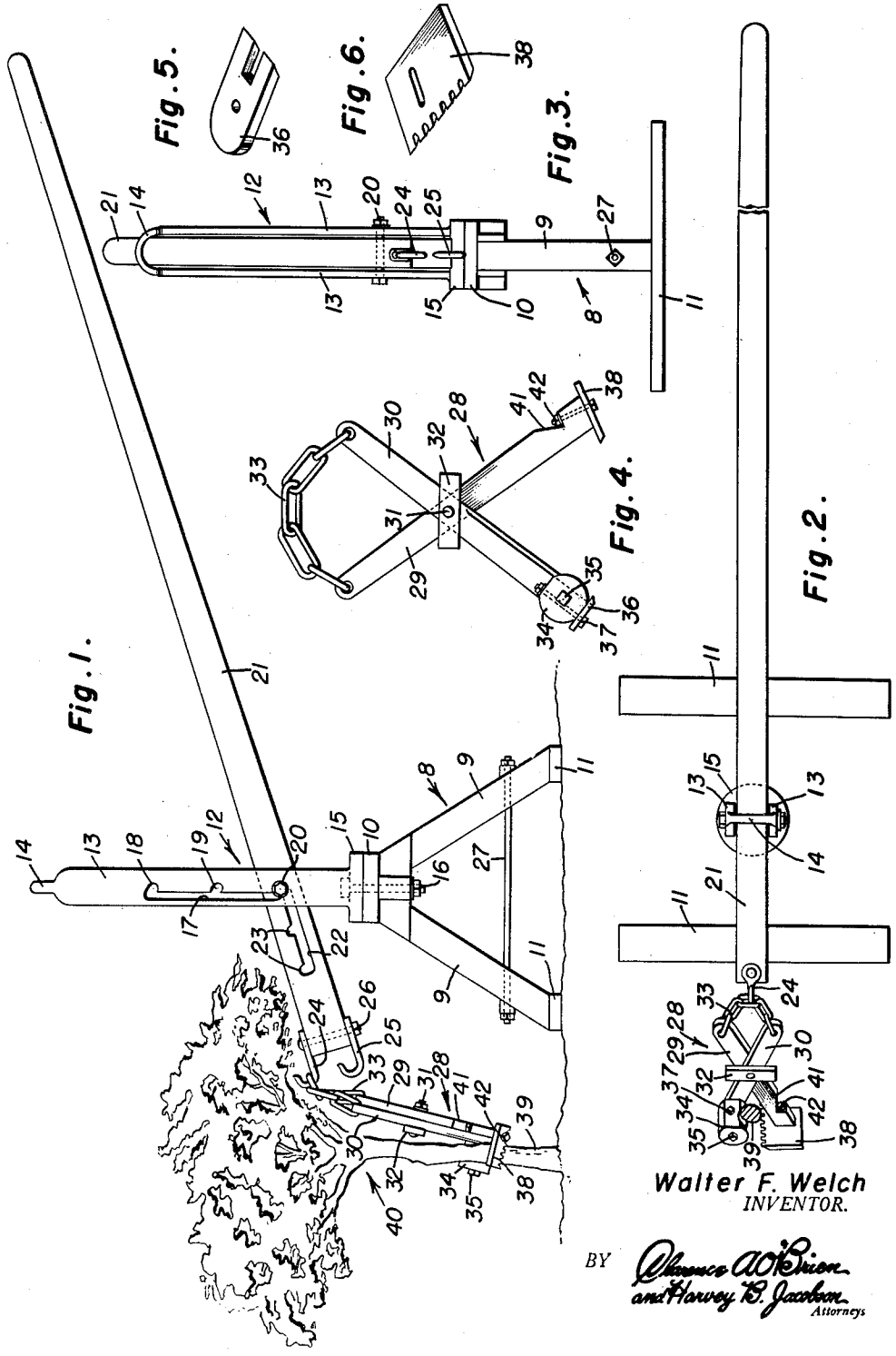
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GRUBBING MACHINE

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## GRUBBING MACHINE

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The present invention relates to certain new and useful improvements in portable manually operable mechanical structures which have become known as grubbing devices, machines and implements and the principal purpose of the invention is, obviously, to provide structural means which is strong and simple, susceptible of easy handling and reliably efficient in operation in grappling and uprooting bushes, saplings, small trees, root stumps and the like.

As the introductory statement of the invention clarifies, I am aware that many and varied types and forms of lifting and pulling devices are old and well known. Therefore, it is an object of the present invention to structurally, functionally and otherwise improve upon known forms and styles of grubbing machines and the like.

One object is to provide a practical and efficient stand characterized by a base and a standard swivelly mounted on the base, said standard being slotted and said slot serving to accommodate a hinging and assembling bolt which serves to attach a lever to the stand, the lever being adjustably mounted.

A further object of the invention is to provide a novel grappling unit which is such that it adequately and tenaciously grabs and clamps small saplings and bushes ranging anywhere from less than an inch to four inches in diameter.

Other objects and advantages will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is an elevational view of a grubbing machine or device constructed in accordance with the principles of the present invention showing the manner in which same is applied and used;

Figure 2 is a top plan view of the structure seen in Figure 1;

Figure 3 is a front end elevation of the structure shown in Figures 1 and 2 with the grappling unit or device removed for clearness of illustration;

Figure 4 is an enlarged view of the grappling device per se;

Figures 5 and 6 are perspective views of details of said grappling device.

Referring now to the drawings by distinguishing reference numerals the stand structure is of appropriate size and materials and is characterized by a base 8 made up of downwardly diverging legs 9 attached at their upper ends to a

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suitable head structure 10 and connected at their lower ends to appropriate ground contacting feet 11. The standard unit 12 comprises a pair of uprights in spaced parallel relation 13 having their upper ends connected together by a handle forming strap 14. The lower ends connect with a disk-like head 15 which rests upon head 10 and which is swivelly connected thereto as at 16. The uprights 13 are provided with slots 17 which are properly elongated and aligned and these have appropriate bayonet-type notches for keeper seats 18 and 19 to accommodate a hinging and assembling bolt 20.

The bolt 20, carried by the lever 21, serves to mount same between the uprights. In fact, the lever is provided with a slot 22 having keeper seats 23 for adjustable reception of the bolt and under this arrangement the slots in the upright and the slot in the lever, plus the bolt means serves to permit a considerable range of adjustment. That is to say, the lever 21 may be raised as to elevation and thus has three positions, high, low and intermediate. These positions are obtained and maintained by the bolt fitting into the notches 18 and 19 as desired. The lever may be shifted horizontally by way of the slot 22, in an obvious manner thus to locate the adapter hooks 24 and 25, bolted at 26, to the outer end of said lever. The lever is bodily liftable and lowerable for elevational purposes and is tiltable vertically on the horizontal axis 20. In addition, the entire standard, carrying the adjustable lever is turnable in a horizontal plane on the vertical axis provided by the bolt 16. The numeral 27 is merely a brace bolt or stay for the legs 9.

The grappling device or unit is denoted, generally speaking, by the numeral 28 and is a simple pair of tongs embodying links 29 and 30 hingedly connected in crossed relation as at 31 assisted by a bracing cleat 32. The normal upper ends of the links carry a chain 33, the links of which, are adapted to be adjustably connected with the hooks 24 and 25. There is a cylindrical wooden block 34 bolted, as at 35, to the lower end of one link and this in turn has a double prong plate 36 bolted thereto, as at 37. A complemental rectangular plate 38 is provided and this has cutting teeth and is opposed to the plate 36 and the two plates effectively embrace and grip the trunk or stem 39 of the tree, bush or the like 40. The lower end of the link 29 is notched, as at 41, to accommodate a bolt 42 which serves to securely fasten the cutter plate 38 in place. It will be noticed that the inner

work contacting surface of the wooden block has a semi-cylindrical notch therein which provides an effective seat for the trunk of the tree, all as brought out in Figure 2.

In practice the stand is placed close to the bush to be lifted and extracted and the lever is properly adjusted to bring the same at the proper plane and close enough to the trunk of the tree as shown in Figure 1. Then, the grappling means is hooked in place by way of the hooks 24 and 25, as the case may be, and assisted by the aforementioned chain 33. Obviously, when the force is applied to the grappling device 28, the gripping devices on the jaws or links are brought firmly together and grip the trunk of the tree on diametrically opposite sides as brought out in the drawings. Now, the tree may be easily uprooted and extracted.

A careful consideration of the foregoing description in conjunction with the invention as illustrated in the drawings will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials and rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as claimed.

Having described the invention, what is claimed as new is:

1. In a grubbing machine of the class described, a supporting stand comprising a base, said base embodying a head, legs depending from said head, and feet, said feet being attached to the lower ends of said legs and adapted to rest on the ground or other supporting surface, a standard, said standard having a head superimposed upon said first named head, a swivelling and assembling bolt connecting said heads together, said standard embodying spaced parallel uprights having notched slots in opposed alignment, a lever having a portion fitting between said uprights, said lever having a slot, a bolt operable in the first named slots to connect the lever with the uprights, said bolt also being operable in the second named slot to adjustably attach the lever to the uprights.

2. In a grubbing machine of the class described, a supporting stand comprising a base, said base embodying a head, legs depending from said head, and feet, said feet being attached to the lower ends of said legs and adapted to rest on the ground or other supporting surface, a standard, said standard having a head superimposed upon said first named head, a swivelling and assembling bolt connecting said heads together, said standard embodying spaced parallel uprights having notched slots in opposed alignment, a lever having a portion fitting between said uprights, said lever having a slot, a bolt operable in the first named slots to connect the lever with the uprights, said bolt also being operable in the second named slot to adjustably attach the lever to the uprights, the upper ends of said uprights being connected by a handle.



3. In a grubbing machine of the class described, a supporting stand comprising a base, said base embodying a head, legs depending from said head, and feet, said feet being attached to the lower ends of said legs and adapted to rest on the ground or other supporting surface, a standard, said standard having a head superimposed upon said first named head, a swivelling and assembling bolt connecting said heads together, said standard embodying spaced parallel uprights having notched slots in opposed alignment, a lever having a portion fitting between said uprights, said lever having a slot, a bolt operable in the first named slots to connect the lever with the uprights, said bolt also being operable in the second named slot to adjustably attach the lever to the uprights, the upper ends of said uprights being connected by a handle, said lever being provided at its free swingable working end with detachably mounted, selectively usable grapple accommodating hooks.

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