Sept. 28, 1948. D. H. McNAUGHTON, SR 2,450,151

MECHANICAL GRIPPING TOOL

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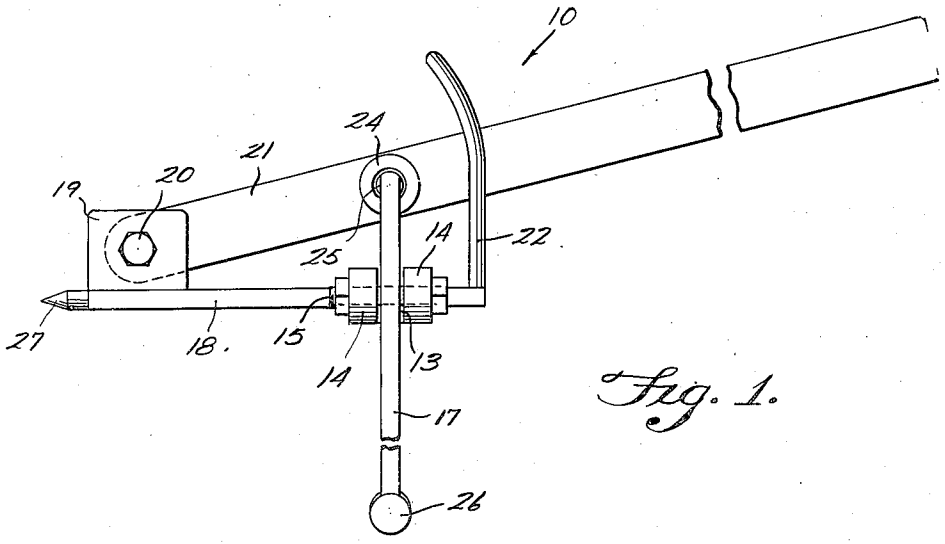


Fig. 1.

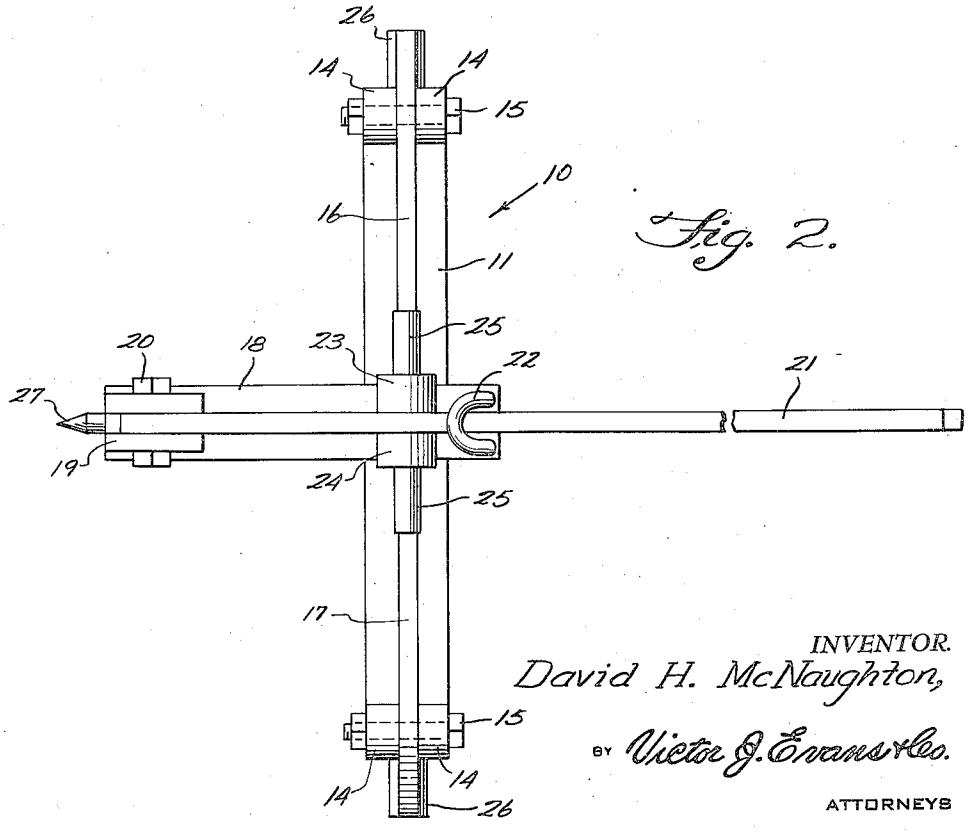


Fig. 2.

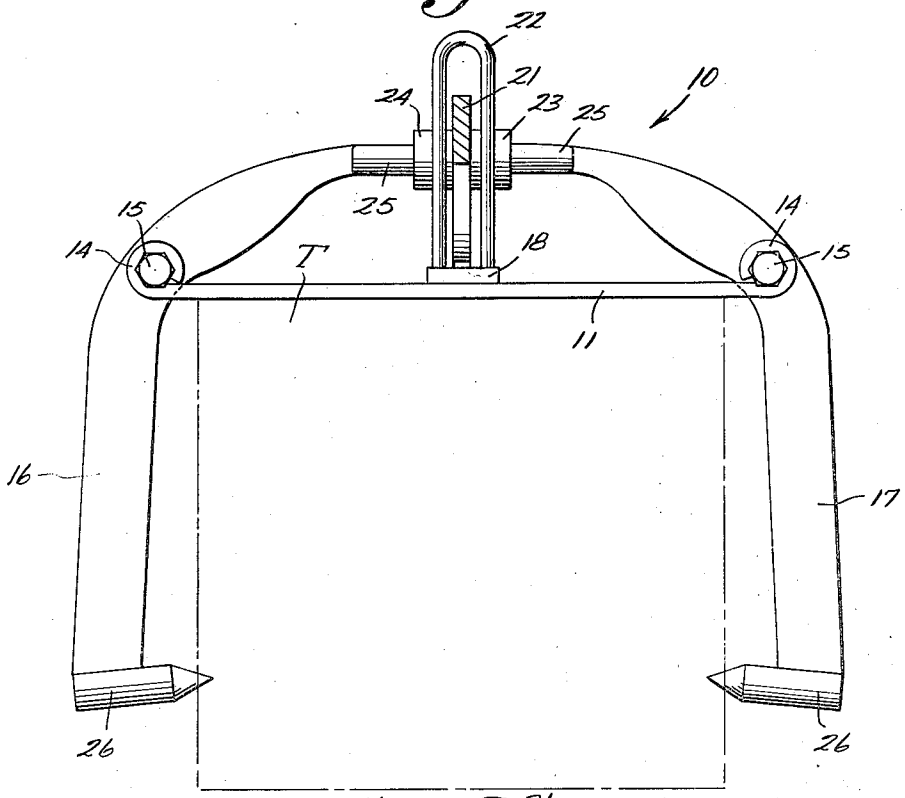
INVENTOR.
David H. McNaughton,
BY Victor J. Evans & Co.
ATTORNEYS

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Fig. 3.



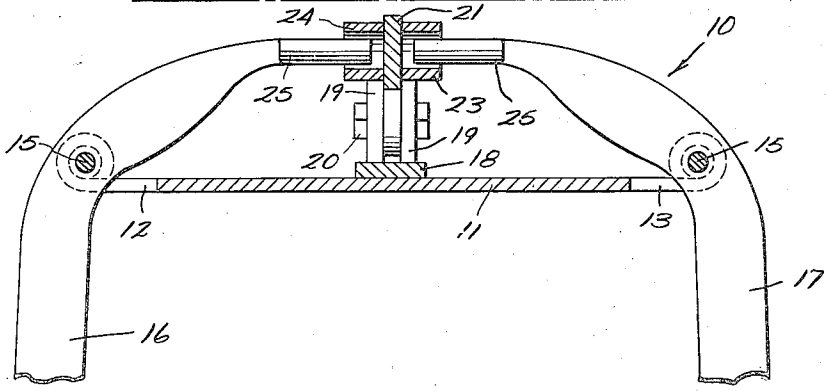


Fig. 4.

INVENTOR.
David H. McNaughton,
BY Victor J. Evans & Co.
ATTORNEYS

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UNITED STATES PATENT OFFICE

2,450,151

MECHANICAL GRIPPING TOOL

David H. McNaughton, Sr., Saskatoon, Saskatchewan, Canada, assignor of twenty-five per cent to Paul B. Mitchell, Saskatoon, Saskatchewan, Canada

Application April 10, 1947, Serial No. 740,621

3 Claims. (Cl. 294—15)

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This invention relates to new and useful improvements in railway tie tongs and timber handling tools.

An object of the invention is to provide a tool of this character that is adapted to lift and carry railway track ties and timber of various sizes and for use in pulling ties into place under the rail, removing worn out ties, unloading railway track ties and timbers from railway flat cars and box cars, as well as loading of the same, for piling railway track ties and timbers in storage yards, for use in separating ties or timbers when close piled prior to applying the tool for the handling thereof.

Another object of the invention is to provide a device of the character described, which is practical, strong and durable, can be manufactured at a low cost and is adapted to firmly grip a tie or piece of timber from any position the operator may choose, to enable the tie or timber to be readily lifted and carried from place to place or to drag, haul or up-end a tie or piece of timber as required and to perform each of these operations without the requirement of the use of more than one hand of the operator.

The device eliminates any specially prepared mechanism for performing the aforementioned objects, and is designed to enable the operator to set the tool down with the handle upright.

Another object of the invention is to provide a tool of this character that is provided with a simplified release mechanism which embodies greater safety for the operation.

Another object of the invention is to provide a tool of the character described, having jaws which are held in one arcing position with relation to the handle, and thereby giving greater speed of operation, lessening of man hours in performing work for which it is designed and enabling the operator to avoid contact with the working parts which come in contact with the ties or timbers that may be treated with creosote or preservatives injurious to the operator's body, garments and gloves.

With the above and other objects and advantages in view, the invention consists of the novel details of construction, arrangement and combination of parts more fully hereinafter described, claimed and illustrated in the accompanying drawings in which:

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Figure 1 is a side elevational view of an embodiment of the invention;

Figure 2 is a top plan view thereof;

Figure 3 is a front elevational view with the handle in section and

Figure 4 is a detailed sectional view of the inner ends of the gripping jaws.

Referring more in detail to the drawings, the tool forming an embodiment of the invention is generally designated by the numeral 10, and comprises the elongated fulcrum body 11 which is slotted at its opposite ends at 12 and 13 respectively and the portions on opposite sides of the slots are turned upon themselves at 14 to provide pin mounting bearings for the pins 15 on which are pivotally mounted in the slots at the end of the body, the curved gripping jaws or arms 16 and 17 respectively.

Secured to the upper surface of the body 11, in crossed right angular relation thereto, is the applying bar pivoting member 18 which, at one end, is provided with upstanding opposed apertured ears 19 which receive the pin 20 on which the applying bar 21 is pivotally mounted. Mounted on the opposite end of the member 18 is the curved U-shaped guide member 22 which straddles the bar 21 and permits side stress application of the applying bar, as well as retaining the seats 23 and 24 formed on opposite sides of the bar in perfect position for operating and receiving the rod-like ends 25 of the arms 16 and 17.

The lower ends of the arms are provided with the pointed rod-like bills 26, and the ear carrying end of the member 18 is provided with a spud point 27 which enables ties or timbers to be separated one from the other when closely piled, thereby facilitating the use of the tool under such circumstances.

In use, the bar 21 is moved downwardly to allow the arms to move outwardly to their fullest extent. The tool is applied to a tie T, as shown in Figure 3, with the body 11 resting thereon, and upon upward movement of the bar 21, the bills on the arms will be caused to move inwardly to bite into the tie and firmly grip the tie.

There has thus been provided a tool having a positive grip that is simple, durable and, when applied to a load, is instantly operated to grip or release the load.

It is believed that from the foregoing descrip-

tion, the operation and construction of the invention will be apparent to those skilled in the art, and it is to be understood that changes in the minor details of construction, arrangement and combination of parts may be resorted to, provided they fall within the spirit of the invention and the scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A device of the character described, comprising a fulcrum body, gripping arms pivotally mounted on the ends of said body, a pivot supporting member secured to said body in crossed right angular relation thereto, a pivot carried by said member, an applying bar carried by said pivot, seats arranged on the opposite sides of said bar receiving the upper ends of said arms for movement of said arms upon upward and downward movement of said bar and a U-shaped guide mounted on said pivot supporting member straddling said bar to guide said bar in upward and downward movement.

2. The invention as in claim 1, wherein said arms are provided on their lower ends with pointed bills.

3. The invention as in claim 1, wherein one end of said pivot supporting member is provided with a spud point.

DAVID H. McNAUGHTON, SR.

No references cited.