

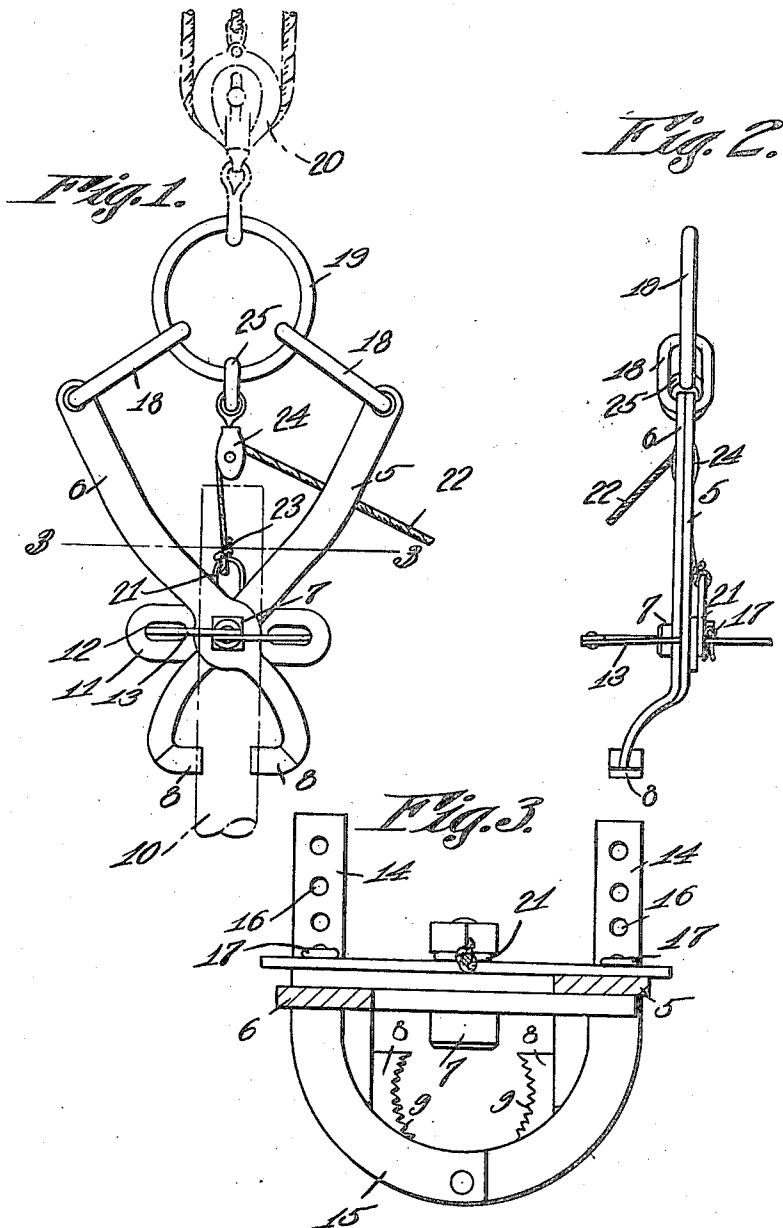
July 3, 1923.

J. G. ZEHRER

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PIPE GRAPPLE

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UNITED STATES PATENT OFFICE.

JOHN G. ZEHRER, OF BROWNS VALLEY, MINNESOTA.

PIPE GRAPPLE.

Application filed April 21, 1922. Serial No. 555,922.

To all whom it may concern:

Be it known that I, JOHN G. ZEHRER, a citizen of the United States, residing at Browns Valley, in the county of Traverse and State of Minnesota, have invented a new and useful Pipe Grapple, of which the following is a specification.

This invention relates to grapples, and more particularly to grapples especially designed for handling cylindrical bars or pipes.

The primary object of the invention is to provide means for embracing a portion of the pipe being lifted, at a point adjacent to the jaws of the device, whereby the pipe or bar being lifted will be prevented from moving laterally within the jaws during the lifting operation.

Another object of the invention is to provide a device of this character which may be readily and easily slipped over one end of the bar in a manner so that a pull directed to the jaws as to withdraw the grapple, will result in the jaws being moved into close engagement with the article being lifted.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:—

Figure 1 is a side elevational view disclosing the arms of the grapple in their gripping positions.

Figure 2 is an elevational view disclosing one edge of the grapple.

Figure 3 is a sectional view taken on line 3—3 of Figure 1.

Referring to the drawing in detail, the device comprises opposed laterally extending arms 5 and 6, the arms being pivotally connected as by means of the bolt 7. At the lower ends of the arms are formed jaws 8, which jaws are provided with teeth 9 adapted to bite a rod or pipe under operation in a manner to prevent movement of the jaws relatively to the pipe, which in the present showing is indicated at 10.

The bolt 7 also extends through a central opening in the transversely extending plate 11, which has its ends extending beyond the

jaws 8, where the same are formed with elongated openings 12. A guard indicated at 13 is substantially U-shaped in formation and has its extremities 14 positioned in the elongated openings 12, the curved portion 15 of the guard lying in spaced relation with the arms 5 and 6 to receive the article under operation and prevent lateral movement thereof, during the lifting operation.

Formed in the extremities 14 of the guard are spaced openings 16, which accommodate the pins 17, whereby the curved portion 15 of the guard may be adjusted with respect to the plate 11 to vary the size of the space between the curved portion 15 of the guard, and the arms, adapting the guard for use in connection with pipes or bars of various diameters. Links 18 are carried at the upper ends of the bars 5 and 6, which links are connected by means of the ring member 19 which in turn provides a means of connection between the lifting structure 20 and the arms 5 and 6.

Due to this construction, it is obvious that upon upward movement of the grapple, the weight of the article being moved, exerts a downward pressure to the end that the jaws 8 are moved into gripping relation with each other.

The bolt 7 also secures a link 21 to the grapple, which link accommodates one end of the flexible controlling rope 22, which is tied thereto as at 23. This controlling rope 22 operates over the pulley 24, which is carried by the ring member 19 as at 25. Thus it will be seen that by movement of the member 22, the grapple may be moved to various positions to center them over an article to be lifted.

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

1. In a grapple, a pair of pivotally connected arms, jaws forming a part of the arms, means having connection with the arms for moving the jaws, a transversely extending plate carried by the arms, a guard including a curved portion lying in spaced relation with the arms to accommodate an article therebetween, said plate adapted to receive portions of the guard to secure the same to the arms, and means for guiding the grapple to its work.

2. In a grapple, a pair of pivotally connected arms, said arms having offset end portions and provided with jaws, a transversely extending plate secured to the

arms and having openings, a guard including hingedly connected sections extending through the openings and adapted to embrace an article gripped by the jaw at a
5 point above the jaws, and means for adjusting the guard with respect to the arms.

In testimony that I claim the foregoing as

my own, I have hereunto affixed my signature in the presence of two witnesses.

JOHN G. ZEHRER.

Witnesses:

WM. L. PAUL,
E. H. HALSTEN.