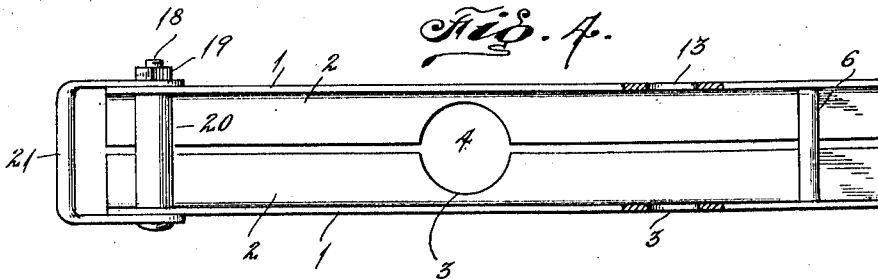
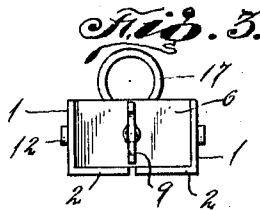
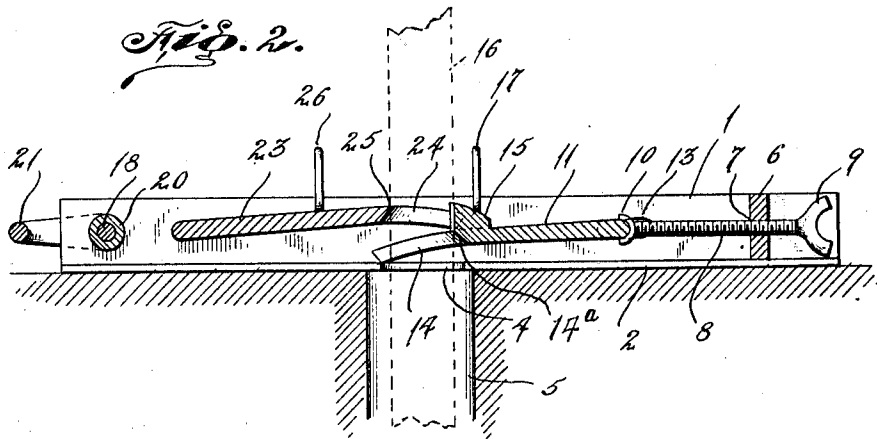
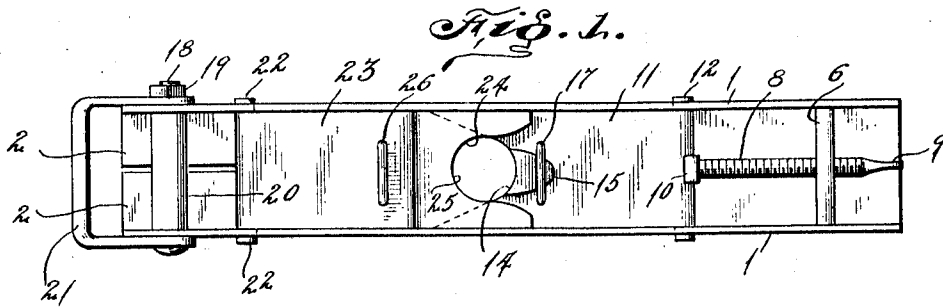


C. F. CATER.
GRIPPING DEVICE.
APPLICATION FILED APR. 20, 1911.

1,004,366.

Patented Sept. 26, 1911.



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UNITED STATES PATENT OFFICE.

CHARLES F. CATER, OF PLEASANT CITY, OHIO.

GRIPPING DEVICE.

1,004,366.

Specification of Letters Patent.

Patented Sept. 26, 1911.

Application filed April 20, 1911. Serial No. 622,267.

To all whom it may concern:

Be it known that I, CHARLES F. CATER, a citizen of the United States of America, residing at Pleasant City, in the county of Guernsey and State of Ohio, have invented certain new and useful Improvements in Gripping Devices, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a gripping device especially designed for use in connection with oil and Artesian well drilling machines.

The primary object of my invention is to provide a gripping device that will facilitate the lowering and raising of casings, tubes, rods and other structures in wells, the device being designed to prevent the loss or dropping of casings, tubes and rods when the hoisting mechanism or other supporting devices break or become accidentally disengaged.

Another object of this invention is to provide a gripping device that can be easily installed upon the derrick floor adjacent to the well hole, whereby it will always be in position ready for adjustment to grip a casing, tube, rod or other structure.

A further object of the invention is to provide a gripping device of the above type that is simple in construction, durable, easy to manipulate, and highly efficient for the purposes for which it is intended.

With the above and other objects in view, the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein:—

Figure 1 is a plan of the gripping device, Fig. 2 is a longitudinal sectional view of the same, Fig. 3 is an end view of the device, and Fig. 4 is a plan of a portion of the device.

A device in accordance with this invention comprises two angle bars 1 arranged in parallelism with the lateral flanges 2 thereof in close proximity, and these flanges, intermediate the ends of said bars, are cut away, as at 3 to provide an opening 4 adapted to register with a well hole 5.

The bars 1 at one end thereof are connected by a transverse head 6 having a cen-

tral opening 7 with the wall thereof screw threaded. Adjustably mounted in the opening 7 of the head 6 is a screw 8 having a winged head 9 whereby said screw can be easily rotated. The inner end of the screw 8 is provided with a swiveled member 10 having a curved bearing surface which overlaps and is engaged throughout by the outer rounded end of a gripping jaw 11, said jaw having the outer end thereof provided with laterally projecting pins 12 which extend into longitudinal slots 13 provided therefor in vertical portions of the bars 1. The inner end of the jaw 11 curves downwardly and is bifurcated or notched, as at 14. The inner wall of the furcation is rounded and inwardly beveled as at 14^a. The jaw 11 has its upper face provided with a relatively narrow enlargement 15 which is flush at one end with the top edge of the wall 14^a of the furcation and which coöperates with the said wall in gripping a casing, pipe or rod 16. The enlargement 15 has an eye 17 whereby it can be easily elevated. The curved inner end of the jaw 11 is supported upon the lateral flanges 2 of the bars 1 beyond the opening 4 as clearly shown in Fig. 2.

The opposite ends of the angle bars 1 are connected by a bolt 18 and a nut 19. Located upon the bolt 18 between the bars 1 is a spacing sleeve 20 and loosely mounted upon the bolt at the outer sides of the bars 1 is a stirrup 21 adapted to facilitate the moving of the gripping device. For instance, a hoisting cable can be attached to the stirrup whereby a casing, tube or rod can be elevated by raising the stirrup, or the cable can be attached to the stirrup to swing the gripping jaws out of the road when not in use.

Arranged between the bars 1 adjacent to the bolt 18 is a gripping jaw 23 provided at its outer end with a pair of trunnions 22 which are mounted in the vertical portions of the bars 1. The inner end of the jaw 23 curves downwardly and is bifurcated as at 24. The inner wall of the furcation is rounded and is inwardly beveled as at 25. Connected to the jaw 23 in proximity to its inner end is an eye 26 to facilitate the elevating of said jaw when occasion so requires. The inner end of the jaw 23 is sup-

ported upon the inner end of the jaw 11 at each side of the enlargement 15. The inwardly beveled walls 14^a and 25 constitute what may be termed gripping surfaces for the casing tube or rod.

In operation, the confronting or overlapping ends of the jaws 11 and 23 are adapted to frictionally engage the casing, tube or rod 16, and as the casing is elevated the gripping jaws 11 and 23 recede, but should the elevating mechanism break and the casing be accidentally released, the jaws 11 and 23 immediately grip the casing to prevent its sudden descent into the well 5.

It is through the medium of the screw 8 that the jaw 11 can be adjusted whereby casings of various diameters can be gripped, and it is apparent from the foregoing that the device saves considerable time and labor by obviating the necessity of employing tongs, wrenches and clamps for holding the casings, tubes or rods when being installed or removed from a well.

The device in its entirety is made of strong and durable metal and of various sizes.

What I claim is:—

1. A gripping device comprising angle bars, said bars having the lateral edges thereof cut away to provide an opening, a gripping jaw trunnioned in said bars at its outer end and having a downwardly curved inner end supported by said bars, and a gripping jaw trunnioned at its outer end in said bars and having a downwardly curved inner end supported by and cooperating with the curved inner end of the other jaw for gripping an object.

2. A gripping device comprising a pair of angle bars opposing each other and having the lateral edges cut away to provide an opening, a gripping jaw adjustably trunnioned in said bars at its outer end and having its inner end curving downwardly and supported by said bars, a gripping jaw trunnioned at its outer end in said bars and having its inner end curving downwardly and supported by and cooperating with the curved inner end of the other jaw for gripping an object, and a screw adjustably supported between said bars and engaging the first mentioned jaw for adjusting it.

3. A gripping device comprising a pair of angle bars opposing each other and having the lateral edges cut away to provide an opening, a gripping jaw adjustably trunnioned in said bars at its outer end and having its inner end curving downwardly and supported by said bars, a gripping jaw trunnioned at its outer end in said bars and having its inner end curving downwardly and supported by and cooperating with the curved inner end of the other jaw for gripping an object, a screw adjustably supported between said bars and engaging the first

mentioned jaw for adjusting it, and eyes carried by said jaws and adapted to facilitate the moving thereof.

4. A gripping device comprising a pair of angle bars opposing each other and having the lateral edges cut away to provide an opening, a gripping jaw adjustably trunnioned in said bars at its outer end and having its inner end curving downwardly and supported by said bars, a gripping jaw trunnioned at its outer end in said bars and having its inner end curving downwardly and supported by and cooperating with the curved inner end of the other jaw for gripping an object, a screw adjustably supported between said bars and engaging the first mentioned jaw for adjusting it, eyes carried by said jaws and adapted to facilitate the moving thereof, and a stirrup connected to said bars.

5. A gripping device comprising a pair of jaw bodies each pivoted at its outer end, means for longitudinally adjusting one of said jaws with respect to the other, said jaws having the inner ends thereof curving downwardly and bifurcated, the inner wall of the furcation of each of said jaws being inwardly beveled and oppositely disposed with respect to the other, the inner curved end of one of said jaws supported by the inner curved end of the other of said jaws, said inner walls constituting gripping surfaces.

6. A gripping device comprising a pair of jaw bodies each pivoted at its outer end, means for longitudinally adjusting one of said jaws with respect to the other, said jaws having the inner ends thereof curving downwardly and bifurcated, the inner wall of the furcation of each of said jaws being inwardly beveled and oppositely disposed with respect to the other, the inner curved end of one of said jaws supported by the inner curved end of the other of said jaws, said inner walls constituting gripping surfaces, and an enlargement upon the inner curved end of one of said jaws and flush with the inner wall of the furcation of that jaw with which the enlargement is formed integral.

7. A gripping device comprising a pair of jaw bodies each pivoted at its outer end, means for longitudinally adjusting one of said jaws with respect to the other, said jaws having the inner ends thereof curving downwardly and bifurcated, the inner wall of the furcation of each of said jaws being inwardly beveled and oppositely disposed with respect to the other, the inner curved end of one of said jaws supported by the inner curved end of the other of said jaws, said inner walls constituting gripping surfaces, and means to facilitate the shifting of said jaws upon their pivots.

8. A gripping device comprising a pair of jaw bodies each pivoted at its outer end, means for longitudinally adjusting one of

said jaws with respect to the other, said jaws having the inner ends thereof curving downwardly and bifurcated, the inner wall of the furcation of each of said jaws being inwardly beveled and oppositely disposed with respect to the other, the inner curved end of one of said jaws supported by the inner curved end of the other of said jaws, said inner walls constituting gripping surfaces, an enlargement upon the inner curved end of one of said jaws and flush with the inner

wall of the furcation of that jaw with which the enlargement is formed integral, and means to facilitate the shifting of said jaws upon their pivots.

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES F. CATER.

Witnesses:

MANSEL WILLIAMS,
EDGAR ARCHER.

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