C. L. GIPSON.

CLAMP.

APPLICATION FILED OCT. 2, 1918.

1,305,353.

Patented June 3, 1919.

2 SHEETS—SHEET 1.

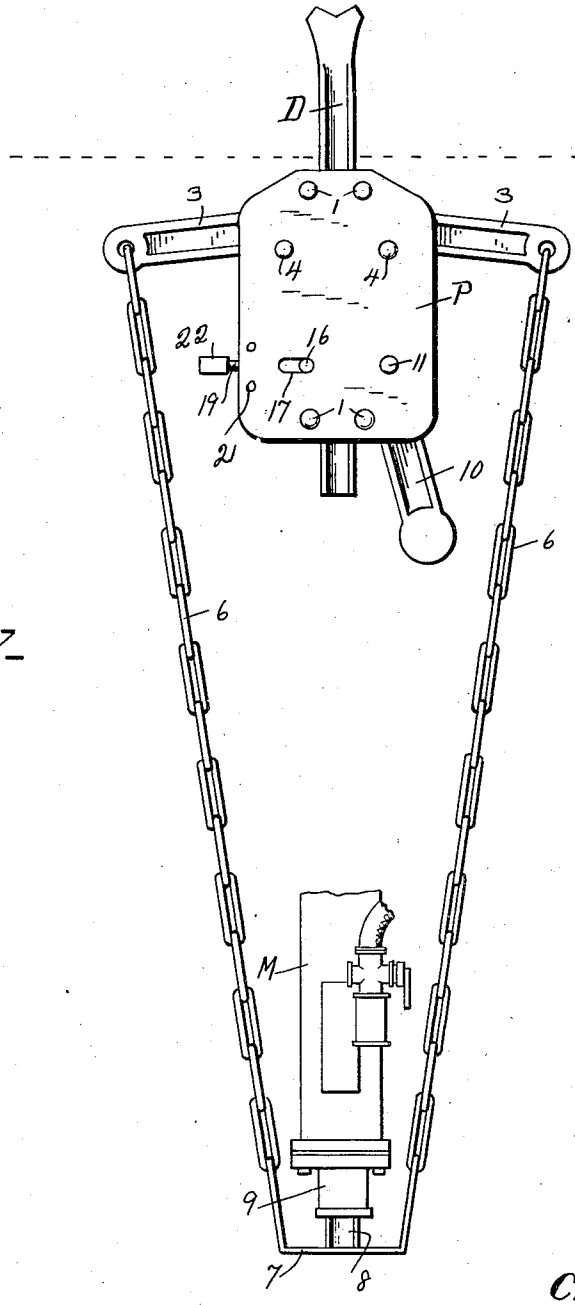


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

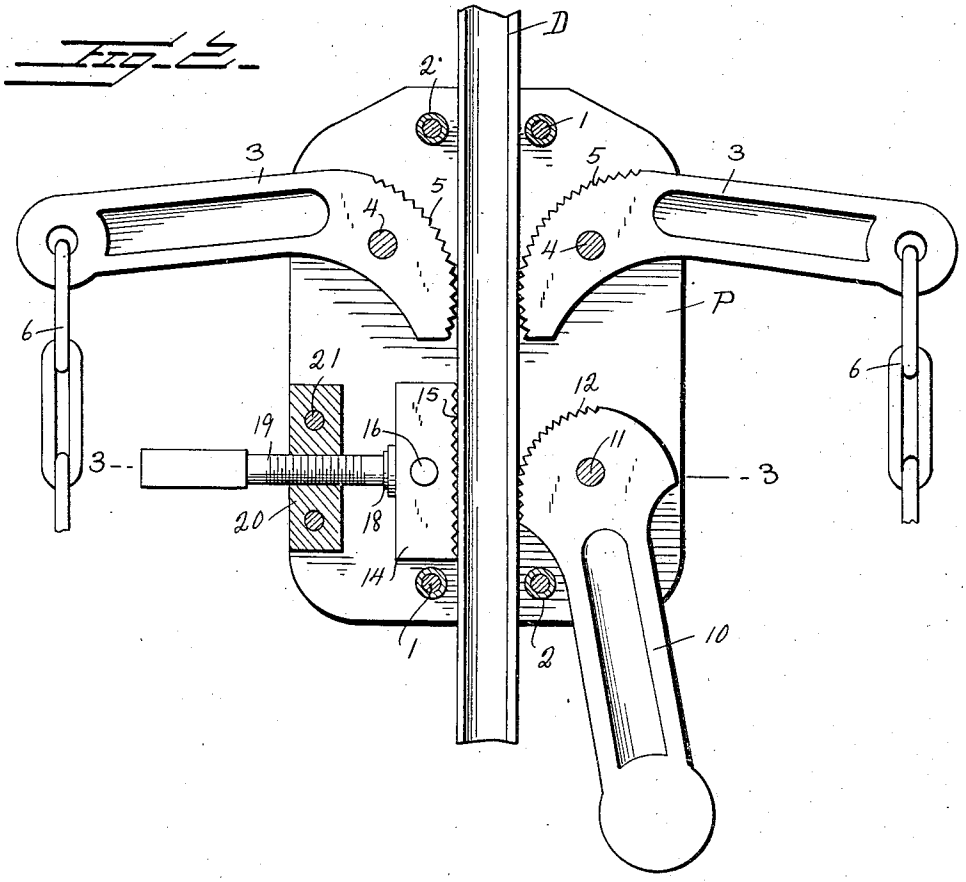
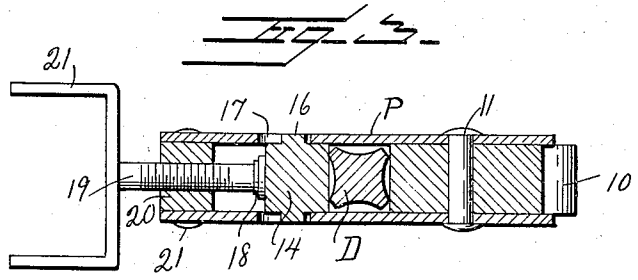


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES LARAN GIPSON, OF JARBIDGE, NEVADA.

CLAMP.

1,305,353. Specification of Letters Patent. Patented June 3, 1919.

Application filed October 2, 1918. Serial No. 256,567.

To all whom it may concern:

Be it known that I, CHARLES LARAN GIPSON, a citizen of the United States, residing at Jarbidge, in the county of Elko and State of Nevada, have invented certain new and useful Improvements in Clamps, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in clamps, and has relation more particularly to a device of this general character especially designed and adapted for use in connection with rock drills or the like for the purpose of withdrawing or extracting the same in the event the tool or the like should become stuck or otherwise held within the work against ready removal.

It is an object of the invention to provide a clamp of this general character having novel and improved means whereby it may be effectively engaged with a drill or similar tool together with means whereby the same may be coupled or otherwise engaged with a drilling machine or the like in order to effect a withdrawal or extraction of the drill or the like from the work.

A further object of the invention is to provide a device of this general character having novel and improved means whereby the same may be engaged with a drill or the like together with means for coupling the clamp to a drilling machine or other power-exerting medium, and whereby the pull or strain created by the drilling machine or the like facilitates the gripping of the clamp upon the drill or the like to be withdrawn or extracted.

An additional object of the invention is to provide a clamp of this general character having novel and improved means whereby it may be initially held to a drill or the like, and wherein said means comprises relatively adjustable members so that the clamp may be employed with equal facility in connection with drills or the like of different sizes.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved clamp whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a view in plan of a clamp constructed in accordance with an embodiment of my invention, a coacting drilling machine being shown in fragment and operatively connected therewith;

Fig. 2 is an enlarged fragmentary view partly in plan and partly in section of my improved clamp engaged with a drill or the like to be withdrawn; and

Fig. 3 is a sectional view taken substantially on the line 3—3 of Fig. 2.

As disclosed in the accompanying drawings, two plates P of predetermined dimensions and configuration are arranged in overlying relation and connected one to the other through the medium of the rivets 1 or the like. Surrounding said rivets 1 are the sleeves 2 whereby the plates P are maintained in desired spaced relation.

As herein disclosed the plates P are substantially oblong in form and extending between said plates adjacent an end thereof are the levers 3 pivotally supported as at 4 by the plates P for swinging movement in a direction longitudinally of the plates. The inner end portions of the levers 3 are provided with the toothed cam faces 5 operating in a manner and for a purpose to be hereinafter more particularly referred to.

The levers 3 extend laterally of the plates P and beyond the longitudinal margins of said plates and fixed to the outer end of said levers 3 are the chains 6 or other flexible members, and the opposed end portions of said chains or members 6 are secured to the extremities of a stirrup 7. The central portion of the stirrup 7 is provided with an inwardly directed shank 8 engageable within

the chuck or socket 9 of a power drilling machine M, although the stirrup 7 may be operatively engaged with any other mechanism capable of exerting the desired pull upon the levers 3.

In the event a drill D should become stuck within the work, my improved device is mounted upon the extended end portion of the drill D with the extended portion of said drill extending between the plates P and between the cam faces 5 of the levers 3. The machine M with which the drill D may have been employed is reversed and properly positioned relative to the stirrup 7 and engaged with said stirrup. The machine M is then operated in the regular manner and the resultant action of the machine will impose a pull upon the chains 6 or other flexible member and which pull results in the free and effective gripping of the cam faces 5 upon the drill D, and which action of the machine M ultimately effects the desired withdrawal or extraction of the drill D.

When my improved clamp is initially mounted upon the extended portion of a drill D, it has been found in practice of advantage to provide means whereby the clamp may be locked to said drill independently of the strain or pull imposed upon the levers 3. As herein disclosed a lever 10 has an end portion pivotally engaged as at 11 between the plates P adjacent the end of said plates remote from the levers 3, and to one side of the transverse center of said plates the inner end portion of the lever 10 is provided with a toothed cam face 12 which is adapted to clampingly or frictionally engage the drill D upon swinging movement of the lever 10 in one direction. In practice the lever 10 is operated manually.

Transversely alined with the cam face 12 is an abutment block 14 positioned between the plates P and at the side of the transverse center of said plates opposite to the working end portion of the lever 10. The inner face of the block 14 is toothed as at 15 to facilitate its engagement with the drill D.

The block 14 is movable relative to the inner or working end portion of the lever 10 so that my improved device may be employed with convenience and facility in connection with drills of different sizes. As is particularly illustrated in Figs. 2 and 3 of the accompanying drawings, the block 14 at its longitudinal center is provided with the oppositely directed lugs 16 which extend within the slots 17 produced in the plates P. In the present embodiment of my invention, the slots 17 have their longitudinal axes perpendicular to the corresponding axes of the plates P.

In the swivel engagement as at 18 with the back face of the block 14 and substantially midway thereof is a shank 19 which is threaded through a block 20 and permanently held between the adjacent longitudinal marginal portions of the plates P through the medium of the rivets 21 or the like.

The outer end portion of the shank 19 is provided with an operating member 22 whereby the requisite rotation may be given the shank 19 in order to effect the desired adjustment of the block 14 longitudinally of the slot 17 as the occasions of practice may require.

From the foregoing description, it is thought to be obvious that a clamp constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof, and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:

1. A device of the class described comprising a pair of swinging members between which a drill is adapted to be positioned, the inner end portions of said levers constituting gripping cams, a stirrup, flexible members connecting the stirrup and the opposite end portions of the levers, and an inwardly directed shank carried by the stirrup.

2. A device of the character described comprising a pair of plates in overlying relation spaced one from the other, clamping members carried by the plates, pulling means coacting with said clamp members, a supplemental clamping member carried by the plates, a block positioned between the plates and coacting with the supplemental clamping member, said block being adjustable toward or from said supplemental clamping member, and a threaded shank operatively supported by the plate and in connection with the block whereby said block may be adjusted toward or from the supplemental clamping member upon rotation of the shank.

3. In combination, a member, gripping levers carried by the member and between which a drill is adapted to be positioned, a stirrup connected with the outer ends of the levers, and means positioned between the member and the stirrup for imparting outward movement to the stirrup to bring the inner ends of the levers in gripping engagement with the drill.

4. A device of the character described comprising a member, clamping members carried thereby, pulling means coacting with said clamping members, a supplemental

clamping member carried by the member, a block supported by the member and coacting with the supplemental clamping member, and means for moving the block toward or from the supplemental clamping member.

5. A device of the character described comprising a member, clamping members carried thereby, pulling means coacting with said clamping members, a supplemental clamping member carried by the member, a block supported by the member and coacting with the supplemental clamping member, means for moving the block toward or from the supplemental clamping member, and coacting means carried by the block and member for limiting the movement of the block.

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

CHARLES LARAN GIPSON.

Witnesses:
LAURITZ LARSON,
WALTER MURRAY.