F. M. MECHLING.

CLAMP.

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1,400,491. Patented Dec. 13, 1921.

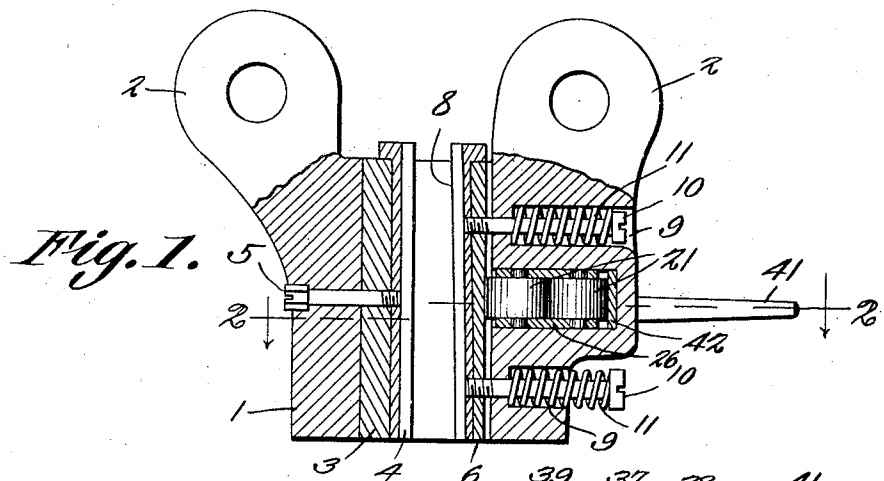


Fig. 1.

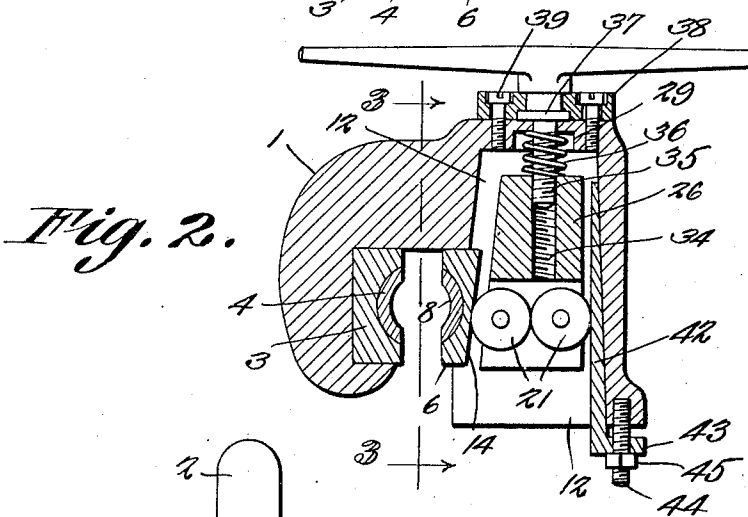


Fig. 2.

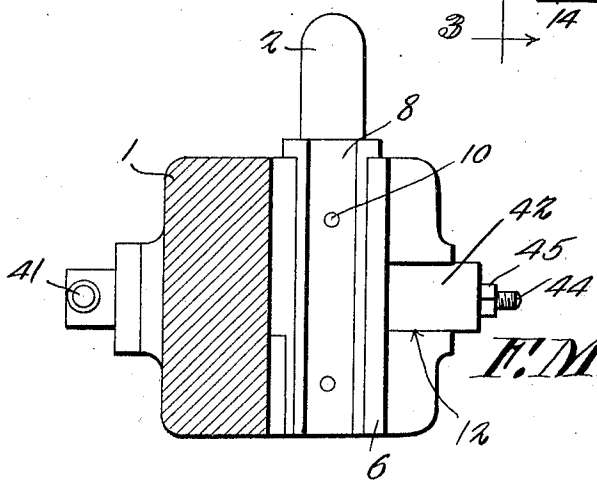


Fig. 3.

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CLAMP.

1,400,491. Specification of Letters Patent. Patented Dec. 13, 1921.

Application filed November 5, 1920. Serial No. 422,028.

To all whom it may concern:

Be it known that I, FIDELIS M. MECHLING, a citizen of the United States, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented a new and useful Clamp, of which the following is a specification.

The device forming the subject matter of this application is a clamp of the kind used in holding a cable in well drilling operations, and the invention aims to provide novel means for actuating the movable jaw of the clamp.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above 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, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 shows, in longitudinal section, a device constructed in accordance with the invention; Fig. 2 is a section on the line 2—2 of Fig. 1; and Fig. 3 is a section on the line 3—3 of Fig. 2.

The clamp comprises a body 1 having the usual perforated ears 2. A fixed jaw 3 is seated in the body 1 and is provided with a liner 4, the liner and the fixed jaw being held on the body 1 by any suitable means, such as a screw 5. A jaw 6 is mounted in the body 1 for sliding movement toward and away from the fixed jaw 3 and is supplied on its inner side with a transversely inclined surface 14. The movable jaw 6 carries a liner 8. Recesses 9 are fashioned in the body 1, screws 10 being located in the recesses, and being mounted for longitudinal sliding movement in the body. The inner ends of the screws 10 are threaded into the movable jaw 6 and the liner 8 and serve to connect these parts, the screws constituting supports for the movable jaw. Compression springs 11 are located in the recesses 9, the inner ends of the springs abutting against the body 1 and the outer ends of the springs abutting against the heads of the screws 10. A means is provided, as hereinafter described, for advancing the movable jaw 6 toward the fixed jaw 3, the springs 11 constituting means for retracting the movable jaw with respect to the fixed jaw.

There is a chamber 12 in the body 1, this chamber being disposed at right angles to the movable jaw 6. Within the chamber 12 is located an opening means for the movable jaw 6. This operating means includes a wedge 26 wherein rollers 21 are journaled the rollers preferably being in contact to reduce the strain on their axles.

At one end, the wedge 26 is provided with a longitudinal bore 34, the inner end of a screw 35 being threaded into the bore. The screw is journaled for rotation in the body 1, a compression spring 36 surrounding a portion of the screw, one end of the spring abutting against the body 1 within a recess 29, and the other end of the spring abutting against the wedge 26. Exteriorly of the body 1, the screw 35 is supplied with a head 37 rotatable within a cap 38 attached by securing elements 39 to the body 1, the construction being such that, although the screw may rotate in the body, the screw will have no advancing movement in the body. A handle 41 is attached to the outer end of the screw 35.

An adjusting device, such as a wedge 42, is located in the chamber 12 and slides on the body 1. The outer end of the wedge 42 is provided with a rectangular lip 43. A screw stud 44 passes through the lip 43 of the wedge 42 and is mounted at one end in the body 1, a nut 45 being threaded upon the screw and coöperating with the end 43 of the wedge 42 to advance the wedge, upon occasion. One of the rollers 21 bears upon the wedge 42, the other roller bearing upon the inclined surface 14 of the jaw 6.

In practical operation, the screw 35 is rotated by means of the handle 41, and since the screw is threaded into the bore 34 of the wedge 26, the wedge will be advanced. When the wedge is advanced, the movable jaw 6 will be advanced toward the jaw 3, so as to grip the cable which is located between the liners 4 and 8. When the screw 35 is rotated in a reverse direction, to release the wedge 26, the spring 36 aids in moving the wedge toward release position with respect to the parts 6 and 42. If any of the movable parts show wear, or if the

liners 4 and 8 become worn, the wear may be taken up by advancing the wedge 42 through the instrumentality of the nut 45.

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

1. In a device of the class described, a body; a jaw fixed on the body; a movable jaw; means for mounting the movable jaw in the body for movement toward and away from the fixed jaw; an operating wedge slidable in the body and coöperating with the movable jaw; and a screw held against longitudinal movement in the body and threaded into the wedge.

2. In a device of the class described, a body; a jaw fixed on the body; a movable jaw; means for mounting the movable jaw in the body for movement toward and away from the fixed jaw; an operating wedge slidable in the body and coöperating with the movable jaw; a screw held against longitudinal movement in the body and threaded into the wedge; and a compression spring surrounding a portion of the screw and abutting against the body and the wedge.

3. In a device of the class described, a body; a jaw fixed on the body; a movable jaw; means for mounting the movable jaw in the body for movement toward and away from the fixed jaw; an operating wedge slidable in the body and coöperating with the movable jaw; and means for operating the wedge, the operating wedge being provided with contacting anti-friction elements, one of which bears against the movable jaw, the other of which exerts a pressure against the body.

4. In a device of the class described, a body; a jaw fixed on the body; a movable jaw; means for mounting the movable jaw in the body for movement toward and away from the fixed jaw; an operating wedge slidable in the body and coöperating with the movable jaw; means for actuating the wedge; an adjusting wedge interposed between the operating wedge and the body; and means for actuating the adjusting wedge.

5. In a device of the class described, a body; a jaw fixed on the body; a movable jaw; means for mounting the movable jaw in the body for movement toward and away from the fixed jaw; an operating wedge slidable in the body and coöperating with the jaw; means for actuating the wedge; an adjusting wedge interposed between the operating wedge and the body; and means being provided for actuating the adjusting wedge, the operating wedge being supplied with anti-friction elements, one of which bears on the adjusting wedge, the other of which bears on the movable jaw.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FIDELIS M. MECHLING.

Witnesses:

ELMA HUDSON,

H. L. ROBINSON.