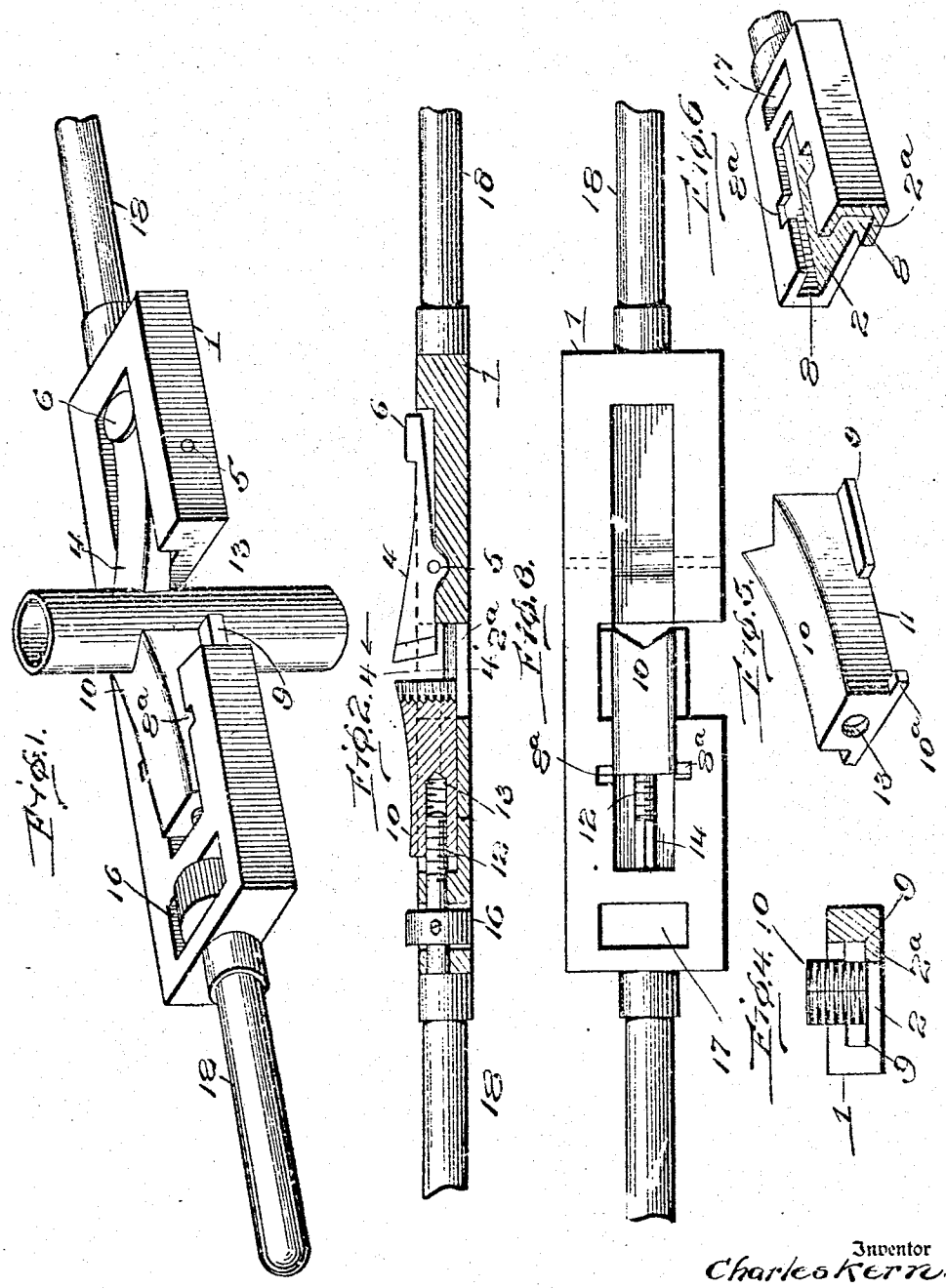
C. KERN.

PIPE LIFTER.

APPLICATION FILED APR. 12, 1911.

996,259. Patented June 27, 1911.



Witnesses

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CHARLES KERN, OF TELL, WISCONSIN.

PIPE-LIFTER.

996,259. Specification of Letters Patent. Patented June 27, 1911.

Application filed April 12, 1911. Serial No. 620,700.

To all whom it may concern:

Be it known that I, CHARLES KERN, a citizen of the United States, residing at Tell, in the county of Buffalo and State of Wisconsin, have invented new and useful Improvements in Pipe-Lifters, of which the following is a specification.

This invention relates to improvements in pipe lifters; and the object of the same is to provide a lifting clamp which will receive pipes of different diameters and can be quickly adjusted manually, and which is especially adapted to be grasped in the hands of the workmen when the pipe is to be lifted, as in raising pipes from a well.

While there have been large numbers of pipe holders for securely holding pipes which were being lowered into a well or raised therefrom, these prior pipe holders have usually been constructed and adapted for attachment to a platform at the mouth of the well and are ordinarily bolted thereto. They have been principally used to regulate the descent of pipes into a well and to securely hold a pipe while sections were being added or removed. I am thoroughly familiar with the construction and use of these safety or holding clamps, which though performing certain of the functions of my invention are in many important particulars quite distinct.

Other advantages will be apparent to those skilled in this art from the following description in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of my pipe lifter, showing the manner of grasping a pipe; Fig. 2 is a side elevation of the same, partly in section; Fig. 3 is a top plan view of the lifter: Fig. 4 is a cross-section on the line 4—4 of Fig. 2, looking in the direction of the arrow; Fig. 5 is an enlarged detail perspective view of the sliding jaw: and Fig. 6 is a top perspective elevation of that portion of the frame which accommodates the sliding jaw.

The frame 1 may be rectangular, and is provided with a central aperture 3, extending through the side wall upon one side, by means of which the lifter may be placed about a pipe. The frame upon either side of the central aperture is channeled or recessed longitudinally. In the recess or channel upon one side is a dog 4, pivoted at 5, having a V-shaped notch at its inner end, undercut to provide a sharp biting edge to engage the pipe, and at its outer end a thumb or striking piece 6, by means of which the dog may be quickly disengaged from the pipe. The opposite channel is provided with undercut side grooves 8, and lateral, oppositely disposed recesses or notches 8^a, located at a suitable distance from the aperture 3, and extending entirely through the ledges provided by the aforesaid undercut channel. The movable jaw 10 is provided with a pair of tongues or flanges 9, projecting from the lower side edges and extending from the forward end to approximately the central longitudinal portion, and at the rear end with a pair of oppositely extending ears or lugs 10^a, projecting in alinement with said flanges. When it is desired to assemble the parts, the jaw 10 is first placed over the channel in such a position that the flanges 9 will extend over the aperture 3 and the ears or lugs 10^a will register with the recesses 8^a. It may then be lowered into operative position and be slid longitudinally in the channel, the flanges 9 and lugs 10^a being guided in the grooves 8. For the purpose of adjusting said sliding jaw quickly and without the necessity for a wrench or other tool, I provide a threaded stem 11, which engages an internally screw-threaded bore 13 of the movable jaw, said stem also having a squared portion 14 which passes through a squared opening in a knurled thumb-piece 16 fitting within the recess 17. By rotating the thumb-piece in one direction or the other, the jaw 10 is moved forward or backward, the opposite walls of the recess serving as thrust bearings.

The base of the lifter frame is integral with the sides and forms a solid, firm support under the dog 4 and sliding jaw 10, as indicated at 2. The inner end of the jaw 10 is also supported upon one side as it projects into the central opening by the ledge 2^a of the base. It will thus be seen that I have provided an exceedingly strong and rigid support to receive the strains and heavy pressures brought upon the movable members of the jack when the pipe is being lifted thereby.

The operation of my pipe lifter will be understood from the foregoing description. The sliding jaw 10 is first moved back in its channel until the frame can be placed around the pipe, after which the jaw 10 is moved into engagement with the pipe by means of the thumb piece 16. The handles

18 may now be grasped by a man upon either side and the pipe lifted bodily. If it is desired to release the pipe or to permit it to slide downwardly, the outer end 6 of the pivoted dog is depressed; while if it is desired to remove the lifter from the pipe, the sliding jaw is moved backward by means of the thumb piece 16, until the inner end will clear the pipe.

The advantages of my invention over prior platform pipe holders will now be appreciated. The lifter can be readily handled and placed around the pipe in any position and be quickly adjusted thereto by means of the thumb-piece. The pipe is then lifted by means of the lifter itself, two men grasping the handles upon either side, thus dispensing with the usual lifting tackle required to be used in conjunction with the platform holder.

The frame is exceedingly compact and strong, the recess 3 being made as narrow as possible, while the sliding jaw is made considerably longer in order to secure a very wide bearing surface. In order to accomplish this result, I have made special provision for assembling the long jaw within the frame. The lugs 10^a, located at the rear end of the sliding jaw coöperate with the flanges 9 to furnish a very wide bearing support, while the narrow recess 3 prevents an undue weakening of the frame at the center.

For the purpose of illustration, I have described in detail one embodiment of my invention, but it is evident to those skilled in the art that changes can be made in the details of construction without departing from the spirit of the invention, and I mean to cover any such changes in the claims as might readily occur to the skilled mechanic.

I claim as my invention and desire to secure by Letters Patent—

1. A portable pipe lifter comprising a supporting frame provided with a central aperture extending laterally from one side and channels in the top of the frame extending longitudinally upon either side of said aperture, a dog pivotally mounted within one of said channels, the other of said channels being provided with undercut side portions forming longitudinal guide ledges, a clamping jaw adapted to slide longitudinally within the last-named channel and having flanges projecting oppositely from the forward portion thereof and a pair of ears or lugs projecting from the rear end, said guide ledges having a pair of oppositely disposed recesses to register with said lugs when said flanges register with said central aperture, whereby said movable jaw may be placed within its channel, and means for moving and holding said jaw in any desired position in the channel.

2. A pipe lifter comprising a frame having a central aperture extending laterally from one side and channels in the top of the frame extending longitudinally upon each side of the aperture, a dog pivotally mounted in one of the channels, the other of said channels being provided with longitudinal guide-ledges, a clamping jaw slidably mounted within the last-named channel, a flange upon each side of the forward portion of said jaw, a lug upon each side of the rear portion thereof spaced apart from said flanges, the aforesaid guide ledges having oppositely disposed notches at a distance from the central aperture in the frame equal to the length of the gap between the lugs and tongues, the said lugs and gaps upon the jaw being adapted for registration with the coöperating parts of the frame whereby the jaw may be placed within or removed from its respective channeled portion when said parts are in registry, and means for moving said parts out of registry for purposes of operation.

3. A pipe lifter comprising a frame having a central aperture extending laterally from one side and channels in the top of the frame extending longitudinally upon each side of the aperture, a dog pivotally mounted in one of said channels and normally supported upon the frame, guide ledges overhanging the other channel, a clamping-jaw slidably mounted within the last-named channel having oppositely extending flanges guided by said ledges, a supporting ledge spanning said aperture and adapted to support the forward end of said clamping-jaw, a recess in the frame at the rear of one channel, and a rotary thumb-piece mounted within said recess and having a bolt extending therefrom and in threaded engagement with said clamping-jaw, the opposite walls of said recess serving as thrust bearings for said thumb-piece.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES KERN.

Witnesses:
S. P. Ibach,
M. Stohr.