No. 705,724. Patented July 29, 1902.

D. P. UPSON.

PIPE HOLDER OR CLUTCH.

(Application filed May 9, 1902.)

(No Model.)

Fig. 1.

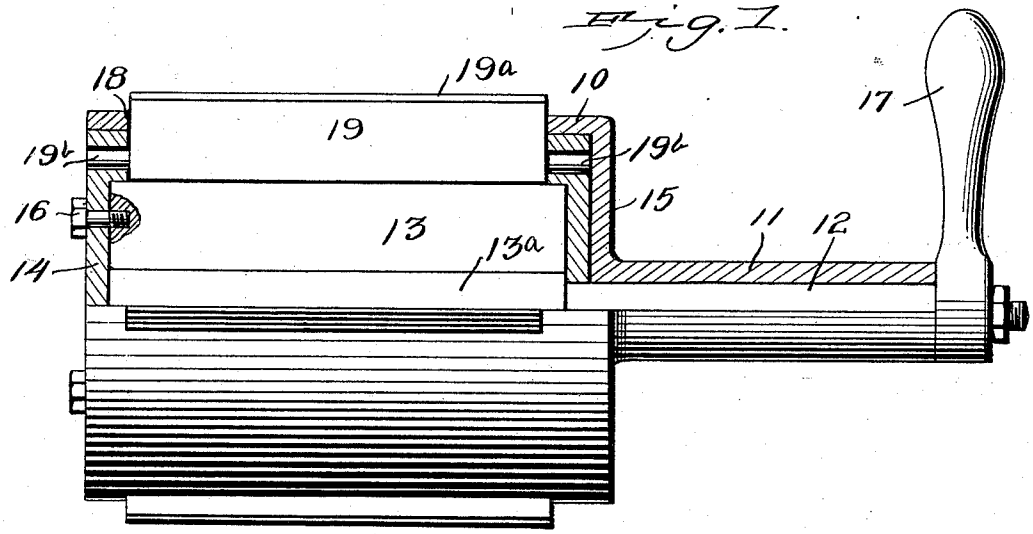


Fig. 3.

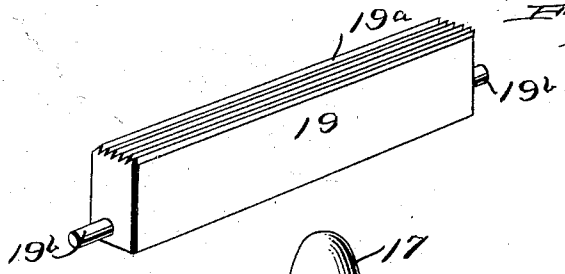
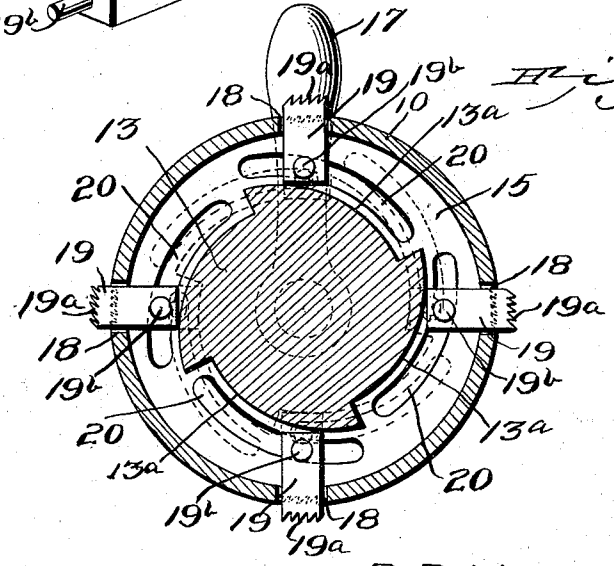


Fig. 2.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DELEVAN PAUL UPSON, OF JACKSONVILLE, FLORIDA.

PIPE HOLDER OR CLUTCH.

SPECIFICATION forming part of Letters Patent No. 705,724, dated July 29, 1902.

Application filed May 9, 1902. Serial No. 106,662. (No model.)

To all whom it may concern:

Be it known that I, DELEVAN PAUL UPSON, a citizen of the United States, residing at Jacksonville, in the county of Duval and State of Florida, have invented a new and useful Pipe Holder or Clutch, of which the following is a specification.

This invention has for its object the production of a device whereby pipes or other hollow or cylindrical bodies may be held firmly while threads are being formed thereon or other work done which requires a strong force to resist, such devices being generally known as "inside wrenches" or "inside clutches."

The invention consists in certain novel features of construction, as hereinafter shown and described, and specifically pointed out in the claims.

In the drawings illustrative of the invention, Figure 1 is a side elevation, the upper half in vertical section. Fig. 2 is a transverse section on the line x x of Fig. 1. Fig. 3 is a perspective view of one of the gripping-bars detached.

The inclosing casing or shell is indicated at 10 with a projecting sleeve or hollow stud 11, in which a journal 12 of a cam-cylinder 13 is revolubly mounted, the cam-cylinder being thereby supported revolubly within the shell, as shown. The cylinder 13 is formed with a series of tangential cam-surfaces 13^a longitudinally of its outer surface, as shown in Fig. 2. The ends of the cylinder 13 are provided with caps 14 15, the interiors of the caps conforming to and engaging the outer surface of the cam-cylinder and the exteriors of the caps engaging the interior of the shell 10, and thereby forming bearings for the cam-cylinder. The outer cap 14 will preferably be secured to the cylinder 13, as by cap-screws 16, while an operative handle 17 on the outer end of the stud 11 completes the connection between the parts.

The shell 10 is formed with a series of horizontal apertures 18, corresponding to the cam-surfaces 13^a and in which a corresponding series of bars 19 are supported, the bars engaging the cam-surfaces 13^a by their inner surfaces, and with their outer surfaces serrated, as shown at 19^a, and forming the gripping-bars of the implement.

The caps 14 15 are each formed with curved slots 20, corresponding to the cam-surfaces 13^a and disposed parallel thereto and adapted to engage studs 19^b on the ends of the gripping-bars 19. By this means the bars are guided and supported when in action. By this simple arrangement when the implement is inserted into a pipe or other hollow body and the handle 17 turned in one direction the cylinder 13 will be revolved, and the cam-surfaces 13^a, moved beneath the bars 19, will force them outward and cause the serrations 19^a to firmly engage the interior of the pipe or other body engaged and form a clutch or mandrel, by which it may be held while threads are being cut upon it or other work performed which requires a strong force to resist.

The implement is extremely simple in construction and very effective for the service required of it.

All the wearing parts can be of hardened steel and the whole device can be manufactured very cheaply and with sufficient strength to resist the severe strains to which it will be subjected.

The implement will be manufactured in various sizes to fit the various sizes of pipes in which they will be required.

The proportions may be changed and the device modified in minor particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim is—

1. In an implement of the character described, an inclosing shell having longitudinal apertures, a cylinder revolubly mounted in said shell and having longitudinally-disposed cam-surfaces, and grip-bars extending through said apertures and in operative engagement with said cam-surfaces, and means for revolving said cam-cylinder within said shell, substantially as set forth.

2. In an implement of the character described, an inclosing shell having longitudinal apertures, a cylinder revolubly mounted within said shell and having tangentially-disposed exterior surfaces, grip-bars extending through said apertures and in operative engagement with said tangential surfaces, and means for revolving said cylinder within said shell, substantially as set forth.

3. In an implement of the class described,

an inclosing shell having longitudinal apertures, a cylinder within said shell having longitudinally-disposed cam-surfaces, caps engaging the ends of said cylinder within said shell, grip-bars extending through said apertures and in operative engagement with said cam-surfaces, and means for revolving said cylinder and caps within said shell, substantially as set forth.

4. In an implement of the character described, an inclosing shell having longitudinal apertures, a cylinder within said shell and having longitudinally-disposed exterior cam-surfaces, caps engaging the ends of said cylinder and the interior of said shell and adapted to support the cylinder within said shell, slots within said caps and paralleling said cam-surfaces, grip-bars extending through said apertures in said shell and in operative engagement with said cam-surfaces and with studs engaging said slots, and means for revolving said cylinder and caps, substantially as set forth.

5. In an implement of the character described, an inclosing shell having longitudinal apertures and with a sleeve extending centrally from one end, a cylinder inclosed by said shell and with longitudinally-disposed exterior cam-surfaces and with a stud engaging said sleeve, an operating-handle upon said stud outside of said sleeve, and grip-bars extending through said apertures and in operative engagement with said cam-surfaces, substantially as set forth.

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

DELEVAN PAUL UPSON.

Witnesses:
J. W. WALKER,
A. W. BAUS.