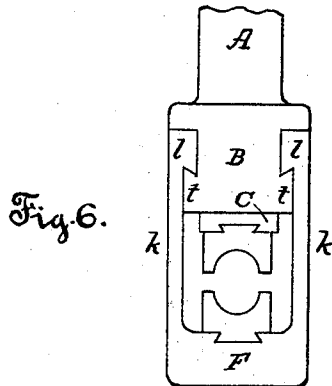
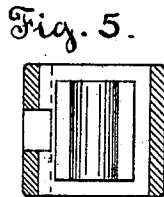
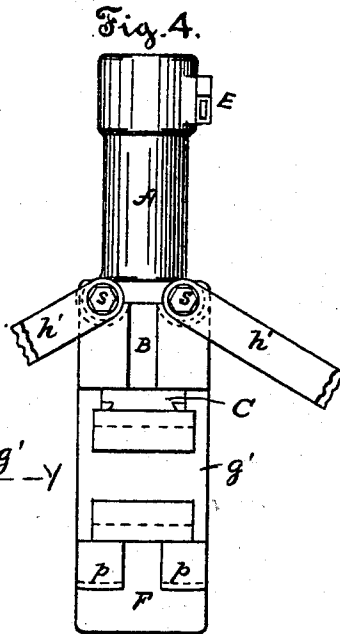
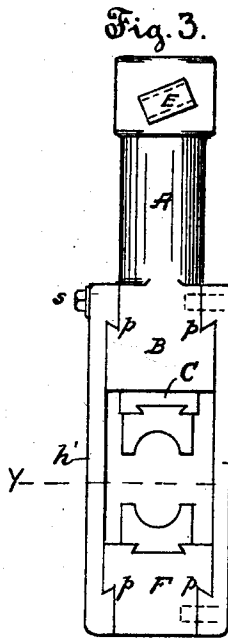
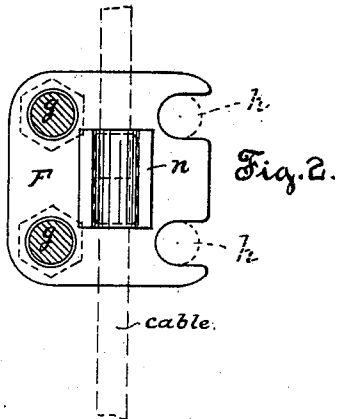
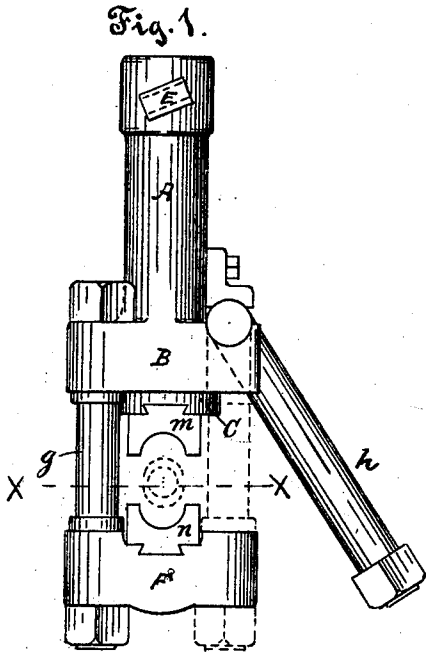


T. J. MCTIGHE.

HYDRAULIC PRESS FOR SPLICING ELECTRICAL CONDUCTORS.

(Application filed Mar. 30, 1900.)

(No Model.)



Witnesses:  
*Lyngel Law*  
*Amos D. Morris*

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# UNITED STATES PATENT OFFICE.

THOMAS J. MCTIGHE, OF NEW YORK, N. Y.

## HYDRAULIC PRESS FOR SPLICING ELECTRICAL CONDUCTORS.

SPECIFICATION forming part of Letters Patent No. 671,835, dated April 9, 1901.

Application filed March 30, 1900. Serial No. 10,840. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS J. MCTIGHE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Hydraulic Presses for Splicing Electrical Conductors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to hydraulic presses; and it consists in the portable press of novel form and construction, substantially as hereinafter fully described and claimed.

In my pending application, Serial No. 6,713, of 1900, filed February 27, 1900, I have shown a method of splicing electrical cables in which I inclose the ends of the cable in a metal sleeve, which is then swaged down by great pressure, effecting a result which I call "cold-welding." For this purpose a hydraulic press is generally required, especially on the larger sizes of cables; but the various portable presses ordinarily obtainable are not well adapted to the work. For my purpose the press must be readily removable sidewise from the cable after compressing the splice. The usual gap-press with massive yoke at one side is too heavy and is not adapted to use in confined spaces, such as manholes, which may already be occupied by a number of cables. I have therefore devised a special type of press which, while capable of excessively high pressures, is comparatively light, readily inserted in a manhole and between existing cables, and after the operation of compression can be instantly opened for removal from around the cable.

More particularly, my invention is as follows, reference being had to the accompanying drawings, in which—

Figure 1 is an end elevation of one form of press adapted to the purpose. Fig. 2 is a horizontal section on line  $xx$  of Fig. 1. Figs. 3 and 4 are respectively end and side elevations of another form of press. Fig. 5 is a horizontal section on line  $yy$  of Fig. 3, and Fig. 6 is an end elevation of a modification.

In all the figures, A is the pump-chamber; B, the ram-cylinder; C, the ram; E, the pump-

lever socket, and F, the stationary platen or cross-head.

In Figs. 1 and 2 the ram-cylinder B and cross-head F are permanently held in relative position by the heavy bolts or rods  $g$ , as in the ordinary type of press. On the other side of the line of pressure I apply one or two swinging T-headed bolts  $h$ , these playing in and out of slots made in the ram-cylinder walls and cross-head. The largest cable to be operated on needs but a few inches clearance between these bolts  $g$  and  $h$ , and a press of a hundred tons capacity or more can be brought within a total width of about seven inches.

To apply the press, the nuts on the swinging bolts  $h$  are slightly relaxed and the bolts swing outwardly, as in Fig. 1, whereupon the press can be slipped into position around the joint of the cable. The bolts  $h$  are then swung back and the nuts tightened, after which the pump is operated till the dies  $m n$  have effected the desired compression on the splice of the cable. A slight relaxing of the nuts again allows the bolts  $h$  to be swung outwardly, opening a sufficient gap for the removal of the press from around the now completed splice.

Obviously many forms of presses may be devised embodying my invention without departing from the scope thereof. For example, instead of the bolts shown in Figs. 1 and 2 I may adopt the form shown in Figs. 3, 4, and 5. Here I substitute the fixed solid bar or plate  $g'$  and the swinging bars  $h'$ , with the interlocking-hook construction, (shown at  $p$ .) The bars  $h'$  swing on the pins  $s$ . Fig. 4 shows these bars swung into open position, the motion being parallel to the axis of the cable-dies  $m n$ .

Another modification is shown at Fig. 6, where the bottom platen or cross-head F is made in one piece with the side bars K, which have the hook ends  $l$  engaging with the corresponding lugs  $t$  on the ram-cylinder. In this case the press is applied to and removed from the cable by simply sliding the top and bottom apart lengthwise of the cable.

What I claim as my invention is—

1. In a hydraulic press, the combination of a stationary frame, a stationary die therein, a die movable independently of the frame, a

gap adapted for the removal of the work transversely from between said dies and a movable pressure-resisting closure for said gap.

2. In a hydraulic press, the combination of  
5 a stationary frame, a stationary die, a movable die, a gap adapted for the removal of the work transversely from the press and movable means for resisting pressure and closing  
said gap.

10 3. In a hydraulic press, the combination of a frame in two parts, one of which is remov-

able completely from the other, a movable die, a fixed die, and means for holding the parts of the frame together and resisting pressure during the operation of the press.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS J. MCTIGHE.

Witnesses:

JOS. B. CONNOLLY,  
THOS. A. CONNOLLY.