J. LUKASZEWSKI.

WORK CLAMP FOR BULLDOZERS AND LIKE PRESSES.

APPLICATION FILED MAY 29, 1920.

1,382,102. Patented June 21, 1921.

Fig. 1.

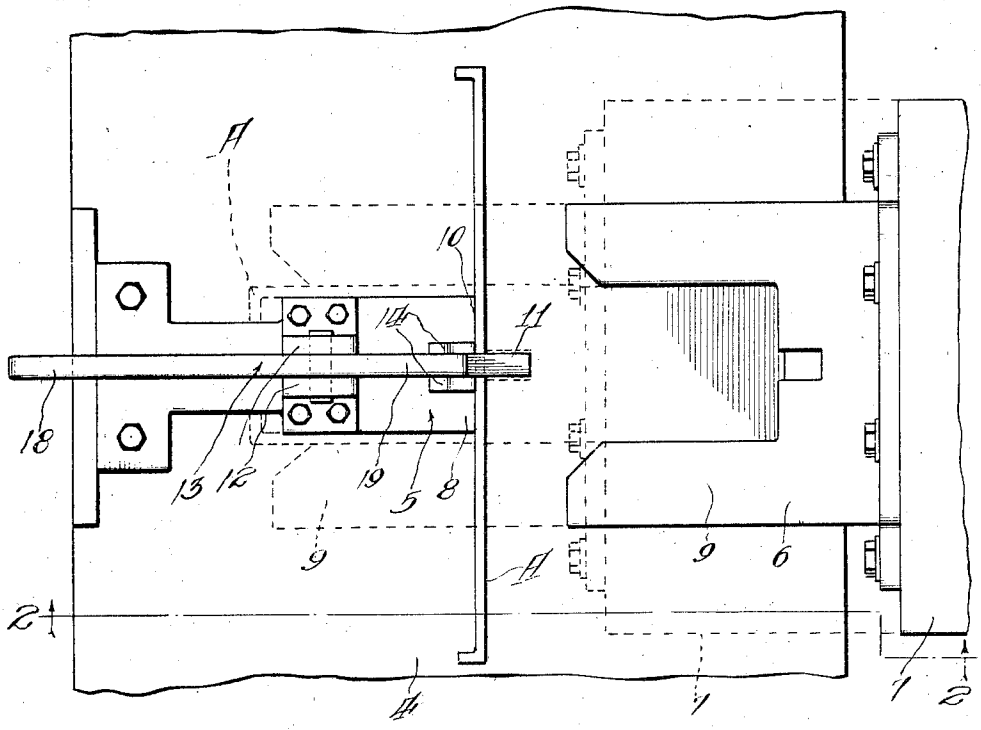


Fig. 2.

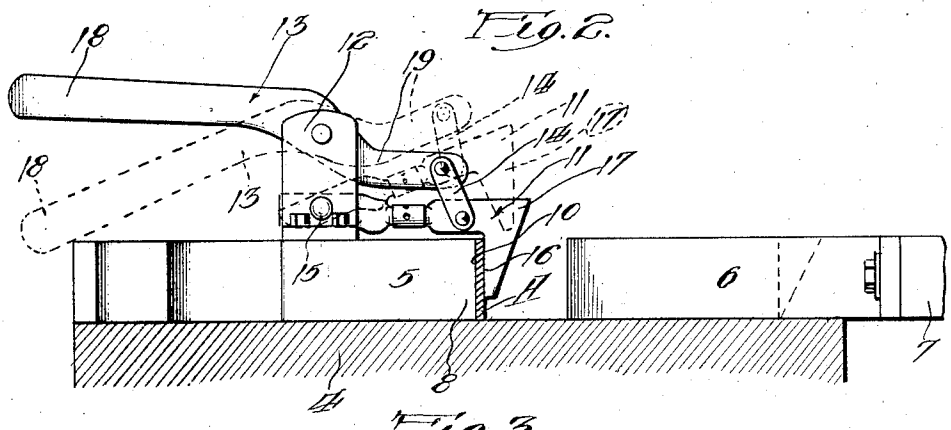
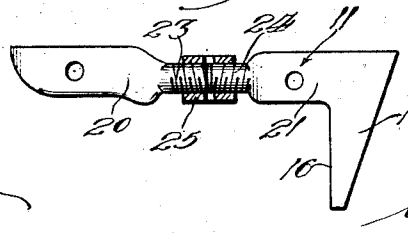


Fig. 3.



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WORK-CLAMP FOR BULLDOZERS AND LIKE PRESSES.

1,382,102. Specification of Letters Patent. Patented June 21, 1921.

Application filed May 29, 1920. Serial No. 385,119.

To all whom it may concern:

Be it known that I, JOZEPH LUKASZEWSKI, a citizen of the present Government of Poland, and a resident of Hammond, Lake county, and State of Indiana, have invented certain new and useful Improvements in Work-Clamps for Bulldozers and like Presses, of which the following is declared to be a full, clear, and exact description.

This invention relates to improvements in work clamp for bulldozers and like presses and it has been designed especially for use in connection with presses for operating on heavy work, such as bulldozers and hydraulic presses. It is inconvenient, difficult, and dangerous to hold the work in proper position before the dies of such presses are brought together upon the work, and the object of this invention is to provide improved means for temporarily holding the work in place. Another object is to provide clamping means capable of temporarily holding material of various thicknesses in place, and which may be readily adjusted to accommodate itself to different thicknesses of material.

With these and other objects in view, the invention consists in the several novel features hereinafter fully set forth and claimed.

The invention is clearly illustrated in the accompanying drawing, in which:—

Figure 1 is a plan of a fragment of the table, and the dies of a bulldozer of ordinary construction, illustrating a simple form of the present invention applied thereto; Fig. 2 is a view partly in side elevation and partly in vertical, longitudinal section of the parts seen in Fig. 1, the line of section being indicated at 2—2 in Fig. 1, and Fig. 3 is a detail side view of a certain clamp member showing an adjusting member thereof in section.

Referring to said drawing, which illustrates a simple embodiment of the invention, the reference character 4 designates a fragment of the table, 5 the stationary die and 6 the movable die of a bulldozer of usual and ordinary construction. The stationary die 5 is bolted or otherwise rigidly fastened to the table, and the movable die 6 is secured to a plunger or head 7 which is operated by suitable mechanism, as is well understood, to press or form the material into shape between the dies. For convenience in illustrating the invention, dies for forming up the yoke member of a car coupling, are shown, the working end 8 of the stationary die 5 being substantially rectangular, and the movable die having a rectangular recessed portion 9 that coöperates with the portion 8 to form, or shape the work or material (A) between them, as is well understood.

In common practice the preheated bar A, is placed against the end face 10 of the stationary die 5, held there in some fashion, and the movable die 6 forcibly brought against the bar by the powerful operating mechanism of the press or bulldozer; and the end portions of the bar thereupon bent back along the side of the die 5.

The clamping mechanism forming the subject matter of this invention, comprises a clamp member 11, which is fulcrumed on a post or standard 12, and an operating lever 13, also fulcrumed on the post 12 and connected to the clamp member 11 by links 14. The fulcrum 15 of the clamp member 11 is located back of the end face 10 of the stationary die, to permit the clamp member to be moved substantially in a vertical direction, to and from its operative position, and a bearing face 16 is provided on a jaw portion 17 of the clamp member which face 16 is arranged to engage the bar or other material, to be operated on by the press. The clamp member may be swung up to the position seen in dotted lines in Fig. 2, to permit the bar A or other material, to be put in place against the stationary die, and the operating lever 13 is used to lift and lower the clamp member 11.

The post or standard 12 may conveniently comprise two spaced, companion members bolted to the upper face of the stationary die, and the clamp member 11, and operating lever 13 may pass between said members. Said lever 13 has a long handle 18, distantly located from the jaw 17, that may be in convenient position to be grasped and operated by the workmen, without exposing themselves to the dangers of the press. The short arm 19 of the lever overlies the clamp member and is connected thereto by the links 14.

To accommodate the clamp member to thick or thin bars or other material to be formed or shaped by the press, said member is made adjustable, whereby the clamping face of the jaw may be adjusted closer to or farther away from the end face of the die 5. By means of the adjustment feature

the face 16 of the jaw may be brought into parallel relation with the end face of the die 5 at the clamping position of the jaw, whereby the bar or other work A may be securely clamped in place. A simple form of adjustment means for the clamp member may be obtained by making it in two parts 20, 21 (see Fig. 3), each having a screw threaded end 23, 24, one being a right and one being a left hand thread, connected by an internally screw threaded coupling 25. By turning the coupling in the proper direction, the space between the faces 10, 16 may be increased or decreased at will. The bearing face of the jaw portion 17 is arranged at right angles to the length of the shank portion and the pivotal connection between the shank portion and its support is arranged back of the place where the jaw engages the work, whereby very slight effort is required to clamp the work in place, and yet the clamping action is very effective because of the particular arrangement of the parts.

In operation, the bar A or other material is placed against the end face of the stationary die, and the handle of the operating lever swung upward from the position shown in dotted lines in Fig. 2 to that shown in full lines, thereby bringing the clamping face of the clamp member into pressing engagement with the bar A, and firmly clamping it in place. The movable die is then moved from the position seen in full lines in Fig. 1 to that seen in dotted lines, and then back again to its former position, thereby forming or shaping up the bar as is well understood.

It will be readily seen that the hot bar may be held in position without any great effort on behalf of the operator, and without exposing himself to the dangers of the press.

It is also understood that the clamp is intended for use in connection with comparatively heavy work, and that it is made of strong and substantial material, capable of rough handling.

More or less variation of the exact details of construction is possible without departing from the spirit of this invention; I desire, therefore, not to limit myself to the exact form of the construction shown and described, but intend, in the following claims, to point out all of the invention disclosed herein.

I claim as new, and desire to secure by Letters Patent:

1. A work clamp of the character described, for bulldozers and like presses, comprising a clamp member having a shank portion provided with a jaw at one end thereof for clamping the work against one die of the press, the bearing face of said jaw being arranged at right angles to the length of the shank of the clamp member, a support, said clamp member being fulcrumed on said support at a point back of the work, an operating lever fulcrumed on said support, and having a handle distantly removed from said jaw, and operative connections between said clamp member and lever.

2. A work clamp of the character described for bulldozers and like presses, comprising a clamp member having a shank portion provided with a jaw at one end thereof for clamping the work against one die of the press, the bearing face of said jaw being arranged at right angles to the length of the shank of the clamp member, a support located back of said jaw, said clamp member being fulcrumed on said support at a point back of said jaw, an operating lever fulcrumed on said support and having a handle distantly removed from the jaw, and a link connecting said clamp member and lever.

JOZEPH LUKASZEWSKI.