June 12, 1923. 1,458,688

J. F. DUXBURY

SAFETY DEVICE FOR POWER PRESSES

Filed Aug. 24, 1922

Fig. 1.

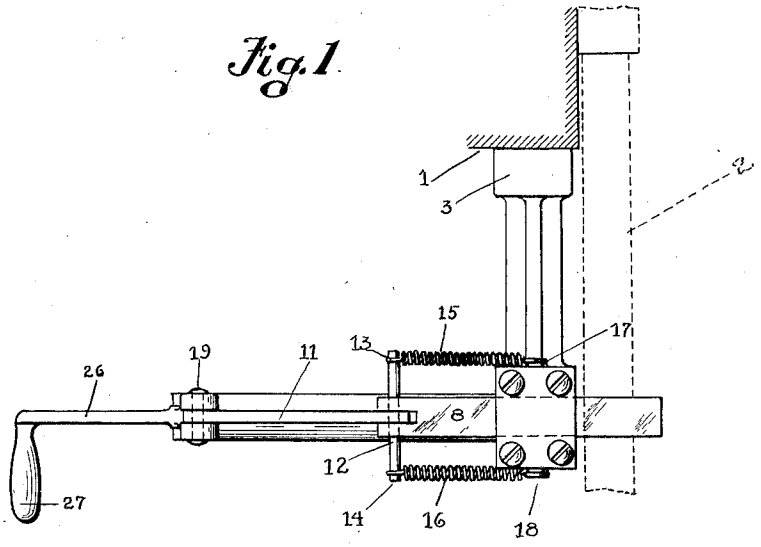


Fig. 2.

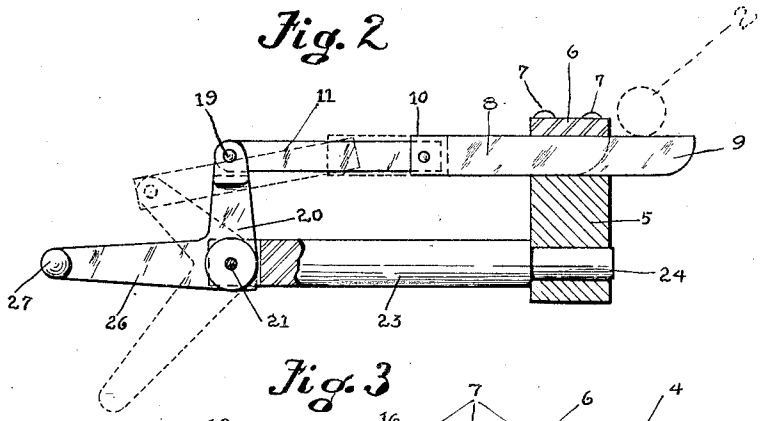
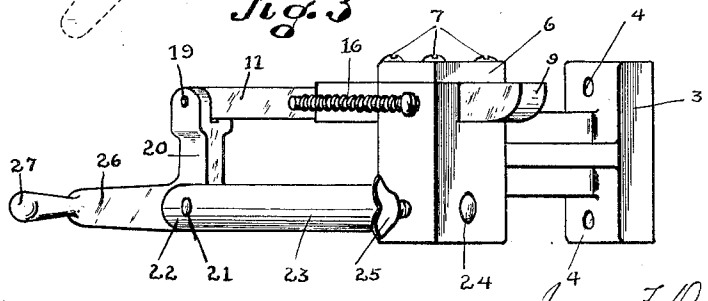


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES F. DUXBURY, OF PROVIDENCE, RHODE ISLAND.

SAFETY DEVICE FOR POWER PRESSES.

Application filed August 24, 1922. Serial No. 583,979.

To all whom it may concern:

Be it known that I, JAMES F. DUXBURY, a citizen of the United States, and residing at Providence, in the county of Providence and State of Rhode Island, have invented a certain new and useful Improvement in Safety Devices for Power Presses, of which the following is a specification.

My invention relates to that class of presses which are employed to stamp metal. It is well known to users of these presses that the operators very frequently lose fingers or injure their hands by the plunger of the press coming down before the hand is removed from beneath it.

My invention has for its object to provide a device which will render the press incapable of operation until both hands are off of the bed plate of the press, and to provide a device which can be easily and cheaply attached to any of the standard presses now on the market.

My means of accomplishing the foregoing may be more readily understood by having reference to the accompanying drawings which are hereunto annexed and are a part of the specification in which—

Fig. 1 is a top plan view of my improved device;

Fig. 2 is a side view of the same, a part being shown in section for the purpose of clearness.

Fig. 3 is a perspective view.

Similar reference numerals refer to similar parts throughout the entire description.

As shown in the drawings 1 indicates a fragmentary portion of the press and 2 the operating or actuating lever which is shown in dotted lines. Inasmuch as the press and its operating lever form no part of my invention it is not shown except more or less diagrammatically. My improved device comprises a detent support which consists of a base 3 provided with holes 4 so that it can be bolted to the press in the desired position. The upper portion of the detent support has a guide block 5 having a guide formed therein. A cover 6 which is secured in position by means of screws 7 or in any other suitable or convenient manner is provided to hold in position in the guide a detent 8 which is slidably mounted therein. The outer end 9 of the detent, is located so as to engage the controlling lever or arm 2 of the press 1 in its downward movement. The other end 10 of the detent 8 is forked or bifurcated as clearly seen in Fig. 2, to receive a link 11 which is attached to the detent by means of a pin 12. The ends 13 and 14 of the pin 12 extend beyond the sides of the detent 8 and are engaged by coil springs 15 and 16, the opposite ends of which are secured to studs 17 and 18 carried by the guide block 5. The purpose of these springs will be hereinafter explained. The outer end of the link 11 is secured by a pin or pivot 19 to one arm of a bell crank 20. This bell crank is mounted upon a pin or pivot 21 mounted in the bifurcated end 22 of a lever supporting rod 23, the opposite end 24 of this rod is securely mounted in the guide block 5, being held in position by means of a set screw 25. The arm 26 of the bell crank 20 is provided with a handle 27 for the convenient use of the operator. The operation of the device is as follows:

Under normal conditions the device is in the position shown in full lines in Fig. 2 in which the end 9 of the detent 8 is projected beyond the guide block 5 and into the line of travel of the controlling lever 2 so that should the operator attempt to draw the lever downwardly for the purpose of starting the press, it will come in contact with this bar of steel which effectually bars its further progress and it becomes impossible to set the press in motion. It will be obvious that it will require the right hand of the operator to grasp the lever 2 for the purpose of actuating the press. He must, in order to put the press in operation, grasp the handle 27, of the bell crank in his left hand and by moving it downwardly as shown in dotted lines in Fig. 2, it is obvious that the detent 8 will be retracted and the end 9 be withdrawn until it is even with the face of the guide block 5 in which position it obviously offers no further bar to the movement of the controlling lever or arm 2 of the press and it can be set in operation. The moment, however, that the operator releases the handle 27, the coil springs 15 and 16 operate to project the end 9 of the detent 8 outwardly and the press is again rendered incapable of operation as the movement of the controlling lever or arm 2 is effectually prevented. It will thus be seen that in order to actuate the press the operator has to have both hands employed upon the levers and an accident is therefore effectually prevented.

Although I have described a specific form

of device for accomplishing this purpose it will be obvious to persons skilled in the art that many changes of detail of construction may be employed, and I do not desire to be understood as limiting myself to the specific form shown and described, the drawings being furnished merely for the purpose of illustrating a preferred form of embodiment of my invention.

Having described my invention what I regard as new and desire to obtain by Letters Patent is:

1. The combination with a press, having its controlling lever located at one side, of a detent support comprising a base at one end and a guide block at the other, there being a guide formed in said guide block, a detent slidably mounted in said guide, a link pivotally attached to one end of said detent, a bell crank lever, a support for said bell crank lever detachably secured to said guide block, one arm of said bell crank being pivotally attached to the said link, a handle on the other arm of said bell crank, and springs which hold one end of said detent normally projected beyond the face of the guide block.

2. The combination with a press, having its controlling lever located at one side, of a detent support comprising a base and a guide block, there being a guide formed in said guide block, a detent slidably mounted in said guide, a plate to hold said detent in said guide, a link one end of which is pivotally secured to one end of said detent, by a pin or pivot, the ends of which project beyond the sides of the detent, coil springs, one end of each of which is secured to the ends of said pivot pin, studs mounted in said guide block to which the other end of said springs are secured, a bell crank, one arm of which is pivotally secured to the other end of said link, a handle on the other arm of said bell crank lever, and a support for said bell crank lever.

In testimony whereof I have signed the foregoing specification.

JAMES F. DUXBURY.