J. M. JONES.

SAFETY GUARD FOR FOOT OR SCREW PRESSES.

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1,041,092. Patented Oct. 15, 1912.

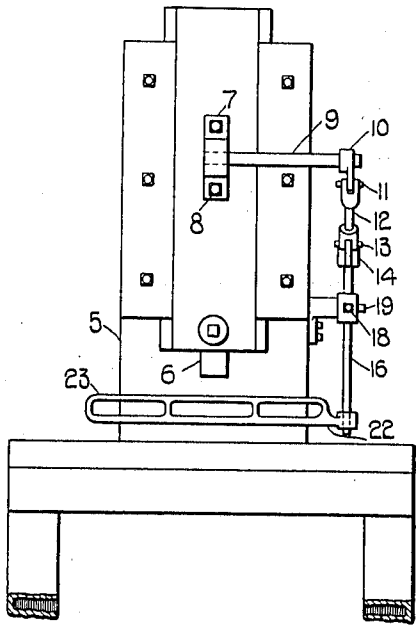

Fig. 1.

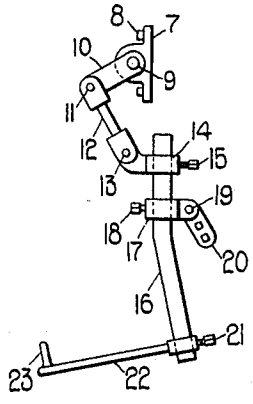

Fig. 2.

WITNESSES:

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SAFETY-GUARD FOR FOOT OR SCREW PRESSES.

1,041,092. Specification of Letters Patent. Patented Oct. 15, 1912.

Application filed April 4, 1912. Serial No. 688,425.

To all whom it may concern:

Be it known that I, JAMES MELVIN JONES, a citizen of the Dominion of Canada, residing at 150 Dundurn street, in the city of Hamilton, in the county of Wentworth, in the Province of Ontario, Dominion of Canada, have invented a certain new and useful Safety-Guard for Foot or Screw Presses, of which the following is a specification.

This invention relates to safety guards for foot or screw presses.

The object of the invention is to provide a device of this character directly connected with and operated by the press plunger, said device serving to move or sweep the operator's hands from a position of danger, prior to the time that the press plunger descends far enough to render it likely to catch the hands of said operator.

This invention contemplates the employment of a structure in which the initial movement of the guarding member is a very rapid one, this movement gradually decreasing. It is aimed to provide in the present structure, a simple and economical arrangement of parts which will serve all of the purposes of more complicated structures heretofore employed. By virtue of the structure herein shown and described, complicated and expensive connections between the usual treadle and releasing clutch of the machine are eliminated, it being clearly apparent that it is only necessary to provide means for performing the guarding function prior to the descent of the plunger, and that this may readily be done by the structure herein described, and in which the guarding element is directly operated by said plunger.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawing, Figure 1, is a front elevation of a press, having the invention applied thereto, and Fig. 2, is a side elevation of the elements comprising the said invention.

Like numerals designate corresponding parts in all of the figures of the drawing.

Referring to the drawing, the numeral 5, designates a press frame and 6, the press plunger. To the press plunger is secured a bracket 7, by means of cap screws or like fastening devices indicated at 8. Bracket 7, carries a laterally extending pin or stud 9, and to this stud a coupling 10, is fixed. This coupling is hingedly connected at 11, to one end of a link 12, and the opposite end of this link is pivoted at 13, to a block 14. Block 14, is adjustably held by means of a screw 15, upon the upper end of a bent lever 16. This bent lever is adjustable through a block 17, and is held in any adjusted position within said block by means of a set screw 18. The block 17, is pivoted at 19, to a bracket 20, said bracket being preferably secured by bolts or other fastening devices to the side of the press frame 5. A set screw 21, adjustably mounts an arm 22, upon the lower end of the bent lever 16, and the arm 22, carries a gate or guard 23.

The operation of the device is as follows: Upon downward movement of the plunger, and bracket 7, the connections described, will force the upper portion of bent lever 16, to the right in Fig. 2, and since block 17, at this time rocks upon its pivot 19, it follows that the lower portion of the bent lever 16, will be swung toward the left in Fig. 2. At this time, gate 23, sweeps across the work table of the press and sweeps the operator's hands away from the position of danger. It is apparent that the structure described will impart a quick initial movement to the gate, which movement will gradually decrease in rapidity as the link 12, comes toward a position of horizontal alinement. The various adjustments provided for permit any desired throw to be given to the parts to achieve the best result.

While the elements shown and described are well adapted to serve the purposes for which they are intended it is to be understood that the invention is not limited to the precise construction set forth, but includes within its purview, such changes as may be made within the scope of the appended claims.

Having thus described my device and its advantages, what I claim as novel and desire to secure by Letters Patent, is:—

1. In a device of the character described, the combination with a press and its plunger, of a guard element, a swinging lever by which said guard element is carried, and a pivoted link connection between said plunger and said swinging lever, said guard element being carried by the lower end of said lever and said swinging link connection engaging said lever above the point upon which it swings.

2. In a device of the character described,

the combination with a press and its plunger, of a bracket secured to the press frame, a bearing block pivotally mounted upon said bracket, a lever mounted in said bearing block, a guard element carried by said lever and a pivoted link connection between said lever and said plunger.

3. In a device of the character described, the combination with a press and its plunger, of a bracket secured to the press frame, a bearing pivotally mounted upon said bracket, a lever mounted in said bearing block, a guard element carried by said lever, a pivoted link connection between said lever and said plunger, and means for adjusting the point of engagement of said link connection with said lever.

4. In a device of the character described, the combination with a press and its plunger, of a swingingly mounted bent lever, a guard element supported from the lower end of said bent lever, and a pivoted link connection between the upper end of said lever and said plunger.

5. In a device of the character described, the combination with a press and its plunger, of a bracket secured to the press frame, a block pivoted to said bracket, a bent lever adjustable through said block, a guard carrying element adjustable upon said lever, a bracket secured to the press plunger, a second block adjustably mounted upon said lever and a link connection between the last named block and said bracket.

Signed at Hamilton, Ontario, Canada, this 26th day of March, 1912.

JAMES MELVIN JONES.

In the presence of—

E. E. JONES,

ALFRED T. BRATTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."