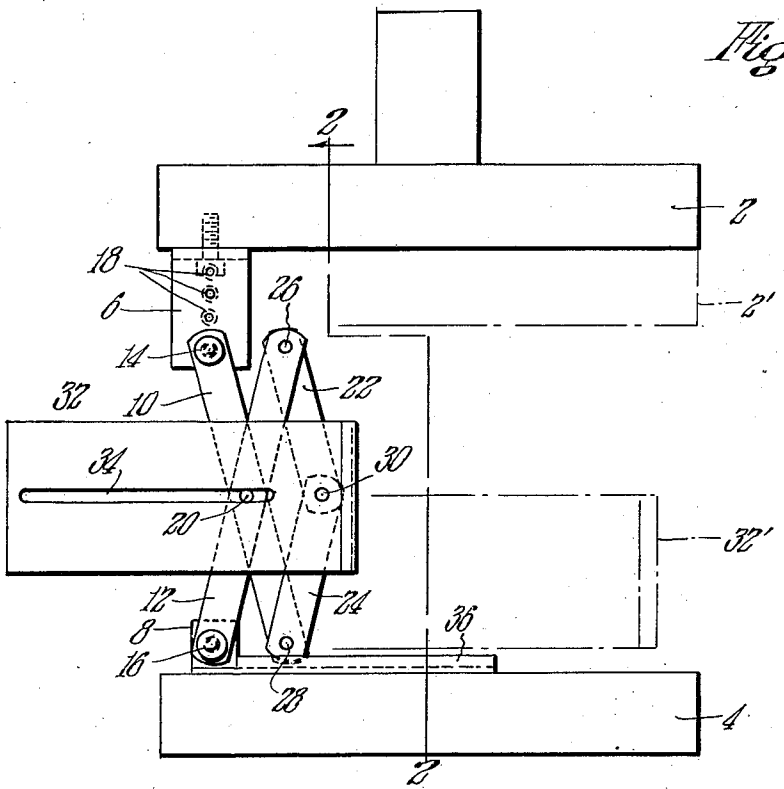
June 22, 1948. H. E. DICKERMAN 2,443,726

SAFETY GUARD FOR PRESSES AND THE LIKE

Filed Jan. 19, 1946

Fig. 1.



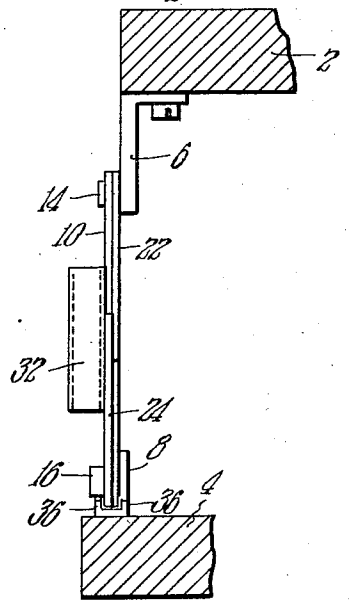


Fig. 2.

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SAFETY GUARD FOR PRESSES AND THE LIKE

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Application January 19, 1946, Serial No. 642,177

1 Claim. (Cl. 74—615)

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This invention relates to improvements in safety guards for punch presses and the like.

The principal objects of the invention are directed to improvements in safety guards for apparatus having coacting members which move towards and away from one another and is characterized by means operable by said members to engage the hand or hands of an operator so as to overcome the liability of the operator having a hand or hands caught between said movable members.

With the foregoing and various other novel features and advantages and other objects of my invention as will become more apparent as the description proceeds, the invention consists in certain novel features of construction and in the combination and arrangement of parts as will be hereinafter more particularly pointed out in the claim hereunto annexed and more fully described and referred to in connection with the accompanying drawings wherein:

Fig. 1 is a front elevational view of guard apparatus embodying the novel features of the invention; and

Fig. 2 is an elevational view on the line 2—2 of Fig. 1.

Upper and lower members 2 and 4 represent the relatively movable members of a die set with which the invention is associated. It is usual to secure coacting die members to the members 2 and 4 such as a punch associated with the upper member and a die associated with the lower member. The members 2 and 4 are put in a press so that the upper member is moved up and down relative to the lower member for the coaction of the punch and die. An operator places the parts to be operated upon between the die members and in the operation of the press a hand or hands frequently become caught between the die members and results in serious injuries.

According to this invention, means is provided which is operable, as the die members move relative to one another, as where the upper die member descends towards the lower member, to move across the front of the opening between the die members and engage the hand or hands of the operator. This will cause the operator to remove the hand or hands from between the die members or the hand or hands will be moved out of the danger zone by the means to be described.

A bracket 6 is secured to the upper member 2 and a guide member 8 is secured to the lower member 4. Primary links 10 and 12 have upper and lower ends pivoted at 14 and 16 to the members 6 and 8. The upper pivotal connection 14

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may be a screw that may engage any one of a plurality of tapped holes such as 18 in the bracket 6. The links 10 and 12 intermediate their ends are pivoted together on a pin 20.

Other secondary links 22 and 24 are pivoted at 26 and 28 to the ends of links 10 and 12 and at a common pivotal point 30 are pivoted to a guard plate such as 32.

The guard plate 32 is provided with an elongated slot 34 in which the pin 20 is slidable for maintaining the plate in the desired position.

The guide member 8 secured to the lower member 4 is provided with a guideway in which the lower pivoted together ends of the links 10 and 24 are slidable. Said guideway may be formed by spaced lips such as 36.

The members 2 and 4 are shown in open position and in this position an operator will place work between the die members. As the upper member descends or moves toward the lower member and to some lower position such as indicated approximately by the dot-dash lines 2', the links act to move the guard plate to the right across the opening between the die members. In this movement, the leading edge of the guard plate will bring up against the hand or wrist of the operator so as to cause the operator to withdraw the hand or otherwise the said plate will push the hand away from the danger zone between the die members. In the movement of the upper member 2 the guard plate will move to the approximate position shown by dot-dash lines 32' and the lower ends of links will be guided in the guide while the pin 20 will traverse the slot 34 and maintain the plate 32 horizontally.

The upper end of the link 10 may be pivoted to the bracket 6 by employing any one of the tapped holes 18 so as to obtain the desired movement of the guard plate. Mechanism of the invention may be permanently associated with a pair of die members so that as each pair of die members is put in a press each said pair of die members will be equipped with its own safety device constructed and adjusted for the most efficient operation thereof.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. Hence, the present embodiments are therefore to be considered in all respects merely as being illustrative and not as being restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all modifications and variations as fall within the meaning and purview and range of equivalency of the appended

claim are therefore intended to be embraced therein.

What it is desired to claim and secure by Letters Patent of the United States is:

Safety guard mechanism for the upper and lower member of a press or the like which are arranged for vertical relative movements comprising in combination, an elongated guard of substantial width plate for disposition in a vertical plane and for movement horizontally back and forth forwardly of said members, a pair of primary links having lower and upper ends for positively pivotally connecting to said movable members and being disposed rearwardly of said guard plate with free end portions extending upwardly and downwardly relative to said plate and intermediate portions thereof crossing one another rearwardly of said plate, said plate provided with a longitudinal slot therethrough terminating inwardly of opposite ends thereof, secondary links having outer ends pivotally connected to the free ends of the primary links having free ends extending downwardly and upwardly therefrom and rearwardly of said plate, pivotal connections between the free ends of said secondary links and said plate adjacent one end

thereof and other pivotal connecting means between the intermediate portions of said primary links in sliding engagement with the slot of said plate, all adapted and arranged whereby said plate is entirely supported by said last-named pivotal connections and links and with the primary links connected to the movable members the guard plate is moved back and forth horizontally accordingly as the members move towards and away from one another.

HUBERT E. DICKERMAN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,329,011	Phillips	Jan. 27, 1920
1,853,425	Hinger	Apr. 12, 1932

FOREIGN PATENTS

Number	Country	Date
179,168	Switzerland	Sept. 8, 1934
12,291	Great Britain	May 24, 1912