S. BAILEY, T. V. LLOYD & E. JONES.

SAFETY GUARD FOR DIE PRESSES.

APPLICATION FILED JUNE 6, 1916.

1,256,641. Patented Feb. 19, 1918.

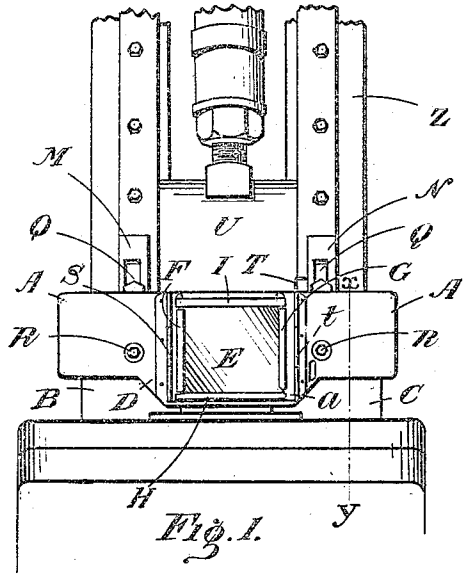


Fig. 1.

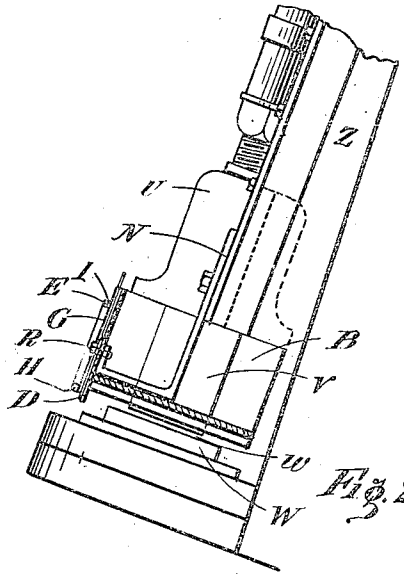


Fig. 2.

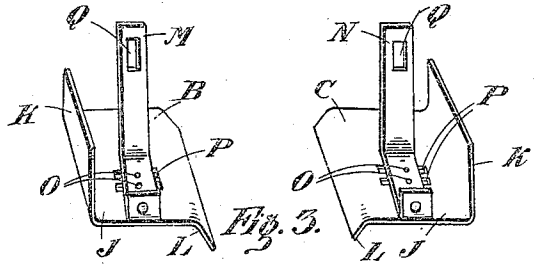


Fig. 3.

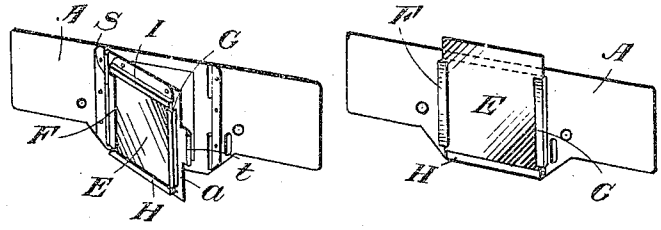


Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

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SAFETY-GUARD FOR DIE-PRESSES.

1,256,641. Specification of Letters Patent. Patented Feb. 19, 1918.

Application filed June 6, 1916. Serial No. 102,060.

To all whom it may concern:

Be it known that we, SAMUEL BAILEY, TREVOR VALENTINE LLOYD, and EVAN JONES, all subjects of the King of Great Britain, and all residing at Melyncrythan, Neath, South Wales, have invented certain new and useful Improvements in Safety-Guards for Die-Presses, of which the following is a specification.

Our invention relates to improvements in safety guards for die presses and like metal working machines, in which two surfaces come together with great force and are liable to trap the fingers of the operator unless very careful; the object of the invention is to provide a guard which will safely protect the dangerous zone while not interfering with the worker seeing how to feed the material thereto correctly.

We attain these objects by the mechanism illustrated in the accompanying drawing, in which:—

Figure 1 is a front elevation of a guard in position, on a press, Fig. 2 is a side view, partly in section, on the line *x*—*y* of Fig. 1, Fig. 3 is a perspective view of the side guards in their relative positions, Fig. 4 shows the front plate detached; and Fig. 5 shows a modified form of front plate with the glass window in a fixed frame.

Referring to the drawings, A, B, C, represent the front, and side plates respectively of a guard attached to a press Z of which U is the crosshead carrying the moving die piece V, and W is the stationary die piece attached to the press table; *w* is the danger point it is desired to guard, viz: the meeting place or point of the dies V and W. To this end the front plate A carries the projecting part D which depends below the point *w* and extending thereover, the transparent pane of glass E is carried by a hinged frame or door *a* having ribs F, G, H, I standing up to form a support for the glass, and constituting a window over an opening in the central part of the plate A.

The side plates B, C cover in the base and ends of the guard by means of portions J, K respectively, while sloping ribs L project from each side so as just to leave the meeting place *w* clear for the insertion of the strip or plate to be stamped. These plates B, C, are adjustably secured to brackets M, N, respectively by the pins or bolts O passing through slotted holes such as P.

The brackets themselves are adjustable by reason of their attachment by the slots Q, and they also carry the front plate A by the bolts R.

The pane of glass E as shown in Figs. 1 and 4 is carried by a door *a* hinged at S and fastened at its opening side by the pin T passing through the loop *t* on the door *a*; this allows of the door being opened and the glass cleaned when it becomes dirty, and being fixed within its supporting ribs the glass cannot be removed by the operator. A somewhat cheaper form of window is shown in Fig. 5 where the material of the front plate A is itself turned up to form a recessed framework around the opening, into which a loose pane of glass E may be slipped from the top. This is equally effective as a guard so long as the transparent pane is in position, but has the defect that a careless operator can remove the pane and omit replacing it.

In operation the material will usually be fed as a strip passing through the contact point *w* from one side to the other, and by means of the window E, the worker can see exactly what he is doing though he cannot get his fingers into the opening *w* by reason of the several guards.

By the use of this invention the worker can see exactly the relative position of the material he, or she, is feeding and the die surfaces, and can correctly locate the material being pressed in relation to the position gages.

Other transparent sheets than glass may be used for the sheet E, for instance celluloid, mica, and the like material may be used, and the part of the front plate supporting the transparent sheet E will depend downwardly where the die parts are located so as not to obstruct the side paths to the die opening.

The material to be stamped is fed in at the sides of the die opening *w*, the ribs L only descending so far as will leave the opening *w* clear for the insertion of the sheets. The whole guard when in position resembles a partial box, but the front plate may be formed in separate portions supporting the transparent plate E between them.

Having thus described the nature and objects of our invention, what we claim as new and desire to secure by Letters Patent is:—

1. In a device of the class described, the

combination of a pair of angled side plates having ribs projecting therefrom, with a front plate having an opening therethrough, a transparent sheet, means for securing the transparent sheet over the said opening, angle brackets adjustably attached to a stationary part of the machine and having lugs projecting forwardly of the place to be guarded, means for attaching the front plate to the said forwardly projecting lugs, and means for adjustably attaching the angled side plates to the arms of the angled brackets, substantially as described herein.

2. In a device of the class described, the combination of a pair of angled side plates having ribs projecting from their base portions, with a front plate having an opening therethrough, a hinged frame adapted to close over the said opening, a transparent sheet secured in the hinged frame means for fastening the hinged frame when closed, angle brackets adjustably attached to a stationary part of the machine and having lugs projecting forwardly of the place to be guarded, means for attaching the front plate to the said forwardly projecting lugs, and means for adjustably attaching the angled side plates to the arms of the angle brackets, substantially as described herein.

3. In a sheet metal working press, the combination of a pair of angled side plates having ribs or flanges projecting from their base portions so as to leave an opening to the die surfaces clear, and having transverse slots in their base portions, with a front plate having a window opening therethrough disposed so as to cover the front opening of the die surfaces, a sheet of glass, means for securing the glass over the window opening in the front plate, angle brackets slotted longitudinally on one arm and having forwardly projecting lugs, and connecting screws or the like adjustably attaching the brackets to the machine, the side plates, and the front plate respectively, substantially as and for the purpose set forth.

4. In a sheet metal working press, the combination of a pair of angled side plates having ribs or flanges projecting from their base portions so as to leave the opening to the die surfaces clear, and having transverse slots in their base portions, with a front plate having a window opening therethrough disposed so as to cover the front opening to the die surfaces, a hinged frame adapted to close over the said window opening, a sheet of glass secured in the hinged frame by turning its edges thereover, a pin and loops for fastening the hinged frame when closed, angle brackets slotted longitudinally on one arm and having forwardly projecting lugs, and connecting screws or the like adjustably attaching the brackets to the machine, the side plates, and the front plate respectively, for the purpose set forth.

In testimony whereof we have affixed our signatures.

SAMUEL BAILEY.
TREVOR VALENTINE LLOYD.
EVAN JONES.

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