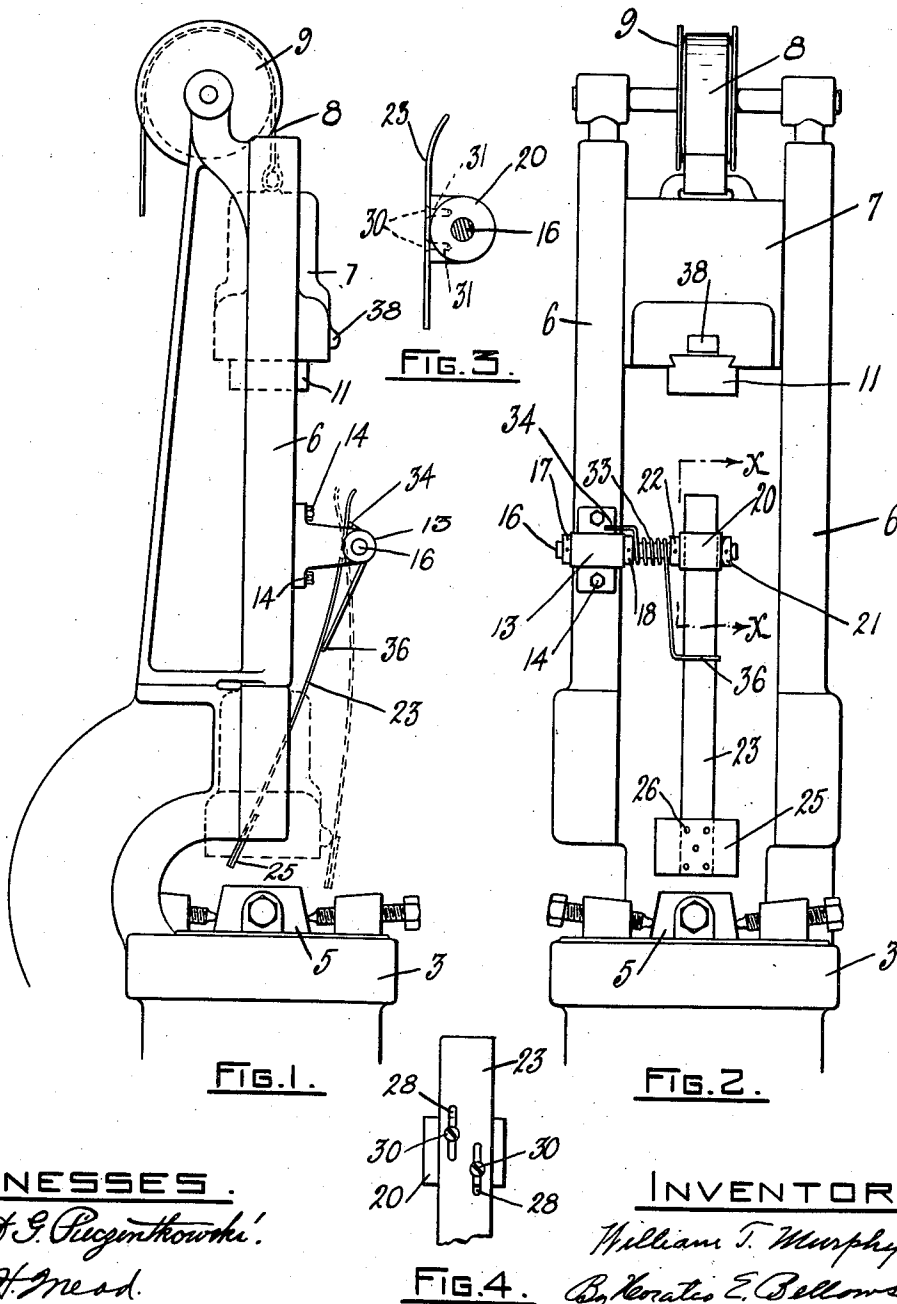


W. T. MURPHY.
SAFETY DEVICE.
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1,046,840.

Patented Dec. 10, 1912.



WITNESSES.
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WILLIAM T. MURPHY, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO STANDARD MACHINERY COMPANY, A CORPORATION OF RHODE ISLAND.

SAFETY DEVICE.

1,046,840.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM T. MURPHY, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Safety Devices, of which the following is a specification.

My invention relates to safety devices for use upon automatic or drop presses. In these structures the drop or punch is suspended by a belt or rod in the uprights and carries a die adapted to cooperate, when the punch descends, with a die located upon the table of a press. The quick descent of the drop obviously engages the hands of the operator manipulating the die below, and it is desirable to insure against injury by forcing the operator's hand or hands away from the die during the descent of the drop or punch.

The object of my invention is to provide a means for attaining the recited end and said invention consists in such parts and such combinations of parts as fall within the scope of the appended claims.

In the accompanying drawings which form a part of this specification, Figures 1 and 2 are side and front elevations respectively of a press embodying my improved device, Fig. 3, a section on line *x x* of Fig. 2, and Fig. 4, a detailed view of the arm adjustment.

Like reference characters indicate like parts throughout the views.

In the accompanying drawings 3 is a bed of an ordinary press upon which is mounted in the usual manner a die 5. Extending upwardly from the bed are the usual uprights 6 in which is slidably mounted the drop, hammer or punch 7 suspended in the present instance by belt 8 passing over the pulley 9. Mounted in the drop 7 is the upper die 11.

It will be understood that the particular details of the press are immaterial, and that the frame-work herein above described is not intended to be exclusive, nor is the application of power to the press a matter of importance.

A bracket or bearing 13 fixed by bolts 14 or otherwise to one of the uprights has loosely journaled therein a shaft 16 provided with collars 17 and 18 abutting against the side faces of the bracket. The

shaft 16 has fixed near its outer end a hub 20, in the present instance engaged between two collars 21 and 22 upon the shaft 16.

Attached to the hub 20 is a flat, steel, vertically disposed arm 23 which has fixed to its lower end by rivets 26 or otherwise transversely disposed plate or fan 25 whose lower margin is immediately above the die 5. The arm 23 is provided with parallel vertically disposed or longitudinal slots 28 to admit screws 30 therethrough which enter screw holes 31 in the hub 20. This method of attaching the arm 23 to the hub 20 affords a vertical adjustment to the arm which is advantageous when the work is of such large dimensions as to otherwise interfere with the fan or plate 25. A helical spring 33 surrounds the intermediate portion of the shaft 16 and has one end 34 outwardly bent and pressing against the bracket or upright. The other end of the spring 36 is horizontally bent and presses against the arm 23 at and around some distance below the hub 20, thus normally forcing the arm in a position at the rear of the die 5 and in the vertical path of the drop 7. Upon the front face of the drop 7 is a lug 38 which when the drop descends contacts with the rear face of the arm 23 and forces the fan 25 and the arm outwardly across the face of the die 5 into the position shown in broken lines in Fig. 1. This movement of the arm and fan forces the hand of the operator away from the die 5 if by accident the hand is present, and when the drop ascends the spring 33 returns the arm 23 to its original rearward position.

What I claim is:—

1. In a press, the combination with a work support, the uprights, and a hammer, of a horizontal shaft mounted in one of the uprights, a vertically disposed arm mounted upon the shaft, a plate upon the lower end of the arm above the work support, resilient means for pressing the arm to the rear of the work support, and a lug upon the hammer adapted to contact with the arm.

2. In a press, the combination with a work support, uprights, and a hammer of a bearing upon one upright, a shaft rotatably mounted in the bearing extending transversely of the uprights, a hub upon the shaft, a vertical arm fixed to the hub, a plate upon the arm above the work support,

a spring upon the shaft provided with a bent end bearing against the outer face of the arm and with another end in contact with the bearing, and a lug upon the hammer in vertical alinement with the arm.

3. In a press, the combination with a work support, uprights, and a hammer, of a bearing upon one upright, a shaft rotatably mounted in the bearing extending transversely of the uprights, a hub upon the shaft, a vertical arm adjustably mounted upon the hub, a plate upon the arm above the work support, a lug upon the hammer in alinement with the arm, and spring means upon the shaft for pressing the arm in the path of the lug.

4. In a press, the combination with a

work support, uprights, and a hammer, of a bearing upon one upright, a shaft in the bearing, a hub upon the shaft, an arm provided with an oblong slot, an adjusting screw in the hub passing through the slot and engaging the arm, a plate upon the arm above the work support, means for normally pressing the arm into an inclined position to the rear of the support in the path of the hammer, and a lug upon the hammer adapted to contact with the arm.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILLIAM T. MURPHY.

Witnesses:

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