

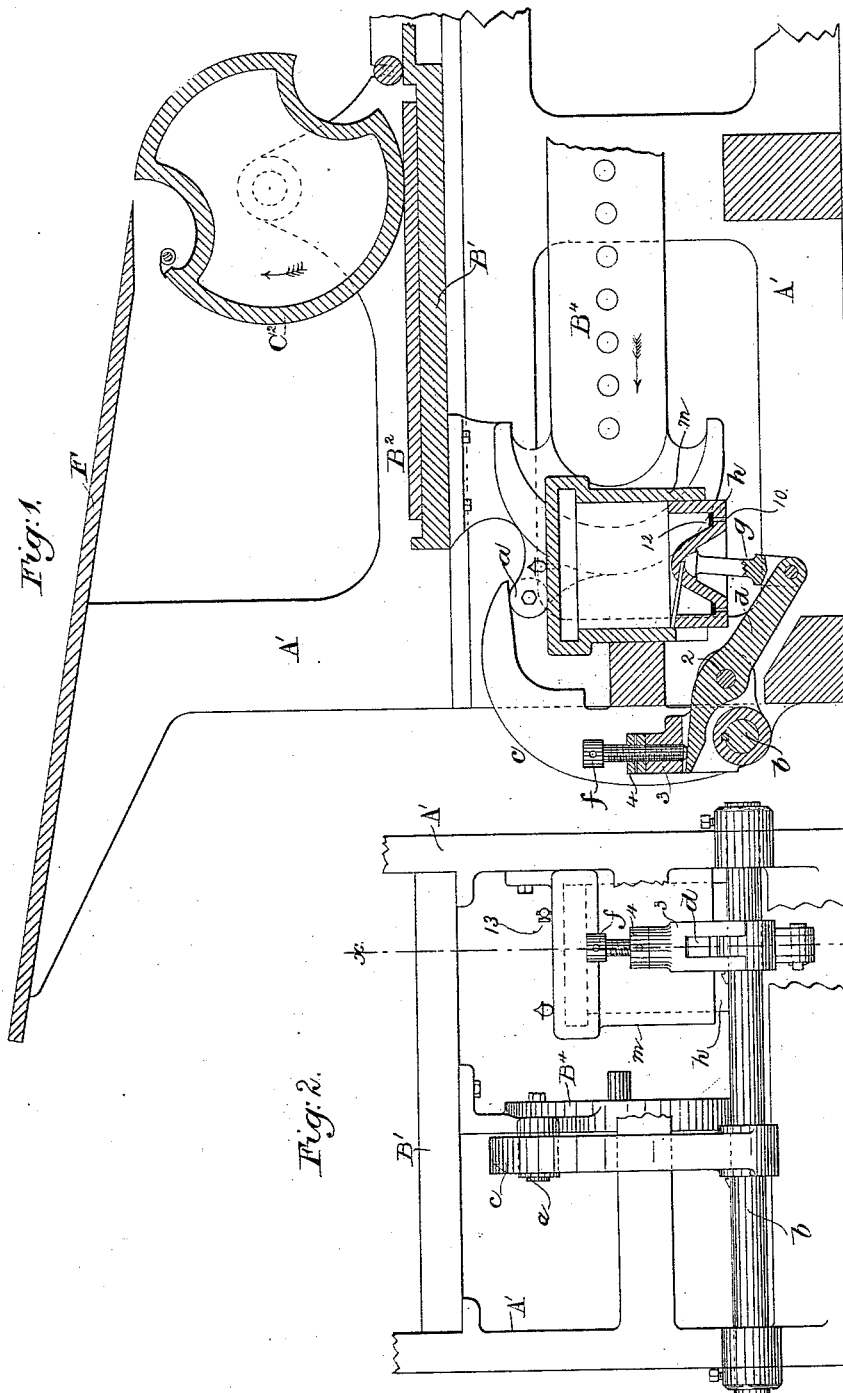
(No Model.)

B. HUBER.

CUSHIONING APPARATUS FOR PRINTING PRESSES.

No. 420,012.

Patented Jan. 21, 1890.



Witnesses

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UNITED STATES PATENT OFFICE.

BERTHOLD HUBER, OF TAUNTON, MASSACHUSETTS, ASSIGNOR TO THE
HUBER PRINTING PRESS COMPANY, OF SAME PLACE.

CUSHIONING APPARATUS FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 420,012, dated January 21, 1890.

Application filed October 29, 1889. Serial No. 328,517. (No model.)

To all whom it may concern:

Be it known that I, BERTHOLD HUBER, of Taunton, county of Bristol, State of Massachusetts, have invented an Improvement in
5 Cushioning Apparatus for Printing-Presses, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention is intended as an improvement on that class of bed and cylinder presses wherein the direction of the bed is quickly reversed at the ends of its stroke, and wherein it is customary to use buffer-springs to
15 help overcome the momentum of the bed, in order to reverse its direction without undue jar and mar of the parts.

In accordance with my invention the rack at one or both ends has a roll which acts
20 upon a compound lever connected by a link with a piston co-operating with a cylinder having its longitudinal axis located substantially at a right angle to the length of the rack, such location of the cylinder and piston
25 adding materially to the efficiency of the check motion.

Figure 1 in section represents a sufficient portion of one end of a printing-press of the class referred to to enable my invention to
30 be understood, the section being in the line α , Fig. 2; Fig. 2, a partial left-hand end view of the parts shown in Fig. 1.

The frame-work A' , the bed B' , the form B^2 , the impression-cylinder C^2 , the feed-board F , and the rack B^1 , attached to the said bed,
35 are and may be all as in United States No. 370,789, dated October 4, 1887, and in practice the said rack and cylinder will and may be actuated as provided for in the said patent. To check any excess of motion of the
40 rack B^1 , due to wear or momentum as the actuating-pinion for it is passing one of the endmost pins of the rack, I have provided one or both ends, it may be, of the rack with
45 a roller or other stud a , and at or near each end of the frame-work I have placed a rock-shaft b , on which is suitably keyed a lever c

on the short arm, of which, at 2, I have pivoted a lever d , thus making a compound lever. The lever d is made adjustable as to
50 its position on its fulcrum 2 by an adjusting device f , (shown as a screw in a lug 3 of the lever c), a check-nut 4 keeping the screw in adjusted position. The lever d has jointed
55 to it a link or rod g , the inner end of which carries a piston h , fitted to slide in a cylinder m , the longitudinal axis of which is substantially at right angles to the length of the rack B^1 . The piston and cylinder form a
60 dash-pot or air-check.

By placing the cylinder in vertical position, as shown, the piston is subjected to less wear than if the cylinder were arranged in a horizontal position, for it will be understood that the inner walls of the cylinder do not have
65 to support the weight of the piston. By adjusting the lever d the piston may be made to enter the cylinder more or less. The piston has one or more holes 10 in its under side, covered by a leather valve 12, to admit
70 air to the cylinder when the piston is moving downward, the weight of the piston being sufficient to always bring it down in proper position to act, thus avoiding the use of a
75 spring, which would be necessary with a cylinder and piston arranged in a horizontal position, if for any reason the compressed air was allowed to escape when the piston was
80 in the cylinder. I have provided the cylinder with a petcock 13, which may be opened to let out the compressed air in case it is desired to turn the press over the centers by hand.

In practice it will be understood that there is a cylinder m at each end of the press.
85

While for cheapness of construction I prefer to attach the roller or stud a to the rack-bar, yet it will be obvious that my invention would be just the same if the said roller or stud were attached to a bracket secured to the
90 under side of the bed.

I claim—

1. In a printing-press, the bed, its rack-bar, a vertically-arranged cylinder, a piston

therein, and a compound lever connected to the said piston, and means to actuate the said piston, substantially as described.

2. In a printing-press, the bed, its rack-
5 bar, a vertically-arranged cylinder, a piston therein, and a lever connected to the said piston, and means to actuate the said lever, as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BERTHOLD HUBER.

Witnesses:

W. K. HODGMAN,
E. P. COLEMAN.