

(No Model.)

W. H. HALL.

AUTOMATIC RELEASING DEVICE FOR BRICK MACHINE PITMEN.

No. 442,372.

Patented Dec. 9, 1890.

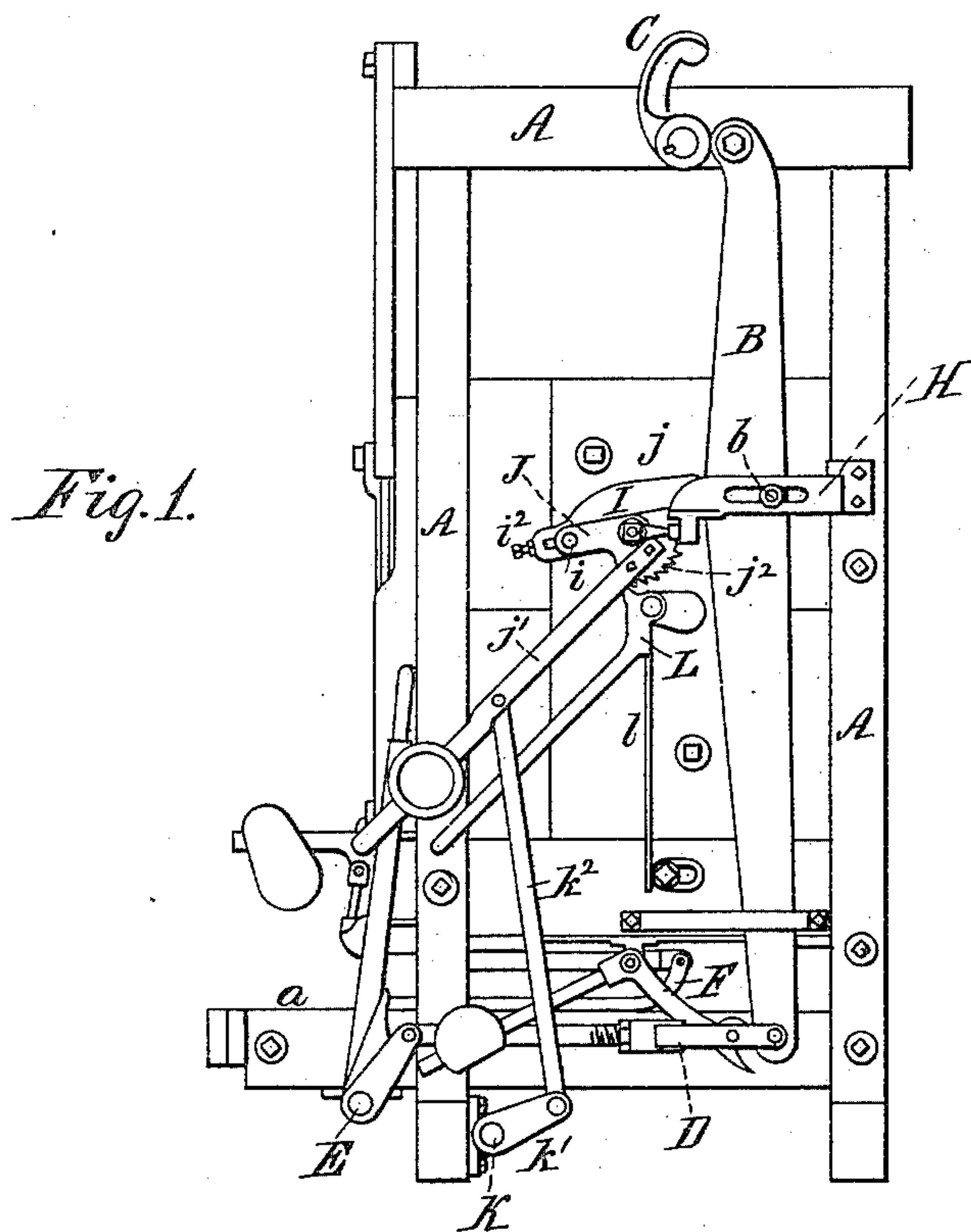
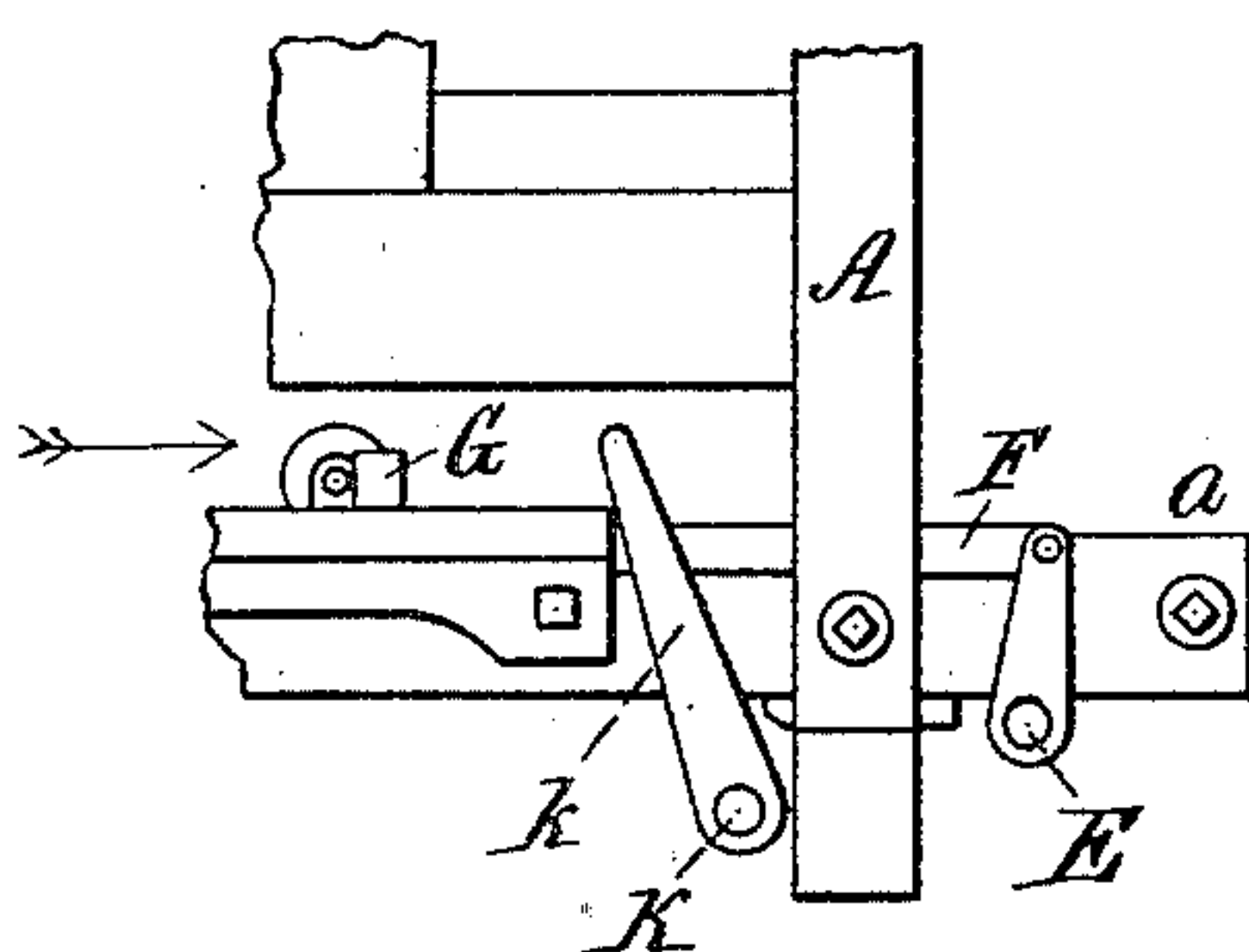


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM H. HALL, OF TIFFIN, OHIO.

AUTOMATIC RELEASING DEVICE FOR BRICK-MACHINE PITMEN*

SPECIFICATION forming part of Letters Patent No. 442,372, dated December 9, 1890.

Application filed February 15, 1890. Serial No. 340,562. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HALL, a citizen of the United States, residing at Tiffin, in the county of Seneca and State of Ohio, have invented a novel Automatic Releasing Device for Lever-Actuated Machinery, of which the following is a specification.

My invention consists in a releasing or throw-off device whereby the pressure of the lever may be automatically stopped when by reason of improper feeding or other causes its operation would cause damage.

I have illustrated my invention as applied to a brick-machine. In the class of brick-machines in general use the filled molds are removed from their position under the press-box by means of a push-bar taking against an empty mold occupying a position between the filled mold and the push-bar, one movement of the push-bar serving to remove a filled mold and place an unfilled mold in position under the press-box. In practice two unfilled molds occupy the space between the push-bar and the filled mold. If the molds, as frequently occurs from improper feeding or other causes, are so placed that the movement of the push-bar brings either of them into contact with the frame of the machine or any rigid obstruction, the molds are wrenched or crushed, and hitherto great loss has been incurred in this way.

The object of my invention is to provide a device whereby the pressure of the lever may be automatically released when either of the molds being improperly placed is in danger of coming in contact with a rigid obstruction.

In the drawings, Figure 1 is an end elevation showing my invention applied to one form of brick-machine. Fig. 2 is an end elevation of a portion of the opposite end.

A is the frame of the machine; B, an actuating-lever fulcrumed at *b* and operated by a revolving cam C. A connecting-rod D connects the lever B with a rock-shaft E. At either end of the rock-shaft are bars F F, by means of which the rock-shaft forces a push-bar G forward and backward along the bed *a* of the mill. The molds are introduced in front of the push-bar and the movement of the lever forces them forward under the press-box. In most modern machines the fulcrum of the actuating-lever is so constructed as to

yield to excessive pressure. In the form shown the pivot *b*, which serves as the fulcrum of the lever B, takes through a slotted guide-plate H, secured to the frame A and a forked connecting-rod I. The connecting-rod I is pivoted at *i* to the free end of an arm J, which is pivotally secured to the frame at *j*. The pivot *i* is preferably made adjustable in the connecting-rod I by means of a slot *i'* and a set-screw *i²* or other suitable means. The arm J is provided with a weighted lever *j'*. The pivot *b*, being free to slide in the slotted guide-plate H, is only held against movement in response to the pressure of the lever by the forked connecting-rod I and arm J. If the three pivotal points *b*, *i*, and *j* are in the same line, the pivot *b* will be held in a fixed position, notwithstanding the pressure of the lever. If the pivotal point *i* is slightly out of line with the points *b* and *j*, a strong pressure upon the lever-pivot *b* would cause the fulcrum to yield. By varying the relative position of these pivotal points the fulcrum can be adjusted to yield at any degree of pressure which the safety of the machine or its appurtenances may require.

The yielding fulcrum above set forth is substantially identical with that described and claimed in a pending application of mine, filed September 15, 1888, Serial No. 285,543, and is not herein claimed except as combined and operating with the novel features of this application, but my right to claim upon the same in said pending application is expressly reserved.

In brick-making machinery the lever must be quite strongly set, in order to do its work under normal conditions; but if an empty mold, when being placed under the machine, happens to be caught when partly in place, it is liable to be forced against some portion of the frame of the machine and crushed or seriously damaged before the fulcrum will yield. To overcome this objection I provide the machine with a rock-shaft K, extending across the frame and provided with a safety-arm *k*, so situated that if the mold is not properly placed in front of the push-bar it will contact with this arm before it comes in contact with a post or other obstruction. The rock-shaft K is also provided with an arm *k'* and connecting-rod *k²*, by means of which it is

connected with the weighted lever j' . When a mold is forced against the arm k , the rock-shaft K is actuated, and by means of the arm k' and connecting-rod k^2 raises the weighted lever j' , thereby raising the pivotal point i relatively to the pivotal point j and unlocking or releasing the fulcrum b .

L is a weighted pawl adapted to engage with a rack j^2 upon arm J, and hold the arm against return movement after its position has been changed by lifting the weighted lever j' . This pawl is provided with a spring l , adapted to press it into engagement with the rack.

While I have illustrated and described my releasing device as employed in connection with a preferred form of yielding fulcrum, it is obvious that the rock-shaft, to which the safety-arm is attached, may be connected with any lever or other fulcrum-releasing device which may be employed as a release to overstrain and perform the same function.

I claim as my invention—

1. The combination of an actuating-lever, a movable fulcrum-holding device, a safety-arm, a rock-shaft, and connections between the rock-shaft and the fulcrum-holding de-

vice, substantially as and for the purpose specified.

2. The combination of an actuating-lever, a movable fulcrum-holding device, a safety-arm, a rock-shaft, a lever-arm connected with the fulcrum-holding device, and an arm connecting the rock-shaft with the lever, substantially as and for the purpose specified.

3. The combination of an actuating-lever, a slotted guide-plate, a fulcrum-pivot taking therethrough, an arm pivoted to the frame, and a rod pivoted to the free end of said arm and to the actuating-lever, a safety-arm, a rock-shaft adapted to be actuated thereby, and connections between the rock-shaft and the pivoted arm, substantially as and for the purpose specified.

4. The combination of the actuating-lever B, the guide-plate H, the connecting-rod I, the pivoted arm J, the weighted lever j , the safety-arm k , the rock-shaft K, the arm k' , the connecting-rod k^2 , and the pawl L, substantially as and for the purpose specified.

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Witnesses:

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