

(No Model.)

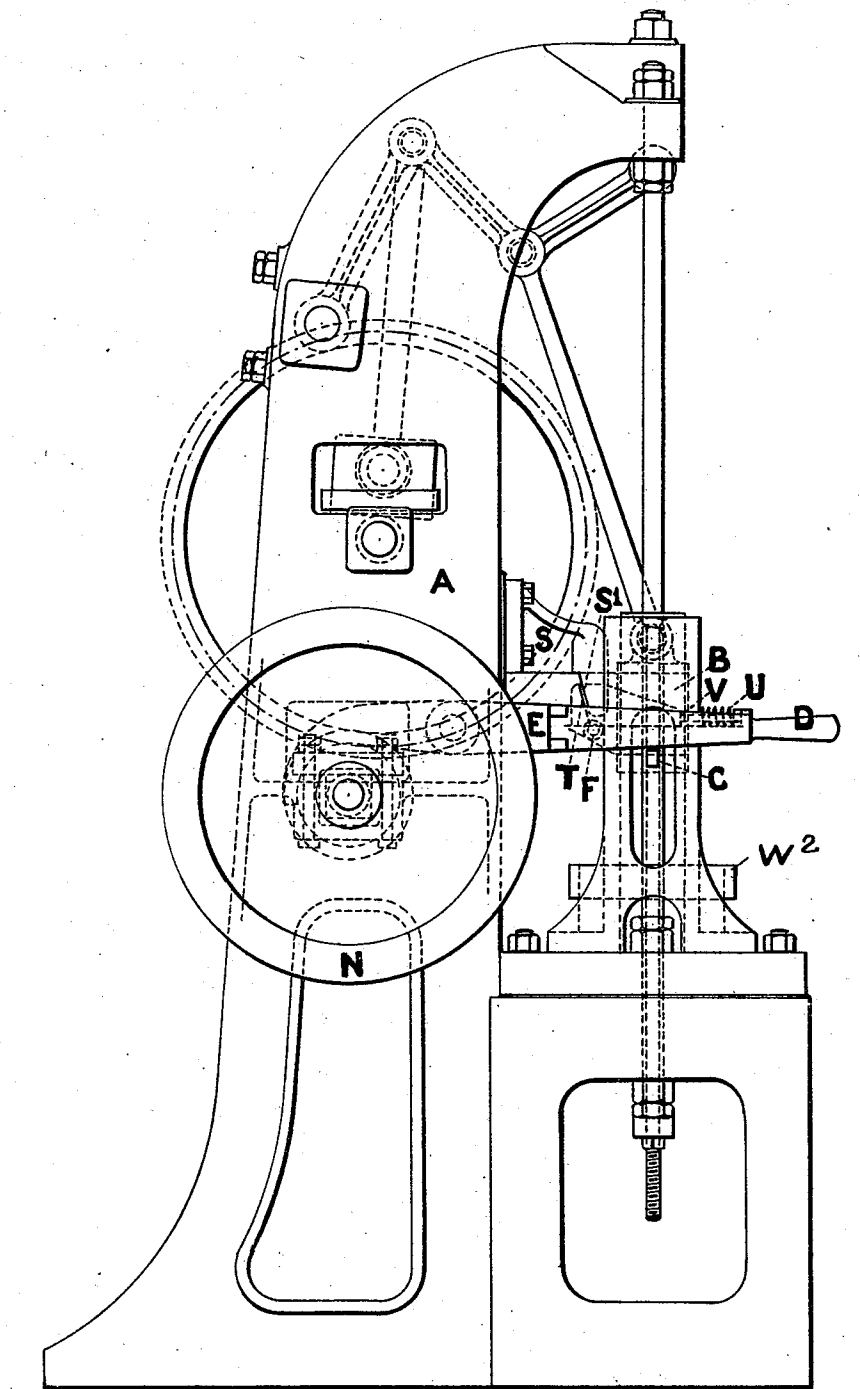
5 Sheets—Sheet 1.

J. S. PULLAN, W. H. MANN & J. GILL.

BRICK PRESSING MACHINE.

No. 514,772.

Patented Feb. 13, 1894.  
FIG. 1.



Witnesses John E. Walsh

Inventors

Fred. W. Haines

John Samuel Pullan  
William Hutchinson Mann  
John Gill

(No Model.)

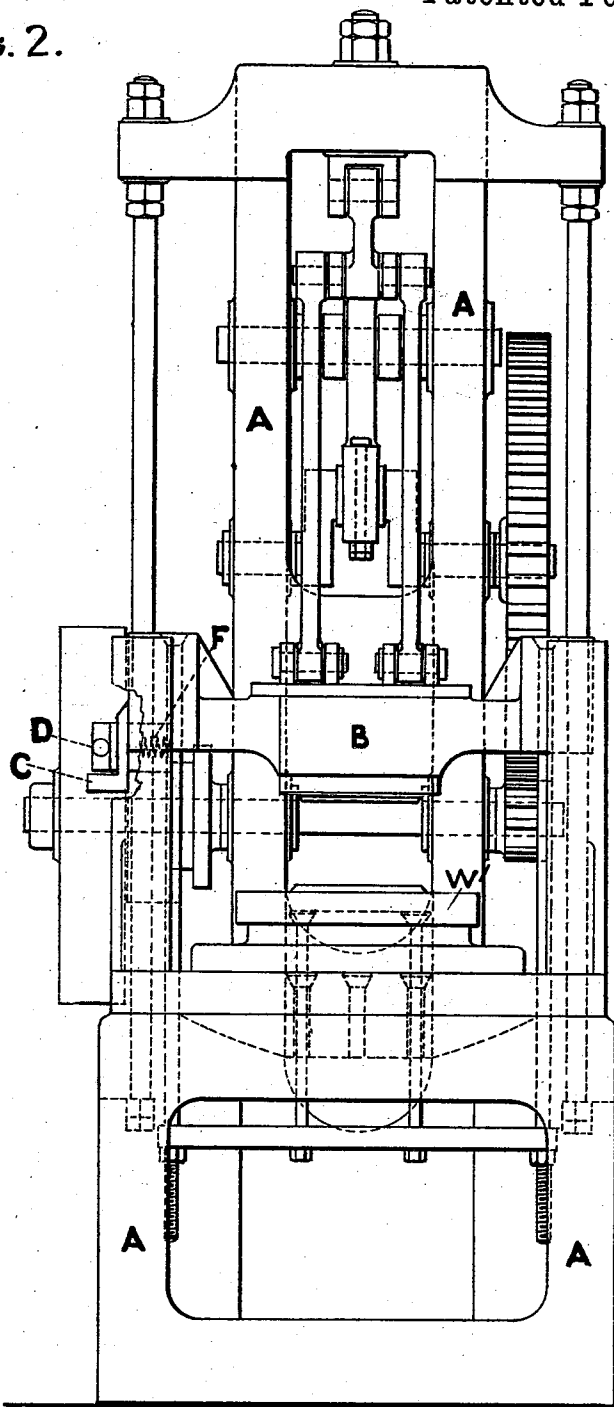
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FIG. 2.



Witnesses. John E. Walsh

Fred W. Harnes

Inventors

John Samuel Pullan  
Wm. H. Mann  
John Gill

(No Model.)

5 Sheets—Sheet 3.

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FIG. 7.

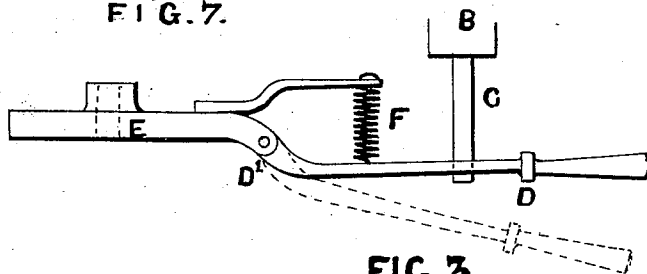


FIG. 3.

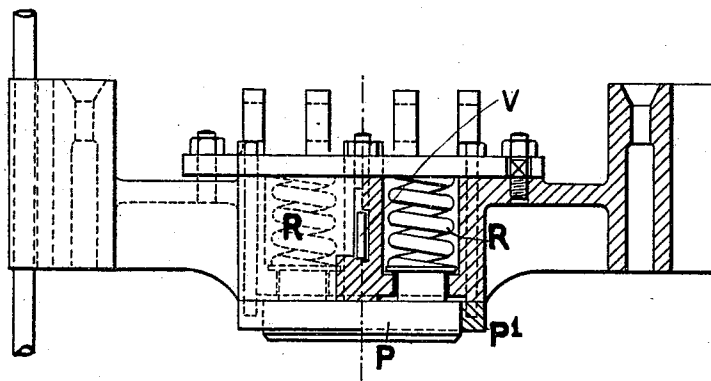
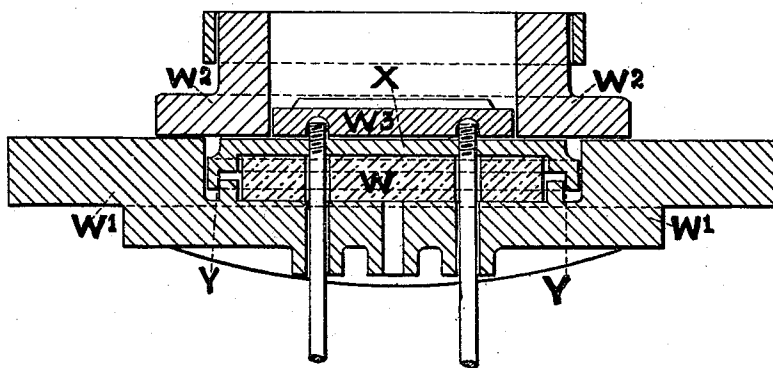


FIG. 4.



Witnesses  
John E. Walsh  
Fred W. Haines

Inventors  
John Samuel Pullan  
William Hutchinson Mann  
John Gill

(No Model.)

5 Sheets—Sheet 4.

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FIG. 5.

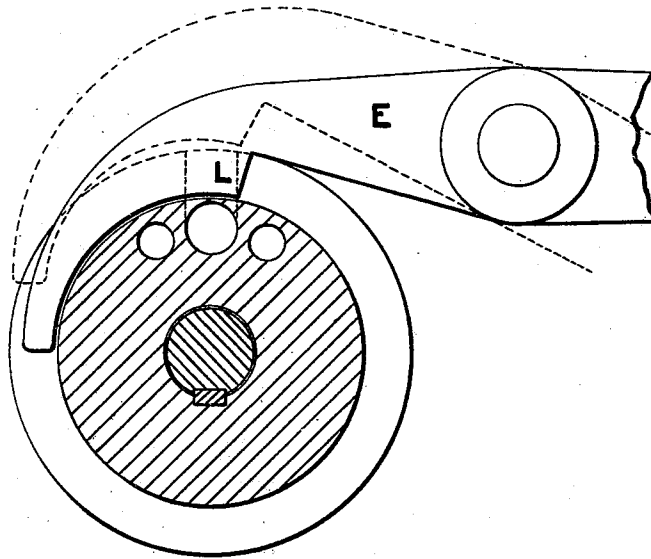
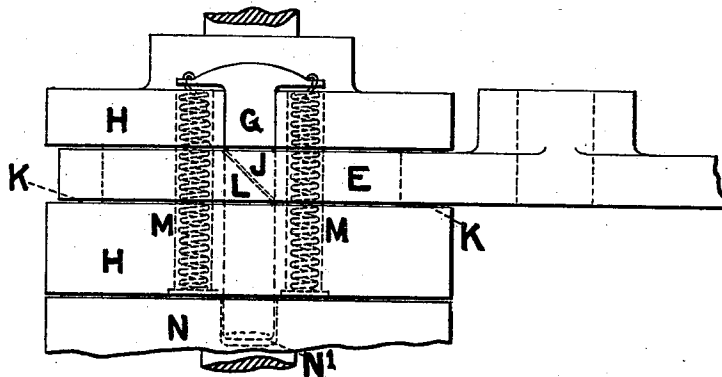


FIG. 6.



Witnesses  
John F. Walsh

Fred. W. Haines

Inventors  
John Samuel Pullan  
William Hutchinson Mann  
John Gill

(No Model.)

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FIG. 8.

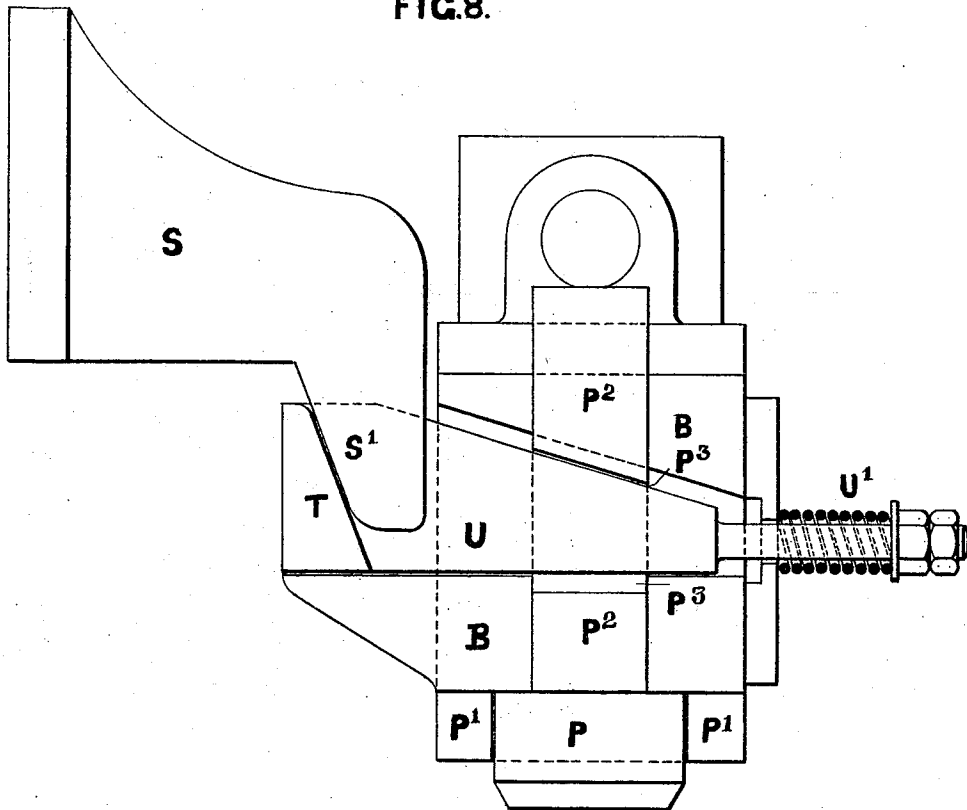
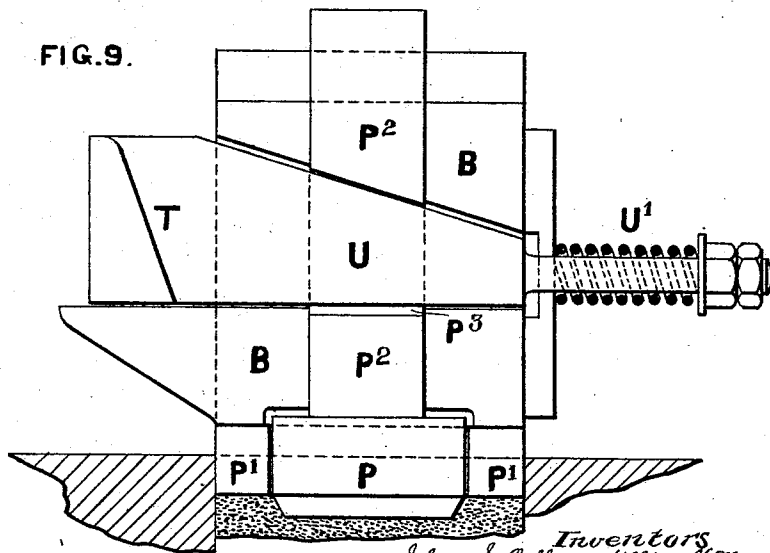


FIG. 9.



Witnesses  
*John D. Morris*  
*J. W. Rea.*

Inventors  
*John S. Pullan, William H. Mann,*  
*and John Gill.*  
By *James L. Morris*  
Att'y

# UNITED STATES PATENT OFFICE.

JOHN SAMUEL PULLAN, WILLIAM HUTCHINSON MANN, AND JOHN GILL, OF  
LEEDS, ENGLAND.

## BRICK-PRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 514,772, dated February 13, 1894.

Application filed July 9, 1892. Serial No. 439,519. (No model.) Patented in England July 23, 1891, No. 12,760.

*To all whom it may concern:*

Be it known that we, JOHN SAMUEL PULLAN, WILLIAM HUTCHINSON MANN, and JOHN GILL, subjects of the Queen of Great Britain, residing at Leeds, in the county of York, England, have invented new and useful Improvements in Brick-Pressing Machines, of which the following is a specification, and for which we have obtained a patent in Great Britain, No. 12,760, dated July 28, 1891.

This invention relates to improvements in brick-pressing machines, and has for its object to provide an automatic stop motion whereby, after the brick is pressed and the plunger elevated, the machine automatically stops to permit the removal of the brick which has been pressed and the insertion of a brick to be pressed.

Our invention also has for its object the provision of novel means for securing uniform thickness of the bricks operated upon.

To these ends said invention consists in the novel construction and combination of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1, is a side elevation of a hand brick-machine constructed in accordance with our invention, and Fig. 2, is a front elevation thereof. Fig. 3, is an enlarged detail of the spring top-plate within the plunger, for securing a uniform thickness of the bricks operated upon. Fig. 4, is a detail view, illustrating the rubber-cushioned bottom-plate. Fig. 5, is an elevation, enlarged, illustrating one end of the clutch-lever and the clutch-wheel. Fig. 6, is a plan view of the parts shown in Fig. 5. Fig. 7, is a detail plan view showing the other end of the clutch-lever and the means which operate the same. Fig. 8, is an elevation showing the spring top-plate and mechanism locking the same. Fig. 9, is a similar view, the parts being in different relative positions.

In the said drawings the reference-letter A, designates the frame of the machine, and B, the rising and falling plunger. Secured to said plunger, at one side, as illustrated in Fig. 2, of the drawings, is a catch or projection C, which rises and falls with the plunger. The catch C, is arranged to come in contact with

the handle D, of a clutch-lever E, pivoted to the frame A, as shown in Fig. 1, whereby when the plunger rises, the clutch-lever is moved automatically to operate the clutch, and stop the operation of the machine at the limit of the stroke of the plunger. The handle D, of the clutch-lever E, is jointed at D', so that when desired it can be turned outward so as not to come in contact with the catch or projection C, as shown in dotted lines in Fig. 7. A spring F, secured to a stationary part of the lever, operates to return the handle D to its normal, operative position.

The reference-letter H, represents a clutch boss keyed to and rotating with the driving shaft and through which passes a pin G, which is normally held in engagement with a recess N' formed in the fly or driving-wheel N, which is loose upon the driving-shaft, by means of spiral springs M, M, seated in recesses in the clutch-boss H, and secured to said pin. The pin G, is provided with a projecting angular or beveled head J, which lies in a groove K, formed in the periphery of the boss H. When the pin G, is in engagement with the recess N' in the fly or driving-wheel N, the machine is in gear for operation. The rear end of the clutch-lever E, is provided with a projecting, angular or beveled head L, the counterpart of the projecting head J, of the pin G.

The operation of the parts hereinbefore described, is as follows:—To start the machine, the handle of the clutch-lever is pulled or moved downward, lifting the angular head L, clear of the angular head J. The pin G, is then drawn into the recess N' in the drive wheel N, by means of the springs M, M, and the machine begins its operation. When the plunger B has completed its down stroke and is returning or rising, the catch C, secured thereto, engages and elevates the handle D, of the clutch-lever E, thus throwing the other end into the groove K of the boss H, where its angular head L, comes in contact with the angular head J, of the pin G, and draws said pin out of the recess N' of the fly or driving-wheel N, whereby the operation of the machine is automatically stopped.

In order that a uniform thickness of the bricks may be secured and to prevent undue

pressure upon the center of the brick, the following means are employed: In the plunger B, upon a stud or spindle P<sup>2</sup>, is arranged a movable plate P, for forming the top recess or panel in the bricks, which plate is normally pressed outward by means of powerful springs R, R, located within the plunger and bearing against the movable plate. P', represents a skeleton presser-plate surrounding the movable plate P. Arranged to move in a recess V, in the plunger B, is a cotter U, which engages a recess P<sup>3</sup>, in the stud or spindle P<sup>2</sup>, so as to lock the movable plate P in proper position with relation to the skeleton plate P', when the plunger B, rises after pressing a brick, as hereinafter described. When the plunger B, is descending upon the brick to be pressed, the movable plate P, is pressed outward to its limit by the springs R, R, as shown in Fig. 8, and when the plunger has descended fully upon the brick said movable plate is forced inward against the action of the springs, as illustrated in Fig. 9. In this retracted position it is locked by means of the cotter U, which is drawn forward by the spring U'. By thus locking the plate P in its retracted position, undue pressure on the center of the brick is avoided when the plunger B moves upward, which obviously would otherwise occur and cause the margins of the brick to swell up and crack. After the plunger has ascended clear of the brick, the plate P, is released from its retracted position by means of an inclined surface S', formed upon a bracket S, secured to the frame of the machine, which incline S', engages an incline formed upon the cotter U, and draws said cotter backward, allowing the plate P, to be moved or projected outward to the position shown in Fig. 7 by the springs R, R. W, represents an india-rubber cushion arranged on the table W' (between it and the mold W<sup>2</sup>, and the bottom-press plate W<sup>3</sup>). The rubber cushion W is protected from oil by a metallic shield or cover X, which at the point Y, forms a stop, and after the rubber cushion is compressed to that point and the brick faced up, the top plunger still descends and measures the thickness of the brick. The pressure from the whole surface of the brick is removed simultaneously. The rubber-cushion gives a better face to the brick and lessens the shock of the plunger.

It will be understood that the spring-pressed

movable plate P may be employed in machines of different construction from that herein described.

Having thus described our invention, what we claim is—

1. In a brick press the combination with a driving wheel and a clutch-boss, of a pin connected with said boss, said pin adapted to enter a recess in said driving-wheel and provided with a head, and clutch-lever having a head adapted to engage the head on the pin, substantially as described.

2. In a brick-press, the combination with a driving-wheel and a clutch-boss, of a pin connected with said boss, said pin adapted to enter a recess in said driving-wheel, and provided with a head, a clutch-lever having a head adapted to engage the head on the pin, and a plunger provided with a catch adapted to engage the handle of the clutch-lever, substantially as described.

3. The combination of the clutch, clutch-lever E and plunger B carrying the catch C, substantially as described.

4. In a brick-press, the combination with a cross-head and a catch thereon, a driving-wheel provided with a recess, a clutch boss, a spring actuated pin connected with said clutch-boss and provided with an angular head and a clutch-lever provided with an angular head, substantially as described.

5. In a brick-press, the combination of an india rubber cushion W, shield X and stop Y, between the table W' and the mold W<sup>2</sup>, substantially as and for the purposes shown and described.

6. In a brick-press, the combination with a plunger and a movable plate secured thereto, of a spring-actuated cotter engaging a part of said movable plate to lock it in a retracted position, and a bracket having an inclined surface engaging an incline formed on the cotter for releasing the movable plate from its locked position, substantially as described.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

JOHN SAMUEL PULLAN.  
WILLIAM HUTCHINSON MANN.  
JOHN GILL.

Witnesses:

HERBERT DUNN,  
F. W. HAINES,

*Both of Royal Exchange, Leeds.*