

E. FALES.
BRICK PRESS.

No. 263,156.

Patented Aug. 22, 1882.

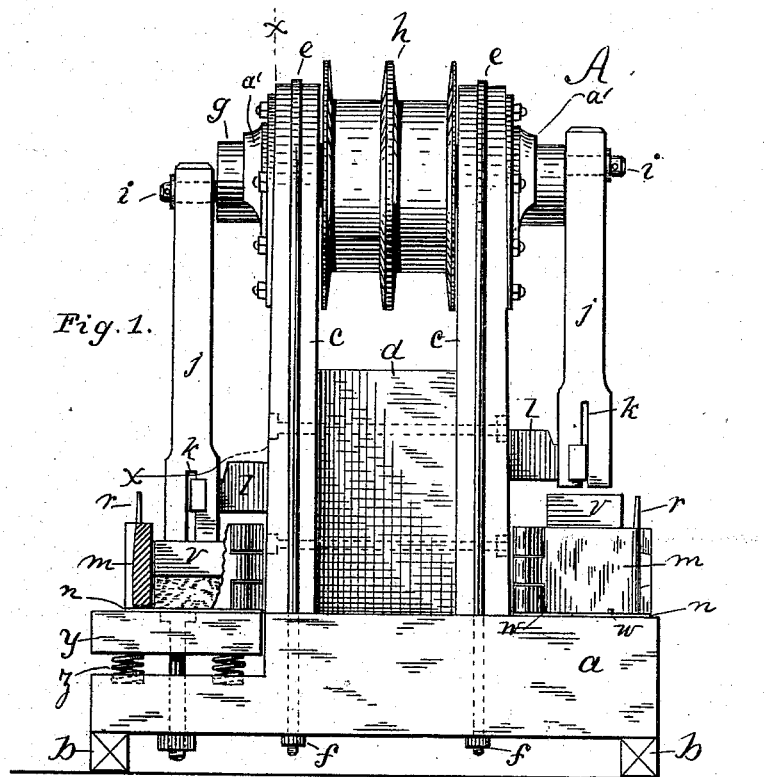
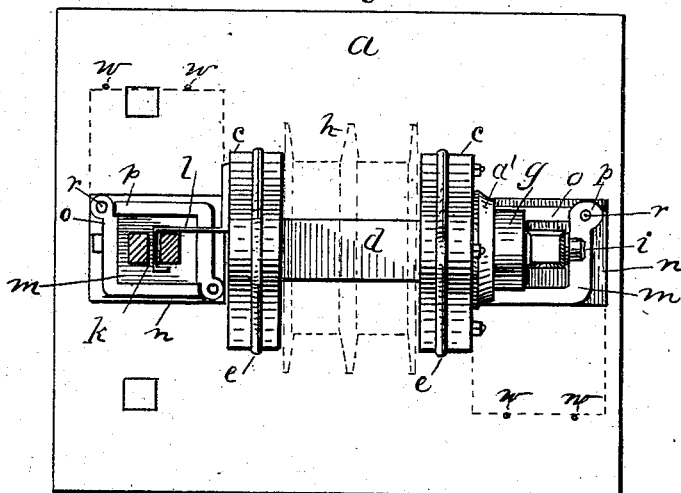


Fig. 2.



WITNESSES:

Thos Houghton.
A. G. Syne.

INVENTOR:

Edward Fales

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ATTORNEYS.

(No Model.)

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Fig. 4.

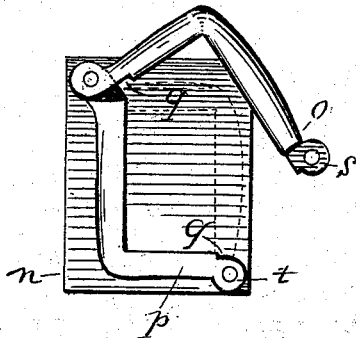


Fig. 5.

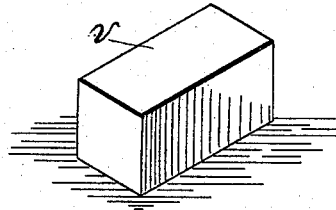
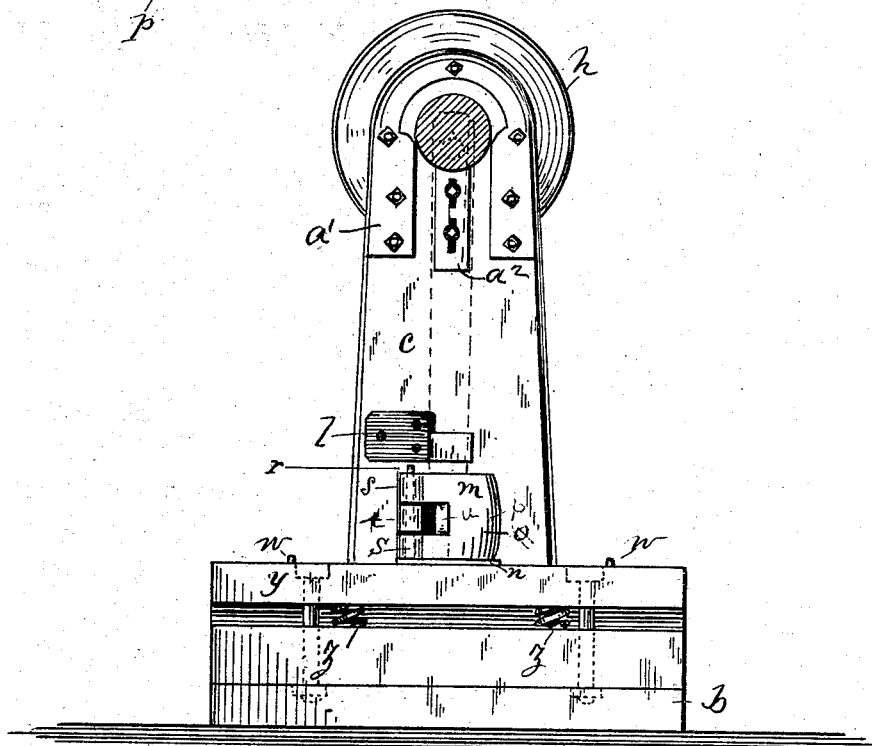


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWARD FALES, OF KEOKUK, IOWA.

BRICK-PRESS.

SPECIFICATION forming part of Letters Patent No. 263,156, dated August 22, 1882.

Application filed March 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD FALES, of Keokuk, in the county of Lee and State of Iowa, have invented a new and useful Improvement in Brick Presses and Molds, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

The object of this invention is to provide a convenient press and mold by which bricks equal in quality to those manufactured by hydraulic pressure shall be produced at a less expense than the latter.

In the accompanying drawings, Figure 1 is a side elevation, showing one of the molds partly broken away. Fig. 2 is a plan view, in section, on line *x x*, Fig. 1. Fig. 3 is an end elevation, partly in section; and Figs. 4 and 5 are details.

The press *A* is constructed with a platform, *a*, resting upon supports *b*, and two parallel standards, *c*, which are bolted to an intervening block, *d*, and secured to the center of the platform by means of bent rods *e*, passed over the tops of the standards and through the platform, underneath which nuts *f* are screwed on the ends of the rods to bind the standards firmly in position. In suitable bearings formed in the standards is journaled a shaft, *g*, which is provided with a pulley, *h*, near the center thereof, for communicating power to the shaft. Instead of the pulley, any other suitable gearing may be substituted which shall be adapted to give the shaft either a continuous rotary movement or an alternately reversing movement. Each end of the shaft *g*, which is to be made of any suitable diameter, is provided with a wrist, *i*, or with a crank, as the case may require, to which is connected a pitman bar or follower, *j*, arranged in a vertical position, and having a longitudinal slot, *k*, in its lower end, in which is placed a guide-plate, *l*, having one end adapted partially to inclose the bar, and thereby prevent its oscillation, and the other secured to the standard adjacent thereto. One of the wrists *i* is placed more nearly in line with the longitudinal axis of the shaft than the other, in order that its corresponding pitman-bar, which is made somewhat longer than the other bar, shall have a shorter stroke than the latter when the proper

motion is given to the shaft. The object of this construction is to subject the material, which is to be held in a mold, *m*, to different degrees of pressure, as hereinafter described.

The mold *m* consists of a bed-plate, *n*, to one side of which is secured an angular plate, *o*, and a similar angular plate, *p*, which forms a hinge-joint with one end of the plate *o*, and is adapted to be closed against the latter to form a chamber to receive the material to be pressed. The plates *o* and *p* are provided with offsets *q* at corresponding ends to enable the said plates to form a close joint with each other when closed. As a means of securing the plates in a closed position, I employ a slightly-conical pin, *r*, which is inserted through a perforation in the bed-plate *n*, and through perforated intermeshing lugs *s* and *t* on the plates *o* and *p*, respectively. The advantage of this construction is that a slight blow will suffice to remove the pin when the brick is to be discharged from the mold. A recess is formed in the plate *p*, adjacent to the lug *s*, in which a small instrument may be inserted to pry open the plate *o*, and a projection, *u*, on the plate *p* serves as a fulcrum for the instrument. The upper edges of the plates *o* and *p* are slightly beveled on the inner side to facilitate the entrance of a pressing-block, *v*, which is to be of such a size that when the mold is filled to the top with material and the said block is placed thereon the mold and block will just pass under the pitman-bar having the longer stroke. It is designed that the pitman-bar having the longer stroke shall press the block *v* into the mold in such manner that the upper surfaces of the block and mold shall be on a level. The mold is then to be moved as soon as the pressure is released by placing another mold at one side thereof and sliding both along the platform until the first strikes against two sharp-edged pins or plates, *w*, secured to the platform, the said pins being so placed that they will not arrest the movement of the first mold until the second is in proper position under the pitman-bar. The first mold is then to be transferred to the opposite side of the press and placed under the longer pitman-bar having the shorter stroke, and a second pressing will be given to the material. As the material before the second pressing is already quite compact, it is

necessary that the bar used in the second pressing shall have a shorter stroke, and the said bar is made longer than the other bar in order shall that it descend farther into the mold.

Owing to the great pressure exerted by the last or second step in the process, it is necessary to provide against straining the press, and I therefore construct the platform on that side with a yielding part consisting of a board or plate, y , supported upon spiral springs z , and connected to the platform by bolts, which are secured by nuts underneath the platform.

As a means of strengthening the connection between the standards and the shaft, I employ plates a' , which are curved to fit over the shaft to act as a box, and a plate, a^2 , to take up wear, which plates are secured to the standards by bolts or otherwise.

In case it should be desired to produce bricks of less compactness of structure than that above provided for, both of the pitman-bars may be constructed so as to have the same length of stroke, and bricks be pressed by one operation. In this manner the capacity of the machine would be doubled.

The material which I use in constructing the bricks is fresh earth taken directly from the ground without any other process, ordinarily called "dry earth," such as is used in hydraulic presses.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A dry-earth brick-press having a vertical

pitman bar or follower and means for operating the same, in combination with a mold having a solid bottom with hinged side and end for holding the material to be pressed, substantially as shown and described.

2. The combination of the platform, the standards, and the binding-rods with the shaft, the pitman-rods, and the guides, substantially as shown and described.

3. The combination of the shaft having wrists at each end, one of which is placed more nearly in line with the longitudinal axis thereof than the other, and the pitman-bars connected thereto and made of such a length, respectively, that the one having the shorter stroke shall begin its stroke from a plane at which the other ends its stroke, substantially as shown and described.

4. The combination, with the mold and the pitman-bars having unequal strokes, as described, of the block v , made of such a thickness that the mold filled with material to be pressed and the block placed thereon will be adapted to utilize the entire strokes of the bars in succession, substantially as specified.

5. The mold consisting of a bed-plate and two similar angular plates, one of which is secured to the bed-plate, while the other is hinged to the first and provided with a conical pin for securing the parts in a closed position, substantially as shown and described.

EDWARD FALES.

Witnesses:

A. G. LYNE,
 SOLON C. KEMON.