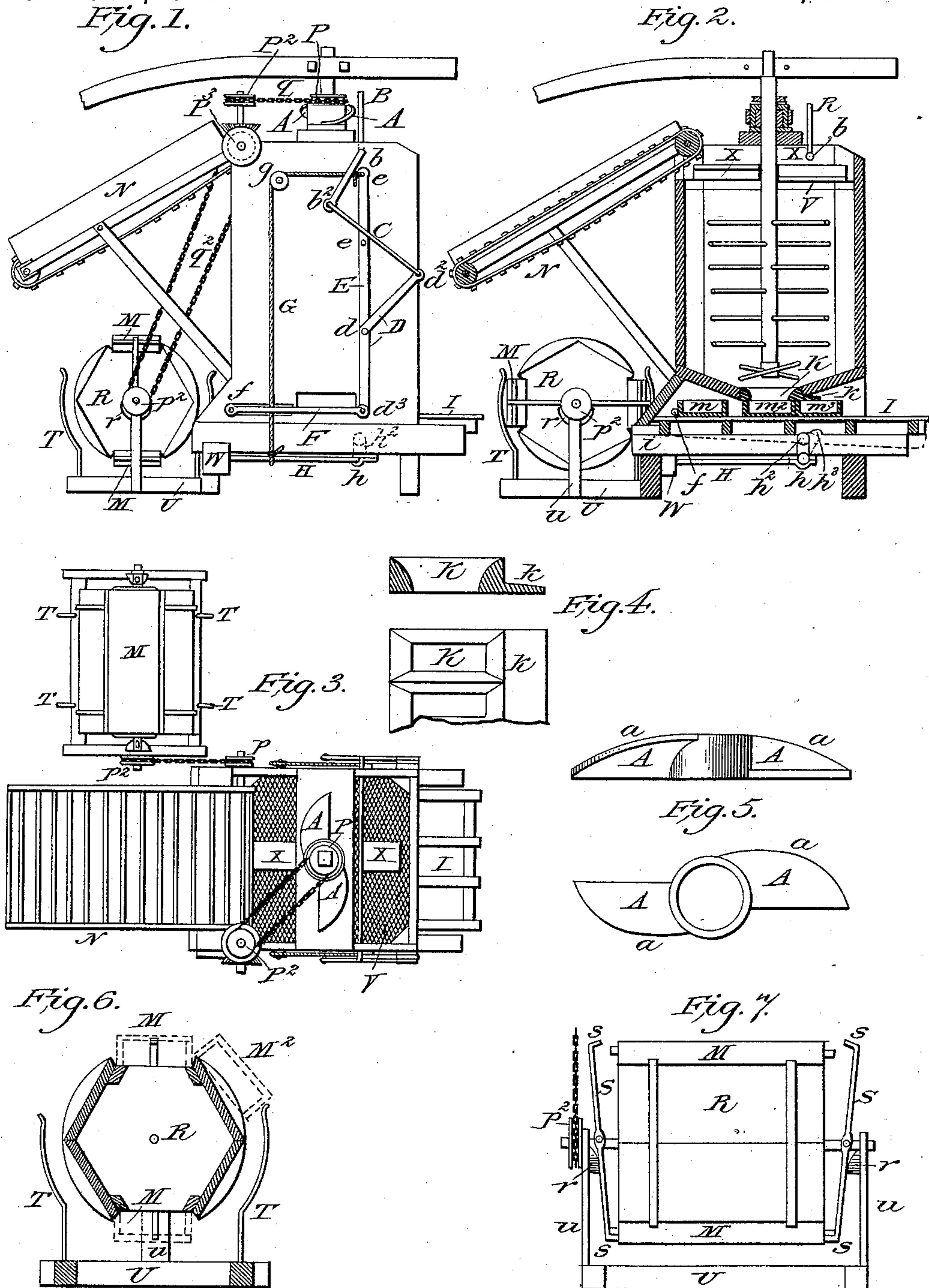


(No Model.)

C. & E. DOERFLER.
BRICK MACHINE.

No. 398,134.

Patented Feb. 19, 1889.



Witnesses

S. A. Bullard.
E. A. Frost.

Inventors.

Conrad Doerfler
Edward Doerfler
by Geo. W. Bullard, Attorney.

UNITED STATES PATENT OFFICE.

CONRAD DOERFLER AND EDWARD DOERFLER, OF SPRINGFIELD, ILLINOIS;
SAID EDWARD DOERFLER ASSIGNOR TO SAID CONRAD DOERFLER.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 398,134, dated February 19, 1889.

Application filed March 2, 1888. Serial No. 266,005. (No model.)

To all whom it may concern:

Be it known that we, CONRAD DOERFLER and EDWARD DOERFLER, citizens of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented new and useful Improvements in Brick-Machines, of which the following is a specification.

Our invention relates to improvements in the brick-machine known as the "Champion of the West," previously patented in this country, and provides, first, a mechanism for delivering the molds to and from under the press; second, an attachment to the die for smoothing the mud off evenly with the edge of molds after being filled; third, the attachment of a carrier for delivering the mud into the machine with mechanism for operating it; fourth, an attachment of a revolving sander for molds, with mechanism for operating, and, fifth, a coarse-wire screen, with a revolving inclined scraper for pulverizing and mixing the mud better as it enters the machine.

We attain these results by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the above-named machine, showing the improvements as seen from the outside. Fig. 2 is a vertical section showing the interior arrangements of the invention. Fig. 3 represents a top view of the machine, showing the plan and location of improvements. Fig. 4 represents a section and top view of part of die with its projecting smoother. Fig. 5 represents a top and side view of iron casting with curved inclined arms attached to the upper part of the upright shaft of the machine for operating the lever mechanism. Fig. 6 is a sectional view of the sander, and Fig. 7 is a side view of the same.

Similar letters refer to similar parts throughout the several views.

The casting shown in Fig. 5 is attached to the castings at upper end of the center shaft of the machine. As the shaft revolves, the inclined edges $a a$ of the arms $A A$ come in contact with the lever-arm B , which is forced to the right, and being pivoted at b the opposite ends of the lever b^2 are moved to the left. By means of the connecting-rod C the force is applied to a second lever, D , at d^2 . This lever be-

ing pivoted at d , the arm d^3 is moved to the right, and by means of the rod F the bar or roller f forces the mold m under the die K , and coming in contact with the molds m^2 and m^3 under the die pushes them out, where they may be taken by the operator and unloaded, the projecting edge k of the die K acting as a smoother to hold the mud level with the edge of the molds. When the ends of the arms $A A$ pass the lever-arm B , the combined weight of the lever system brings B back to a vertical position and the roller-bar f back to its present position, ready for another mold to be inserted.

The vertical lever E is firmly pivoted at e to the side of the machine, and to the lower end of this lever the lever D is fastened, as previously described. From the upper end of E , at e^2 , a cord, G , is passed over the pulley g down to the lever-arm H , which is pivoted at h , and has a short arm, h^2 , extending upward to the mold-slide I . The weight W holds h^2 and E in the present upright position, the weight now being at rest on a fixed support. The mold-slide frame I is supported as on a fulcrum at i and on the uprights h^2 at each side. Should a stone or any hard substance be in the mud when molds are full and come in contact with the edge of the die as the molds are being pushed out, it will cause an increase of pressure on d , and if the substance in the mold does not yield d will be forced to the left and e^2 to the right, causing the cord G to lift the arm H and weight W and throw h^2 to the right into the notch h^3 in the frame I , thus lowering it and allowing the mold to pass out from under the die, carrying the hard substance with it without injury to the mold or machine. When the mold is removed, weight W brings all back to its former position. The above-described system of levers being attached to each side of the machine causes all to work with ease and regularity.

The mud-carrier N is constructed, after the usual manner of rolling carriers, with frame and side boards and rolling-belt canvas, as shown in Figs. 1, 2, and 3. The carrier is operated by means of the pulleys P and P^2 , connected by a chain belt, q , the cog gear-wheels at P^3 operating the upper roller of the carrier. The carrier may be made any length desired.

The mold-sander is composed of a hexagonal box, R, the same length as the molds, as shown in Figs. 1, 3, 6, and 7. It is hung on a rod through the center lengthwise and supported on a stout frame, and is made to revolve by means of the chain-pulleys $p p^2$ and connected by chain belt q^2 . Two of the six sides of the sander are left open, so made that a mold will fit in and cover the opening. The operator sets an empty mold on the sander at M^2 , Fig. 6, and takes the mold M, ready sanded, and places it in the brick-machine. As the sander continues to revolve, M^2 drops into opening left by M and is carried around under the box, being filled with sand in the operation, and completely emptied as it returns to the top, in this way sanding two molds at each revolution, as required by the machine, which fills two molds each time it is turned one round.

The molds are held in place on the sander by the spring iron guides T T at the sides, and as they pass under the sander are held firmly in place by the iron hooks S S, pivoted to the axle and revolving therewith, the inclined slides $r r$, fastened to the upright arms $u u$, causing the hooks $s s$ to close in under the handles of the molds. This same action releases the mold on the opposite side of the sander as it comes to the top.

The iron screen pulverizer and mixer consists of a coarse-wire screen or expanded steel mesh-work fastened firmly in place in the upper part of the machine, (indicated at V,) on

which the mud falls from the carrier N. It is then rubbed through and pulverized by means of two inclined arms or paddles, X X, fastened to the shaft of the machine, which, revolving, force the mud through the screen.

We are aware that patents have been previously granted for improvements in brick-machines and various attachments thereto. We therefore do not claim the above-described invention, broadly; but

What we do claim as new and useful, and desire to secure by Letters Patent, is—

1. The combination, in a brick-machine, of a system of levers, cords, pulleys, and weights, consisting of the revolving arms A A, the levers B and D, the rods C and F, with the roller-bar f , the levers E and H, the cord G, and pulley g , the movable mold-slide frame I, supported at i and h^2 , all for delivering the molds under and from under the die, substantially as described, and for the purposes set forth.

2. The combination, in a brick-machine, of a mold-sanding box consisting of the hexagonal box R, revolving on a center rod in the frame U and $u u$, the guides T T, the clamp-hooks S S, the inclined semicircular slides $r r$, the pulleys $p p^2$, and chain belt q^2 , all for the purposes described and set forth.

CONRAD DOERFLER.

EDWARD DOERFLER.

Witnesses:

S. A. BULLARD,

L. E. HULLINGER.