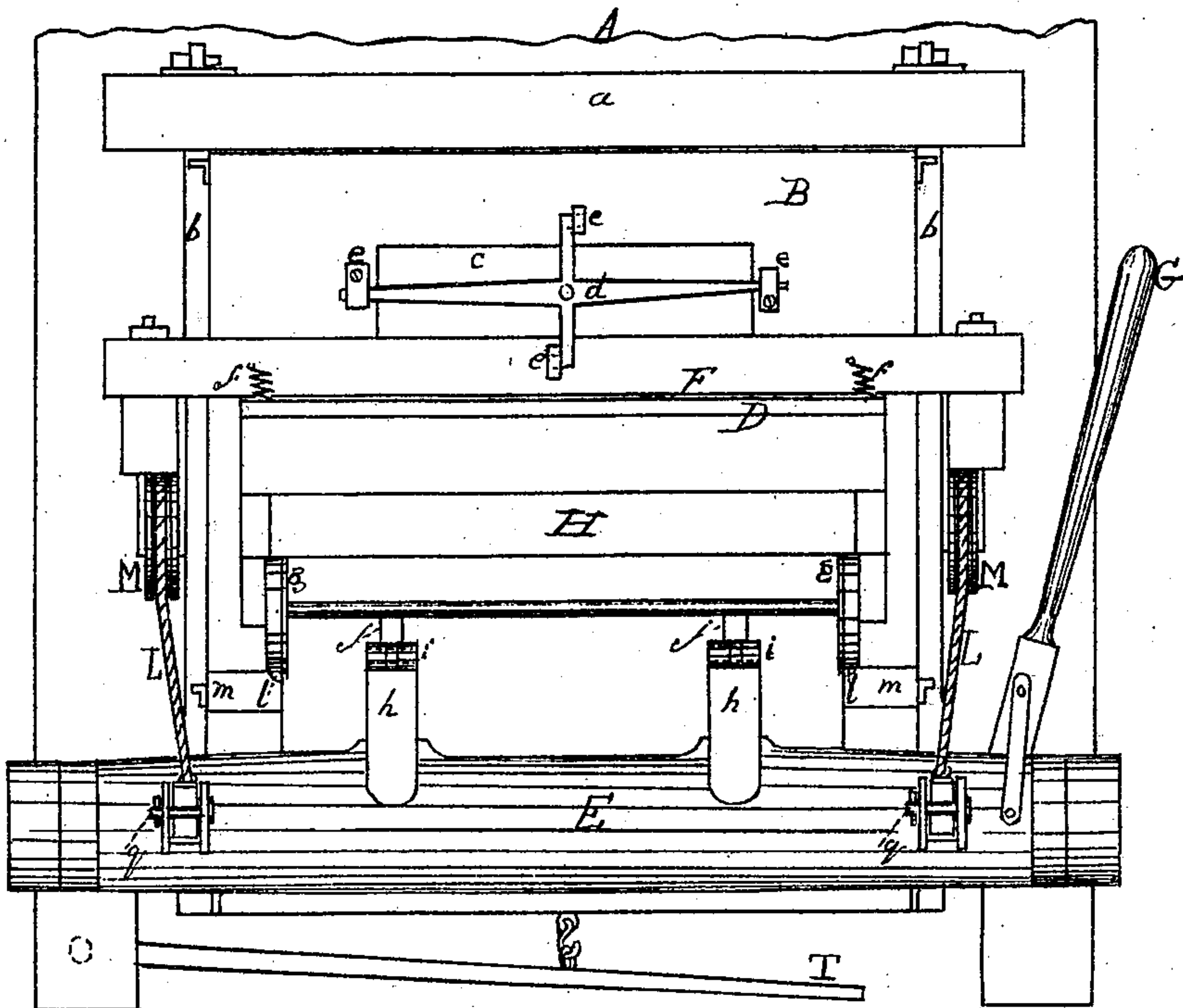
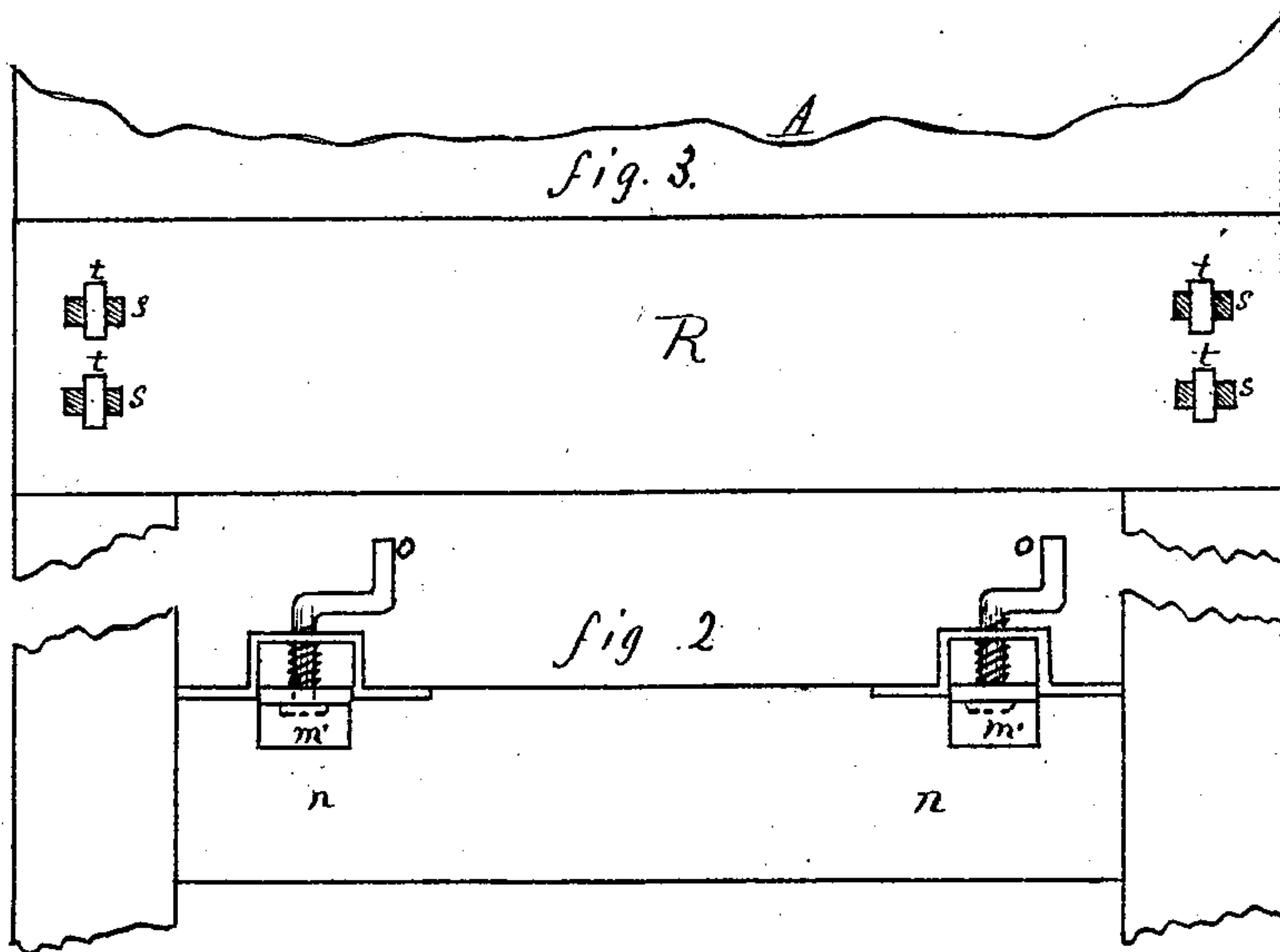


Hobbs & Elder,

Brick Machine.

No. 98,495.

Patented Jan. 4, 1870.



Witness

fig. 1.

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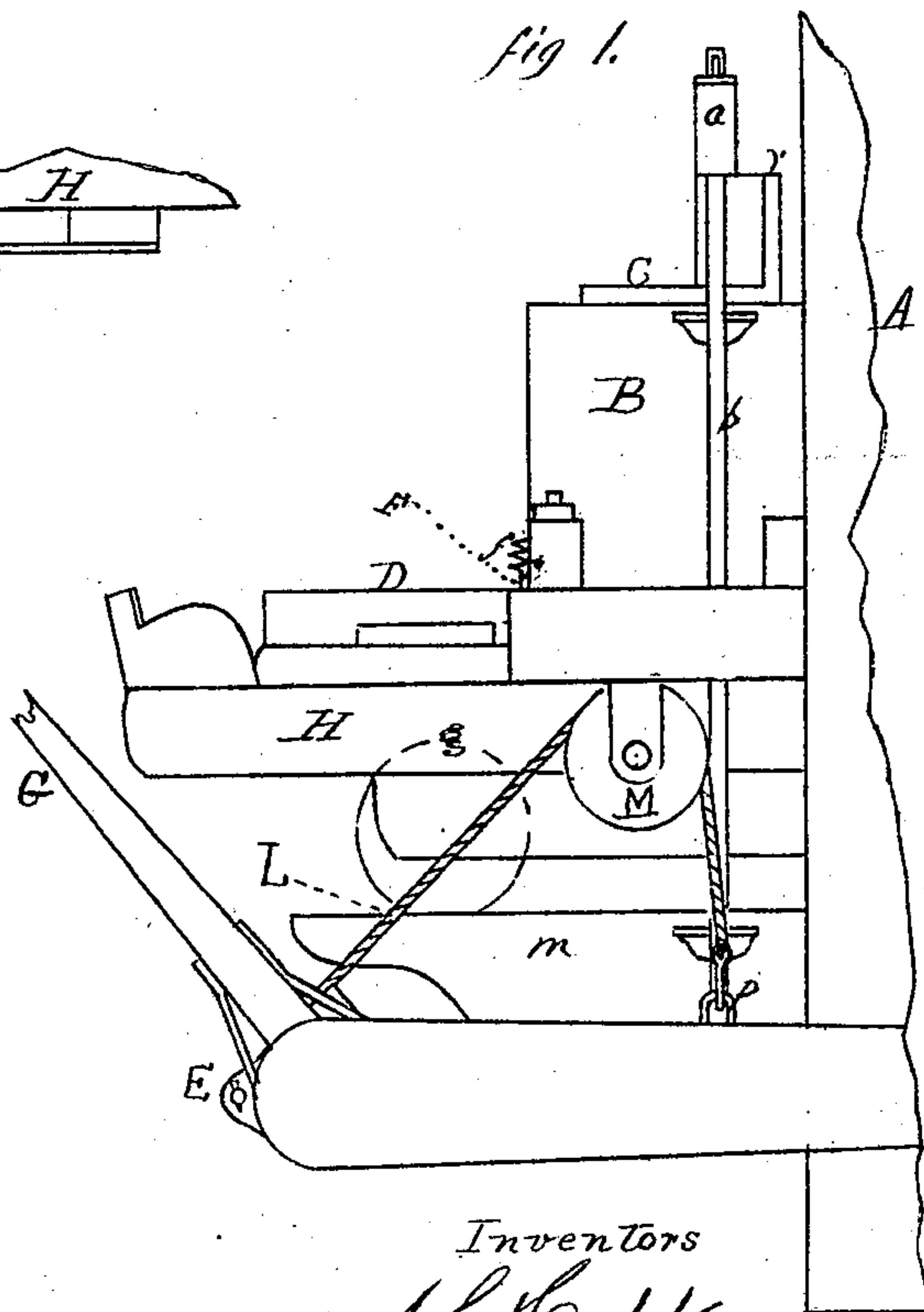
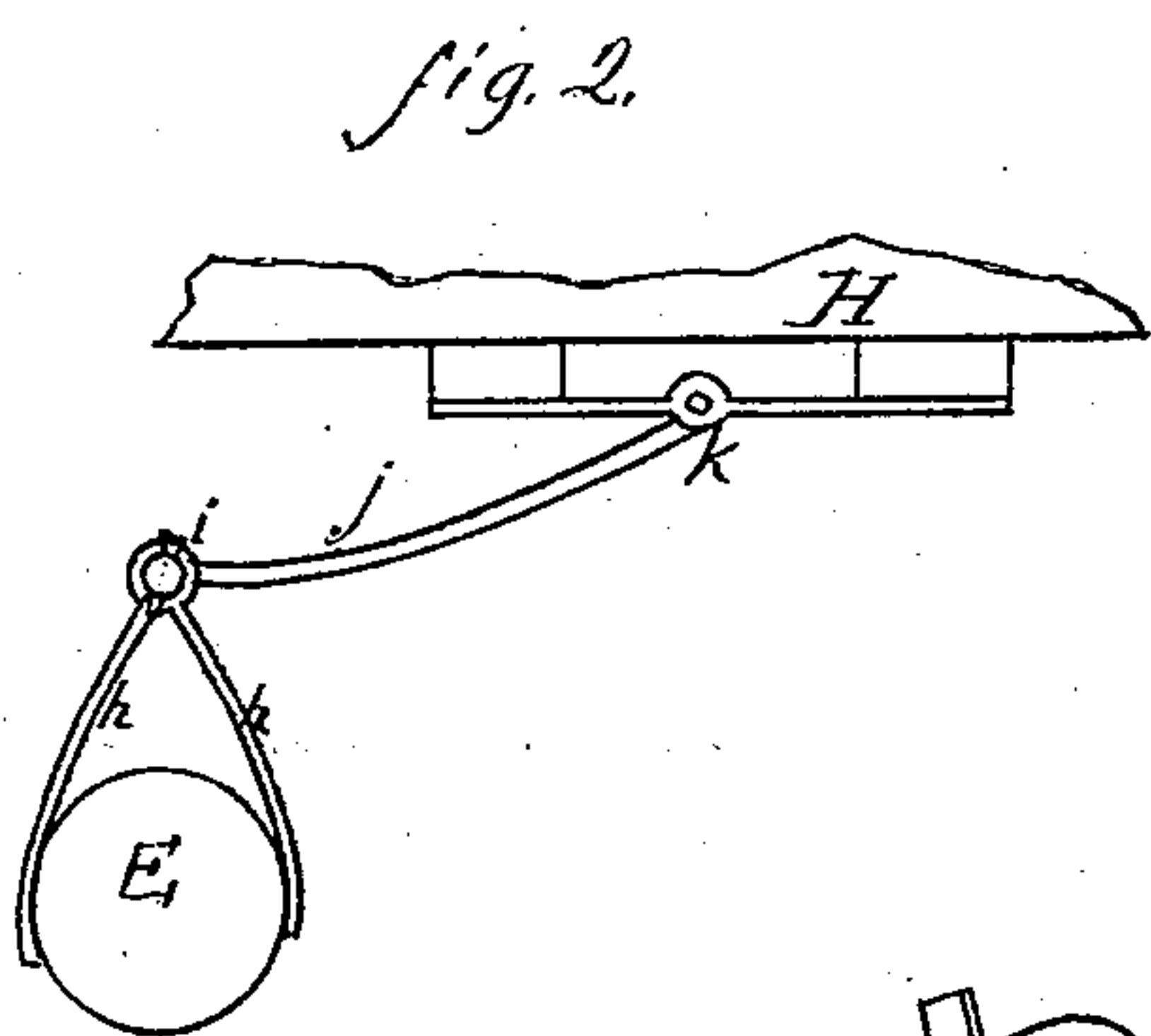
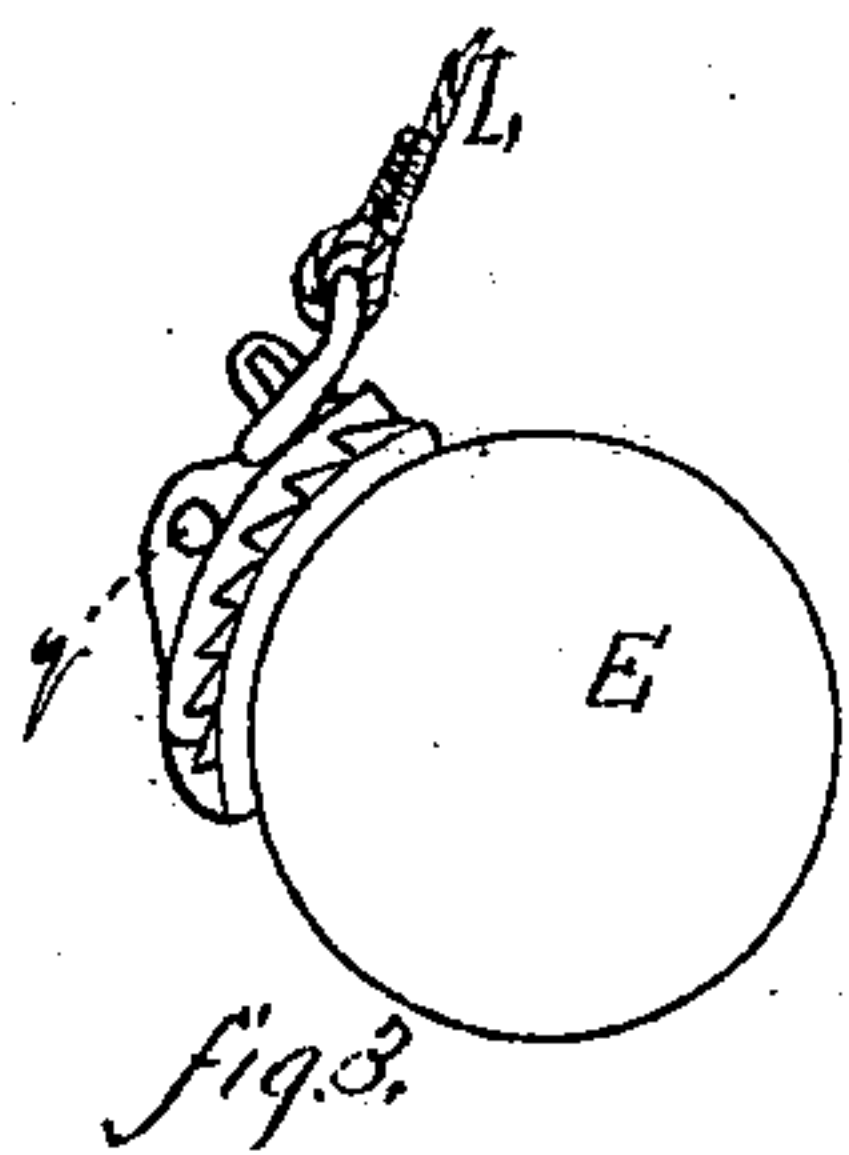
Hobbs & Elder,

2. Sheets, Sheet 2.

Brick Machine.

No. 98495.

Patented Jan. 4, 1870.



Witness

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J. S. HOBBS AND LUTHER R. ELDER, OF WEST FALMOUTH, MAINE.

Letters Patent No. 98,495, dated January 4, 1870.

IMPROVEMENT IN BRICK-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, J. S. HOBBS and LUTHER R. ELDER, both of West Falmouth, in the county of Cumberland, and State of Maine, have invented a new and useful Improved Brick-Machine; and we do hereby declare the following to be a full, clear, and exact description thereof, which will enable others to make and use our invention, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, plate 1, shows a front-end elevation.

Figure 2, the method of adjusting the tracks.

Figure 3, a detail from the rear end, showing the removable strip.

Figure 1, plate 2, shows a side elevation of a portion of the machine.

Figure 2, a side elevation of the connection between the main shaft and the carriage.

Figure 3 shows the method of adjusting the hoisting-chains.

Same letters show like parts.

Our invention relates to certain improvements, hereinafter to be particularly explained, in a machine for making bricks, and we will first disclaim those parts not herein claimed as new, which are common and previously known.

The clay is ground or pulverized in a receptacle, A, by an upright revolving spindle, having projecting radial arms. This is not claimed; neither the box into which the clay is forced from the receptacle, which box is shown at B; neither the piston C, which forces the clay into the moulds, nor the vertical motion of the piston, nor the horizontal motion of the moulds and their frame; (D shows the moulds;) neither, when by itself considered, operating the piston and the moulds by the main shaft E.

The first improvement claimed in this invention relates to the box B.

Stones, stubble, and other articles frequently collect in the box, being forced in from the receptacle A, and prevent the proper descent of the piston, and injure the form and perfection of the bricks in the moulds. When this has been the case heretofore, there has been great trouble in removing these obstructions, it being necessary, in order to do so, to remove the cross-beam *a*, detaching it from the upright *b*, in order to lift out the piston C, and thus reach into the box B.

We obviate this trouble by means of the trap or door *c* in the front side of the box B. This door is secured by the four-armed catch *d*, the ends of said arms working in the staples or clamps *e*. These four arms are so arranged, as will be seen from the drawings, that when any one of the four is either entered or thrown out of its staple or clamp, each of the others is also entered or thrown out of its staple, thus allowing the

door to be very easily secured or removed, and furnishing a very ready means of removing any obstacle that may have found its way into the box B.

The next improvement is the spring-scraper F, attached to the lower part of the box B by the spirals *f*, and by them kept pressed down upon the top of the moulds D. By this arrangement, every time the carriage is drawn out for the purpose of removing a set of moulds, with the brick therein, all loose clay, &c., on the top thereof, is readily scraped off, without involving the necessity of its being done, as is usual, by a workman, with a stick held in the hand. The carriage is represented thus drawn out in fig. 1, plate 2.

The carriage, as it is drawn backward and forward, moves on rollers *g*.

Motion is given to the carriage from the main shaft F. This shaft is revolved by the lever G. From this main shaft rise the bifurcated arms *h*, into which are hinged, at *i*, the connecting-rods *j*, which rods are also hinged to the bottom of the carriage at *k*.

H shows the carriage.

As the shaft E is partially revolved by the lever G in one direction, the carriage H is drawn forward; and as the lever G is pushed back, the carriage also moves back, as common.

The purpose of the arrangement shown in fig. 2, plate 2, is to make the draught upon the carriage H as nearly horizontal as possible. When it is at all downward, as has heretofore been the case in such machines, then the joint between the bottom of the box B and the moulds D, becomes so loose that the clay, when pressure is applied, oozes out, and the bricks are consequently imperfect.

The trucks *g*, of the carriage H, revolve on the tracks *l*, set on the beams *m* at the front, and *m'* at the rear end of the machine. These beams rest on the cross-beams of the machine, which are shown in the rear, at *n*, fig. 2, plate 1.

In use, these tracks are apt to sink so much, that the moulds D drop below the box B, so that the operation of the machine is very defective.

We obviate this liability by means of the screws *o*, with which the beams *m'* can be raised or lowered, as required, and thus the carriage H which rests on these beams. Fig. 2, plate 1, shows those at the rear end of the machine, but similar devices are applied at the front end, so that the two ends of the track can be raised equally.

The piston in the box B is raised when the lever G is thrown forward, by means of the chains L passing up over the pulleys M, and hooked on to a cross-bar, at *p*, from which cross-bar rise the vertical pieces *b*, and thus the piston is raised as the cross-bar *p* rises, the pieces *b* being attached to the piston, as shown.

These chains are apt to lengthen in use, from vari-

ous causes, as wearing, &c., and, heretofore, they have been adjusted in a very rude manner, as by attaching them by a spike to the main shaft, which injures the machine, and is, besides, an imperfect method.

We obviate this difficulty, as shown in fig. 3, plate 2, where a movable segment-gear is represented as attached to the chain, and also as fitting or matching another segmental gear rigidly attached to the main shaft.

When the chain has become lengthened, the difficulty is overcome by removing the pin or bolt *q*, and drawing back the movable segment sufficiently to tighten the chain, and then allowing it to engage another portion of the fixed segment. By replacing the bolt, the movable gear will be held firmly to its place.

Heretofore, the piston C has been made of wood, and in consequence, has worn against the box, so as to be imperfect in its operation. This we obviate by attaching to the piston and the inside of the box, sheets or facings of metal, which facings run up on the back side of the piston, as shown at *r*. This metal facing protects the piston from wear, and enables it to work more perfectly, and also diminishes the friction, and consequently the labor of operating.

We would here specify that we do not claim, broadly, facing with metal two surfaces which work by each other, but only in its application to this machine.

At the rear of the machine is shown the removable piece R, fig. 3, plate 1. In this are the slots *s* and the square-headed buttons *t*. When these buttons *t* are turned, so that they are lengthwise of the slots, the piece R can be removed. When crosswise of the slots, it is held in place. This removable piece R is for the purpose of facilitating the repairing, examination, or adjustment of any part of the interior of the receptacle A.

T shows the pedal, by which the piston is forced down into the box B.

We do not claim the devices set forth in the patent of Henry Martin, reissue No. 2,553, April 9, 1867. We do not claim the method of regulating the rise and fall of the plunger as therein shown. Neither do we claim the manner of working the plunger as therein shown. The device shown in fig. 3, plate 2, has for its purpose simply to provide for the stretching of the cord or chain, as hereinbefore set forth. Neither do we claim the devices set forth in the patent of D. Packard, January 19, 1869, which consists of a rod, lever, plunger, bar, cam-wheel, and treadle to raise the plunger, and to press the same. Our device is not employed for such purpose, but solely for the one hereinbefore specified. Neither do we claim providing a press-box with a yielding gate, or constructing the bottom of the press-box with grate-bars of a lozenge-shape, as in the patent of W. Baker and G. Martin, May 1, 1866, No. 54,460. Neither do we claim an adjustable pusher, applied to a table, to move the mould-boxes from the rear to the front of the table, or rack-bars, oscillating sectors, and pitman, connected with the main shaft, as is shown in the patent of D. Van Vranken, June 19, 1866, No. 55,748.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The spring-scraper F, arranged to operate as described.
2. The segment-gears on the shaft E, with the pin *q* and chains L, as herein described.
3. The mould-box, made as herein described, that is, having the spring-scraper and the removable strip in the front thereof, having the four-armed clasp, as herein set forth.

J. S. HOBBS.

LUTHER R. ELDER.

Witnesses:

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WILLARD B. STARBIRD.