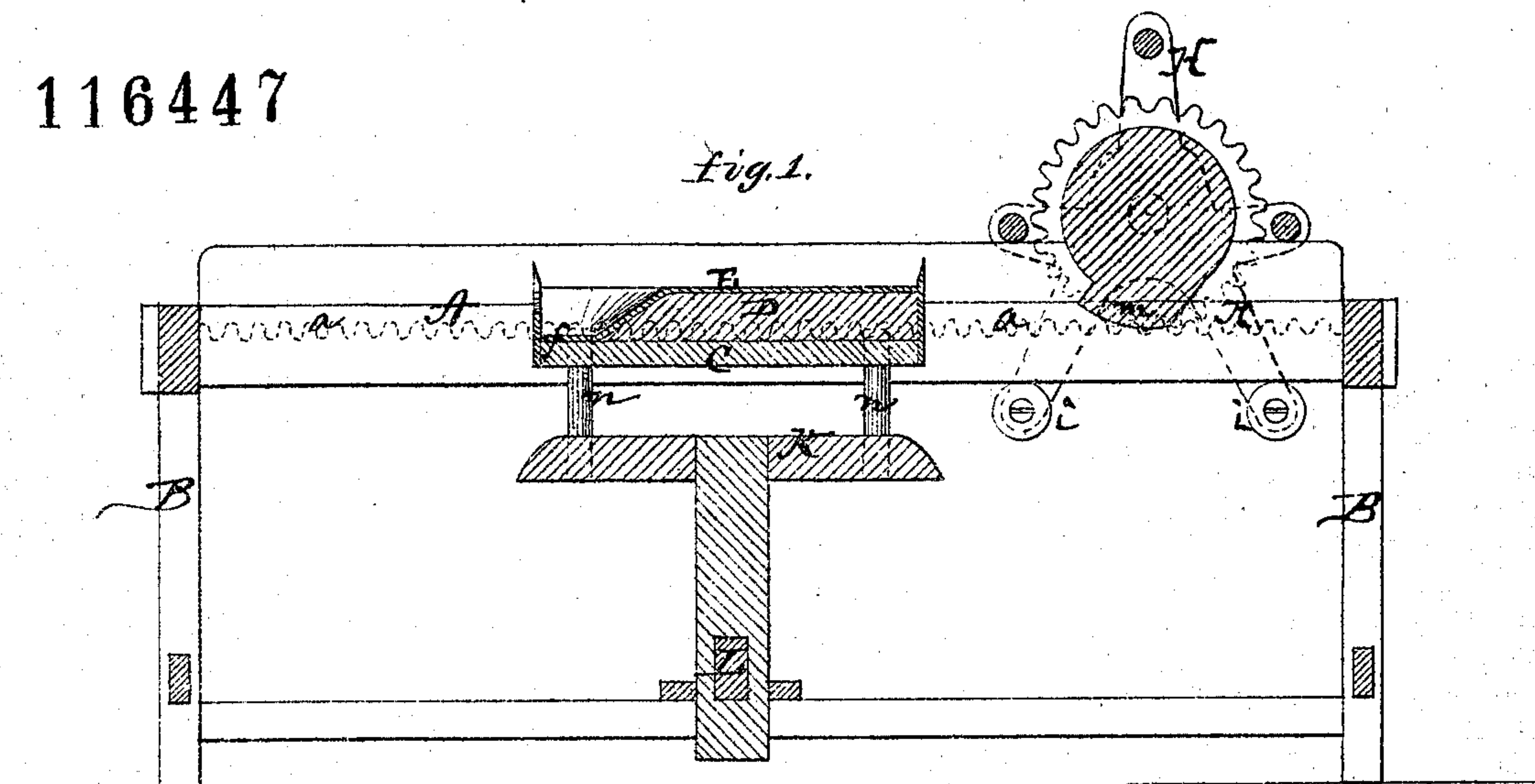


# *John B. Hughes' Tile Machine.*

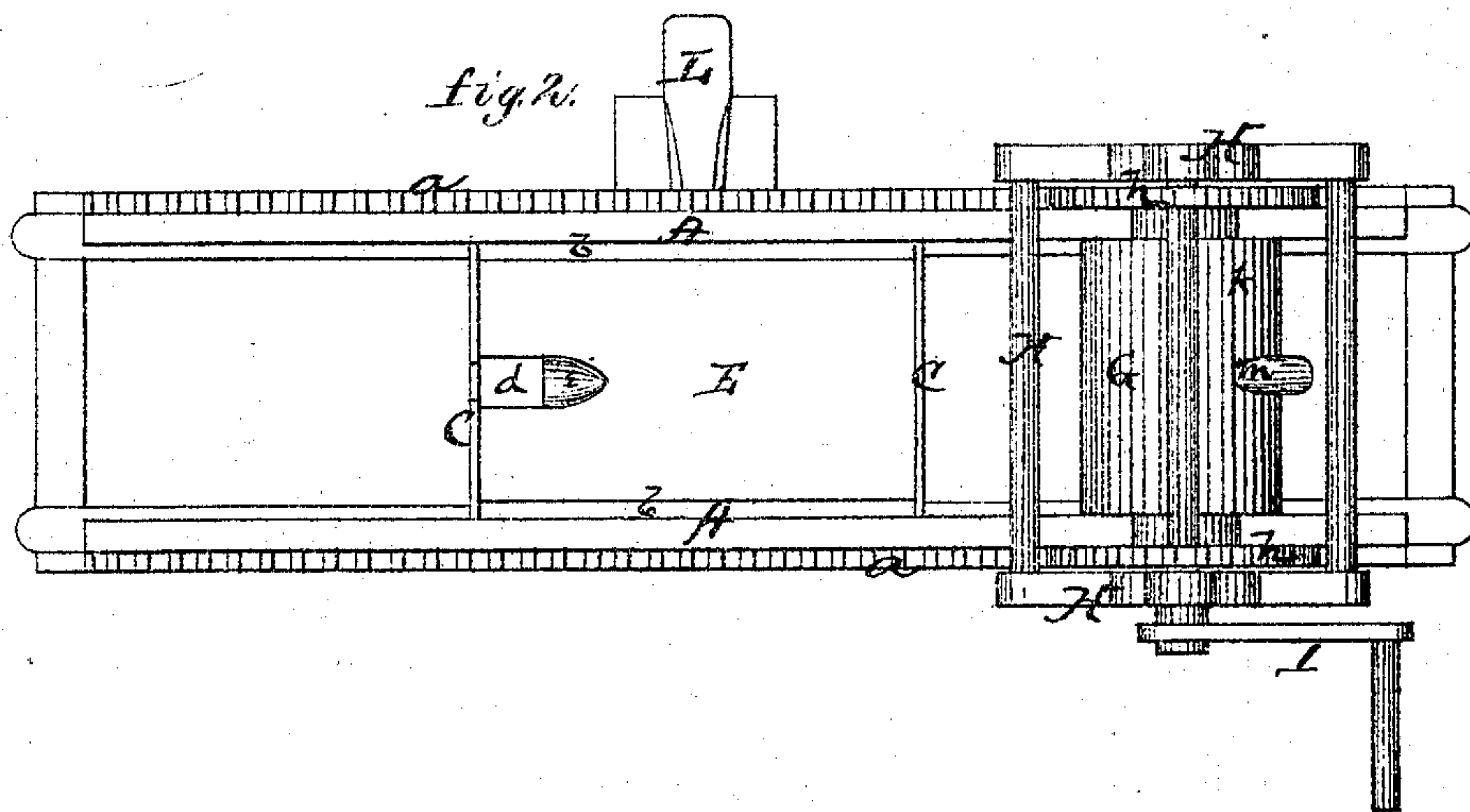
PATENTED JUN 27 1871

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*Fig. 1.*



*Fig. 2.*



Witnesses  
John A. Ellis.  
J. R. White

Inventor  
John B. Hughes  
Per,  
J. H. Alexander  
Atty



# UNITED STATES PATENT OFFICE.

JOHN B. HUGHES, OF TERRE HAUTE, INDIANA.

## IMPROVEMENT IN TILE-MACHINES.

Specification forming part of Letters Patent No. 116,447, dated June 27, 1871.

*To all whom it may concern:*

Be it known that I, JOHN B. HUGHES, of Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Tile-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a machine for making tile for roofing after having previously been made into plates, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section, and Fig. 2 a plan view of my machine.

A A represent two horizontal parallel beams, of any suitable dimensions, supported upon or forming part of a frame, B, and provided on their outer sides with horizontal rack-bars *a a*. In the center, between the beams A A, is secured the box C, of the same length as the tile to be made. In this box is laid the movable bottom D, which is covered by a sheet-metal plate or pan, E. The bottom D has longitudinal depressions *b b* at its sides, and at one end, in the center, a square opening, *d*, the two sides of which are slightly inclined, and the inner end of said opening is also inclined; or, in other words, the bottom D at the inner end of the opening *d* is hollowed out, as shown at *e*. The plate or pan E corresponds exactly with the shape of the bottom D, with this exception—a small piece of metal, *f*, is attached to said pan under the opening *d*. G represents a roller fitted between the beams A A, and provided at its ends with cog-wheels *h h*, which rest upon and gear with the rack-bars *a a*. The journals of the roller G pass through a frame, H, at the lower end of which are friction-rollers *i i*, bearing against the under sides of the beams A A, thus steadying the frame or carriage H, and at the same time allowing it to move back and forth on the beams. The ends of the roller G, immediately inside of the cog-wheels *h h*, are grooved circumferentially the width of the beams A A, so that the main portion of the roller fits between the beams, the grooves on the beams, and the cog-wheels on the rack-bars. At a suitable

point on the roller G is a longitudinal rib, *k*, having in its center a projection, *m*, corresponding with the opening *d* and bevel *e* of the bottom D and pan E. I is a crank attached to one of the journals of the roller G, outside of the frame or carriage H. Under the box C is a follower, K, with four upright rods, *n n*, passing through holes in the bottom of said box. This follower is raised by a foot-lever, L, so as to lift, by the rods *n n*, the bottom D and pan E up from the box a suitable distance. The sheets or plates for the tile having been made by another machine, (for which I have made a separate application for Letters Patent,) are laid on the pan E. Then, by the crank I, the roller G is moved over the same, rolling the sheet, the depressions *b b* forming ribs along the edges of the tiles. The rib *k* forms a shoulder of reduced thickness at one end of the tile, and the projection *m* forms a groove on one side with corresponding rise in the other, and a bevel or hollowing out at the inner end of said groove. The construction of this tile and the object of these ribs, groove, &c., are fully set forth in an application of mine for patent on roofing, now pending. When the roller G has passed beyond the box, the bottom D, with everything upon it, is raised by the foot-lever L, the pan E with the tile removed, and taken to place of burning, where it is turned upside down and the pan taken off.

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

1. The movable bottom D with longitudinal depressions *b b*, opening *d*, and bevel *e*, substantially as and for the purposes herein set forth.

2. In combination with the movable bottom D constructed as described, the pan E, having corresponding shape, substantially as and for the purposes herein set forth.

3. The combination of the beams A A, rack-bars *a a*, box C, bottom D, and pan E, all constructed and arranged substantially as and for the purposes herein set forth.

4. The combination of the roller G, frame H, crank I, friction-rollers *i i*, and cog-wheels *h h*, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

Witnesses: JOHN B. HUGHES.  
J. H. ALEXANDER,  
J. V. WHITE.