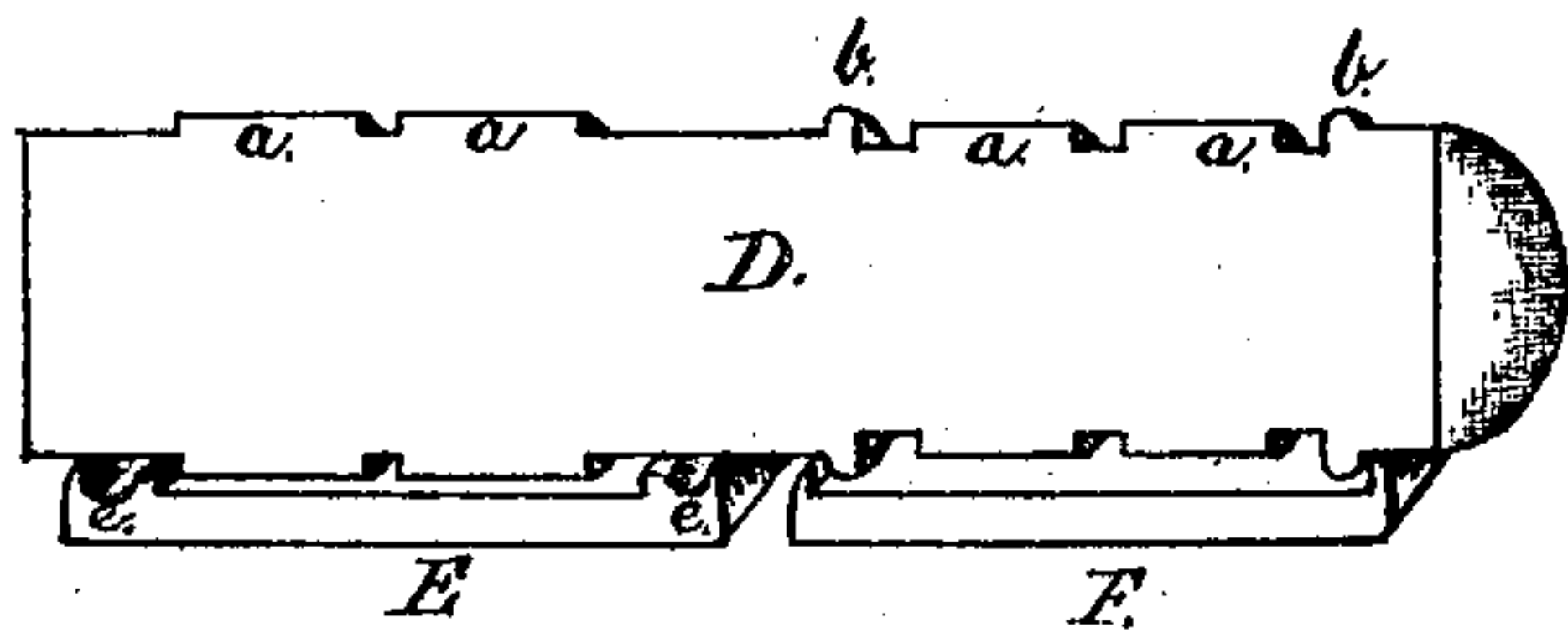
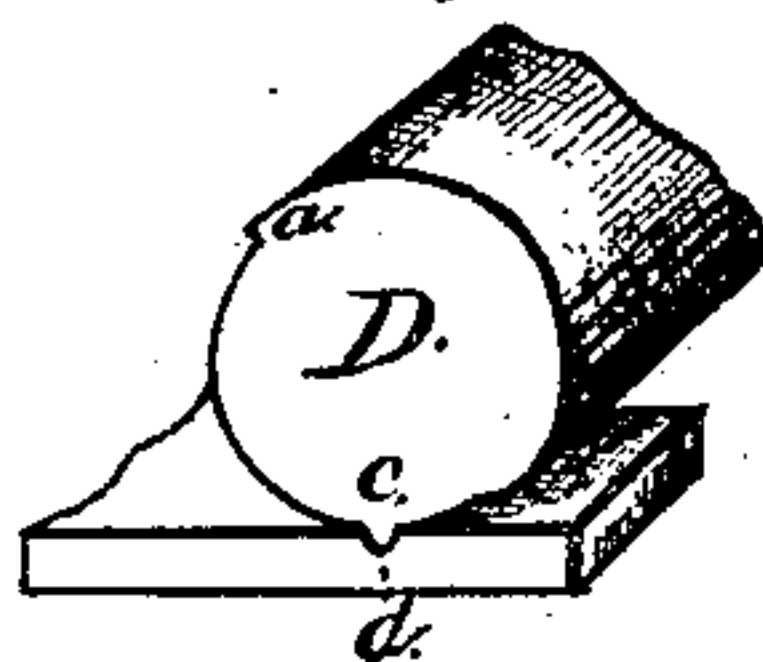


*J. Koehler,*  
*Tile Machine.*  
*No. 110,859.      Patented Jan. 10. 1891.*

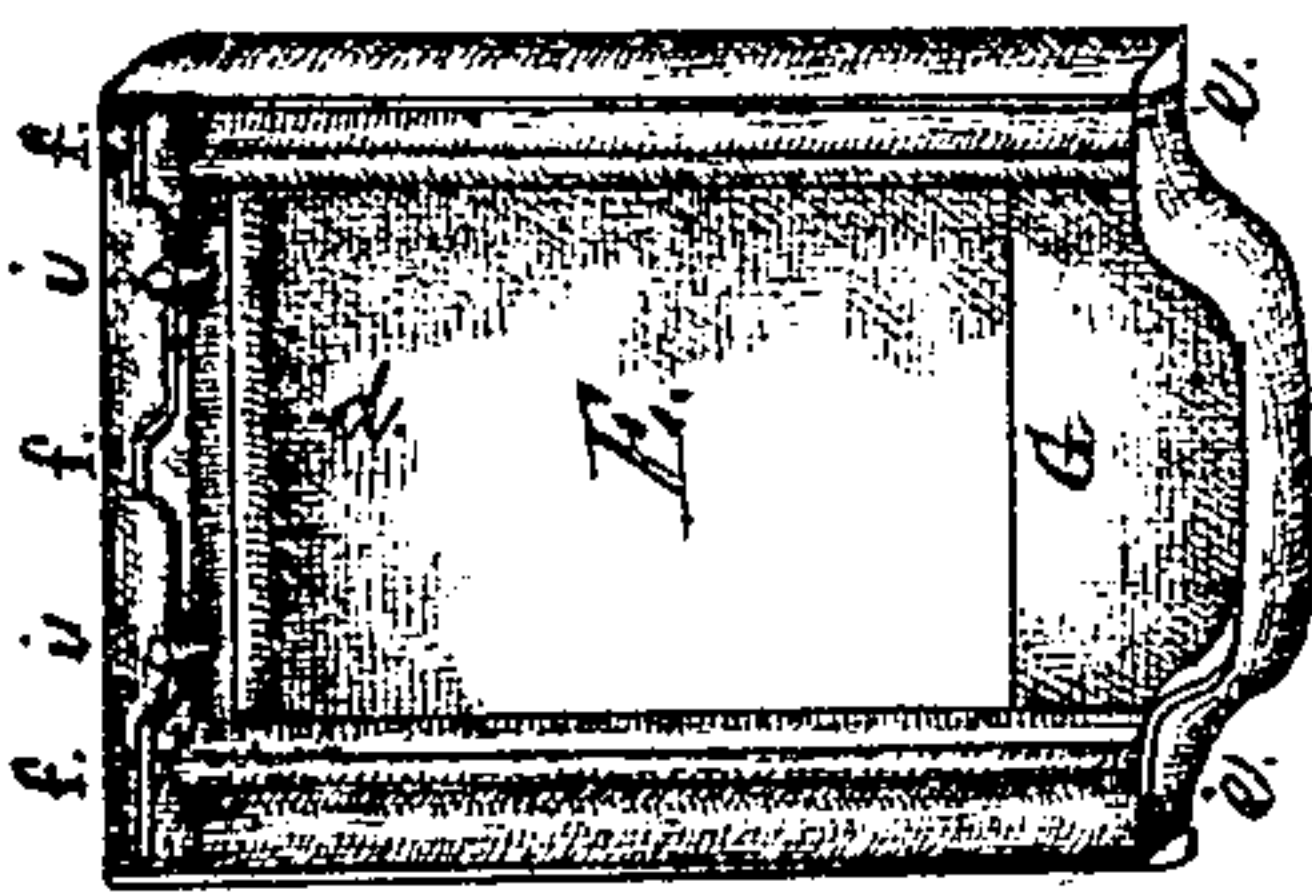
*Fig. III.*



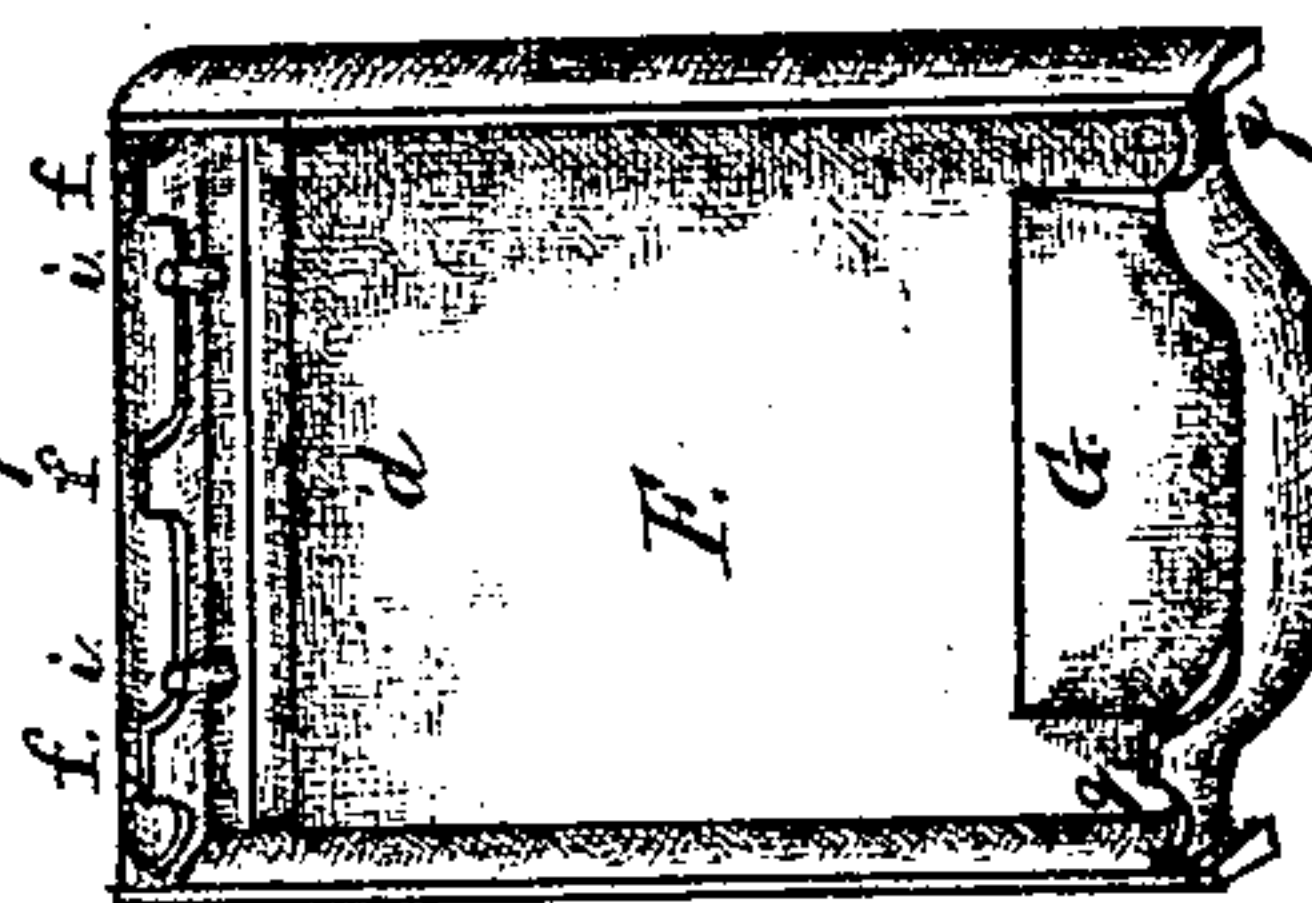
*Fig. V.*



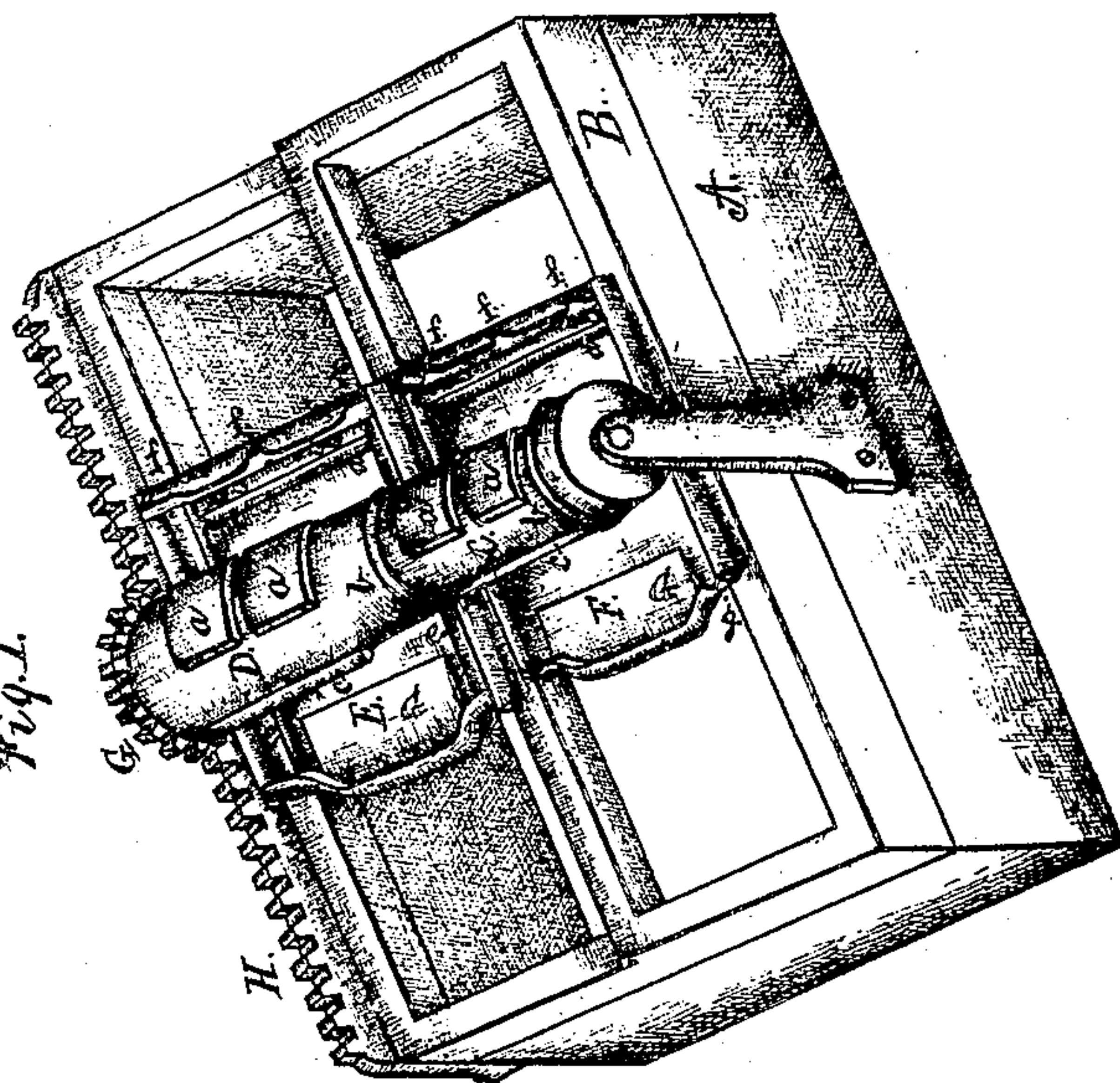
*Fig. II.*



*Fig. III.*



*Fig. I.*



*Inventor.*

*John Koehler*

*Witnesses.*

*William Pettingell.*  
*William MacSworth*



# United States Patent Office.

JOHN KOEHLER, OF WARREN, OHIO.

Letters Patent No. 110,859, dated January 10, 1871; antedated January 6, 1871.

## IMPROVEMENT IN ROOFING-TILE PRESSES.

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

I, JOHN KOEHLER, of Warren, in the county of Trumbull and State of Ohio, have invented certain Improvements in Roofing-tile Presses, of which the following is a specification.

The first part of my invention relates to the press-roller, said roller having projections, which are raised on its surface, to press into the clay or other material, making the tile lighter, and forming ventilating channels; also to the beads *b b*, on the part which passes over the mold *F*, said beads forming grooves on the upper edges of the tile, which receive corresponding tongues on the tile which is next in the same course.

The second part of my invention relates to the ribs *c*, which are secured longitudinally to the press-roller, said ribs pressing a horizontal groove into the clay in the mold *E*, which is placed in the frame under the largest diameter of the roller, and the rib on the smaller diameter of the roller forming a horizontal groove in the clay in the mold *F*.

The third part of my invention relates to the mold *F*, said mold being plain in its interior surface, and having the horizontal groove *d* near its upper end, which forms a rib on the tile. The projections *f f* cut off the clay at the ends of the ribs, which are formed in the clay by the recess between the projections on the roller. The curved depressions *g g* perform the same act. *G* is a raised sloping portion, that forms a bevel on the lower end of the tile, which tends to draw the water from the edges of the tiles, near their lower ends. The pins *i i*, in molding, project through the clay, and make the holes for securing the tiles to the roof.

The fourth part of my invention relates to the mold *E*. The central portion of said mold is a plain surface. Near the upper end is the horizontal groove *d*, to produce the same effect as in the mold *F*. On each side of said mold are raised grooves, which form the tongue on the tile which fits into the grooves formed in the tiles *F*. The projections *f* cut off the clay, which forms the ribs. The pins *i* form the holes.

### *Description of the Accompanying Drawing.*

Figure I is a view of the press, showing the frame *A*, slide-frame *B*, molds *E* and *F*, and press-roller *D*.

Figure II, view of tile-mold *E*.

Figure III, view of tile-mold *F*.

Figure IV, longitudinal section of roller *D*, showing the projections *a a*, beads *b b*, and its relative position to the molds *E* and *F*.

Figure V, end view of press-roller *D*, showing the projection *a* and rib *c*.

*A* is a frame, with the frame *B* attached to its upper surface by slides.

The mold *E* is secured by gains cut in the outside edge of the slide-frame *B*, and the other edge of the mold is secured in like manner to the center rail.

The mold *F* is secured in the same way.

On the side of the frame *B* is secured a ratchet, extending lengthwise. Said ratchet gears into a ratchet-wheel, which is secured to the end of the press-roller *D*, causing the frame *B* to pass back or forth. The slide can be worked by a crank or any other convenient attachment.

On the large part of the roller *D*, which is placed over the mold *E*, are the projections *a a*, which press into the clay and form recesses, which saves material and makes the tile lighter.

Between the projections, and at each end, are grooves, which form ribs on the under side of the tile, making a bearing for the tiles on the roof. The depressions form air-channels for ventilating the roof-boards.

The projecting rib *c* forms a groove near the lower end of the tile, which takes a corresponding horizontal rib formed near the upper end of the tile; and on its upper surface making a water-break, and helping to secure the tile in its place on the roof.

The smaller diameter of the press-roller *D* has, near its ends, the beads *b b*, which form grooves in the upper edge of the tile. This end of the roller has the same projections as the larger one; also the same rib *c*.

The mold *E* has the raised longitudinal grooves *e e*, formed in its interior, said grooves forming tongues on the tile, which fit into the grooves formed in the other tile by the beads *b b* on the smaller diameter of the press-roller *D*.

*d* is a horizontal groove in the mold, which forms on the tile a rib, which projects above its surface near its upper end and fits into the groove which is formed on the under surface of the tiles.

The pins *i i* project through the clay in molding, and form holes for securing the tiles to the roof.

The projections *f f* cut off the clay square at the ends of the ribs, the upper edge of the molds gauging the thickness of the tile.

*G* are sloping projections in both molds, which form a bevel on the lower end of the tile to draw the water from the edge.

The mold *F* has its interior surface plain, and has the same projection *G* as in *E*; also the same grooved projections *f*, and the pins *i i* for the same purpose.

The operation of this press is this:

The frame *B* is brought forward. Sufficient clay is placed in the molds, then passed back, when the press-roller *D* imprints the grooves and depressions on the under side of the tile, and at the same time

forcing the clay into the other depressions of the molds.

The novelty in my improvement consists in the roller D, forming the depressions and groove in the under side of the tile, and forming the upper surface of the tiles in the molds E and F for forming the tongues *e e* in mold E, and the groove *d* for forming the ribs on the tile; also the pins *i i* for forming the nail-holes.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The roller D, with the projections *a a a a*, beads *b b*, and the ribs *c c*, substantially as and for the purpose as hereinbefore described.

2. The mold E, with the raised grooves *e e*, groove *d*, pins *i i*, and slope G, substantially as and for the purpose as hereinbefore set forth.

3. The mold F, with its groove *d*, pins *i i*, and slope G, substantially as and for the purpose as hereinbefore set forth.

4. The combination of the frame A, sliding frame B, roller D, and molds E and F, all constructed, arranged, and operated as shown and described, for the purposes herein set forth.

JOHN KOEHLER.

Witnesses:

WILLIAM PETTINGELL,  
WM. WADSWORTH.