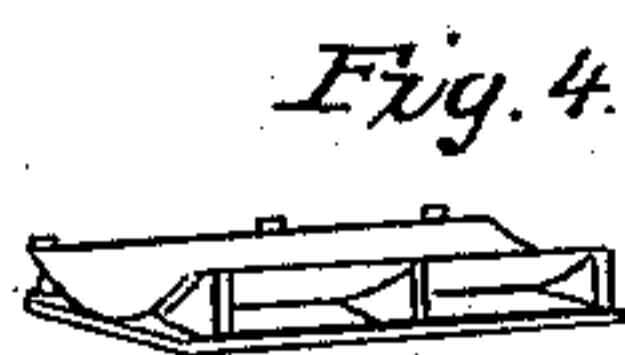
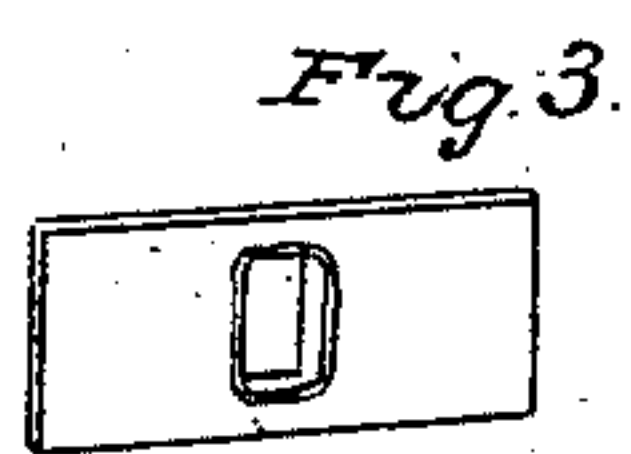
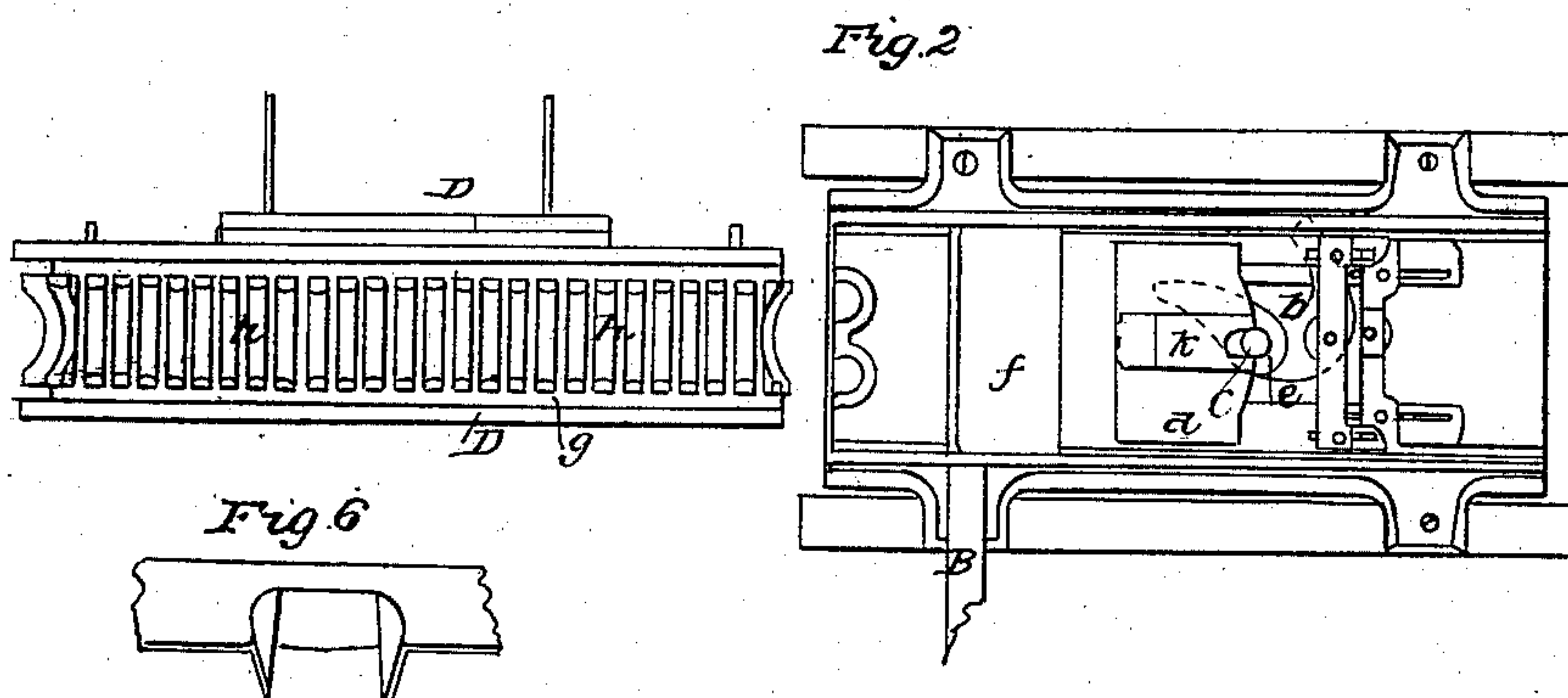
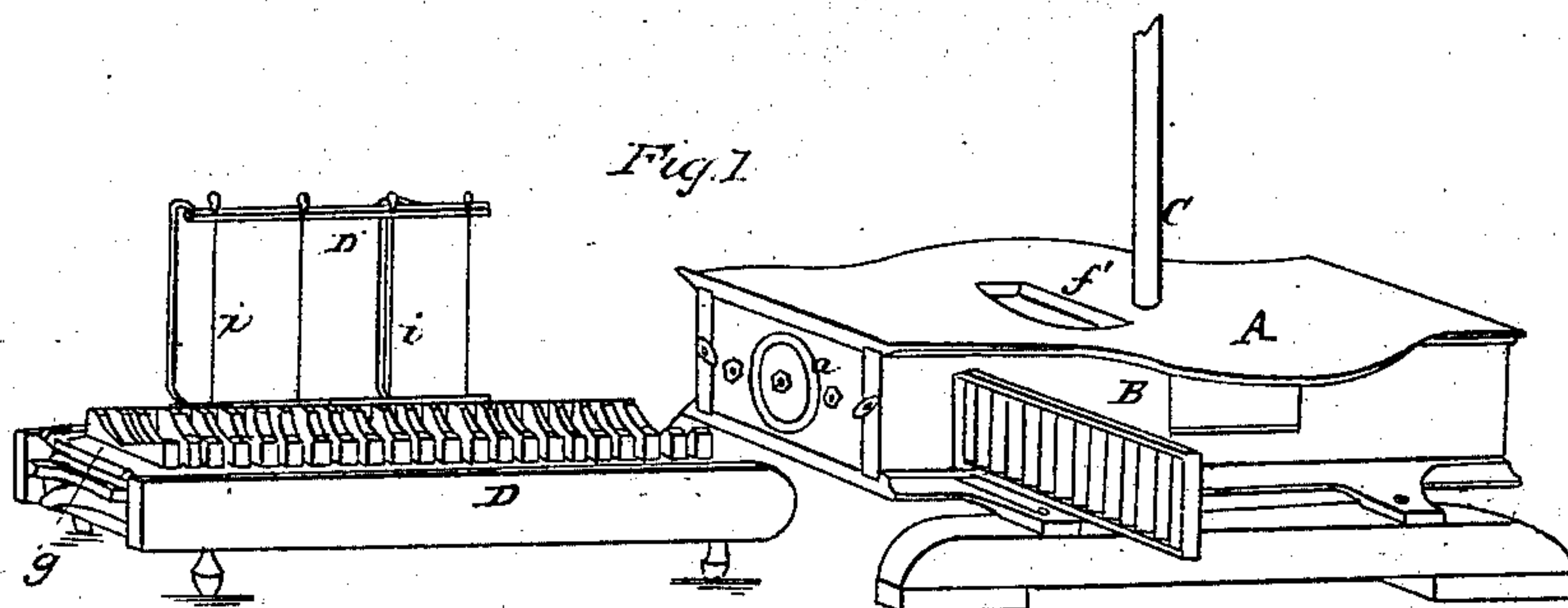


J. W. PENFIELD.

Tile Machine.

No. 98,519.

Patented Jan'y 4, 1870.



Witnesses
Geo W Tibbels
J. Holmes,

Inventor
James W Penfield

United States Patent Office.

JAMES W. PENFIELD, OF WILLOUGHBY, OHIO.

Letters Patent No. 98,519, dated January 4, 1870.

IMPROVEMENT IN TILE-MACHINES.

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

I, JAMES W. PENFIELD, of Willoughby, in the county of Lake, and State of Ohio, have invented certain Improvements in Tile-Machines, of which the following is a specification.

The nature of this invention relates to certain improvements in tile-machines, whereby the work is more easily and perfectly performed; and consists in the construction and arrangement of an endless belt, having, upon its surface, lugs formed in such a manner as to convey the round or drain-tile without their liability of rolling off; and further consists in the mode of constructing the detached boards for receiving the tile for carrying away to the drying-ground.

Figure 1 is a perspective view, embodying my improvements.

Figure 2 is a plan or top view of the same with the top removed.

Figure 3 is a view of the brick-mould opening.

Figure 4 is a board for carrying away large tiles.

Figure 5 is a view of a board, having several grooves, for conveying several small tiles.

Figure 6 is a section of the brick-die.

In the drawing—

A represents a box or case, in which are arranged the devices for forcing the clay through the mould-orifice *a*, and consists of a cam, *b*, on the shaft *c*, working a slide, *d*; also a cam, *e*, on the same shaft, for working the cut-off *f*, which closes the opening *f'* in the top of the case A.

Upon the top of the case A, is to be placed a tub, in which the clay is to be mixed, the shaft *c* being provided with suitable arms for that purpose.

Within a slotted opening in the sides of the case A, is placed a sliding screen, B, which is intended to aid in removing any stones or hard lumps that may occur in the clay. This screen is made, in length, double the width of the case A, for the reason, that when it may become necessary to remove it for cleaning, the half projecting may be pushed or slid in, and the other half, coming out on the opposite side, may be cleaned without entirely removing it from the machine, as the opening in which it slides would, if it were entirely removed, become filled or clogged up, making it difficult to insert it again.

k is a slide that covers the slot in the plate *d*, the object of which is, that the opening *f'* in the top of the case A, may be made as large as possible, and the slot be still covered by the slide *k*, thus preventing the clay that would pass through the slot, if it were not closed, from clogging and arresting the operation of the shaft and its attachments.

D represents a frame, in which is a number of rollers, and over the rollers is placed an endless belt,

g, upon which are placed bars *h h*, having their upper sides cut out in a circular form, corresponding to the size and shape of the tile which they are intended to receive. This belt may be removed, and others, of different sizes, substituted as may be required, according to the size of tile being made, or it may be removed altogether, and the boards, of the construction represented in figs. 4 and 5, placed on the rollers to receive the tile as it comes out of the machine, the boards being carried along on the rollers, and others placed in under the issuing tile, and following them.

Upon the side of the frame D, is arranged a sliding frame, D', having wires *i i* stretched across it for cutting the tile into suitable length. It is made so as to slide along, so as to accommodate it to cut the tile wherever it may be most convenient, as it moves along on the belt or rollers. The wires passing through the tile and down into the space between the bars *h h*, cut them entirely apart.

The board represented in fig. 4, is for large tile, which requires it to be handled carefully, and by the use of which the workman is enabled to carry away tile from the machine, and place it upon end on the drying-ground, without the liability of marring the shape of the tile.

Fig. 5 is a board, having grooves suitable for receiving smaller tile. The grooves across the board permit the wires to cut them through the tile. The grooved boards are better adapted for carrying round tile, as they are not liable to roll off.

Figs. 3 and 6 represent an end plate, having a die in it for making brick, which is to be placed in the machine at *a*. This die is made tapering, the larger side having round corners, which terminate in square corners in the small side, thus shortening the angle, which causes the clay to be forced into the corners and insure them being full and square. The sides of the opening in the small side are also made slightly curved inward, to allow the clay, when it issues from the die, to assume a straight line by swelling, as it is inclined to do.

I do not claim the carrying-board, as shown in fig. 4; but

I claim, as my invention—

The belt *g*, having the bars *h h* upon it, in combination with the roller-frame D, when the bars *h h* have spaces between them, which allow the tile to be cut entirely through, all substantially as herein described.

JAMES W. PENFIELD.

Witnesses:

GEO. W. TIBBITTS

GEO. HESTER.