No. 610,686. Patented Sept. 13, 1898.

# T. H. MOONEY.

## MOLD FOR FORMING TILES.

(Application filed Oct. 4, 1897.)

(No Model.)

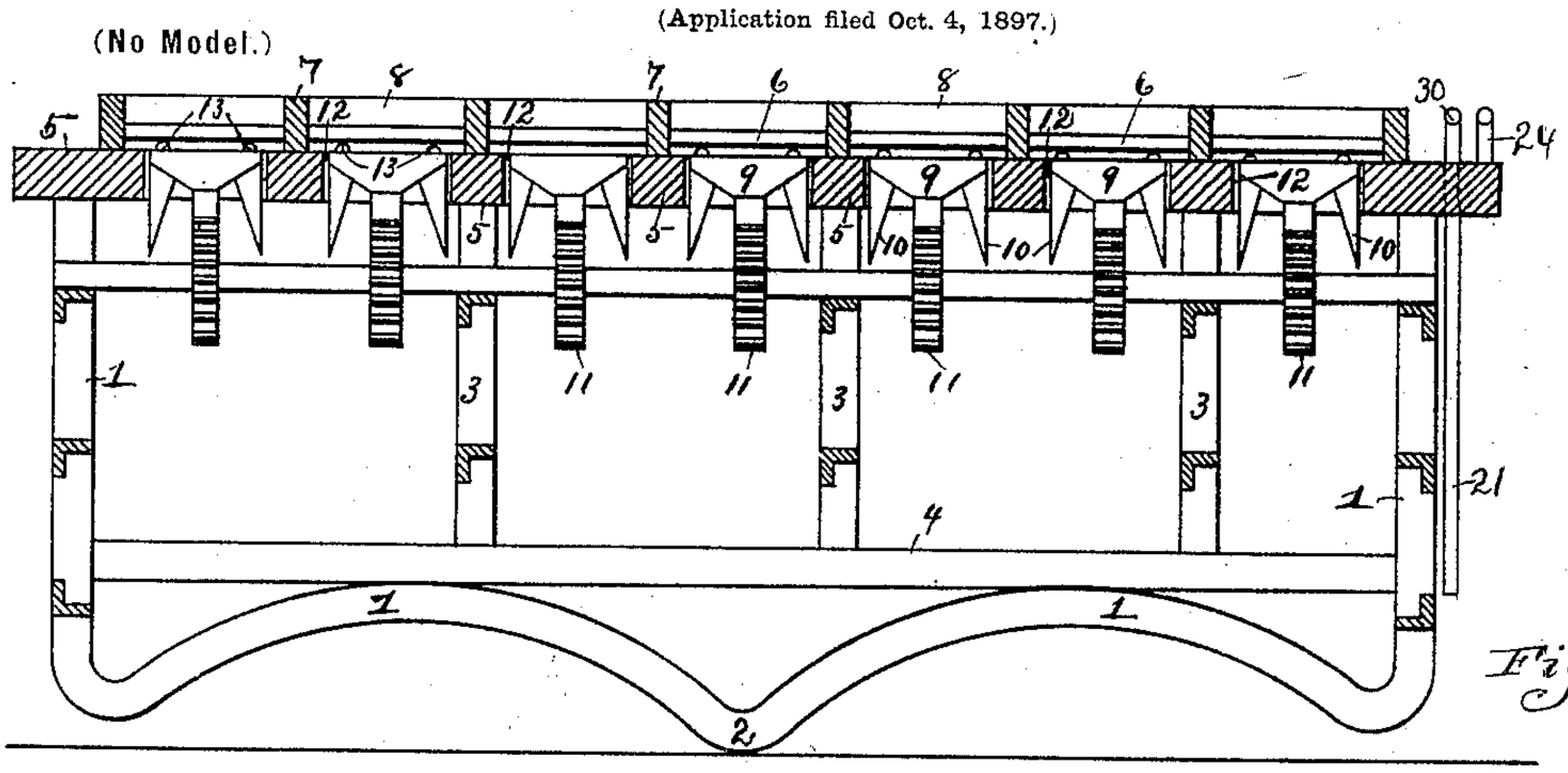

Fig 1.

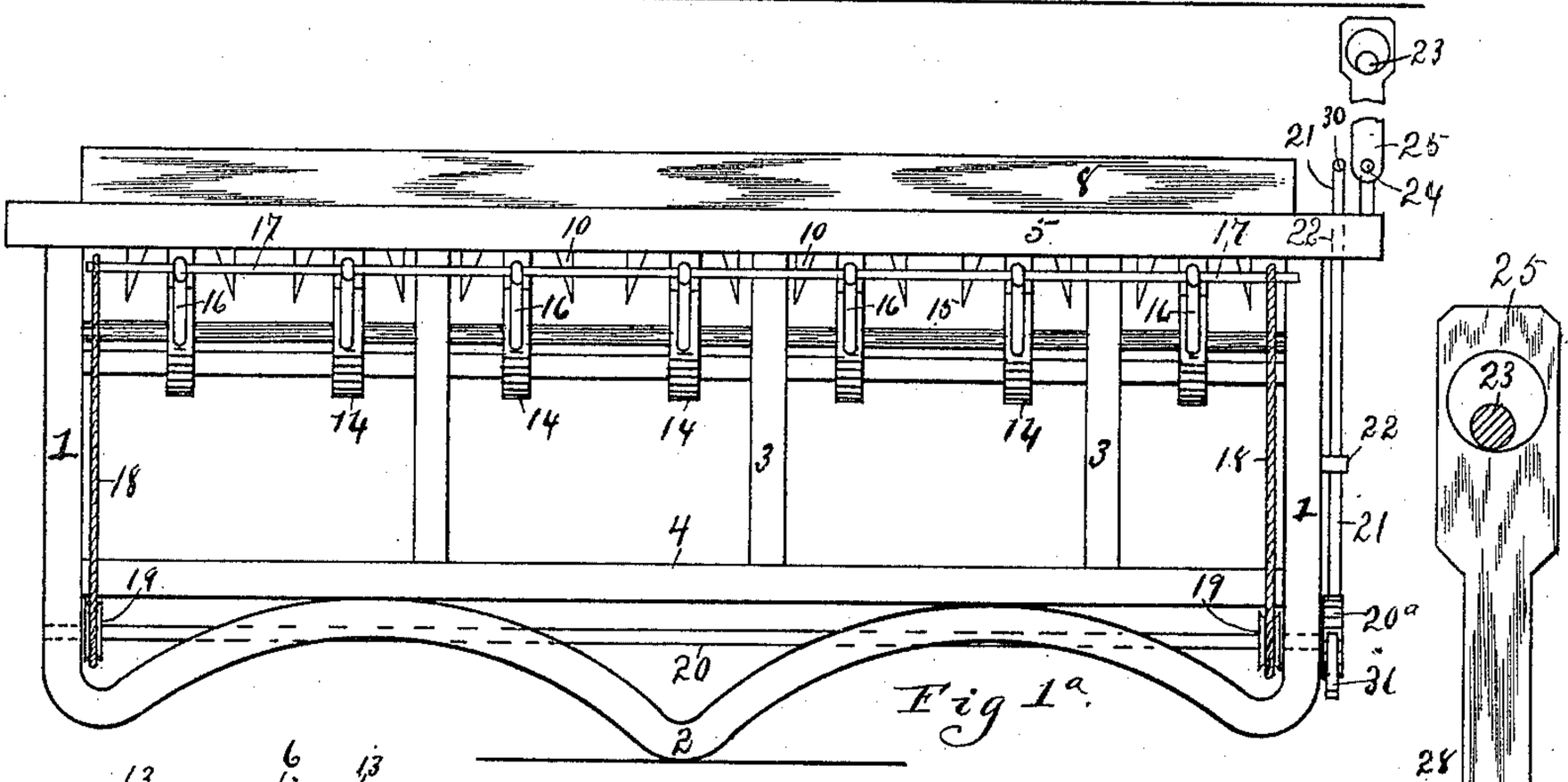

Fig 1a.

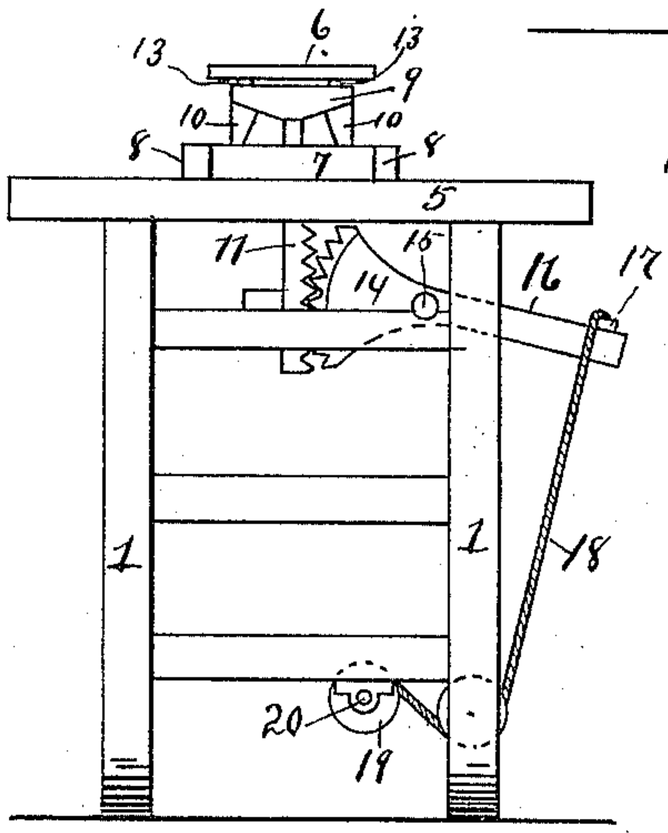

Fig 2.

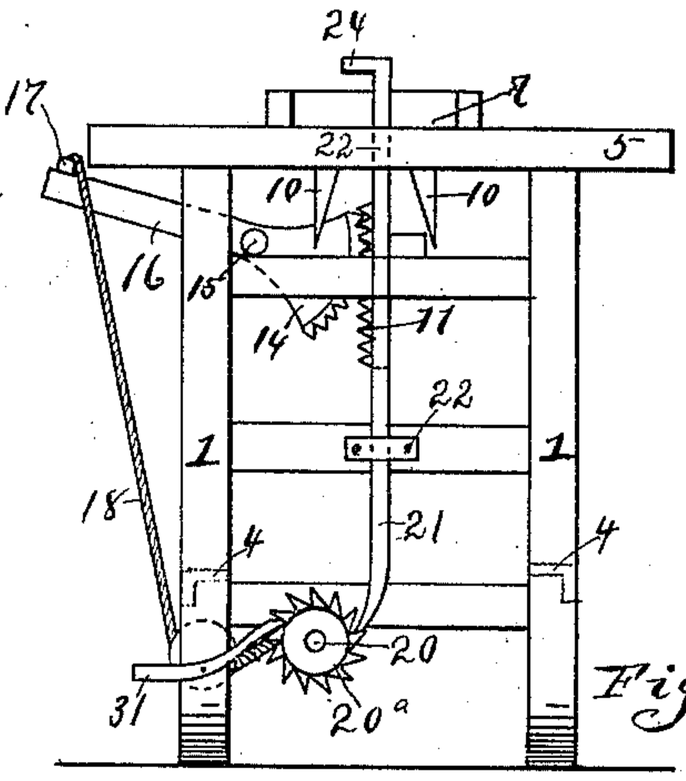

Fig 3.

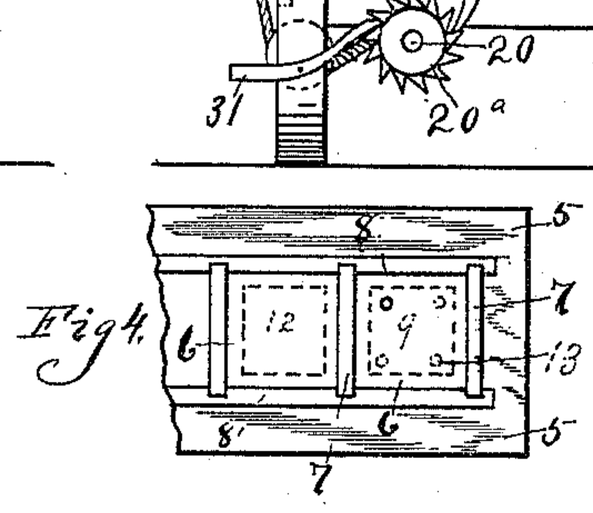

Fig 4.

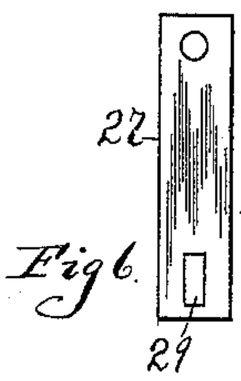

Fig 6.

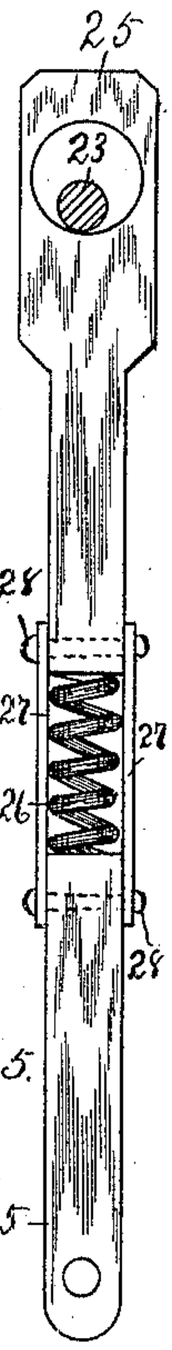

Fig 5.

WITNESSES

Wm. Voss.

C. Marshall.

T. H. Mooney.

INVENTOR

By R. J. McCarty.

ATTORNEY

# UNITED STATES PATENT OFFICE.

THOMAS H. MOONEY, OF DAYTON, OHIO.

## MOLD FOR FORMING TILES.

SPECIFICATION forming part of Letters Patent No. 610,686, dated September 13, 1898.

Application filed October 4, 1897. Serial No. 653,925. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS H. MOONEY, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Molds for Forming Tiles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in frames for molds for forming tiles—such, for example, as mosaic tiles—and to means for operating said frames; and the said invention has for its object to provide a durable and light frame for vibrating the molds.

Referring to the annexed drawings, forming part of this application, Figure 1 is a longitudinal sectional elevation of the frame and molds. Fig. 1ª is a side elevation. Fig. 2 is an end elevation of the same. Fig. 3 is an elevation of the opposite end. Fig. 4 is a top plan view of a portion of the frame and molds. Fig. 5 is an enlarged elevation of the pitman, through which motion is transmitted to the frame. Fig. 6 is a detached side view of one of the plates connecting the two parts of the pitman.

The frame is mainly constructed of metal—such, for example, as tubular iron, bar-iron, or angle-iron. In the present instance it is constructed of the latter material and comprises two side pieces 1, that stand perpendicular at each end and curve upwardly from said end and downwardly in the center at 2. These points 2 form the tilting points of the frame. 3 designates a series of uprights reaching from the horizontal braces 4. The latter connect the lower portions of the frame. The said uprights 3 have transverse braces between them and support at their upper ends the oblong rectangular frame 5, which incloses a series of plates 6, that form the bottom of the molds in which the plastic or cementitious material is formed. The sides of the molds are formed by cross-pieces 7, which have their ends rabbeted in longitudinal pieces 8, running lengthwise of the frame. A series of lifters are placed beneath the plates 6. These lifters comprise plates 9 with downwardly-projected guide-flanges 10 and integral racks 11. The plates 9 move in openings 12 in the bottom of the frame and are guided in their movement by flanges 10.

13 designates cushions projecting from the plates 9 and upon which the bottom plates 6 of the molds rest.

14 designates a series of segmental gears fulcrumed on a longitudinal shaft 15, suitably mounted in the frame. These segment-gears may be operated individually by the handles 16, which project out to one side of the frame, or all of said gears may be operated simultaneously by devices described as follows:

17 is a long bar lying across the upper sides of the handles 16. 18 are ropes or cables connected to said bar and passing around winding-drums 19. The said drums are tightly mounted on a longitudinal shaft 20, which may be rotated to turn said drums and wind and unwind the cables. The wheel 20ª on said shaft is rotated by a vertically-reciprocating rod 21, that moves in guides 22 on the frame. The lower end of this rod rests in the teeth of the wheel 20ª, and movement is imparted to said wheel by actuating said rod in a manner presently described. The necessary vibratory movement is imparted to the frame to cause the liquid or cementitious substance in the molds to settle properly around the pieces or marble or other similar substance with which said cementitious substance is united in forming the tiles. This motion is transmitted through a line-shaft 23, having a crank or eccentric thereon. The upper end of the pitman 25 is connected to said crank, and the lower end is detachably connected to a hook 24 on one end of the frame.

During the operation of the apparatus it is important that some portion of the mechanism have a capacity for yielding or giving under the impacts of the frame in order that breakage of the parts and an undesirable jarring be avoided. This yielding takes place at the pitman 25, which consists of two parts, with a coil-spring 26 inclosed between them. The ends of said pitman are yieldably connected by means of two plates 27, which are loosely connected by bolts 28. The lower ends of said plates are provided with oblong

holes 29, that permit of a vertical movement of said pitman independent of the rest of the mechanism and a return of the parts to their proper position by the spring.

In operating the gearing to elevate the floors of the molds the lower end of the pitman may be disconnected from the hook 24 and similarly connected to a hook 30 on the upper end of the reciprocating rod 21 and motion thereby imparted to the shaft 20 to rotate the drums and draw down the segmental gears 14.

31 is a foot-treadle pivoted on an end of the frame and serving to lock the ratchet-wheel $20^a$ against any movement backward.

Having fully described my invention, I claim—

1. In an apparatus for molding tiles, the combination of two continuous side pieces having their opposite ends vertical, and their intermediate parts projected down to form the tilting points of the frame, transverse braces between said side pieces, a series of uprights, a frame supported on said uprights and carrying longitudinal pieces 8 and transverse pieces 7 forming a series of molds thereon, a series of lifters movable in said molds, the said lifters each having a downwardly-extended rack, toothed segments geared to said racks, and means for simultaneously actuating said toothed segments, substantially as and for the purposes specified.

2. In an apparatus for molding tiles, the combination of a frame having two side pieces 1 1 the ends of which terminate vertically, and the intermediate parts of which project downwardly to form tilting points, longitudinal and transverse braces between said side pieces, a frame, a series of uprights supporting said frame, and carrying longitudinal pieces 8 and transverse pieces 7 forming a series of molds thereon, a series of lifters movable in said molds, each of said lifters having downwardly-projected guide-flanges 10 and a rack 11, a plate 6 carried by each of said lifters, a series of segment-gears provided with operating-handles and engaging with said racks, a bar lying across said handles, and means for operating said bar to simultaneously actuate said segment-gears, substantially as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS H. MOONEY.

Witnesses:

R. J. McCARTY,

B. McCARTY.