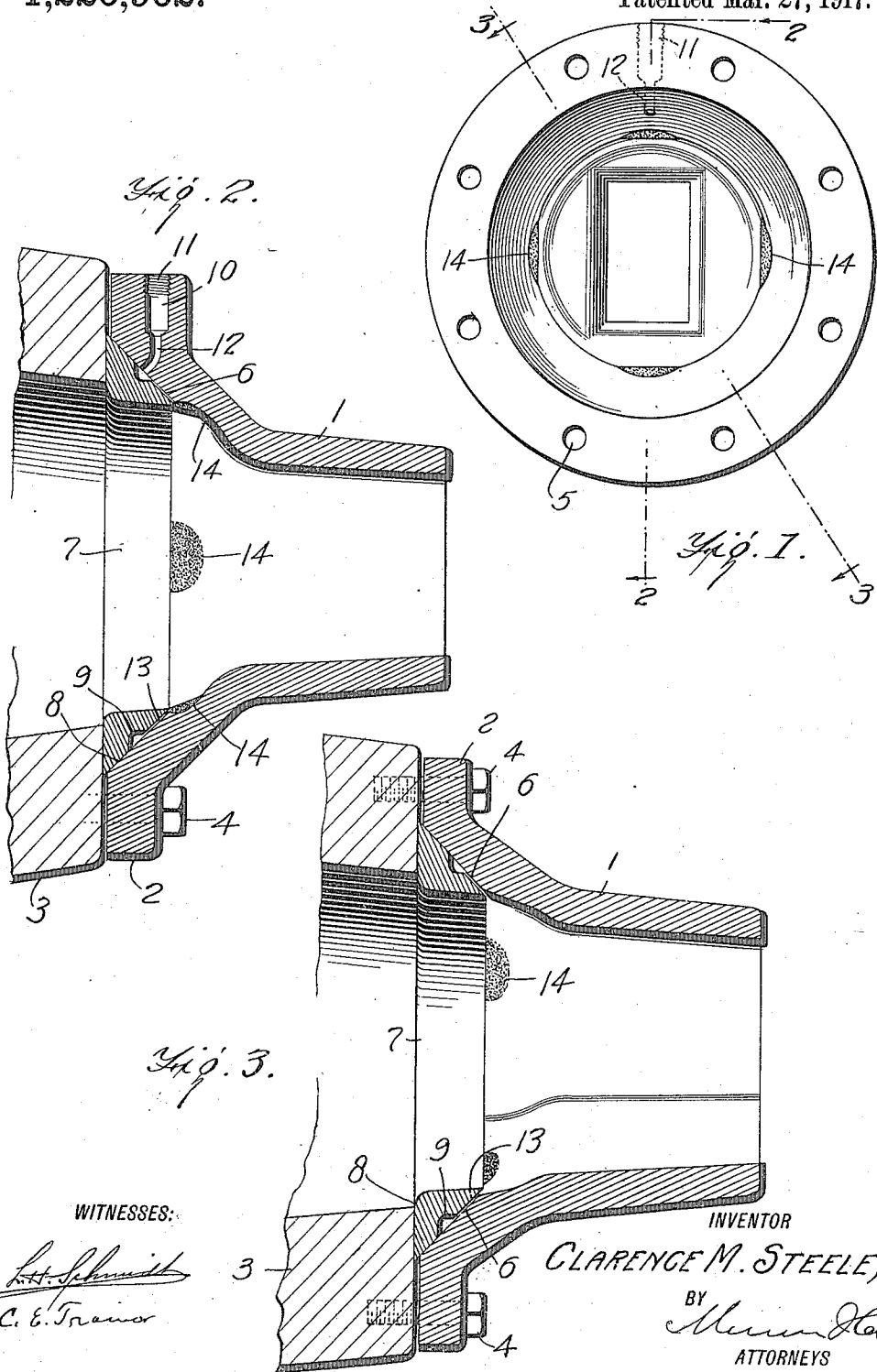


C. M. STEELE.  
DIE OR FORMER.  
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1,220,902.

Patented Mar. 27, 1917.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CLARENCE M. STEELE, OF STATESVILLE, NORTH CAROLINA.

DIE OR FORMER.

1,220,902.

Specification of Letters Patent. Patented Mar. 27, 1917.

Application filed March 31, 1916. Serial No. 37,984.

*To all whom it may concern:*

Be it known that I, CLARENCE M. STEELE, a citizen of the United States, and a resident of Statesville, in the county of Iredell and State of North Carolina, have invented a new and useful Improvement in Dies or Formers, of which the following is a specification.

My invention is an improvement in dies or formers, and has for its object to provide a die or former especially adapted for use with brick machines to form the tempered clay into a bar rectangular in cross section from which the individual bricks are cut, wherein means is provided in connection with the die or former for lubricating the bar as it emerges from the former to overcome the excess friction in the corners of the die and across the narrow edge to provide a more perfect and a more homogeneous bar.

In the drawings:—

Figure 1 is a rear view of the former detached, and

Figs. 2 and 3 are sections on the lines 2—2 and 3—3 of Fig. 1, both sections being enlarged.

In the present embodiment of the invention the former 1 has a passage which is rectangular in cross section at its outer end and circular at its inner end, and the former has a marginal flange 2 at its inner end by means of which it may be secured to the outlet 3 of the tempering case by means of screws 4 or the like shown passed through openings 5 in the flange into engagement with openings in the outlet. The tempered clay is forced through the outlet and the former and is molded in the former into a bar rectangular in cross section which is afterward cut into suitable lengths to form the bricks.

As is known there is an excess of friction in the corners of the former passage and at the narrow ends of the passage and means is provided for lubricating the bar of clay at these points to form a more perfect and a more homogeneous bar. For this purpose the inner surface of the former at the inner end is beveled as indicated at 6, and a ring-shaped valve 7 is arranged within the recess formed by beveling the surface between the outlet 3 of the tempering case and the former.

The ring is approximately right triangular in cross section as shown, having the hypotenuse outward, and this surface of the

ring is beveled as indicated at 8 to correspond with the bevel surface 6 of the former. The ring is also provided with an annular groove 9 at the bevel surface extending entirely around the ring for receiving a lubricant, and the flange of the former is provided with a radial recess 10, having its outer end threaded at 11 and having at its inner end a port 12, which communicates with the interior of the former at the bevel surface, and with the groove when the valve ring is in place.

That portion of the bevel or outer surface of the ring valve which is on the inner side of the groove, that is, which is adjacent to the passage of the former is cut away as indicated at 13 on a plane parallel with the portion 8 and with the bevel surface 6 to form an annular passage leading from the groove into the passage of the former. The beveling of the ring valve provides a sharp edge at the passage of the former and at the inner limits of the bevel surface 13, and the ring is so arranged with respect to the former that this sharp edge extends into the path of the moving clay at the corners of the passage through the former.

The surface 13 is ground down to form a very narrow opening and the lubricant which is forced into the groove 9 under pressure, will pass out through this passage and will lubricate the moving body of clay at the desired points. The passage is too narrow to permit the clay to work back into the passage of the groove, and pockets are formed in the former at points where it is desired to retard the movement of the clay. These pockets indicated at 14 are formed by recessing or cutting away the inner wall of the former at the inner edge of the ring valve when in place.

Four pockets or recesses are provided, one in line with each straight side of the former, and at these points the sharp edge of the valve ring is farther outside of the path of movement of the clay than at the points between the pockets, as will be evident from an inspection of Figs. 2 and 3. Between the pockets the sharp edge of the valve extends beyond the inner surface of the former, in order that a coating of lubricant may pass between the former wall and the moving bar of clay.

At the pockets 14 the clay banks, cutting off or partially cutting off the lubricant. That is, the valve ring overlaps the former

at points where lubricant is required and the overlap is reduced or entirely eliminated at points where little or no lubricant is desired. Here the flow of the tempered clay  
5 will be retarded.

It will be noticed that the entire interior of the former passage at the sharp edge of the ring is recessed or enlarged and that the pockets 14 are merely deepening of this recess, or they may be considered as formed  
10 by increasing the height of the shoulder.

I claim:—

1. A die or former for brick machines, having a substantially rectangular passage  
15 thereof having at the inner end the passage thereof beveled outwardly and a valve ring having its outer side beveled to fit the bevel of the former and having a continuous groove at the bevel face for receiving a lubricant, that portion of the beveled face of  
20 the ring on the inner side of the groove being cut away to space the said portion of the face apart from the adjacent portion of the bevel of the former to permit the flow of  
25 lubricant from the groove to the interior of the former, said ring having a sharp edge at the inner surface of the last-named portion of the bevel extending into the path of  
30 the moving clay the former having pockets for permitting the clay to bank to retard the flow of lubricant between the corners, and the sharp edge of the ring being retracted at the pockets.

2. A die or former for brick machines  
35 having a substantially rectangular passage

and having at the inner end an annular passage for receiving a lubricant and encircling the former passage and having a continuous port leading to the interior of the former, said port inclining inwardly toward the discharge end of the passage, and the inner  
40 wall of the port being extended beyond the outer wall, and the passage wall of the former having clay receiving pockets intermediate the extended portions for receiving  
45 clay to retard the flow thereof at these points, the inner wall of the port being retracted at the pockets.

3. The combination with former and valve ring, the former having shoulders  
50 more or less abrupt at points requiring little or no lubricant, adjacent to the valve ring, forming pockets of clay at these points, cutting off or regulating the lubricant as  
55 desired.

4. A die or former for brick machines, having substantially rectangular cross sections provided at its inner end with a valve ring having a beveled edge overlapping the interior former wall, the overlap being reduced at points in line with the straight  
60 walls of the former where it is desired to retard the flow of clay, and means for supplying lubricant to the former delivering at the said beveled edge.

CLARENCE M. STEELE.

Witnesses:

T. C. BARRIER,  
J. A. VAUGHAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."