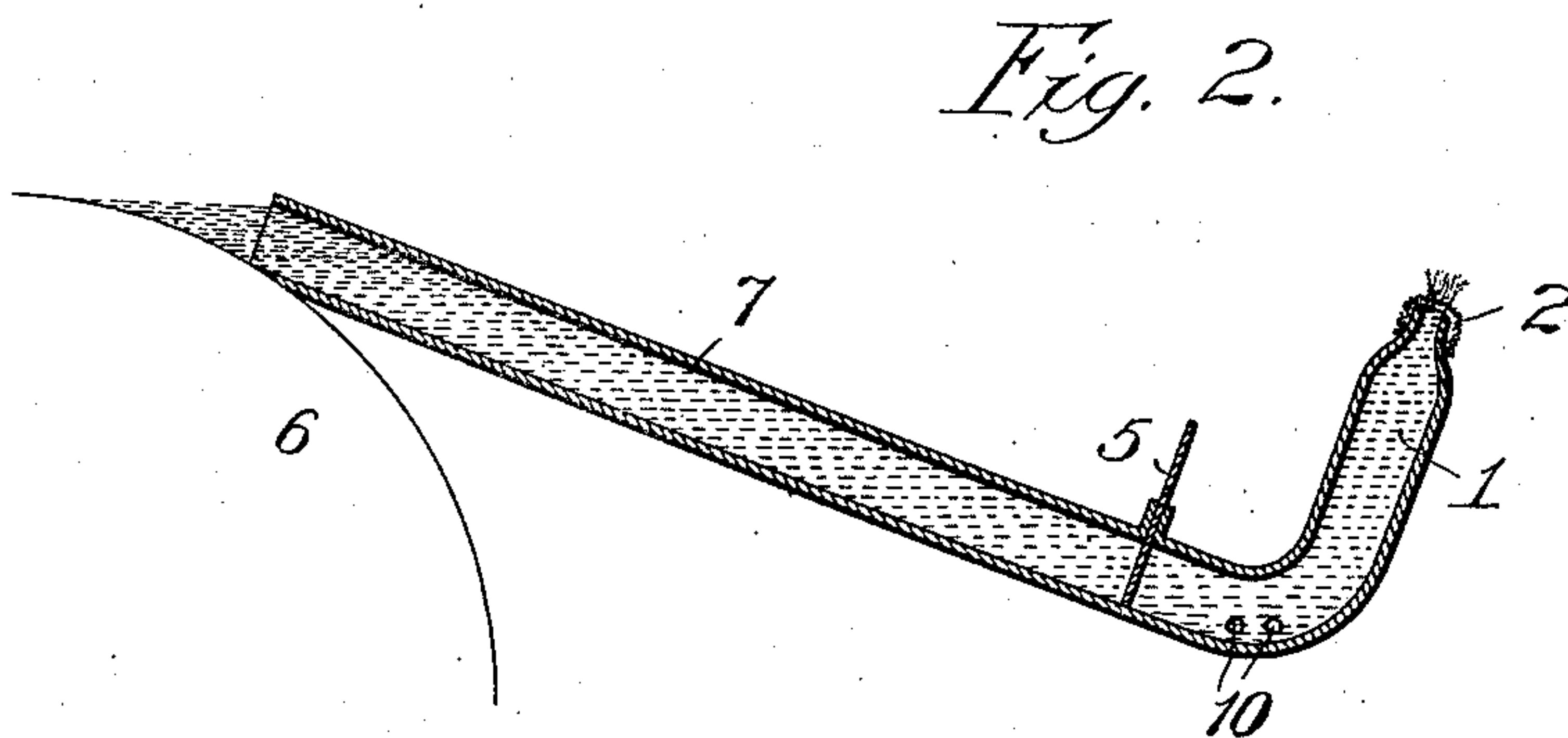
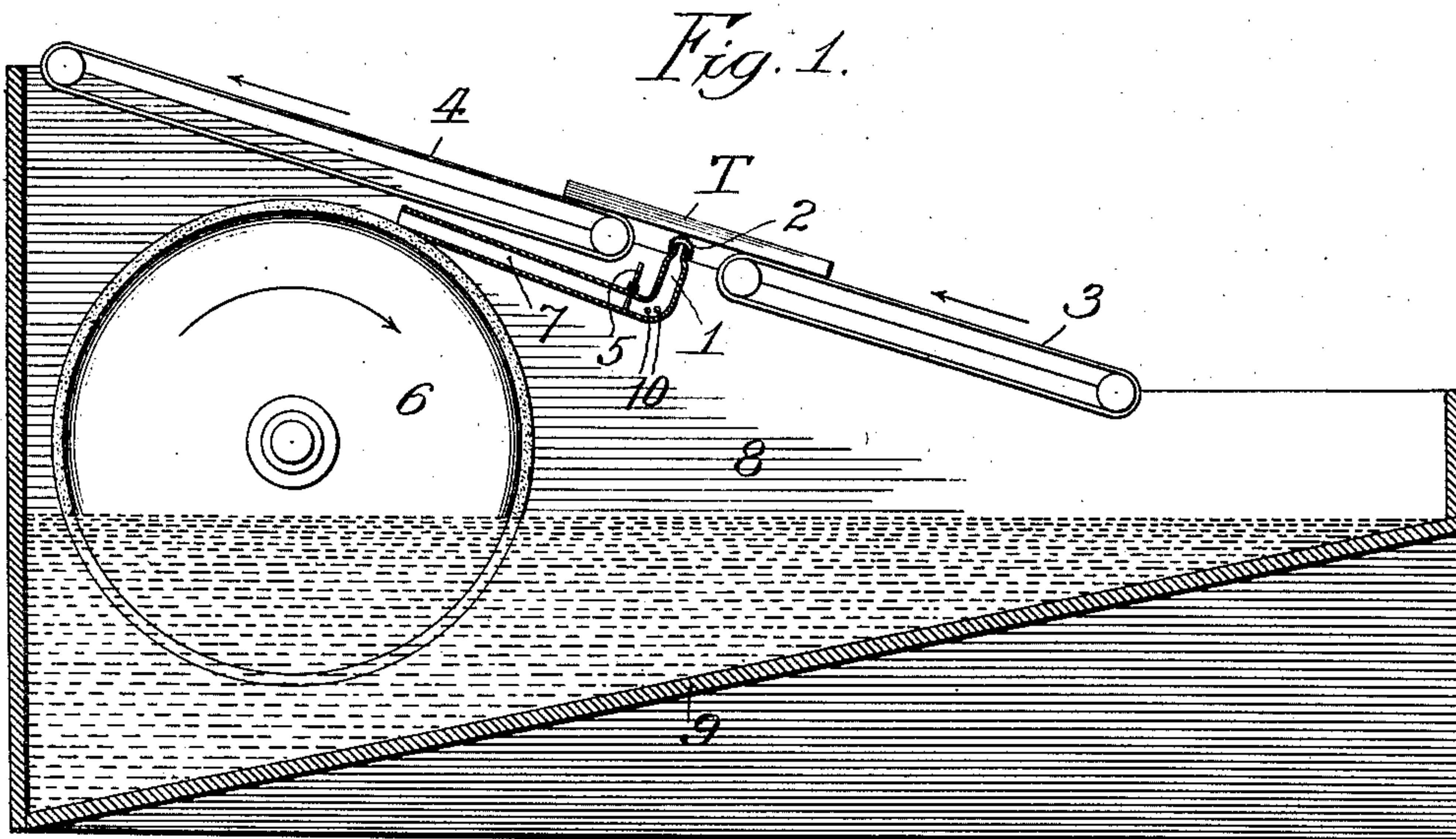


J. P. SCOVILL.  
TILE COATING MACHINERY.  
APPLICATION FILED SEPT. 23, 1904.

973,710.

Patented Oct. 25, 1910.



Witnesses:  
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By *Henry M. [Signature]* Att'y



# UNITED STATES PATENT OFFICE.

JAMES P. SCOVILL, OF WYOMING, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO  
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## TILE-COATING MACHINERY.

973,710.

Specification of Letters Patent.

Patented Oct. 25, 1910.

Application filed September 23, 1904. Serial No. 225,619.

*To all whom it may concern:*

Be it known that I, JAMES P. SCOVILL, a citizen of the United States, and a resident of Wyoming, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Tile-Coating Machinery, of which the following is a specification.

This invention relates to machines for coating tile and the like with the liquid material which subsequently forms the glaze when the tile are fired.

The object of the invention is to provide an improved construction in machines of the character referred to, and it consists of the matters hereinafter set forth and particularly pointed out in the appended claims.

In the accompanying drawings,—Figure 1 is a sectional elevation of a tile coating machine embodying my improvements in one form. Fig. 2 is a sectional detail of the nozzle and spout for conducting the liquid tile coating material to the tile.

In said drawings, 1 designates an upwardly projecting spout designed to be supplied with liquid coating material under a pressure or head sufficient to keep the material flowing continuously from the mouth of the spout. The length of this spout is transverse to the direction of movement of the tile, and will be longer than the widest tile which the machine is designed to handle, but the width of its mouth is quite small, just large enough to freely emit the tile coating material. The mouth of the spout is covered with a cap 2 of foraminous material, desirably formed of one or more layers of wire screening, backed, if necessary, by a layer of vegetable fiber.

The tile T to be coated is placed with its coat receiving face downward, and then moved across the mouth of the spout, either by hand or by any suitable means, such as an endless carrier 3, the removal of the tile being similarly accomplished by hand or by a suitable mechanism, such as an endless carrier 4. In moving across the spout the tile rests upon the cap 2, and its lower face subjected to the current of coating material flowing out through the cap. A portion of this material will adhere to the tile and form upon its surface the glaze making layer, and

the thickness of this layer can be varied by varying the character of the foraminous cap or the size of its pores through which the coating material flows, or by alterations in the character of the coating material itself, also by varying the flow through the spout which may be done in any convenient manner, as by adjusting a valve 5 which controls the entrance of material to the spout.

In the contemplation of my broad invention, so far as the tile coating operation is concerned, the liquid coating material can be fed into the spout by any means which will insure its being supplied in sufficient quantities and kept perfectly mixed, it being well known that tile coating materials contain much heavy matter which is normally held in suspension but tends to rapidly sink to the bottom unless constantly agitated. In this instance, however, and as a further and important feature of the present improvement, the supply of freshly agitated liquid material to the spout is maintained by a wheel or drum 6 from the upper portion of which a trough or chute 7 leads to the spout. This trough or chute is downwardly inclined from the top of the drum 6 so that the liquid material scraped from the drum by the edge of the chute flows downward to and rises in the spout 1, until it overflows through the cap 2 by reason of the fact that the mouth of the spout is placed lower than the top of the drum, thus giving rise to a hydraulic head sufficient to maintain the circulation through the spout. The surplus material flowing out of the spout, and not absorbed by the tile, simply drops back into the vat 8 within which the drum is mounted, and is eventually raised again by the drum and fed through the chute and box as before. The bottom 9 of the vat is preferably inclined downwardly below the drum 7 to facilitate the return of the liquid to the drum, and the circulation serves to keep the material flowing out of the spout in a freshly agitated and perfectly mixed condition ready for application to the tile. In case there should be any tendency for heavier matter to collect at the lower end of the spout at its juncture with the supply chute 8, one or more holes may be provided at this point to permit



such heavier matter to escape, such holes being, however, too small to interfere with the principal flow of the liquid out of the spout through its cap 2, as described.

5 I claim as my invention:—

1. In a tile coating machine, an upwardly projecting spout provided with a foraminous cap, means for continuously flowing liquid coating material through the spout  
10 only to an elevation substantially the same as that of the lower face of the tile, and means for passing the tile over the mouth of the spout with its coat receiving face in close proximity thereto, substantially as de-  
15 scribed.

2. In a tile coating machine, an upwardly projecting spout, a foraminous cap thereon, means for continuously flowing liquid coating material through the spout, and a sup-  
20 porting guide for the tile located at the mouth of the spout and serving to direct the tile through the outflowing current of coating material, substantially as described.

3. In a tile coating machine, an upwardly projecting spout, means for continuously flowing the liquid coating material through the spout, and a foraminous cap upon the spout serving as a supporting guide for the  
25 tile, substantially as described.

4. In a tile coating machine, a vat for liquid coating material, a drum rotating in said vat, an upwardly projecting spout, a chute leading from the top of the drum  
30 downwardly into the spout to divert coating material from the drum to the spout, and means for passing the tile over the mouth of the spout with its coat receiving face in close proximity thereto, substantially as de-  
35 scribed.

5. In a tile coating machine, a vat for liquid coating material, a drum rotating in said vat, an upwardly projecting spout, a chute leading from the top of the drum  
40 downwardly into the spout to divert coating material from the drum to the spout, and a supporting guide for the tile located at the mouth of the spout and serving to direct the tile through the outflowing current of coat-  
45 ing material, substantially as described.

6. In a tile coating machine, a vat for liquid coating material, a drum rotating in said vat, an upwardly projecting spout, a chute leading from the top of the drum  
50 downwardly into the spout to divert coating material from the drum to the spout, and a foraminous cap upon the spout serving as a supporting guide for the tile, substantially as described.

7. In a tile coating machine, a vat for liquid coating material, a drum rotating in said vat, an upwardly projecting spout, a chute leading from the top of the drum  
60 downwardly into the spout to divert coating material from the drum to the spout, and means for passing the tile over the mouth  
65

of the spout with its coat receiving face in close proximity thereto, comprising a pair of inclined endless carriers, substantially as described.

8. In a tile coating machine, an upwardly projecting spout, means for continuously flowing liquid coating material through the spout, a foraminous cap upon the spout serving as a supporting guide for the tile, and endless carriers for passing the tile over  
70 said spout and cap, substantially as described. 75

9. In a tile coating machine, a vat for liquid coating material, a drum rotating in said vat, an upwardly projecting spout, a chute leading from the top of the drum  
80 downwardly into the spout to divert coating material from the drum to the spout, a foraminous cap upon the spout, and inclined carriers for passing the tile over the spout  
85 and cap, substantially as described.

10. In a tile coating machine, a vat for liquid coating material, a drum rotating in said vat, an upwardly projecting spout, a chute leading from the top of the drum  
90 downwardly into the spout to divert coating material from the drum to the spout, means for passing the tile over the mouth of the spout in close proximity thereto, and means for controlling the flow of liquid  
95 through the spout, substantially as described.

11. In a tile coating machine, a vat for liquid coating material, a drum rotating in said vat, an upwardly projecting spout, a chute leading from the top of the drum  
100 downwardly into the spout to divert coating material from the drum to the spout, means for passing the tile over the mouth of the spout in close proximity thereto, and limited outlet openings at the lower end of the spout for permitting the escape of set-  
105 tlings, substantially as described.

12. In a tile coating machine, a vat for liquid coating material, an upwardly projecting spout provided with a foraminous cap, a chute leading from the top of said drum downwardly into the spout to divert coating material from the drum to the spout, and means for passing the tile over the  
110 mouth of the spout in close proximity thereto, so that coating is deposited only upon the lower surface of the tile. 115

13. In coating mechanism, the combination of a coating spout inclined at an angle to the vertical, respectively, and lying in the path of the conveying mechanism and inclined conveying mechanism for passing ob-  
120 jects to be coated from the spout.

14. In machines for coating, the combination of inclined conveying mechanism a spout inclined at an angle to the vertical respectively, and lying in the path of the conveying mechanism so that coating ma-  
125 terial issuing from it falls over the lower 130



side and back into the receptacle, and means for circulating coating material from the receptacle to the spout and back.

5 15. In machines for coating, the combination of a receptacle for coating material, a spout inclined at an angle to the vertical so that coating material issuing from it falls over the lower side and back into the receptacle, an endless feed apron at one side of  
10 the spout, an endless delivery apron on the opposite side of the spout and means for supplying coating material to the spout.

15 16. In machines for coating, the combination of a receptacle for coating material, a spout inclined at an angle to the vertical so that coating material issuing from it falls over the lower side and back into the receptacle, a duct communicating with the

spout through a short bend and having an opening above the level of the spout, and 20 means for supplying coating material from the receptacle to the spout through said duct.

17. The combination of two inclined separated conveying belts for carrying objects to be coated, and coating mechanism in- 25 cluding a spout lying in a path common to both belts, and discharging between the belts at an angle to the vertical.

In testimony, that I claim the foregoing as my invention, I affix my signature in pres- 30 ence of two subscribing witnesses, this 17th day of September, A. D. 1904.

J. P. SCOVILL.

Witnesses:

H. H. HATCH,

H. D. HALET.