E. B. TURNER.

CEMENT TILE MAKING MACHINE.

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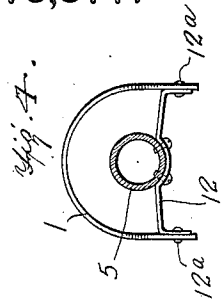

Fig. 4.

Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES

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CEMENT-TILE-MAKING MACHINE.

1,075,877. Specification of Letters Patent. Patented Oct. 14, 1913.

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To all whom it may concern:

Be it known that I, EDWIN B. TURNER, a citizen of the United States, and a resident of Bird City, in the county of Cheyenne and State of Kansas, have invented certain new and useful Improvements in Cement-Tile-Making Machines, of which the following is a specification.

My invention relates to improvements in cement tile making machines and it consists in the combinations, constructions and arrangements herein described and claimed.

The object of my invention is to provide a simple and inexpensive device by means of which sub-irrigation tile may be made in the ditch in which it is to be laid.

A further object of my invention is to provide an improved device for making tile which insures the production of a uniform grade of well packed concrete tile.

A further object of my invention is to provide a device which will cut a longitudinal slot on the underside of the tile.

Other objects and advantages will appear in the following specification and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings forming a part of this application and in which—

Figure 1 is a perspective view of the device, Fig. 2 is a longitudinal section through a portion of the device, Fig. 3 is a transverse section along the line 3—3 of Fig. 2, and Fig. 4 is a transverse section on the line 4—4 of Fig. 2.

In carrying out my invention, I provide a casing 1 of approximately a hemispherical shape, the sides of the casing being straightened, however, in the manner shown in Fig. 3. This casing bears a hopper 2 of the shape shown in Fig. 1, the hopper being of greater length than width, this greater length being longitudinal of the casing 1.

Secured to the hopper is a lateral arm 3 which is bent downwardly at 4 and is secured at its lower end to a pipe 5 which forms a core. This pipe is supported at its rear end by a wheel 6 and a second wheel 7 is journaled on a vertical axis. The purpose of the wheel 7 will be explained later. A handle 8 is secured by means of a pin 9 to the arm 3 and is also secured at 10 to the pipe 5.

At 11 I have shown a plunger which is provided with an opening arranged to receive the core 5. This plunger is adapted to enter one end of the casing 1. The underside of the plunger is cut away as shown at 11^x to receive the two cross brackets 12 whose outer ends are secured by rivets to the casing 1, while their inner ends are secured by screws to the core 5. These brackets serve to limit the movement of the plunger since the latter is provided with a head 11^y arranged to engage the brackets 12 when the plunger has been retracted sufficiently. The core is connected by means of a link 13 with a lever 14 pivotally mounted on the pin 9 and provided with a handle 15 at its upper end. The core 5 is provided at one end with a cutter 16 of the shape shown in Figs. 1 and 2.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

As stated above, the machine is designed to make sub-irrigation tile in the place where it is to be used. Inasmuch as the concrete of which it is made is non-porous, it is desirable to have a means for permitting escape of water and this forms one of the main features of my invention.

In operating the device, the machine is set up as shown in Fig. 1 and by means of the handle 15, the plunger 11 is retracted into the position shown in Fig. 2. Concrete material is now placed in the hopper 2 and passes downwardly, filling in the space around the core 5. The casing 1 forms part of the mold, while the bottom of the ditch forms the other side of the mold. The handle 15 is now manipulated so as to force the plunger forwardly thereby moving the concrete material out of the open end of the casing. As it is forced past the cutter 16, the latter cuts a slit in the bottom of the pipe, longitudinally of the pipe. As the section of the completed tile is forced out of the end of the casing, the latter is propelled forwardly, the machine moving on the wheel 6. The wheel 7 is for the purpose of guiding the movement of the machine by its contact with the side walls of the ditch or trench in which the tile is to be laid as it is made. The operation of making the different sections is repeated by working the handle 15 backward and forward as the new charges of concrete are placed in the hopper.

The device is very simple in construction and very easily operated. It makes the tile by compressing, to a certain extent, the ma-

terials in the act of forcing the material out of the casing. It permits the manufacture of the tile and the laying of it practically at the same time. By the use of this machine, all the sections of pipe are cut with a slot at the bottom so as to permit the escape of water when the tile is used as sub-irrigation tile.

Manifestly in the operation of the machine it is not necessary to put into the hopper a certain amount of concrete each time the plunger is retracted, since if desired the hopper may be filled full, or just partly filled, and this may be done at any time regardless of the position of the plunger.

I claim:

1. In a cement tile making machine, a casing forming a portion of the mold, a hopper carried by said casing, a core, a plunger having an opening through which the core extends arranged to extend through said casing and a cutter carried by one end of said core.

2. In a cement tile making machine, a casing forming a portion of the mold, a hopper carried by said casing, a plunger having an opening and arranged to extend through said casing, a core extending through said opening and a rigid cutter carried by one end of said core, the end of the cutter extending beyond the walls of the casing.

3. In a cement tile making machine, a casing forming a portion of the mold, a hopper carried by said casing, a core, a plunger having an opening or bore arranged to receive the core, said plunger being arranged to extend into said casing, and a rigid cutter carried by said core and disposed centrally of the casing, the edge of the cutter toward the plunger being curved, and the end of the cutter extending beyond the walls of the casing for forming a central slot in the walls of the tile.

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