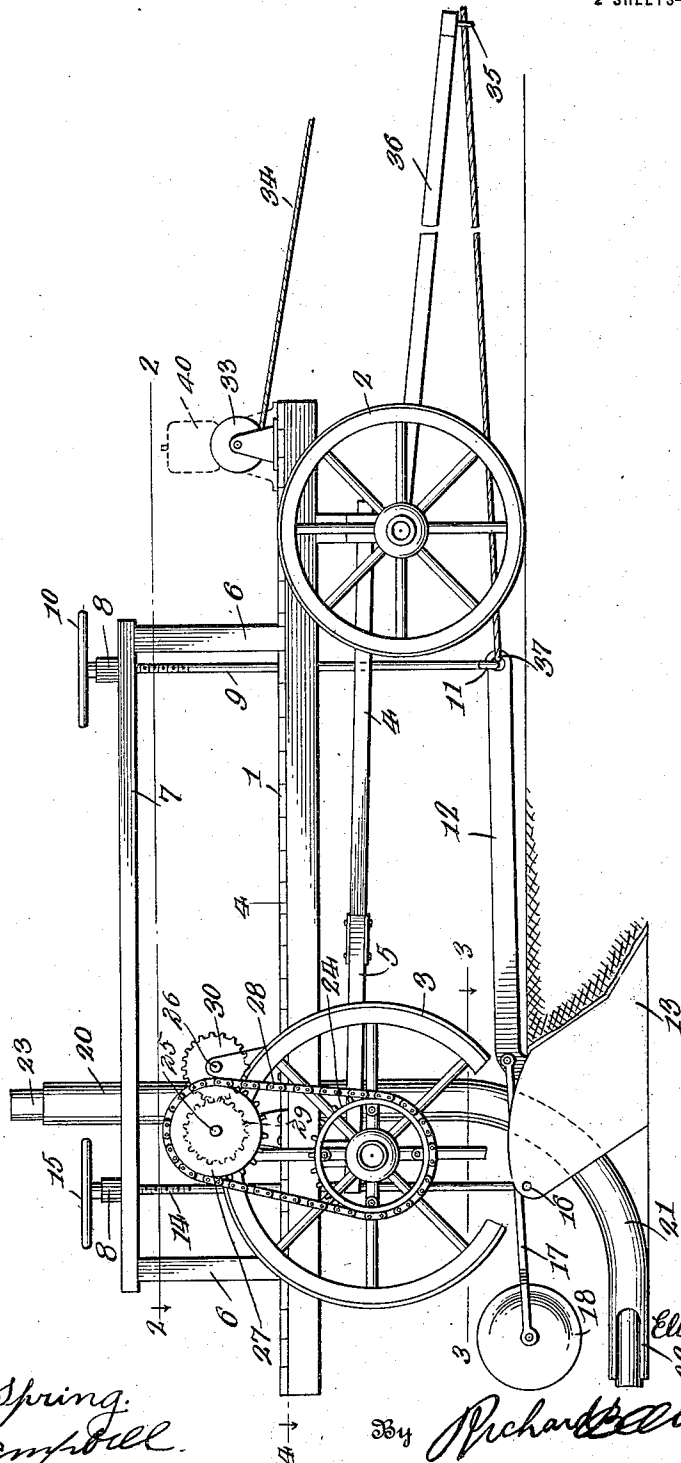


1,174,271.

Fig. 1.



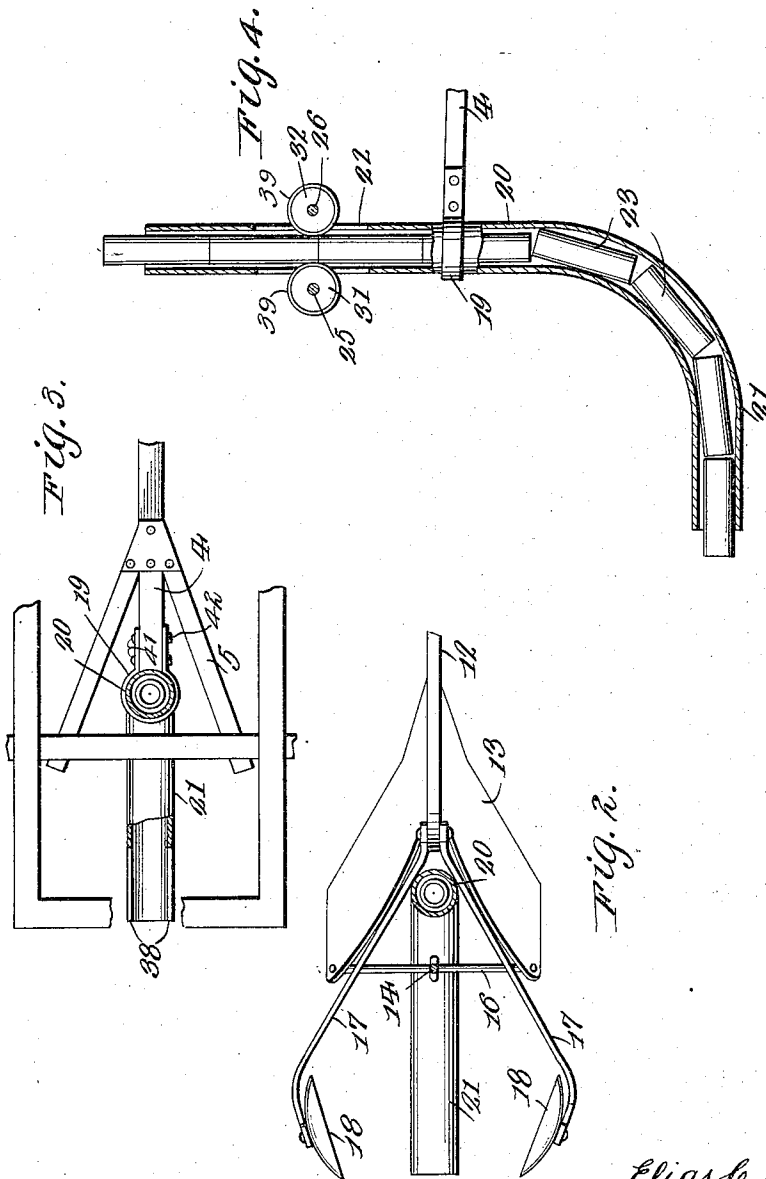
Witnesses
Guy M. Spring.
J. P. Campbell.

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E. C. PERRY.
TILE LAYING MACHINE.
APPLICATION FILED OCT. 28, 1914.

1,174,271.

Patented Mar. 7, 1916.
2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ELIAS C. PERRY, OF GREENWOOD, WISCONSIN.

TILE-LAYING MACHINE.

1,174,271.

Specification of Letters Patent.

Patented Mar. 7, 1916.

Application filed October 28, 1914. Serial No. 869,105.

To all whom it may concern:

Be it known that I, ELIAS C. PERRY, a citizen of the United States, residing at Greenwood, in the county of Clark and State of Wisconsin, have invented certain new and useful Improvements in Tile-Laying Machines, of which the following is a specification.

My invention relates to new and useful improvements in a tile laying machine and more particularly to a machine for laying drain tiles.

The primary object of the invention is the construction of a device of this character which will dig the ditch, lay the tiles and then refill the ditch and cover the tiles.

A further object of the invention is the provision of means for regulating the depth to which the ditch is cut and the tiles laid.

A further object of the invention is the provision of means for feeding the tiles into the ditch.

A still further object of the invention is the provision of means for propelling the machine.

With these and other objects in view the invention consists in the novel details of construction and arrangement of parts which will be more clearly understood from the following description and drawings, in which,

Figure 1 is a view in side elevation. Fig. 2 is a section on the line 3—3 of Fig. 1. Fig. 3 is a section on the line 4—4 of Fig. 1, and Fig. 4 is a vertical section through the tile conveying tube.

In the drawings, the numeral 1 indicates a platform of the machine, 2 the front wheels, 3 the rear wheels, 4 the reach bar, and 5 the rear hounds all of usual construction. Standards 6 are mounted upon the platform 1 and connected by the longitudinal side strips 7 and cross strips 8. A threaded rod 9 extends vertically through the front strip 8 and is provided on the upper end with a turning wheel 10 and at the lower end with a hook member 11 which engages an eye in the forward end of a plow beam 12 to the rear end of which is connected a plow point 13 having a mold board extending from each side thereof. A threaded rod 14 extends vertically through the rear cross piece 8 and is provided on the top thereof with the turning wheel 15 and on the bottom end with a cross bar 16 which is attached to the mold boards of the plow.

Spring arms 17 are connected to the plow end of the plow beam and on the free ends of the spring arms are the disks 18 and said disks are arranged at the angle more clearly shown in Fig. 3 of the drawings. These disks are adapted for refilling the ditch which has been opened by the plow, thereby covering the tiles. The spring arms are adapted to engage and rest upon the cross bar 16 connected to the mold boards of the plow.

Secured by bolts 41 and nuts 42 to the rear end of the reach bar 4 is a metal loop member 19 and held in this loop member is a hollow metal tube, and which may be adjusted in the loop 19 by loosening the nuts 42, 20 for conveying the tiles. This tube extends vertically through the platform 1 and the lower end is curved, as indicated at 21, so as to be parallel with the ground. The hollow tube 20 is provided on each side with the elongated slots 22, the purpose of which will be presently described.

The numeral 23 indicates drain tiles being conveyed through the tube.

Secured upon one of the rear wheels 3 is a gear wheel 24 and mounted upon the platform, in suitable brackets, are the shafts 25 and 26. A gear wheel 27 is mounted upon the end of the shaft 25 and a sprocket chain 28 encircles the gears 24 and 27. Pinions 29 and 30 are secured upon the shafts 25 and 26, respectively, and mesh. Secured upon the shafts 25 and 26 are the wheels 31 and 32 and said wheels extend through the elongated slots 22 formed in the hollow metal tube 20 and engage the tiles. These wheels are preferably formed with a rubber covering 39 on the rims thereof. It will be seen that power transmitted through the gears 24 and 27 will rotate the shafts 25 and 26 thereby rotating the wheels 31 and 32 and feeding the tiles through the conveyer tube.

An engine 40 of any well known construction is adapted to be carried upon the platform and operates a drum, indicated at 33. Secured to and carried by the drum 33 is a cable 34 which is adapted to extend to a stick secured in the ground a distance from the machine. The cable is carried around a stick or pole, not shown, and is brought back to the machine passing through a staple 35 on the tongue 36 of the machine and also secured to the end of the plow beam, as indicated at 37. It will thus be seen as the drum is rotated it will wind the cable

thereon and the machine will be conveyed along the ground. The tile conveying tube 20 is provided on the lower end with the side slots 38 whereby in covering the tiling with dirt the dirt first engages the sides of the tile.

Having fully described the detailed construction of the machine it is thought that the operation will be clear.

10 It will be seen that I have constructed a machine which is drawn along the ground, at the same time plowing a ditch, laying tiling in said ditch and then refilling the ditch and covering the tiling with dirt. As
15 the machine is drawn along the mold boards of the plow throw the dirt to either side of the ditch, the tile is laid in the ditch and the disks 18 then coming at the rear of the tile conveying tube refill the ditch and cover
20 the tiling with dirt. By having the slots 38 in the end of the tile conveying tube the dirt in covering the tile first engages the sides thereof and then the top. Power being transmitted through the gears to the
25 wheels 31 and 32 which extend through the slots in the tile conveying tube feeds the tile toward the end of the tube. By means of the threaded rods 9 and 14 the plow beam and plow may be regulated so as to dig the ditch to different depths. The conveyer tube 20 may be adjusted by loosening the metal loop member 19 and moving the conveyer tube therein so as to lay the tile in ditches of various depths. It will be
30 seen that as the plow is adjusted the spring arms 17 carrying the disks 18 will also be raised or lowered. By having the cable 34 connected to both the tongue 36 and to the plow beam 12 it will be seen that the strain
40 is equalized and the machine is drawn or pulled from the two points. It will be understood that a number of tiles may be carried upon the platform 1 and fed to the tile conveyer tube 20 as desired.

Having fully described the invention what I claim as new and desire to secure by Letters Patent is:—

1. A tile laying machine comprising a carriage, a plow adjustably connected to the carriage, a tile conveying tube connected to the carriage, spring arms connected to the plow, and covering disks secured to the spring arms.

2. A tile laying machine comprising a carriage, a plow beam pivotally connected to the carriage, a plow foot secured to the beam and having a mold board extending from each side thereof, a threaded shaft extending vertically of the carriage, a cross bar connected to the shaft and to the mold boards of the plow, a tile conveying tube connected to the carriage, spring arms pivotally connected to the plow beam and adapted to engage the cross bar of the threaded shaft, and covering disks connected to the spring arms.

3. A tile laying machine comprising a carriage, a vertically extending threaded shaft adjustably connected to the carriage, a plow beam pivotally connected to the shaft, a plow foot secured to the beam and having a mold board extending to each side thereof, a second vertically extending threaded shaft adjustably connected to the carriage and mold boards of the plow foot, a tile conveying tube connected to the carriage and extending in the rear of the plow mold boards, arms pivotally connected to the plow beam and engaging the cross bar on the threaded shaft, and covering disks connected to the arms.

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

ELIAS C. PERRY.

Witnesses:

E. F. WOLLENBERG,
A. A. FAASS.