

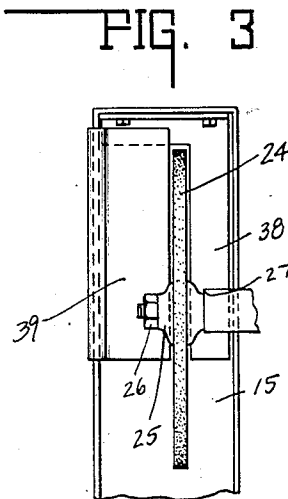
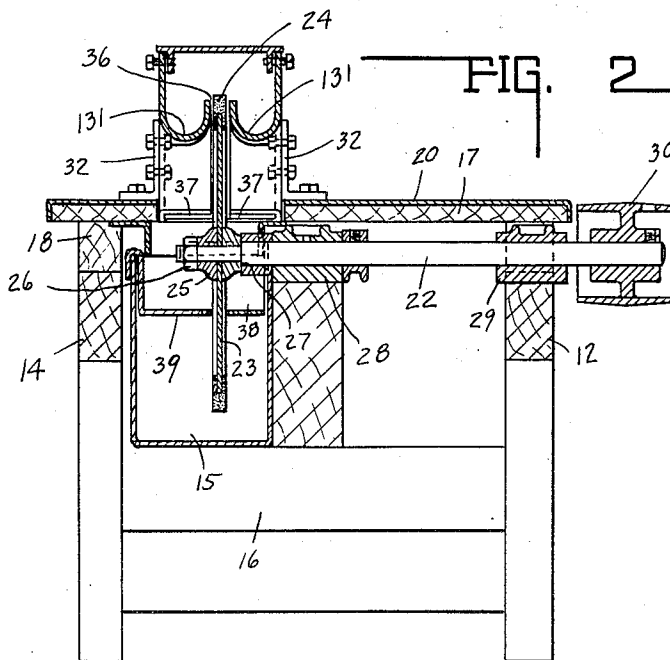
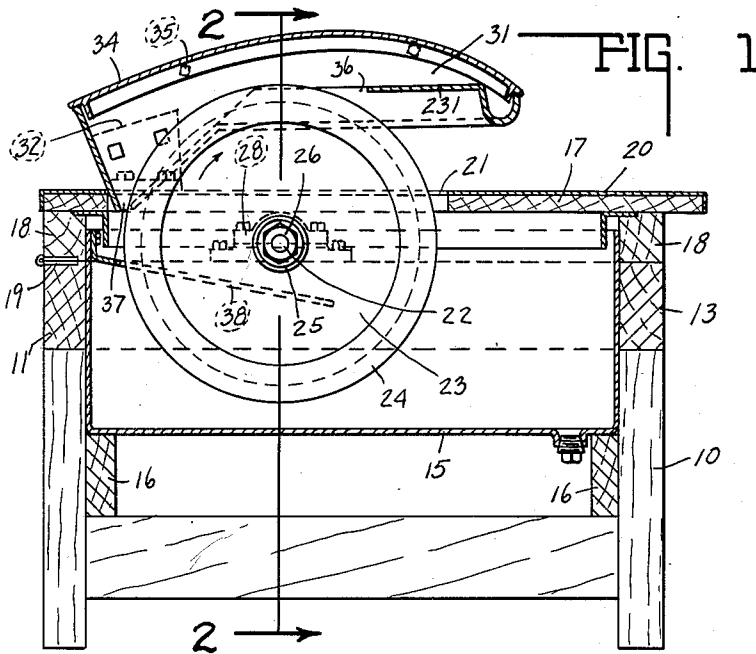
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O. WALTER

1,824,000

TILE CUTTING MACHINE

Filed June 27, 1930



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UNITED STATES PATENT OFFICE

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TILE CUTTING MACHINE

Application filed June 27, 1930. Serial No. 464,235.

The object of this invention is the practically successful cutting of roof tile and the like, such as concrete tile, clay tile, or tile made of any material of the same general character.

The invention is an improvement in the tile cutting machine set forth in the patent heretofore issued to me on March 18, 1930, No. 1,750,737.

The improvement is chiefly in the water deflecting guard secured on the table top over the upper portion of the rotary cutter and arranged so that it returns practically none of the water it receives from the cutter back to the cutter or table or the tile on the table being cut, and discharges all of the water it receives rearward back into the water tank below the cutter. To this end, the water deflecting guard is closed excepting for a cutter slot through the bottom thereof into which the upper portion of the cutter extends and operates, and a trough is arranged in the body of the guard on each side of the cutter, hugging the cutter, and discharging rearwardly through a discharge opening in the rear end of the guard into the tank below.

The features of the invention will be understood from the accompanying drawings and the following description and claims.

In the drawings Fig. 1 is a longitudinal vertical section of the machine. Fig. 2 is a vertical transverse section of the same on the line 2—2 of Fig. 1. Fig. 3 is a plan view of the frame, cutter and means for mounting the same thereon, with the table removed, the front part of the machine being broken away.

The machine frame 10 is rectangular in form and has at its upper end longitudinal bars 11, 12, 13, and 14. Said frame has mounted in it a rectangular water tank 15 supported on cross bars 16, as seen in Fig. 1, and its vertical walls extending slightly above the frame bars 11, 12, 13 and 14, with its upper end open.

Upon said frame there is a table 17 having frame bars 18 below, and said table is hinged at its rear to the main frame bar 11 by the hinges 19. The table bars 18 rest on the frame bars 11 to 14 below, as seen in Fig. 1, and the front of the table 17 may be lifted and turned

back on its hinges to render the water tank 15 accessible, as desired.

The table 17 is covered with a sheet of metal 20 as shown, and the table is provided with a slot 21 through which a rotary cutter projects which is mounted on the inner end of the shaft 22 as seen in Fig. 2. Said cutter consists of a metal disk 23 with a marginal annular emery cutter 24 secured on the periphery of the disk 23. The hub 25 of the cutter is mounted on a reduced portion of the shaft 22 and clamped thereon by nut 26 against shoulder 27. Shaft 22 has bearings 28 and 29 in the frame, and it is driven by a pulley 30 from any suitable source of power.

During operation the lower portion of the rotary cutter runs in the water in said tank. The tank is filled about half full of water usually, so that the water will extend up almost to the hub of the cutter. This is for the purpose of keeping the cutter and also the tile wet while the tile is being cut. Various details are not herein fully set forth because they are described in my former patent and constitute no essential feature of this invention.

The chief improvement in this machine consists in the water deflecting guard 31 which is secured on the table 17 and its metal covering 20 by the brackets 32 at each side of the rear end of the guard and cap screws. The guard has vertical side walls with the major portion of the deflector substantially horizontal or parallel with the table but the rear portion of the bottom of the guard is inclined downward as shown in Fig. 1. There is a lid 34 with internal downwardly extending flanges fitting between the side walls of the guard and secured thereto by cap screws 35 so as to make the deflector closed substantially water tight excepting as hereinafter explained.

The bottom of the water deflecting guard has a peculiar and novel formation. It has, in the horizontal portion thereof, a trough 131 adjacent to each side of the longitudinal slot at 36 through which cutter 23—24 extends and operates, as seen in the drawings. In forming said troughs, the bottom of the

guard extends upward into a central rib-like formation, the forward portion 231 of which is closed as seen in Fig. 1. This leaves the slot 36 for the cutter extending from the rear end of the closed part 231 to near the rear end of the guard as said slot extends through the rear inclined portion of the guard bottom as indicated in Fig. 1.

The troughs 131 in the guard slope slightly rearward and downward. Consequently, all water that is carried upward by the cutter and thrown against the top and sides of the guard is received by the troughs and carried by gravity rearward against the rear end wall of the guard and downward through the discharge opening 37, as seen in Fig. 1, and returns to the tank 15.

A baffle plate 38 is secured to the rear wall of the water tank 15 and extends beside the cutter on one side, and a companion baffle plate 39 extends beside the other side of the cutter with its rear end overlapping the rear part of plate 38 and its outer side hooked over one side of the tank, as shown in Figs. 2 and 3. The purpose of these plates hugging the cutter is to prevent too much water being carried up by the cutter and retarding any upward movement of sediment in the tank, and the plate 39 is readily removable so as to make the removal of the cutter convenient.

It is thus seen that with this improved water deflecting guard, all the water received by it is returned to the water tank and practically none is deflected by the guard back onto the cutter or the table or tile below the guard. This keeps the cutter clean from sediment and prevents excessive water being carried up on the tile and table as none of the water that enters that is received by the deflecting guard is returned to the cutter, table top or tile thereon.

The invention claimed is:

1. In a machine of the kind described, a water deflecting guard with a longitudinal slot in the bottom thereof for the upper portion of the rotary cutter and the bottom of the guard having a trough adjacent each side of the cutter slot and sloping rearwardly and the rear part of the bottom of the guard sloping downward and provided at its rear end with an opening for receiving all the water from the guard and discharging it into the water tank below.

2. A machine of the kind described having a slotted table, a rotary cutter with its upper portion projecting through said slot in the table, a water tank in which the lower part of the cutter projects, a guard for the upper portion of the cutter which is secured on the table and has a trough adjacent to each side of the cutter slot to receive the water thrown up into the guard by the cutter, and an outlet at the rear end of the guard through which all the water in the guard flows by gravity rear-

ward and is discharged into the said water tank.

3. A machine of the kind described having a slotted table, a rotary cutter with its upper portion projecting through said slot in the table, a water tank in which the lower part of the cutter projects, a guard for the upper portion of the cutter which is secured on the table and has a trough adjacent to each side of the cutter slot which trough slopes downward rearwardly to receive the water thrown up into the guard by the cutter, and a portion of the bottom of the guard turned downwardly and having at its rear end an opening through which all the water received by the guard flows by gravity and returns to said water tank.

4. A machine of the kind described having a slotted table, a rotary cutter with its upper portion projecting through said slot in the table, a water tank in which the lower part of the cutter projects, a guard for the upper portion of the cutter which is secured on the table and has a trough adjacent to each side of the cutter slot to receive the water thrown up into the guard by the cutter, an outlet at the rear end of the guard through which all the water in the guard flows by gravity rearward and is discharged into the said water tank, and baffle plates secured to the rear wall of the tank and extending beside the cutter below the center thereof.

In witness whereof, I have hereunto affixed my signature.

OTTO WALTER.