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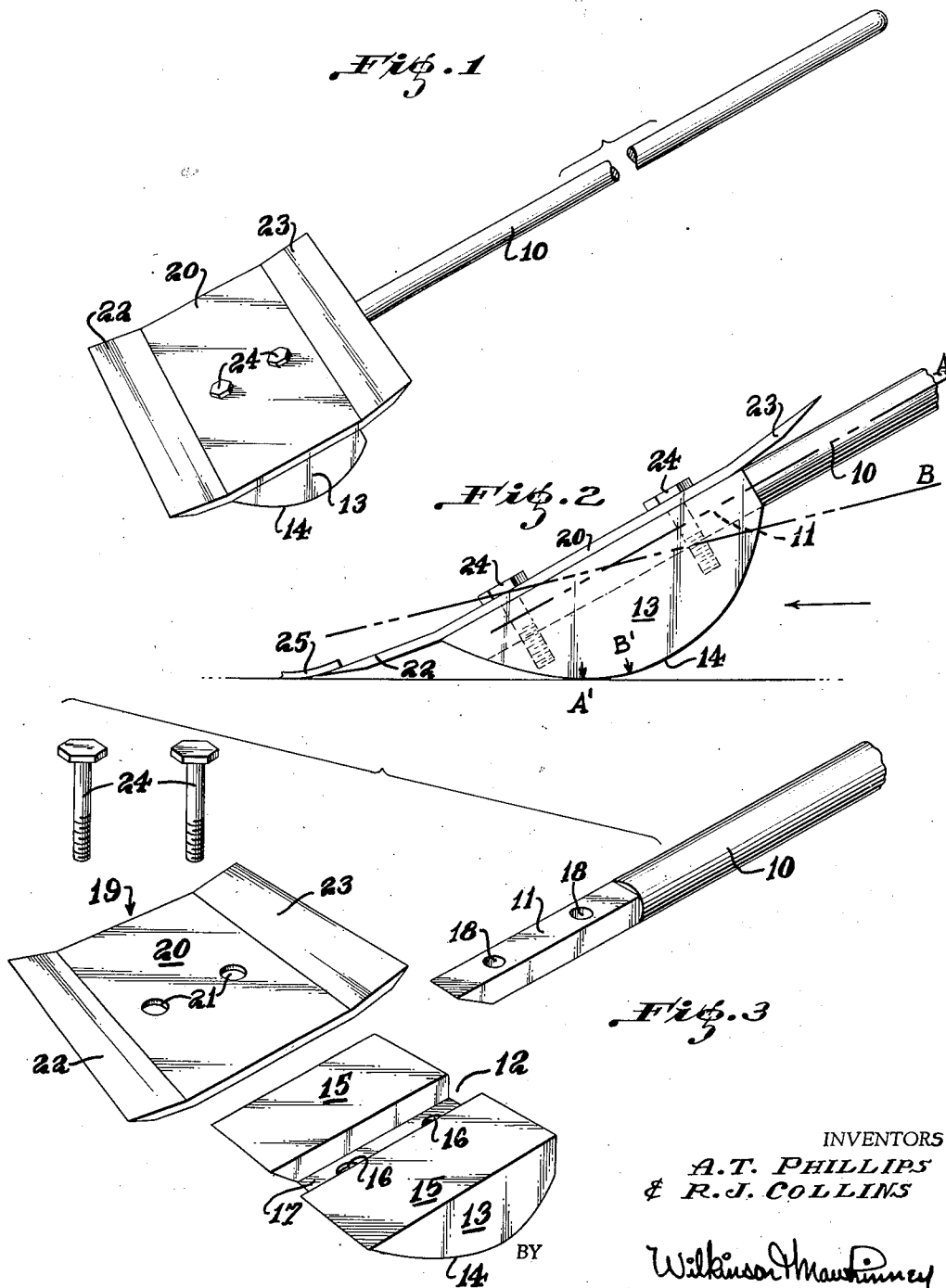
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2,769,236

TILE REMOVING TOOLS

Filed Dec. 17, 1953

2 Sheets-Sheet 1



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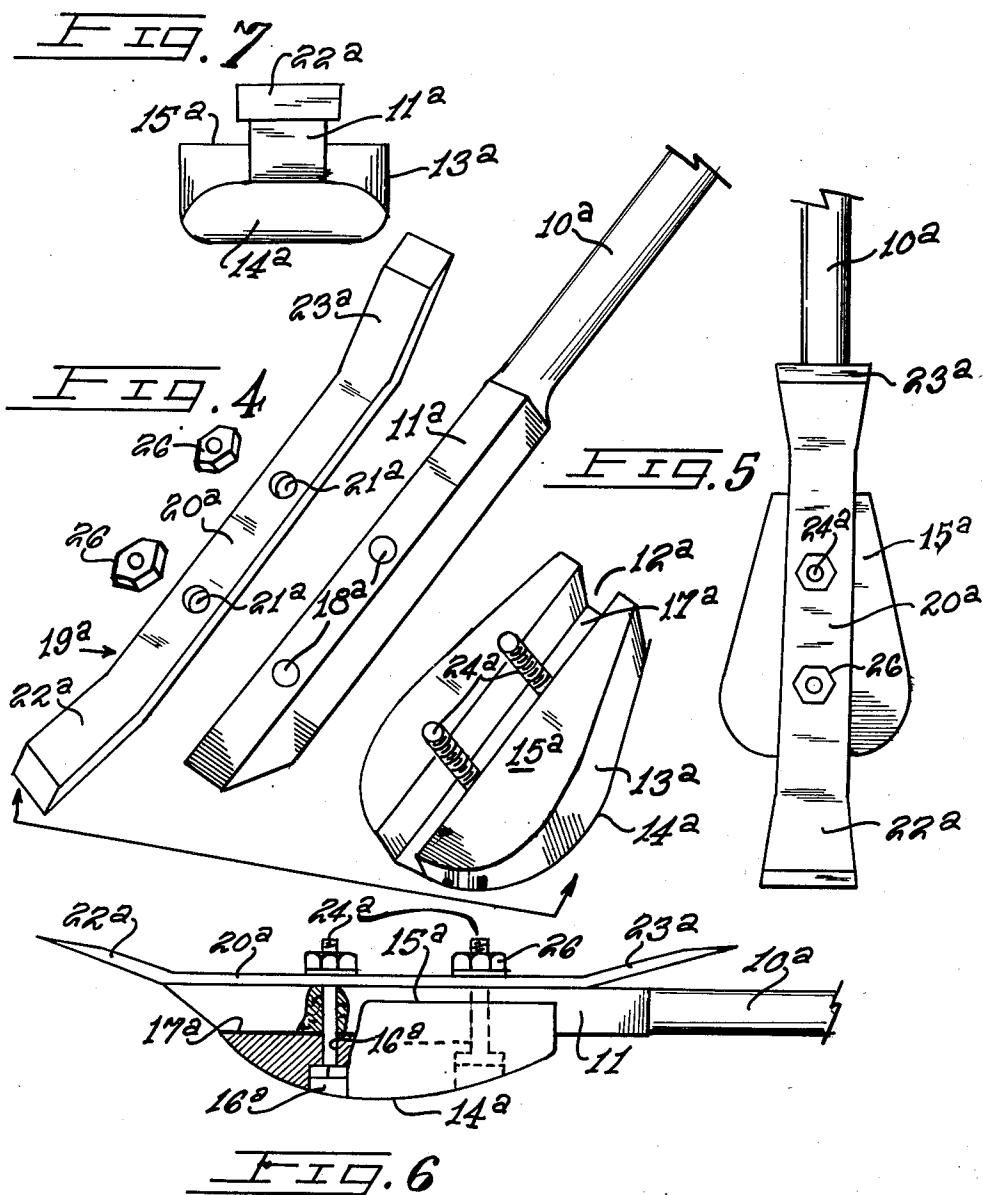
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TILE REMOVING TOOLS

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2 Claims. (Cl. 30—169)

The present invention relates to tile removing tools and has for an object to provide a tool rugged in construction, which possesses a high mechanical advantage and which the operator may employ from a standing position.

Another object of the present invention is to provide a tool for removing asphalt tile which has been secured to a floor, either wood or concrete, with an adhesive mastic. Formerly such tile has been removed by breaking the tile with a hammer on the top side, with the mechanic working in a kneeling or squatting position; this involves an appreciable loss of a tile setter's costly time. The present invention cuts the time required to remove tile to one-quarter of that required under the above methods.

A further object of the present invention is to provide a tile removing tool with a pendulous mass having an exteriorly curved surface disposed behind the working blade and which cooperates with a long lever arm to impart a greater lift to the attacking edge of the blade upon application of a downward thrust proximate the free end of the handle.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views:

Figure 1 is a perspective view of a tile removing tool constructed in accordance with the present invention with a portion of the handle being broken away;

Figure 2 is a side elevational view of the tool of Figure 1 in an initial step of removing a block of tile;

Figure 3 is a fragmentary exploded perspective view of the tool illustrated in Figure 1;

Figure 4 is a fragmentary exploded perspective view of a modified form of tile removing tool constructed in accordance with the present invention;

Figure 5 is a fragmentary top plan view of the modified form of tool;

Figure 6 is a side elevational view with parts broken away and shown in section of a tool constructed in accordance with the modified form of the invention; and

Figure 7 is a front elevational view of the modified tool taken from the left hand end of Figure 6.

Referring more particularly to Figure 3 of the drawings, 10 designates a handle which may be of cylindrical form having a square or other regular polygon shaped shank 11, which is adapted to be received within a complementary slot 12 in a fulcrum block which may be in the form of a weighted casting 13.

The casting or fulcrum block 13 has a curved base or under surface 14 upon which the tool is rocked on the floor and is provided with a flat top 15 interrupted only by the slot 12. The casting is provided with two threaded-socket openings 16 in the bottom wall 17 of the slot 12. The openings 16 are positioned in registry with openings 18 in the shank 11.

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A form of scraper blade 19 consists of a flat medial portion 20 having openings 21 therethrough. On each end of the medial portion 20 the blade 19 is provided with a scraper or work attacking surface 22, 23, the leading edge of each being pointed to permit its insertion beneath a block of tile to be removed as best seen in Figure 2.

The handle 10, casting 13 and scraper blade 19 are retained in assembled relationship by two threaded bolts 24 which pass through the openings 21 of the scraper blade, openings 18 in the shank 11 and which are threadedly retained in the socket openings 16 in the bottom wall 17 of the slot 12 in casting 13.

The geometric form of the curved outer bottom surface 14 of the casting 13 in the form of invention illustrated is that proximating a parabola whereas the essential characteristic of the curve is that as the tool is rocked about the bottom surface, that is the handle thrust downwardly as best seen in Figure 2, the contact point between the casting and the floor will walk rearwardly of the casting about the curve to the apex thereof causing an upward thrust to be imparted to the leading edge 22 of the blade 19 thereby prying the tile block from the floor against the restraining forces of the solidified mastic tending to hold the tile in place.

The prying blade 19 is double ended to permit presentation of another scraper surface should the first used surface become broken or chipped.

It will be appreciated that the width of the blade as well as the length of the handle may vary depending upon the size of the tile to be removed and the adhesive characteristics of the mastic holding the tile in place.

In operation the operator is in a standing position and grasps the tool with his right hand near the upper free end of the handle using the left hand as a guide lower down on the handle. The tool is then swung using the right shoulder of the operator as a pivot point. The leading edge of the tile prying blade 19 is directed between the bottom of the tile surface and the floor surface from which the tile is being removed. The weight mass of the casting 13 cooperates with the handle 10 and prying blade 19 to give inertia or momentum to the blade as it contacts the mastic between the tile and floor surface thereby forcing the tile away from the floor surface.

Upon the blade 19 gaining entry between the tile 25 and the floor the bottom curved surface 14 of the weight mass 13 contacts the floor at point A', with the axis of the handle lying along line A. Upon the operator thrusting his weight down upon the handle proximate its free end moving it from point A to point B the fulcrum point prior to the downward thrust being at point A' will be caused to shift to point B' on the bottom curved surface 14 of weight mass or rocker 13 as the mass is rocked rearwardly incident to the downward thrust upon the handle. The rearward rocking of the mass 13 imparts an upward lift to the prying blade which due to the mechanical advantage of the long lever arm 10 overcomes the adhesive forces of the mastic tending to restrain the tile in place.

The curved bottom surface 14 of the weighted rocker mass 13 lends itself to being slid readily along the floor permitting of the application of two vectors of movement to the prying blade simultaneously if desired to speed up the tile removal operation, these movements being the forward thrust of the tool as indicated by the arrow in Figure 2 and the rocking of the blade about the progressively shifting fulcrum on the surface 14 of the casting 13.

The tool may also be placed adjacent the tile to be removed with the leading edge of the prying blade 19

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positioned to enter between the tile 25 and the floor surface. The operator may then place either his right or left foot upon the trailing edge 23 of the blade 19 and urge the tool forward forcing the leading edge 22 of the prying blade 19 between the tile and floor while simultaneously rocking the blade about its curved fulcrum block 13 as by thrusting downwardly upon the free end of handle 10.

Referring more particularly to Figures 4 through 7 inclusive a modified form of the invention is shown wherein a handle 10^a is provided with a square shank 11^a adapted to be received within a substantially square slot 12^a of a weighted casting 13^a having a curved base 14^a. The casting 13^a is provided with a flat top 15^a and openings 16^a through the bottom wall 17^a of the slot 12^a. A pair of openings 18^a are provided through the shank 11^a in registry with the openings 16^a of the casting. The scraper blade 19^a has a flat medial portion 20^a adapted to lie upon top of the square shank 11^a. The blade 19^a is provided with openings 21^a in registry with openings 16^a and 18^a to permit passage of threaded retaining bolts 24^a upwardly therethrough from the casting 13^a where they are retained by nuts 26. The scraper blade 19^a terminates at its free ends by upwardly inclined work attacking surfaces 22^a, 23^a having beveled leading edges. The scraper blade is reversible when one work attacking surface becomes dulled the nuts 26 may be removed from the bolts 24^a and the blade reversed making surface 23^a the leading edge of the tool.

In operation the tool is designed to give maximum efficiency and at the same time reduce strain on the operator. The long handle 10^a enables the mechanic to work from a standing position.

With the cutting and prying blade 22^a resting on the floor, the tool is given a forward thrust against the tile to be removed and this forward and backward motion is repeated. The weight of the cast iron casting 13^a holds the tile removing blade 22^a to the floor and the tile is removed from the under side.

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The tool can be used to remove asphalt tile from concrete and wood floors. When using the tool for removing materials laid on a wood floor, it is recommended that the underside corners of the cutting blade 22^a, 23^a be beveled slightly with a file to prevent the sharp edge from gouging the wood.

Although we have disclosed herein the best form of the invention known to us at this time, we reserve the right to all such modifications and changes as may come within the scope of the following claims.

What we claim is:

1. A tile removing tool comprising a handle, a square shank at one end of said handle and having openings therethrough, a weighted cast iron casting having an open top square slot therein complementary to the shank of said handle and having openings in the bottom of said slot, a double ended reversible scraper blade having openings therethrough, a beveled end for attacking the work surface, and removable attaching means between said casting, shank and blade passing through the openings thereof whereby said blade is held rigidly in place along said shank and casting and backed by the weight mass of said casting to provide a weighted thrust to said blade when the blade is attacking the tile.

2. A tile removing tool as claimed in claim 1 wherein the center of mass of said casting is closer to the leading edge of the scraper blade than to the unused edge of said double ended scraper blade.

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