May 29, 1928. 1,671,429

C. L. JANNEY

TILE SETTING TOOL

Filed Sept. 15, 1926 2 Sheets-Sheet 1

FIG. 1.

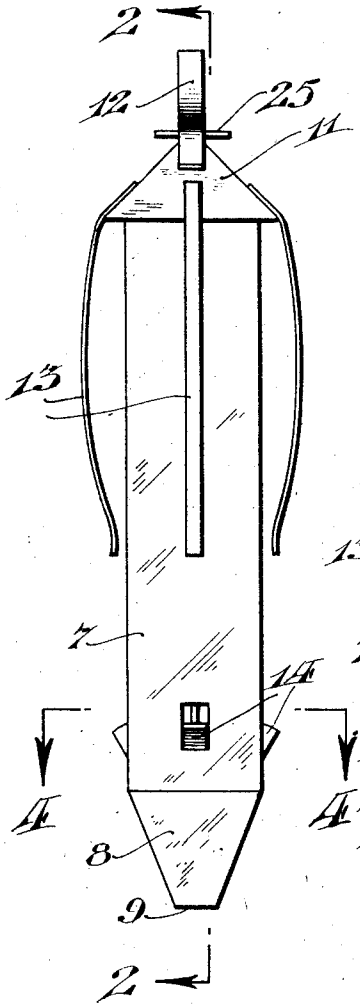


FIG. 2.

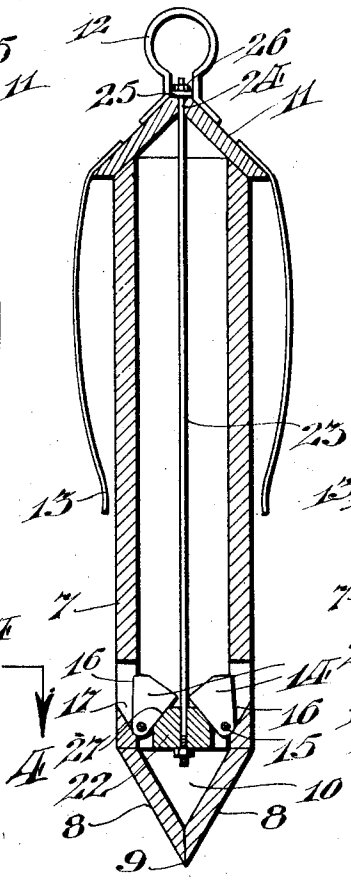


FIG. 3.

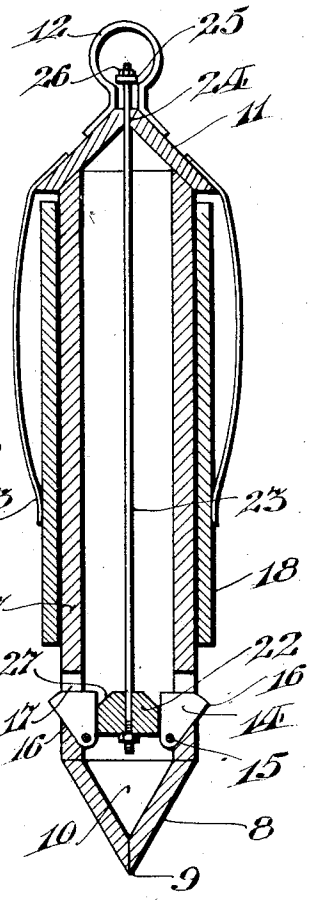
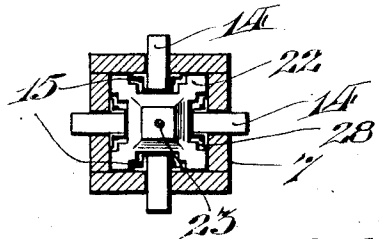


FIG. 4.



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FIG. 5.

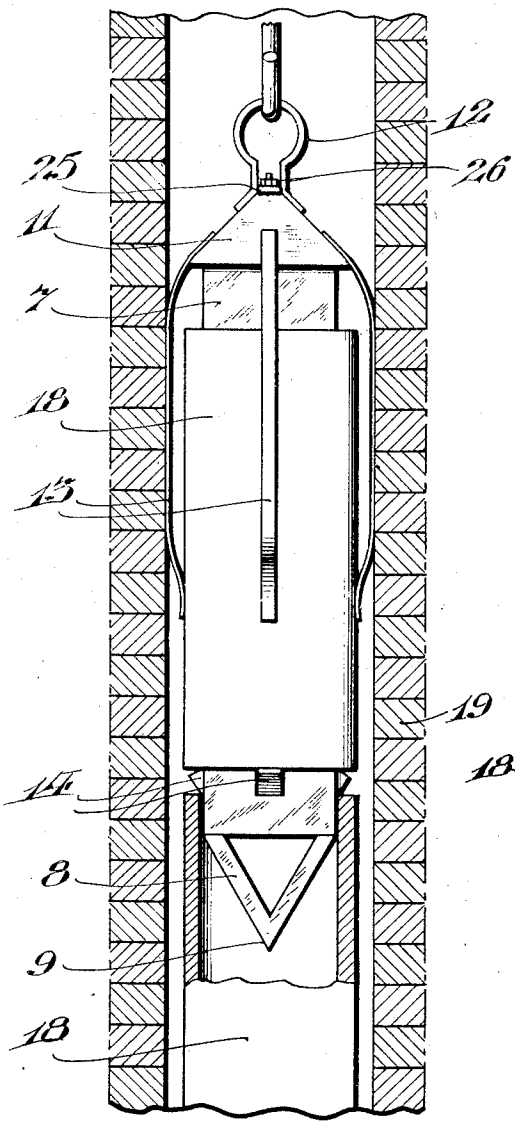
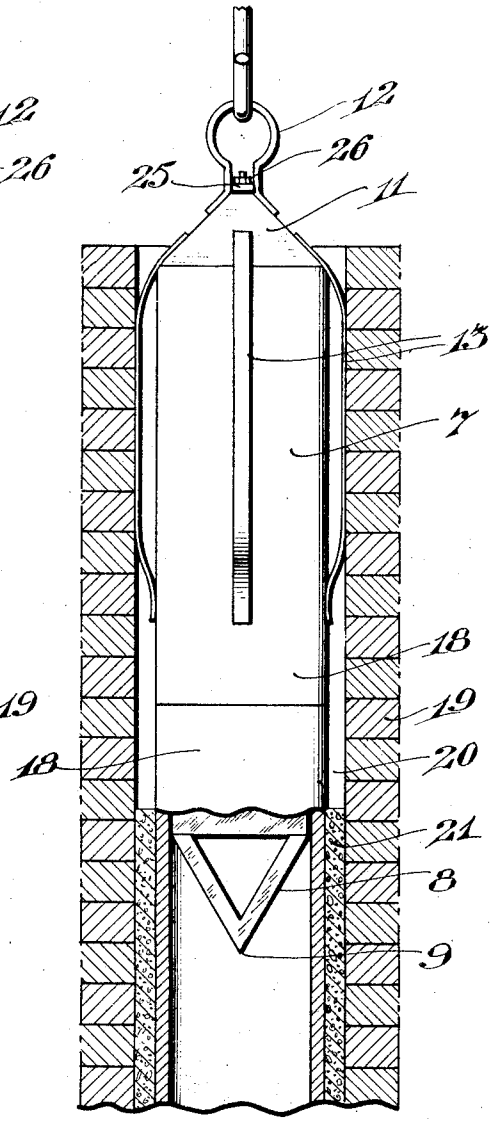


FIG. 6.



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UNITED STATES PATENT OFFICE.

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TILE-SETTING TOOL.

Application filed September 15, 1926. Serial No. 135,542.

My invention relates to tile setting tools and more particularly to tools for setting tiles in narrow vertically disposed passages, such as the flues of chimneys.

The majority of cities have building codes which require that the chimneys of all new buildings be lined with tile on account of the fire hazard. Buildings erected some years ago do not have tile lined chimneys and a great many owners of such buildings are desirous of having those chimneys lined with tile in order to lessen the fire hazard as well as to obtain the reduction allowable in some cases on insurance premiums.

The principal object of my invention is to provide a tool for placing tiles in such chimneys in a quick and efficient manner.

Another object is to provide a tool which will properly center the tile in the flue to be lined.

A further object is to provide means whereby each succeeding tile may be properly aligned with the tile below.

A still further object is to provide a tool which will allow the even distribution of concrete or cement in the space between the tile and the inner walls of the flue.

These objects, and other advantageous ends which will be described hereinafter, I attain in the following manner, reference being had to the accompanying drawings in which

Figure 1 is a side elevation of a preferred embodiment of my invention,

Figure 2 a section taken on line 2—2 of Figure 1,

Figure 3 a view similar to Figure 2 but showing a tile being mounted on the tool, and

Figure 4 a section on line 4—4 of Figure 1.

Figure 5 shows a tile being lowered into a chimney flue and approaching the tile below, and

Figure 6 illustrates a tile in place and the tool lowered for the purpose of pouring concrete around the tiles.

Referring now to all the views simultaneously, 7 represents the body portion of a tile setting tool, the illustrated embodiment being rectangular in cross section. Attached to the lower end of two sides are tapered parts 8 which are joined together at their lower extremities forming an apex, as shown at 9, and leaving hand holes 10 on the other two sides. Secured to the top of the body portion is a pyramidical cap 11 having attached thereto a lifting ring 12. Attached to each of the four sides of the cap 11 are spring members 13 which are bent downwardly, outwardly, inwardly and then outwardly, the purposes of which will be described later. In the lower end of the part 7, tile supports 14 are secured, one to either wall by means of pins 15 on which the supports are adapted to turn.

A tile 18 is mounted on the tool by being inserted over the point 9 and under the ends of the springs 13 and then moved upwardly until the bottom end is clear of the tile supports 14, as shown in Figure 3. The supports are then moved outwardly, either by inserting a hand through the openings 10 or by means of a device which will later be described, and are held in this position by their inclined faces 16 resting on the inclined bottoms of the slots 17 formed in the body part 7. The tool is then lifted by means of the ring 12 and lowered in the flue. As the lower end of the tool extends considerably below the end of the tile, this device is not adapted for setting the first tile which must be placed in the flue by any of the usual methods. As the tool holding the tile is lowered into the flue, the members 13, owing to their curved shape, will abut against the walls of the flue, as shown in Figures 5 and 6, thus holding the tool centrally positioned therein.

As the tool approaches the tile below, the point 9 centers the tool with this tile, thus bringing the upper and lower tiles in alignment, as shown in Figure 5. As the tool is lowered still further the upper end of the lower tile engages the sloping surfaces 16 of the tile supports 14, forcing them inwardly until the tile is released from the supports and rests on the lower tile. It will thus be noted that the tiles are accurately aligned, held in the center of the flue by means of the springs 13 and are lowered onto the tiles below without any appreciable jolt or jar.

In order to hold the tier of tiling in the central part of the flue and also to prevent the danger of leaks in the flue, due to the joints in the tiling being disposed near defective portions of the chimney, concrete or cement is poured around the tile and fills the space between the tile and the inner walls of the flue. For this purpose I extend the sides of the cap 11 so that its base is larger than the tile to which it is adapted. In order to place the concrete accurately and quickly

the tool is lowered until the base of the cap 11 rests on the top of the uppermost tile. Concrete is then poured over the cap, the sides of which deflect the concrete to the different sides of the flue until the concrete has reached the desired level.

In Figure 6, 19 represents a section of a chimney, 18 the tiles in the flue and 20 the space between the tile and the walls of the flue, which has been partly filled with concrete as shown at 21. It is generally advantageous to pour concrete into the flue at intervals in order to obviate the possibility of the tier of tile being deflected from its placed position. After all the tiles are in place, concrete is poured into the space 20 until same is filled to the top of the tiles and the chimney. As it is difficult for one man to place the tile on the tool and throw the tile supports outward into position by inserting his hand through the openings 10, I sometimes provide means for throwing out the supports, which is operated from one end of the tool. One method of accomplishing this purpose is by providing a block 22 slidably mounted in the interior of the body part 7 and supported on a rod 23 which extends upwardly through a hole 24 in the cap 11 and is held against downward movement by means of a bar 25 and a nut 26 threaded to the top of the rod. The sides of the block 22 adjacent the supports 14 are tapered, as shown at 27, so that by raising the block 14 the supports are forced outwardly into their supporting position by the tapered portions 27. Notches 28 are formed in the sides of the block 22 in order that it may clear the tile supports when it is raised. Several other methods may be employed, such as extending the rod through the bottom end of the tool or securing a cross-bar near the upper end of the rod and extending its ends through slots in the side walls of the tool where they are engaged and the mechanism actuated by the placing of the tile on the tool.

In using the tool embodying this mechanism the tile is mounted on the tool as previously described and the supports thrown into their supporting position by elevating the bar 25 and consequently the block 22.

It will be noted that the center of gravity of each support 14 is well outside the pin 15 when the supports are in tile-supporting position and well inside the pin when the supports are resting on the block 22. Thus, while the tool remains vertical, the supports will remain as placed without the aid of springs or other devices. After the tile 18 has been lowered onto the supports 14, the bar 25 is released and the block 22 will return to its lower position by means of its own weight.

In using my invention it is necessary to use a tool of the same size as the tile to be set. For example the tool illustrated is designed to set 8″ by 8″ tiles and would not be adapted to larger tiles on account of springs 13 nor would the cap 11 sufficiently cover the top of the greater sized tile. However, oblong tiles, such as 8″ by 13″ may be placed providing that the smaller diameter corresponds to the size for which the tool was designed. In this case, however, care would be necessary in the pouring of the concrete as the cap would only cover a portion of the tile opening.

While I have described and illustrated a preferred embodiment of my invention which is particularly adapted for the setting of rectangular tiles, it will be understood that modifications may be made in the parts thereof and that the tool may be readily adapted for the setting of various shapes of tiles, hence I do not limit myself to the particular construction and form set forth, but consider that I am at liberty to make such changes and alterations as fairly come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A tile setting tool including a body part, a tapered lower part, a tapered cap overlapping the body part, tile supports pivoted in the body part, and means for supporting the tool.

2. A tile setting tool including a body part, a tapered lower part, a tapered cap, means for centering the tool in the passage to be tiled, tile supports pivoted in the body part, and means for supporting the tool.

3. A tile setting tool including a body part, a tapered lower part, tile supports pivoted in the body part, a tapered cap secured to and overhanging the body part whereby cement may be directed around the sides of the tiles being set, and means for supporting the tool.

4. A tile setting tool having a body part with its lower end tapering to a point for centering, and its upper end covered with a tapered cap having sides overlapping the body part.

5. A tile setting tool including a body part having tapered ends, one end used for centering, the other end for pouring concrete over tiles held to the body part by resilient strips secured to said second end and adapted to center the tool in the passage to be tiled.

6. A tile setting tool having a body part, apertures in the sides thereof, tile supports pivoted in said apertures, and means within the body part for actuating the tile supports.

7. A tile setting tool including a body part, means without the body part for centering the tool in a passage to be tiled, individual supports pivoted in each of the sides of the tool, and means within the body part

adapted to swing the supports outwardly to support tiles held in position by said means, said supports being adapted to swing within the body of the tool to release the tiles.

8. A tile setting tool comprising a body part having its lower end tapering to a point for centering, a tapered cap overlapping the upper end of the body part, resilient strips secured to the cap and adapted to hold tiles adjacent the sides of the body part, said resilient strips being adapted to center the tool in the passage to be tiled, openings in the sides of the body part, and a pivoted support in each of said openings, means for having said supports assume a position with a portion of the support projecting without the body part to allow a tile to rest thereon, and for causing said supports to drop within the body part and release the tile when the supports make sufficient contact with an adjacent tile.

9. A tile setting tool including a body part, resilient strips for retaining tiles in a desired position with respect to the body, said strips being adapted to center the tool in the passage to be tiled, and tile supports pivoted in the sides of the tool and located in alignment with said strips for supporting tiles retained by said strips, and for releasing the tiles.

In testimony whereof I have signed my name to this specification.

CURTIS L. JANNEY.