

Sept. 11, 1934.

L. L. RICHARDSON

1,973,176

ROAD DRILLING TOOL FOR SETTING MARKING PLUGS AND THE LIKE

Filed Aug. 29, 1930

2 Sheets-Sheet 1

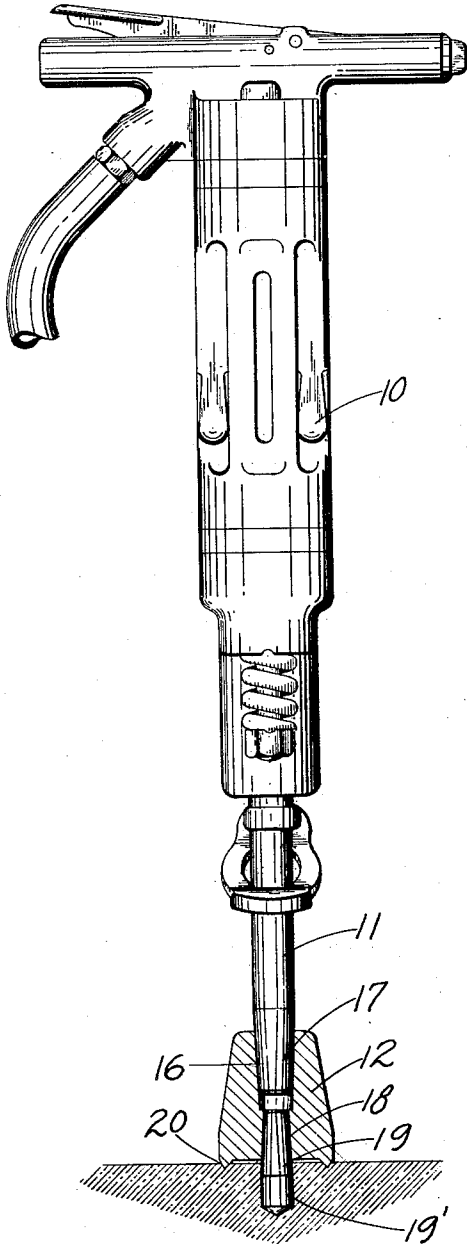


Fig. 1

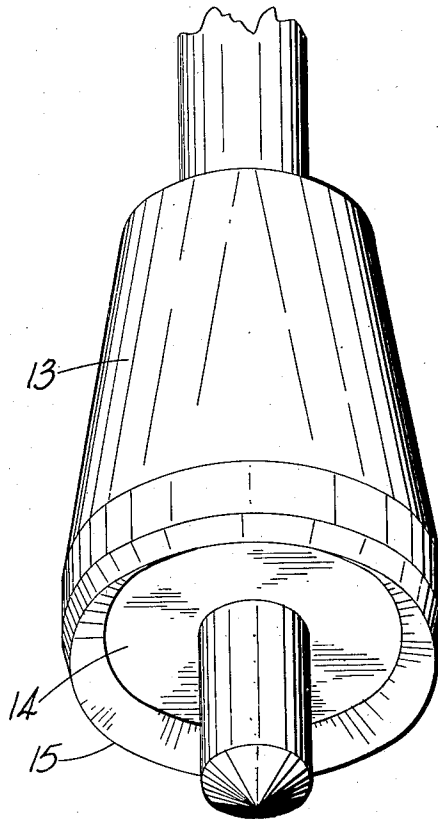


Fig. 2

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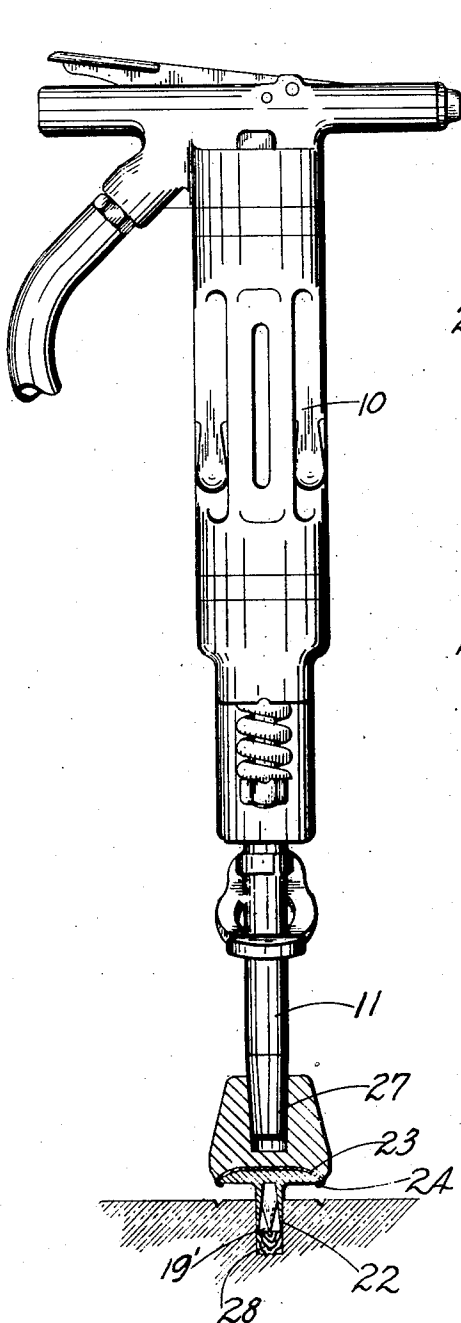
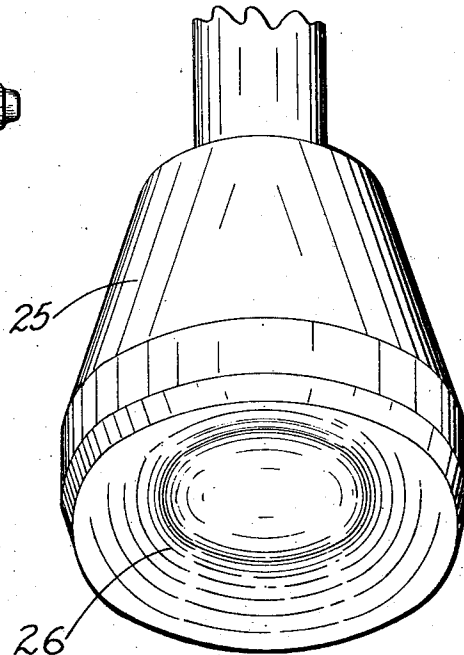
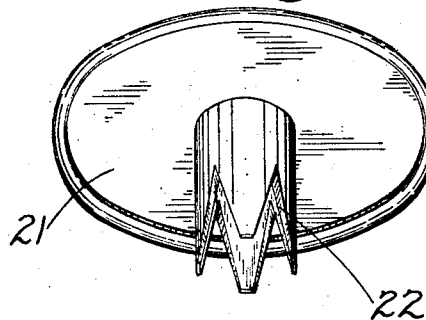
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ROAD DRILLING TOOL FOR SETTING MARKING PLUGS AND THE LIKE

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

1,973,176

ROAD DRILLING TOOL FOR SETTING
MARKING PLUGS AND THE LIKE

Led L. Richardson, Cleveland, Ohio, assignor to
The Cleveland Rock Drill Company, Cleveland,
Ohio, a corporation of Ohio

Application August 29, 1930, Serial No. 478,759

2 Claims. (Cl. 94—39)

This invention relates to a road drilling tool for setting marking plugs and the like in pavements, the tool being particularly adaptable for use with drilling machines of the percussion or hammer type to effect the setting operation.

It has been customary in the past to set metal discs in the pavement manually, namely, by first drilling an aperture therein, setting the disc in such aperture and completing the operation by hand. In cases where it was necessary to lay out lengthy traffic lanes the amount of work accomplished per day was relatively small and the cost, therefore, relatively high.

One of the objects of my invention is to provide a tool attachment for a fluid operated hammer which will facilitate the drilling of apertures in pavements for the reception of metal discs.

Another object of my invention is to provide a tool attachment for a fluid operated hammer which will facilitate securing metal discs in the apertures so formed.

Further objects will be apparent from the following detailed description wherein similar characters of reference designate corresponding parts and wherein:

Fig. 1 is an elevation of a fluid operated hammer showing in section the preferred embodiment of drilling tool attached thereto.

Fig. 2 is a perspective view of a drilling tool which is preferably used for making apertures in the pavement for the reception of metal discs.

Fig. 3 is an elevation of a fluid operated hammer showing in section the preferred embodiment of driving tool attached thereto.

Fig. 4 is a perspective view of a tool which is preferably used for driving a disc into the apertures formed in the pavement.

Fig. 5 is a perspective view of a metal disc, such as is usually fixed in the pavement for outlining traffic lanes.

With reference to the drawings I have illustrated in Fig. 1 a compression hammer comprising a cylinder 10 in which there is reciprocally mounted a ram 11 which impells with percussive force the coaxially aligned drilling tool 12.

The tool or drilling attachment embodies a frusto-conical body portion 13, Figure 2, having a substantially concave base 14. Formed integrally with the body portion and the periphery of the base is an annular knife edge 15. The body portion is drilled centrally as at 16 and of such complementary configuration at 17 as to receive the outermost end of the ram 11 and at 18 to receive one end of the drill point 19.

With reference to Figs. 3 and 5 I have shown in Fig. 5 a metal disc which is used in outlining traffic lanes as comprising a casting 21 having a cylindrical pronged member 22 formed integrally therewith and projecting downwardly from the under side thereof. The disc is adapted to have a metal cap 23, enclosing the face thereof and adapted to be affixed thereto by turning the peripheral edge thereof under as at 24.

The tool or driving attachment which I preferably use for positioning the disc in a planular surface such as a pavement embodies a frusto-conical body portion 25 and a concave base 26 of complementary configuration with the cap 23 of the disc 21. The body portion has a centrally drilled aperture 27 therein which is adapted to receive the outer end of the ram 11 of a pneumatic hammer.

As is shown in Fig. 1 in using the tool the drill point 19 is adapted to form a cylindrical aperture 19' in the pavement, and at the same time the knife edge 15 is forming the concentric groove 20. Referring to Fig. 3 and in accordance with practice a wooden block 28 is placed in the aperture 19' and the pronged extension of the disc is placed above it, as shown. The driving tool is placed on the face of the disc and pressure exerted thereon, thus driving the disc securely into place, by driving the pronged member into the block 28 and the edge 24 into engagement with the groove 20.

It will be seen from the above detailed description that I have provided a method and apparatus for setting metal discs in pavements and the like which in addition to preventing defacing and injuring the cap will effectuate the operation in a more expeditious manner.

Although the foregoing description is necessarily of a detailed character in order to completely set forth this invention, it is to be understood that the specific terminology is not intended to be restrictive or confining and it is to be further understood that various rearrangements of parts and modifications of structural details may be resorted to without departing from the scope or spirit of the invention as herein claimed.

I claim:

1. A drilling tool for use in forming fastening openings in roads for marking plugs comprising a substantially cylindrical body having a substantially flat bottom surface, a circular cutting flange formed integral with the body and extending downwardly from the flat bottom

- surface, said cutting flange having approximately the same cutting angle on both its radially inner and radially outer surfaces, said body portion being formed with an axial bore having walls tapering from the top of the body and the bottom surface of the body inwardly to the center of the body, a tapered pilot bit removably fitting in the bottom of the axial bore and a ram removably fitting into the top of said bore.
2. A drilling tool for setting marking plugs and the like in a road or pavement comprising a body having a substantially flat bottom surface and a cutting edge projecting downwardly at the outer portion of said surface, said cutting edge having approximately the same cutting angle on both its radially inner and outer surfaces, said body being formed with axial bores in its upper and lower portions each of which taper toward the central portion of the body, a tapered pilot bit removably fitting in the lower bore and a ram removably fitting into the upper bore.
- LED L. RICHARDSON.

15	90
20	95
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150