

Jan. 5, 1932.

T. R. SLEIGHT

1,839,708

PIPE FINISHING TOOL

Filed Dec. 29 1930

3 Sheets-Sheet 1

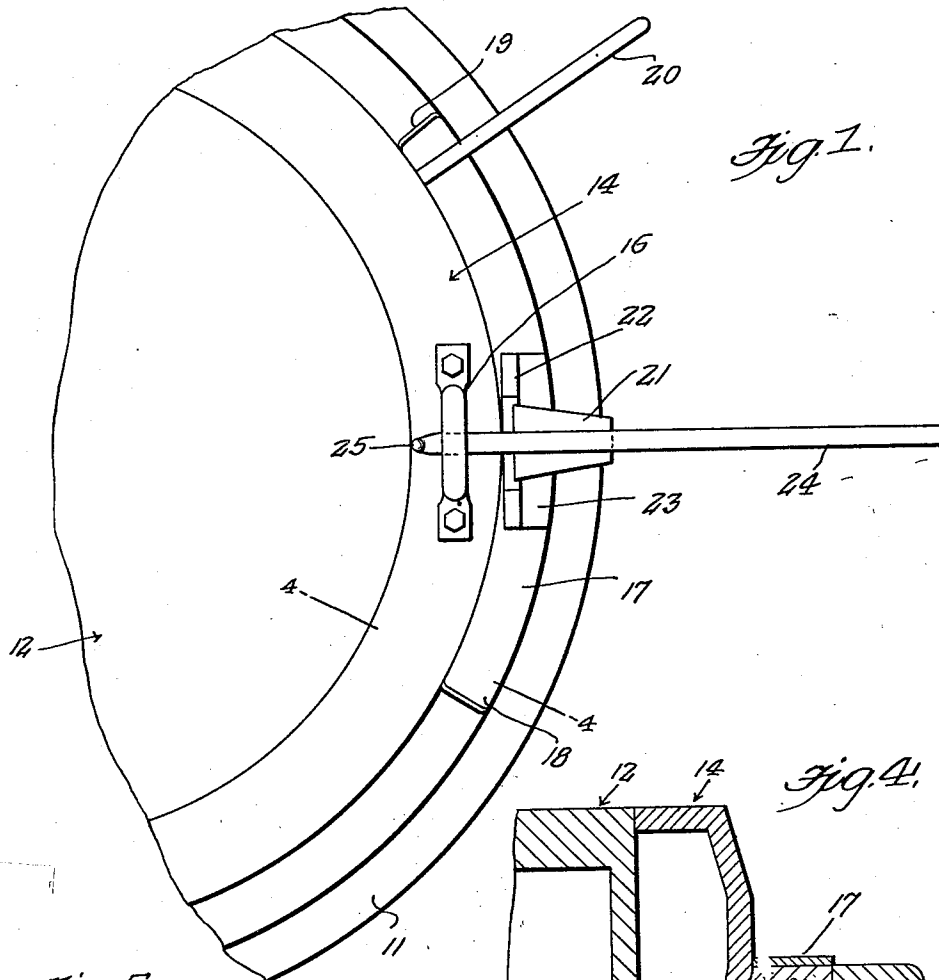


Fig. 1.

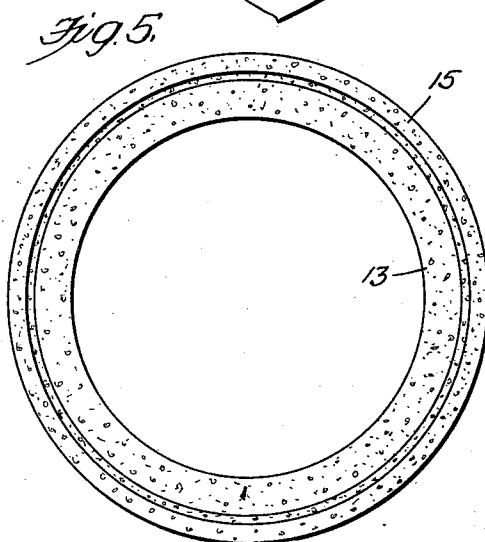


Fig. 5.

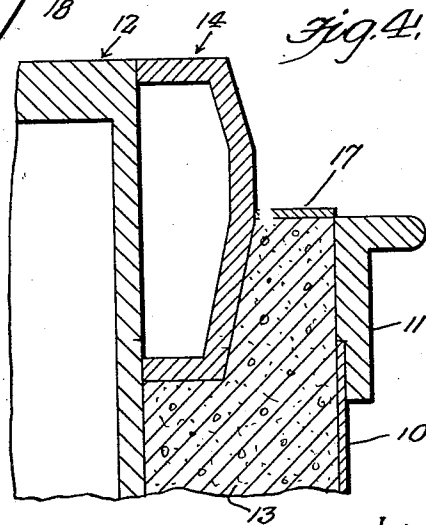


Fig. 4.

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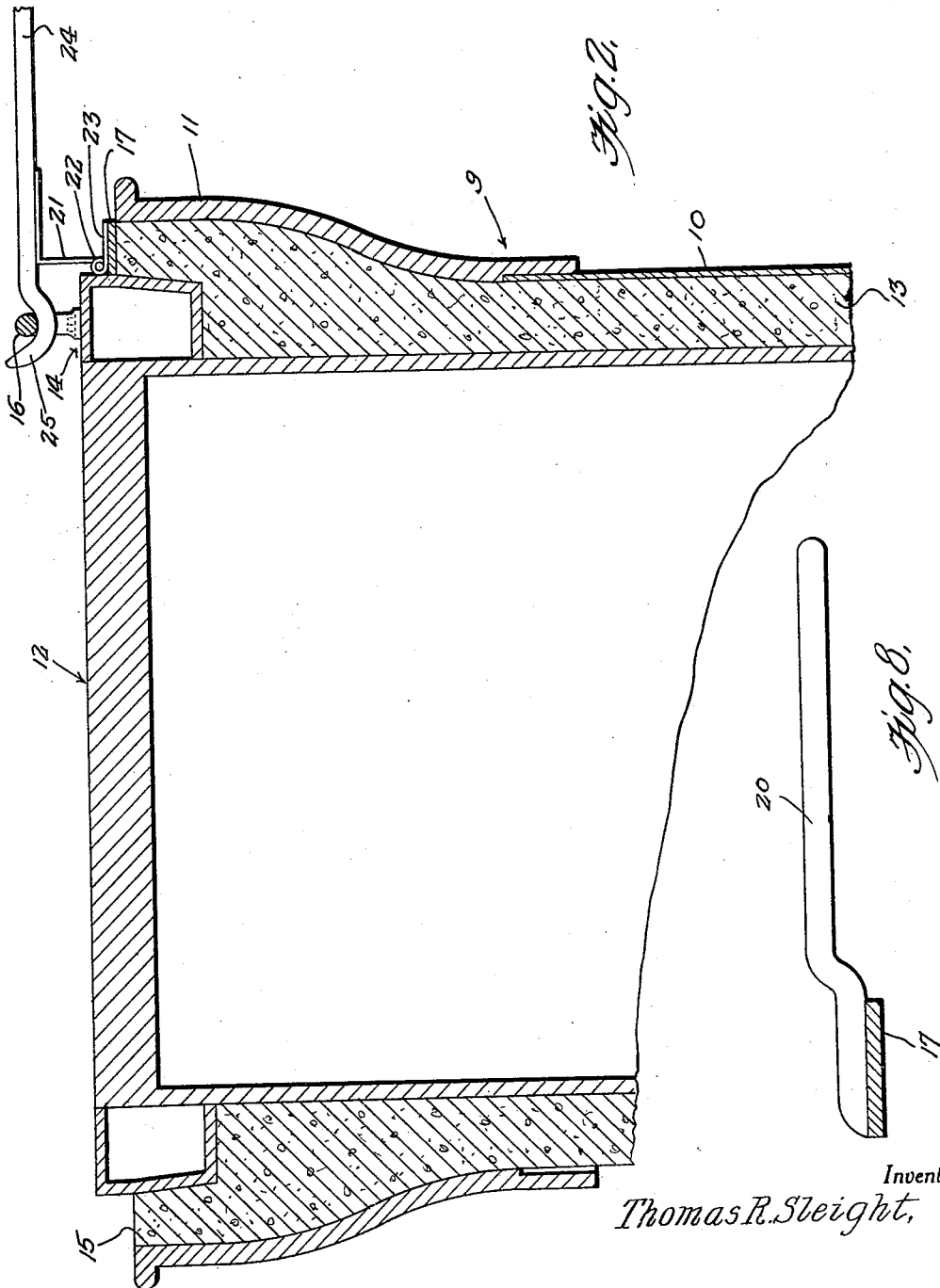
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3 Sheets-Sheet 2



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3 Sheets-Sheet 3

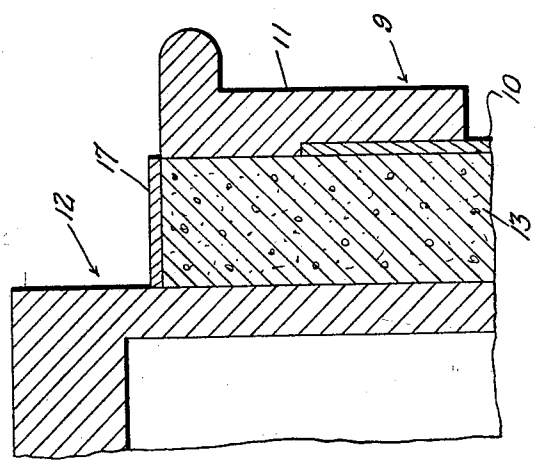
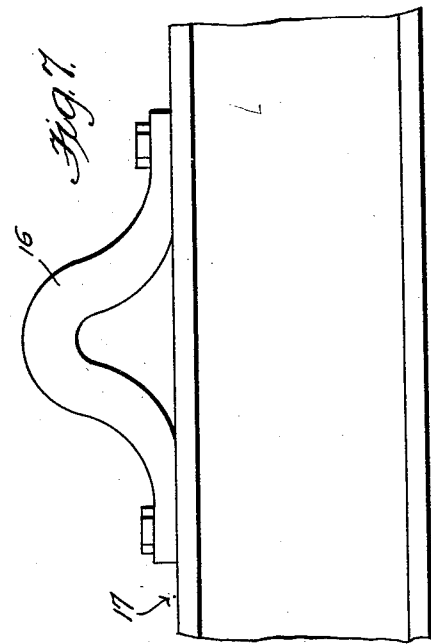
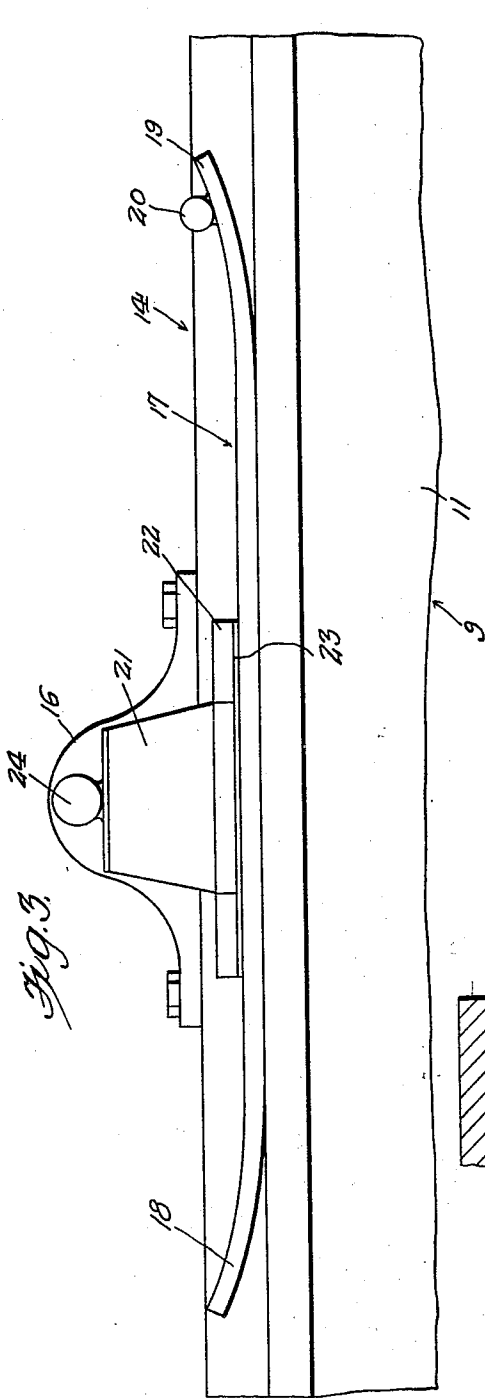


Fig. 6.

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UNITED STATES PATENT OFFICE

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PIPE FINISHING TOOL

Application filed December 29, 1930. Serial No. 505,406.

This invention relates to a finishing tool or implement for use in association with concrete pipes such as are used for drainage, sewer construction and the like, and it has reference to a structure which is designed for finishing a butt end, a bell end, or a tongue and groove end formation.

More specifically stated, the invention is designed for use in a concrete pipe mold employed in the process of making mechanically rammed semi-dry concrete pipes of the aforementioned classification.

The usual apparatus or machine employed for this purpose embodies a revolving table on the floor elevation of the plant with a core fastened to an overhead hoisting device in such a way that it can be raised and lowered with respect to the form but will not turn. In many instances, a bell is used and this ordinarily hangs on the top of the core and is operable as a unit with the core and does not turn. The form is secured on the table in such a way that it turns with the table.

Under the ordinary arrangement, when a pipe is to be cast, or made, the form is placed on the table, the core is lowered inside of the form until it rests on the table, the bell is moved to one side and the mechanical ram is placed between the core and the form. The table is started to revolve and the ram is started. Semi-dry concrete is allowed to run slowly between the core and the form. The core is stationary and the form is turning at this time. The ram pounds the semi-dry concrete firmly into place, the concrete turning with the form.

When the concrete is built up to within a few inches of the top of the form, the bell is slipped into place and the concrete is rammed up to the top of the form. Then the top of the bell is finished off. The usual method employed for finishing is a small hand-manipulated trowel.

The inventive conception constituting the novelty of this application comprehends a finishing tool designed to take the place of the ordinary hand trowel, and in carrying the invention into effect, I have evolved and produced a simple and economical tool which is

associated with a yoke fastened on the so-called annular bell.

The particular structural details and relative arrangement and association will become more readily apparent from the following description and drawings. In the drawings:

Figure 1 is a fragmentary top plan view showing the general assembly with the tool in operating position.

Figure 2 is a central vertical sectional view through the structure.

Figure 3 is an enlarged side elevational view showing the details and arrangement of the tool.

Figure 4 is a section taken approximately on the plane of the line 4-4 of Figure 1.

Figure 5 is a top plan view of the finished bell-end pipe.

Figure 6 is a sectional view showing the butt-end formation.

Figure 7 is an inside elevational view of a fragmentary portion of the annulus or bell.

Figure 8 is a cross sectional view through one end portion of the tool.

Attention is first invited to Figure 2, wherein it will be observed that the form or mold is generally designated by the reference character 9. This comprises a shell or body portion 10 having a suitably shaped flanged rim 11 at its top. The reciprocatory core is denoted by the numeral 12 and this fits into the form to provide an annular space therebetween to accommodate the semi-dry concrete pipe 13.

The annular bell is designated by the numeral 14. This is of channel-shaped cross section and shaped either as shown in Figure 2 or Figure 4 according to the particular shape of channel desired at the bell-end of the pipe. The improved tool is designed for finishing the edge 15 of the bell-end of the pipe.

In the preferred embodiment, I provide a yoke or bracket 16 which is bolted or otherwise secured to the top flange of the annular bell 14. The numeral 17 designates the arcuate shoe having upturned ends 18 and 19 respectively. At the end 19 is a laterally projecting rigidly mounted handle 20.

On the central portion is a hinge structure comprising a right angular part 21 hingedly mounted at 22 on an attaching hinge leaf 23 fastened to the top of the plate or shoe 17. There is a second handle or lever at 24 fastened to the bracket 21 and having a hook 25 at its inner end engageable with the bight portion of the yoke.

In practice, the operator hooks the hooked end 25 of the lever 24 in the yoke 16 and presses down on the outer end of the lever 24. He takes the handles 20 in his right hand. By producing the pressure on the central portion of the shoe through the medium of the hinge bracket and lever 24, the handle 20 is in a position to enable the operator to keep the shoe level with the handle 20.

When the concrete has turned around under the shoe a few revolutions with a pressure on the handle 24, the concrete becomes smooth and level and the bell is finished. The bell finisher or tool is then removed from the pipe and carried away and transported in the usual way. This process, it is understood, is not adapted to wet concrete, which is hand poured, but only to semi-dry concrete.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Minor changes in shape, size, and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice if desired.

I claim:

1. In a structure of the class described, a bell-end finishing tool of the class described comprising an annular bell, an arcuate flat plate-like shoe, a yoke mounted rigidly on said bell, a hinge leaf fastened rigidly to the intermediate portion of the shoe, a right angular hinge bracket carried by the leaf, a lever fastened to the bracket, said lever having a fulcrum hook at its inner end detachably engageable with said yoke bracket, and a rigid handle secured to one end portion of the shoe.

2. As a new product of manufacture, a finishing tool for a concrete pipe comprising a segmental flat plate-like shoe having its opposite ends upturned, a hinge leaf fastened rigidly to the intermediate portion of said plate, a right-angular bracket hingedly mounted on said leaf, a lever secured intermediate its ends to said bracket, said lever being provided at its inner end with a fulcrum hook, and a rigid handle fastened to one end portion of said shoe.

3. A tool of the class described comprising a segmental flat plate-like shoe having its ends upturned, a bracket hingedly con-

nected to an intermediate portion of the shoe, a lever secured intermediate its ends to said bracket, said lever being provided at its one end with a fulcrum hook and a handle fastened to one end of the shoe.

In testimony whereof I affix my signature.
THOMAS R. SLEIGHT.

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