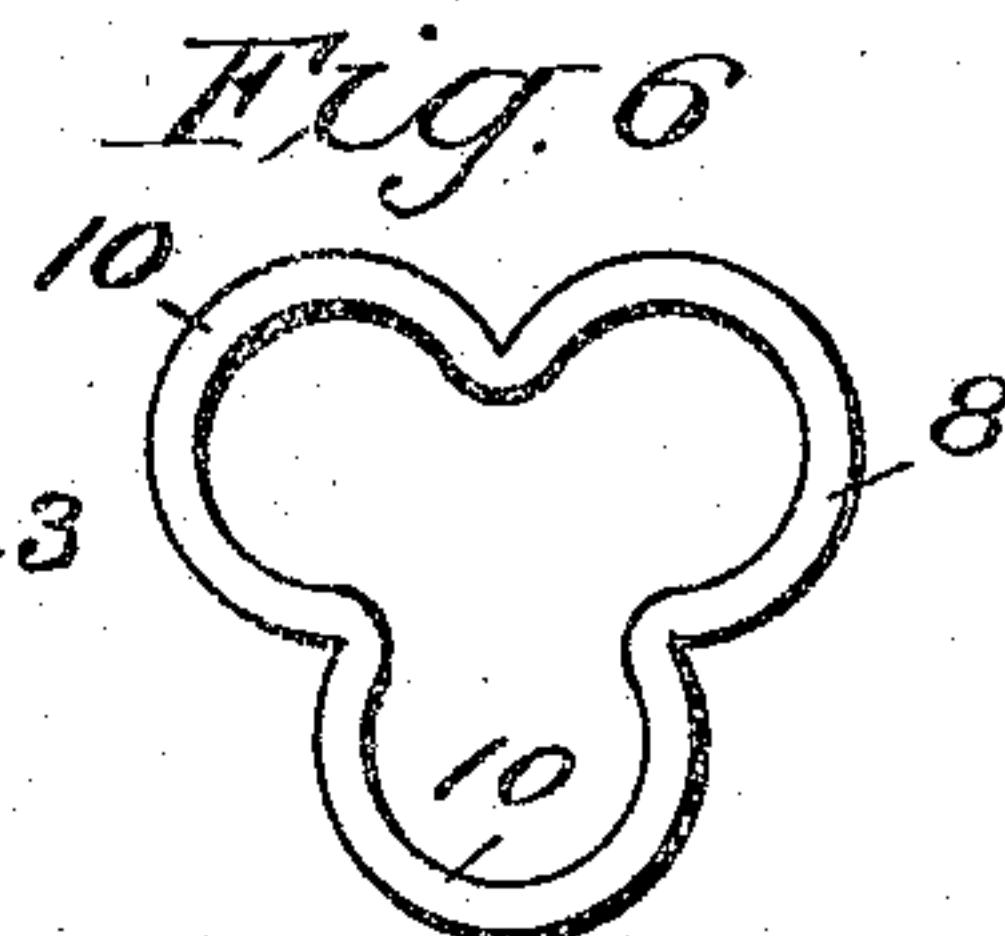
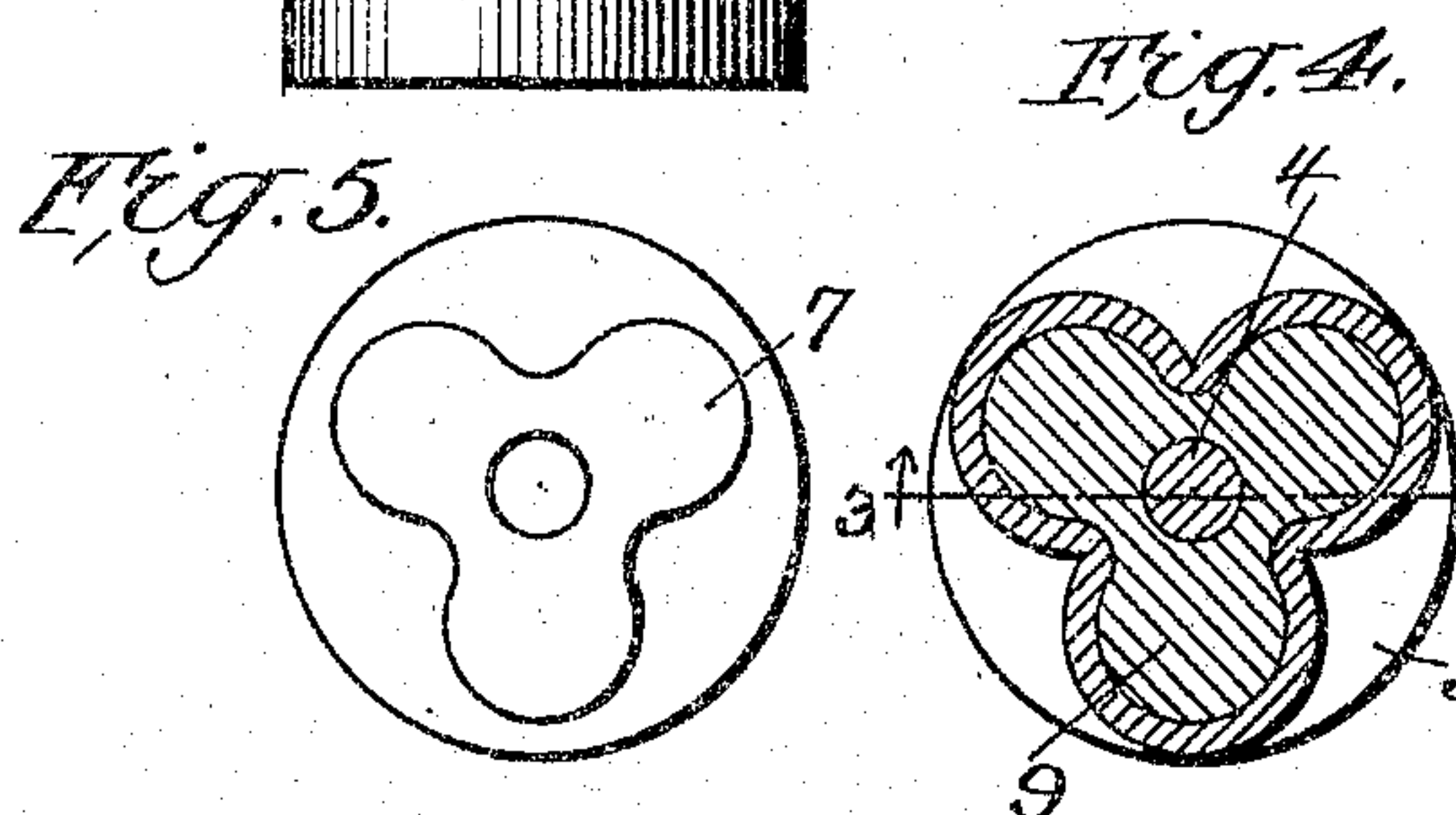
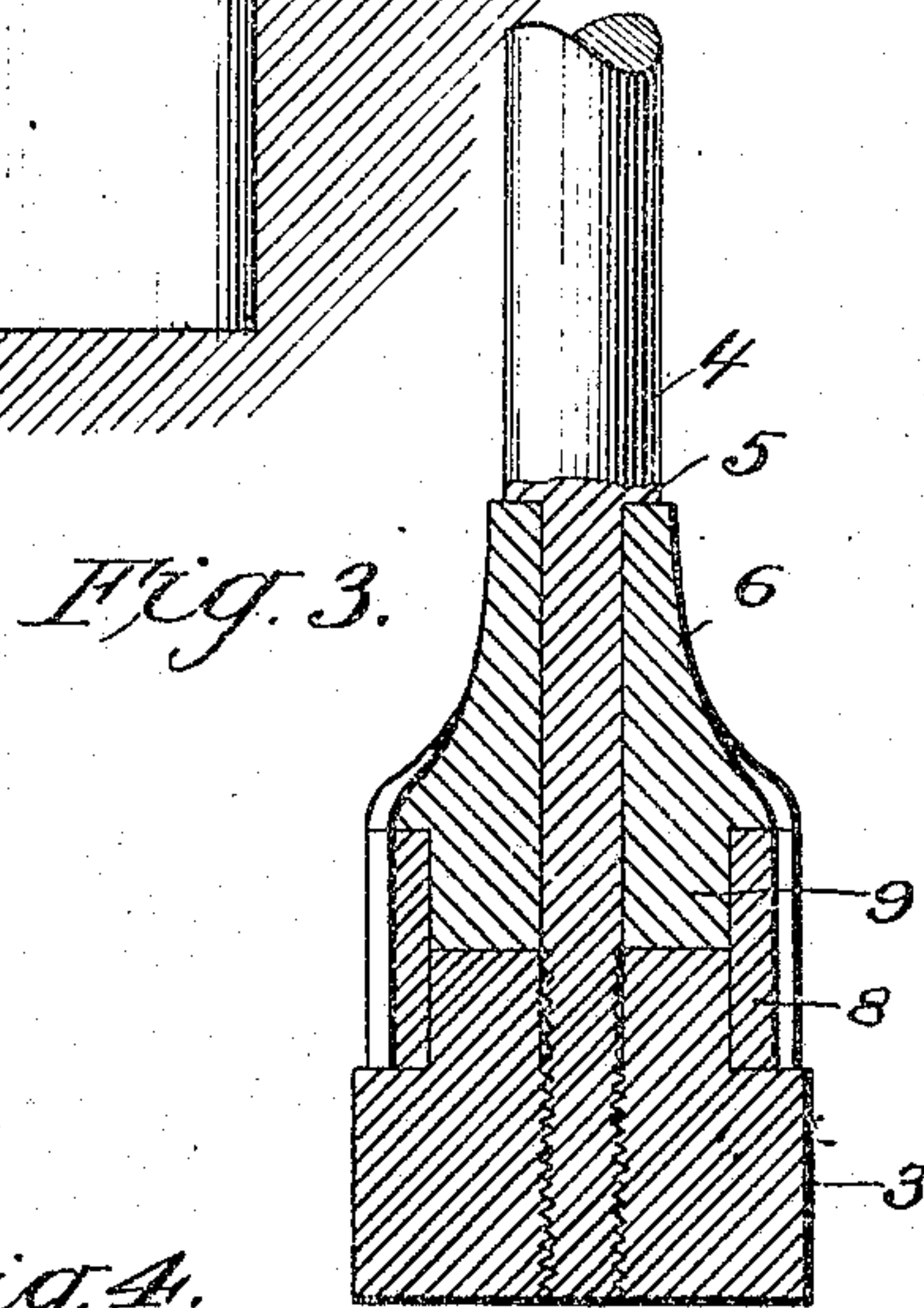
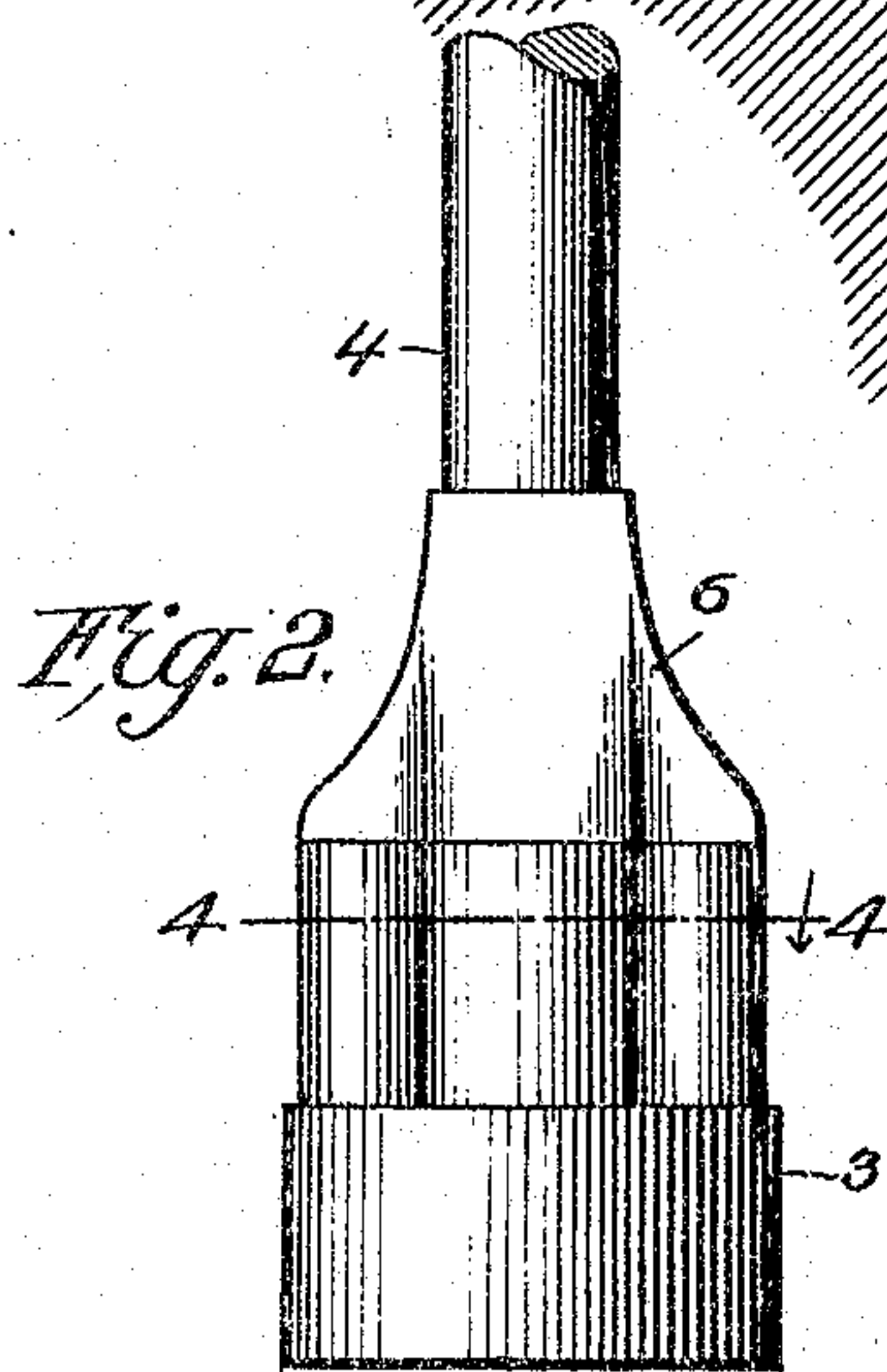
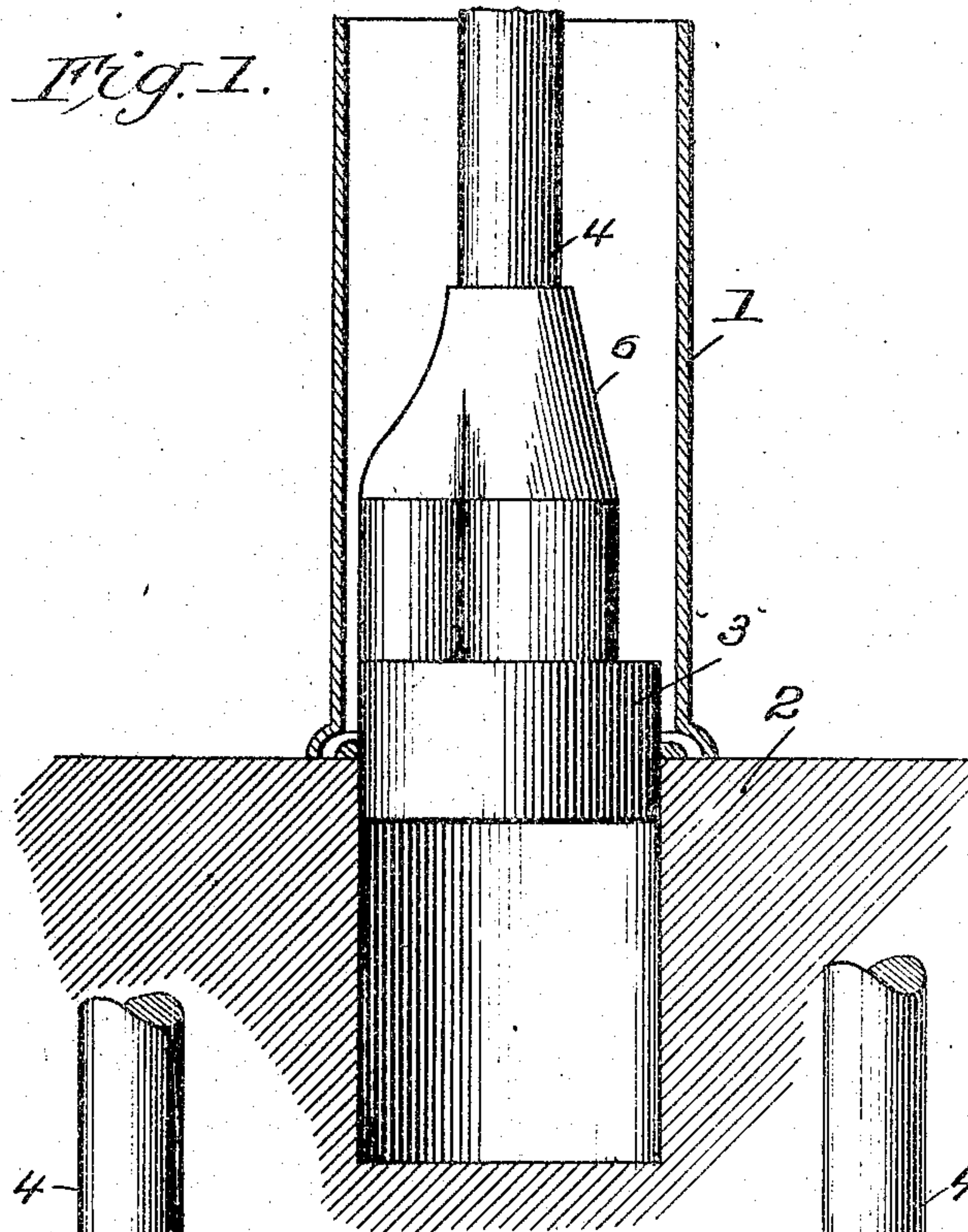


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TILE MAKING MACHINE.  
APPLICATION FILED MAY 3, 1909.

936,928.

Patented Oct. 12, 1909.



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# UNITED STATES PATENT OFFICE.

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## TILE-MAKING MACHINE.

936,928.

Specification of Letters Patent.

Patented Oct. 12, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM J. McCracken, a citizen of the United States, residing at Paullina, county of O'Brien, State of Iowa, have invented certain new and useful Improvements in Tile-Making Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in tile making machines, and particularly to means for forming the same more compactly, and has for an object the arrangement of a plurality of projections or enlargements for firmly packing the cement or material making the tile against the walls of the mold.

A further object of the invention is the arrangement of a former divided into a plurality of parts one of which is arranged to pack the cement against the mold, and the other is designed to smooth and finish the interior of the tile.

Another object in view is the arrangement of a packer head or former having a smoothing member arranged with a projection for receiving a packing shell, and means for holding the various parts together so as to cause the packing shell to pack the cement previous to the engagement of the same by the smoothing member.

A still further object of the invention is the arrangement of a packer head or former having a removable shell construction that is formed with packing surfaces, the shell being arranged to be held between the smoothing member and the retaining member, the retaining member being beveled for permitting cement to be easily engaged by the packing surfaces.

With these and other objects in view the invention comprises certain novel constructions, combinations and arrangement of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1 is a longitudinal vertical section through a mold showing the former in position. Fig. 2 is a side elevation of the former removed. Fig. 3 is a section through Fig. 4 on line 3-3. Fig. 4 is a section through Fig. 2 approximately on line 4-4. Fig. 5 is a top plan view of a smoothing member. Fig. 6

is a top plan view of a shell formed with packing surfaces.

In forming tile of cement or other material it has been found necessary to pack the same against the mold carefully in order to prevent any weak place. In packing the cement against the mold considerable friction is created between the former and the cement, which results in quickly wearing the former until the same becomes inefficient. In the present invention it is among the objects of the invention to form a packing shell or member that may be quickly renewed and one that will effectually pack the tile or cement. The packing shell is easily removed and replaced at comparatively small cost without renewing any of the surrounding parts which is of great advantage in saving expense and in causing only a comparatively short time to be lost in repairing the former.

In order that the invention may be more clearly understood an embodiment of the same is shown in the accompanying drawings in which—

1 indicates a mold of any desired kind having the usual well 2. The former is designed to be placed in well 2 or below mold 1 and the cement or other material of which the tile is to be made is placed in the mold and the former rotated, and at the same time moved upward. This will cause the former to pack the cement against the mold 1 as the former rises. The well 2 of course may be dispensed with and any desired support provided for mold 1 that will permit the former to pass freely downward below the bottom of the mold.

In constructing the former the same is provided with a smoothing member or part 3 which is formed in a cylindrical shape and of the same diameter as the interior of the bore of the tile. The smoothing member 3 is provided with a threaded aperture for receiving a threaded pin 4 which is provided with shoulders 5 for clamping a guiding and upper member or part 6 in position. The smoothing member 3 is formed with a plurality of upstanding lugs 7 arranged to fit into a packing shell or member 8. The upper member or guide 6 is also formed with a plurality of lugs 9 of the same shape and number as lugs 7 so as to fit in the same packing shell 8. The packing shell 8 is formed with a plurality of projections or



surfaces 10 which are parti-cylindrical and of such a size as to have the outer part thereof at one point come flush or even with the surface or periphery of smoothing member 3 as clearly shown in Fig. 4. In the drawings three lugs 7 and 9 have been shown with a shell 8 to correspond therewith, but it will be evident that two may be used or four or more as occasion may require. (The lugs 9 and also the lugs 7 project into shell 8 and preferably are made to meet substantially midway thereof which firmly holds the shell in position, and permits power to be conveyed from shaft 4 to the shell, as well as to smoothing member 3.

In operation the former is passed down through mold 1 until the upper edge of smoothing member 3 is level with the bottom of the mold, and then cement or other material is poured into the mold and the former rotated and moved upward at the same time. The rotation of the former will cause the parti-cylindrical portion 10 of shell 8 to pack the cement against the side of the mold evenly and comparatively smoothly. As the former moves upward the smoothing member 3 follows the packing shell 8 and completes the smoothing of the interior of the tile. Member 6 is formed as a continuation of the shell 8 but is gradually reduced until the same comes almost flush with the periphery of shaft 4. For instance, in the former shown in the drawing shell 8 has three parti-cylindrical members, and part 6 has three parti-cylindrical lugs merging into a cylindrical member at the top. By this structure the cement is guided not only to its proper place between the former and the mold, but also between the respective parti-cylindrical portions or members 10 from which it is forced against the mold or against other cement for compacting or pressing the same.

One of the important features of the invention is the removability of the various

parts for renewal, repair or inspection. If shell 8 should become worn to an undesirable degree the same could be removed and a new one placed in position without injuring or without discarding the remaining parts. Parts 3 and 6 could also be renewed in a like manner without renewing the remaining parts so that in practical operation only new parts are necessary to be supplied that wear out and as shell 8 creates more friction than any of the remaining parts the same wears more rapidly even though made out of hard material. The material in shell 8 is comparatively small and the expense of renewal of the same is small in comparison with the expense of the renewal of a complete former.

It will be observed that one of the chief advantages of this packer head is that the packing shell 8 is so arranged that when the sides of projections 10 thereon are worn by use, the part 8 may be reversed, end for end, thus bringing the opposite sides of projections 10 into packing position to receive the wear of packing thus doubling the life of said packing shell.

What I claim is:

In a former for tile forming machines, a packing shell formed with a plurality of parti-cylindrical members, a smoothing member arranged to co-act with said shell and formed with projections extending into said shell, and a guiding member formed with projections extending into said shell for holding the same properly in position, and means for binding said guiding member, shell, and smoothing member together for conveying power thereto.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM J. McCracken.

Witnesses:

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