No. 772,845. PATENTED OCT. 18, 1904.

O. A. STEMPEL.

MOLD.

APPLICATION FILED NOV. 21, 1903.

NO MODEL.

Fig. 1.

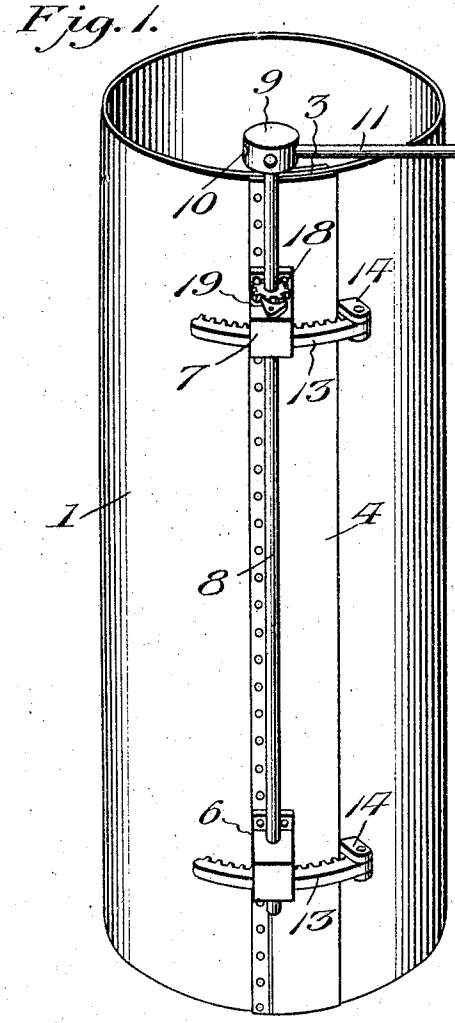


Fig. 2.

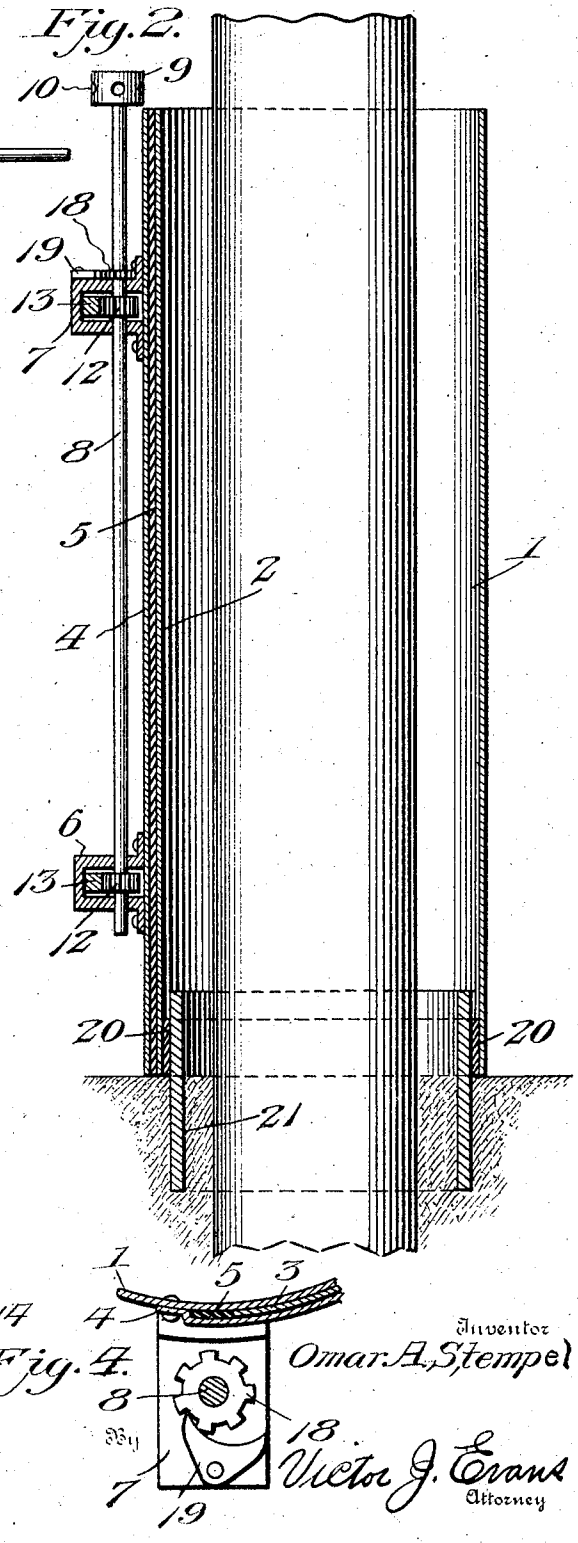
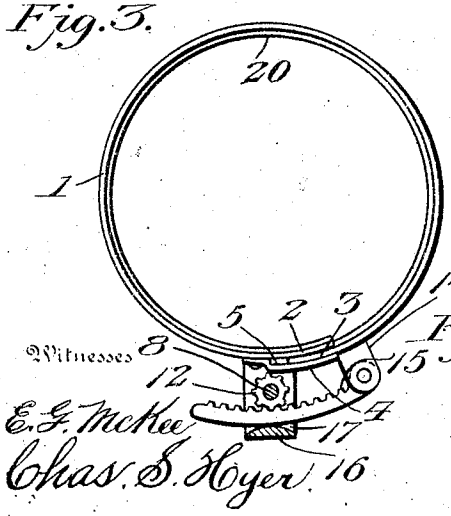


Fig. 3.



Witnesses
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Fig. 4.

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No. 772,845. Patented October 18, 1904.

UNITED STATES PATENT OFFICE.

OMAR A. STEMPEL, OF CLEARWATER, FLORIDA.

MOLD.

SPECIFICATION forming part of Letters Patent No. 772,845, dated October 18, 1904.

Application filed November 21, 1903. Serial No. 182,140. (No model.)

To all whom it may concern:

Be it known that I, OMAR A. STEMPEL, a citizen of the United States, residing at Clearwater, in the county of Hillsboro and State of Florida, have invented new and useful Improvements in Molds, of which the following is a specification.

This invention relates to molds; and the primary object of the same is to provide a simple, effective, and reliable mold which is adjustable and especially designed for applying a cement armor or protective covering on wooden piles, telegraph and telephone poles, and other analogous devices which are usually exposed to moisture or contact with water.

A further essential object of the invention is to provide a mold which may be readily adjusted around a pile and embodying water-tight packings and adjusting means to establish a tight joint and adapt the mold to be submerged in water around a pile to effect a caisson structure from which the water may be withdrawn by pumps or other suitable means and a cement or other protective covering introduced in the mold regularly around the portion of a pile which is usually attacked by the teredo and other marine pests.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter set forth.

In the drawings, Figure 1 is a perspective view of a mold embodying the features of the invention. Fig. 2 is a transverse vertical section through the mold shown applied around a pile. Fig. 3 is a top plan view of the mold, showing a part thereof in section. Fig. 4 is a horizontal section through a part of the mold, showing a catch or locking mechanism coöperating with the adjusting device.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The body 1 of the improved mold is in the form of a flexible sheet and preferably constructed of comparatively light sheet metal rolled to a sufficient degree of hardness to give the necessary spring or elasticity thereto to insure the proper expansion of the body of the mold when the contractile tension thereon is relieved. The body and parts coöperating therewith will also be preferably treated or have a suitable substance applied thereto to render the same of a non-corrosive nature to obstruct the disadvantages incident to oxidation. The edges 2 and 3 of the mold are adapted to overlap, and to the edge 2 is secured an outer guard-strip 4, which extends full length thereof and is struck outwardly to provide a pocket, within which is fitted the edge 3, a rubber or other analogous packing 5 being introduced in the pocket and held in fixed position for engagement therewith of the said edge 3 to form a water-tight joint. Secured at different elevations on the exterior of the edge 2 are two hollow brackets or supports 6 and 7, disposed at different elevations and in vertical alinement, and rotatably passing therethrough is an operating-shaft 8, having an upper turn-head 9, with openings 10 extending radially thereinto for the removable application of a hand-bar 11, the head 10 standing far enough above the upper end of the mold to be readily accessible for using the hand-bar therewith. The shaft 8, within the brackets or supports 6 and 7, has pinions 12 fixed thereon, with the outer portions of which segmental drawing-bars 13 engage, each bar being pivoted at one end between ears 14, projecting outwardly from the terminal of the body 1, continuing into the edge 3. The bars 13 have inner teeth 15, which are continually held in mesh with the pinions 12 by the outer end walls 16 of the brackets or supports 6 and 7, the inner surfaces of the walls 16 being convex, as at 17, to reduce the friction on the bars 13. The bars 13 are long enough to compensate for the maximum expansion of the body 1 and prevent disengagement thereof from the pinions 12. The shaft 8 is held in operative connection with the brackets or supports 6 and 7 by the pinions 12, and the edges 2 and 3 will always be caused to positively coincide and the edge 3 enter the pocket formed by the guard-strip 4 without manual guidance of the edge 2 by the bars 13 passing through the brackets or supports in the manner heretofore explained.

After the body 1 has been adjusted it will be understood that some means must be used

for retaining the edges 2 and 3 in close engagement in order to arrive at a practical molding operation. For this purpose the shaft 8 has a ratchet-pinion 18, secured thereon and held in close contact with the upper side of the bracket or support 7, and coöperating with said ratchet-pinion is a double pawl or dog 19, which may be shifted in opposite directions to hold the mold-body in adjusted condition desired.

Against the inner side of the body 1 at the lower end is a rubber or other packing band 20, which is adapted to be brought into contact with a tubular closure 21, which is employed in connection with the base of the mold when the latter is applied to piles, as shown by Fig. 2.

From the foregoing it will be seen that the mold as an entirety may be conveniently used to form a water-tight space between the inner surface of the mold and the pile or pole. In applying a protective coating to a pile or pole the mold is allowed to remain about the latter until the covering becomes indurated or fully hardened. The mold is then released by operating the shaft 8 in a proper direction to expand the mold-body and withdrawn from the applied covering.

The improved mold is adapted to be used wherever it may be applicable; but a special use of the same is illustrated by Fig. 2 for applying a protective covering or coating of cement or the like around piles from the bed into which they are driven to a suitable distance above the surface of the water not only to obstruct decay of the piles, but also prevent the lodgment of barnacles thereon and attacks by teredos. In applying a covering to a pile the tubular member 21, which may be of terra-cotta or other suitable material, is driven downwardly into the bed around a pile, said tubular member being of greater diameter than the pile. The mold then has its lower end fitted over the tubular member and tightened to bring the packing-band 20 in close engagement with said member and at the same time cause the edge 3 to snugly fit in the pocket formed on the exterior of the edge 2 and tightly impinge against the packing 5. By the use of the mold member 21 and the packing-band 20 a closure is established around the pile at the point where it projects from the water-bed, and the water within the mold is then drawn out by pumping or any other suitable operation, and what little water may remain around the pile on the bed is taken up by first introducing dry cement or other material adapted for the purpose. The protective covering in plastic condition is then inserted through the upper end of the mold and well packed around the pile until the top of the mold is reached. After this covering becomes thoroughly hardened the mold is released and withdrawn from the pile. This operation can be rapidly carried on, and where a number of piles are to be covered the work will be rendered expeditious by the use of a corresponding number of molds. The use of a large number of molds will not entail a great expense in view of the simplicity of structure of each mold, and it will be understood that changes in the proportions, dimensions, and minor details may be resorted to without in the least departing from the spirit of the invention.

Having thus fully described the invention, what is claimed as new is—

1. A mold, consisting of a hollow cylindrical body formed of resilient material and having the edges capable of interlocking in relation to each other, a shaft rotatably carried by one edge and provided with pinions and a locking means thereon, and toothed segmental bars pivotally secured to the remaining edge and freely movable over the pinions, the said bars being held in continual mesh with the pinions.

2. A mold, consisting of a tubular resilient body, hollow brackets secured to one edge of the mold, a shaft rotatably extending through the brackets and having pinions fixed thereon within the brackets, and toothed segmental bars freely movable through the brackets and held in continual contact with the pinions, said bars being each pivoted at one end to the edge of the mold opposite that carrying the brackets and shaft.

3. A mold, consisting of a hollow body of resilient material, having loose edges, and a packing-band secured on the inner surface of the lower end thereof, combined with a lower tubular molding member of less diameter than the body and adapted to project upwardly into the latter.

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

OMAR A. STEMPEL.

Witnesses:

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