

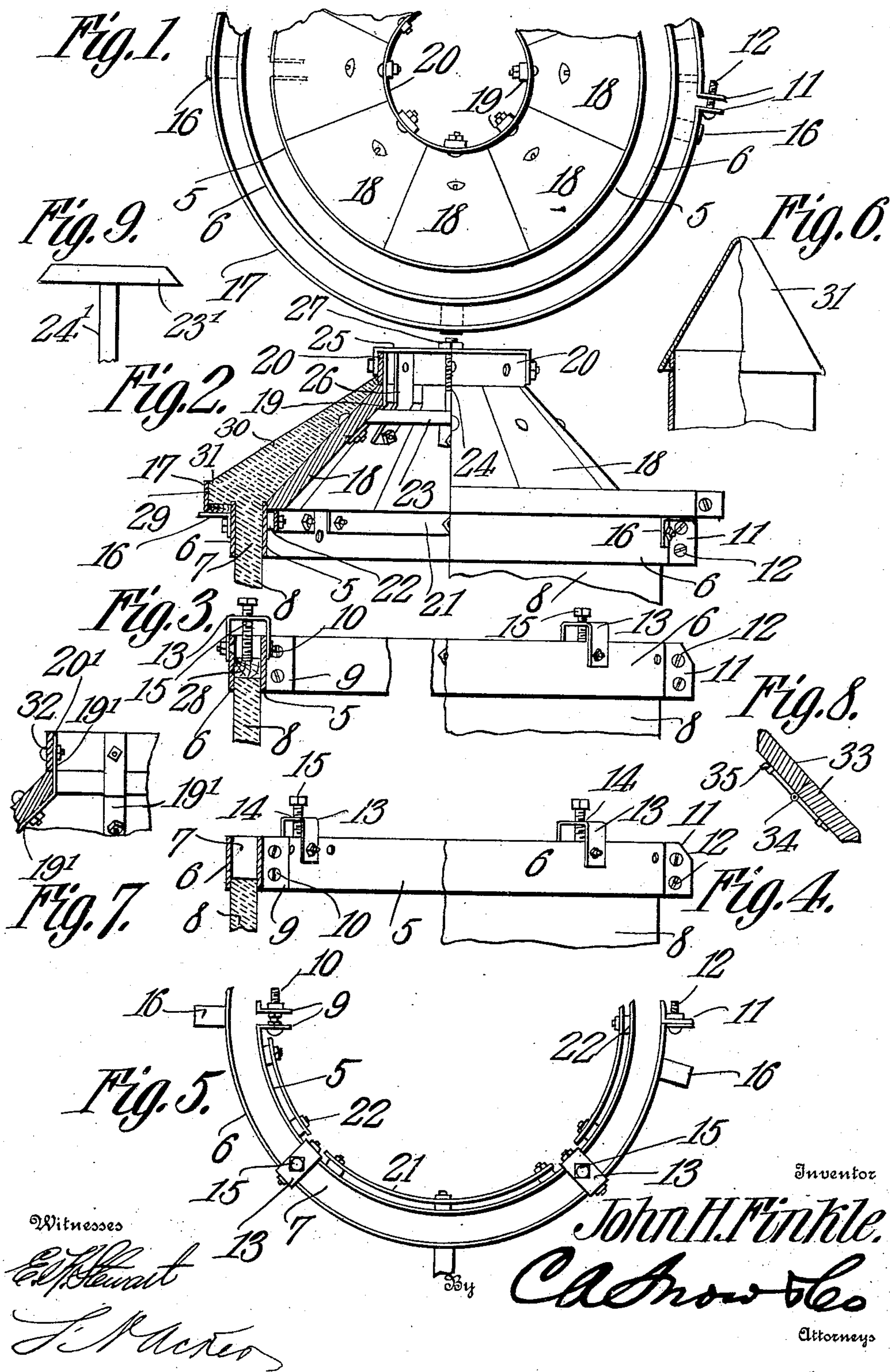
J. H. FINKLE.

MOLD.

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914,818.

Patented Mar. 9, 1909.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## MOLD.

No. 914,818.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed June 18, 1908. Serial No. 439,226.

*To all whom it may concern:*

Be it known that I, JOHN H. FINKLE, a citizen of the United States, residing at Appleton, in the county of Outagamie and State of Wisconsin, have invented a new and useful Mold, of which the following is a specification.

This invention relates to molds for making silos and similar structures from cement, concrete and other plastic material and has for its object to provide a strong, durable and comparatively inexpensive mold of this character capable of being adjusted vertically of the silo as the successive courses in the walls of the latter are constructed.

A further object of the invention is to provide a mold having means for forming the silo with a cornice and an integral concrete top or cover, the construction and relative disposition of the several parts of the mold being such as to permit the cover forming section to be readily detached after the cement has hardened.

A still further object of the invention is generally to improve this class of devices so as to increase the utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a top plan view of a mold constructed in accordance with my invention showing the cover and cornice forming sections in position. Fig. 2 is a side elevation partly in section of the same. Fig. 3 is a similar view showing the manner of adjusting the mold vertically of the silo. Fig. 4 is a side elevation partly in section showing the mold in adjusted position. Fig. 5 is a top plan view of Fig. 4. Fig. 6 is a side elevation partly in section of the cap or cover for the open end of the silo. Fig. 7 is a detail sectional view illustrating a modified form of the invention. Fig. 8 is a similar view illustrating another modification. Fig. 9 is a side elevation illustrating a further modification.

Similar numerals of reference indicate

corresponding parts in all of the figures of the drawings.

The improved mold forming the subject matter of the present invention includes an inner mold section or shell 5 and an outer section or shell 6, said sections being spaced apart to form an intermediate molding compartment 7 for the reception of cement, concrete or other suitable material forming the walls of the silo, indicated at 8.

The mold sections 5 and 6 are each preferably stamped or otherwise formed from a single piece of metal, the opposite ends of the metal forming the inner mold section 5 being bent inwardly to form spaced ears 9 having perforations therein for the reception of clamping bolts 10, the adjacent ends of the outer mold section 6 being bent laterally and outwardly to produce similar ears 11 fastened together by corresponding bolts 12. The sections 5 and 6 are spaced apart by a plurality of connecting members 13 each preferably in the form of a yoke having its parallel arms bolted, riveted or otherwise rigidly secured to the mold sections, there being a threaded aperture 14 formed in the closed end of each yoke or connecting member for the reception of a screw 15, the latter serving to adjust the mold section vertically of the silo, as will be more fully explained hereinafter.

Disposed at spaced intervals on the exterior walls of the outer mold section 6 are angle bars or brackets 16 each having one end thereof rigidly secured to the section 6 and the opposite end thereof bent laterally at substantially right angles to the vertical plane of said section to form a support for a cornice forming member or band 17.

The roof forming section of the mold includes a plurality of inclined strips or rafters 18 having bars 19 secured to the inner faces thereof and having their free ends bent at an angle to the fixed ends of the bars and extended upwardly within the centering member or band 20. The lower ends of the strips or rafters 18 are supported by segmental plates 21, said plates being carried by and supported in spaced relation to the inner face of the section 5 by means of bolts or similar clamping devices 22.

As a means for preventing accidental dis-



placement of the inclined strips or rafters 18 during the formation of the cover or roof of the silo there is provided a locking member preferably in the form of a disk 23 which bears against the reinforcing bars 19 beneath the ring 20, said disk being provided with a threaded rod 24 which extends through a correspondingly threaded opening in a transverse bar 25 secured to and supported by the annular member or band 20. It will thus be seen that the lower ends of the inclined strips or rafters 18 are supported by the segmental plates 21, while the terminals of the reinforcing bars 19 are held in close engagement with the inner face of the band or member 20 by adjusting the nut 27.

In constructing a silo the mold sections are placed on the surface of the ground or in a suitable foundation formed in the ground and a quantity of cement, concrete or other similar material shoveled or otherwise introduced in the molding compartment 7 and thoroughly tamped, the cement or concrete being troweled off level with the upper edges of the mold sections. A segmental bearing block or strip 28 is then inserted beneath each connecting member 13 and the screws 15 adjusted to contact therewith. As the screws are rotated within the members 13 the sections 5 and 6 will be adjusted vertically of the wall to the position shown in Fig. 4 of the drawings and in which position they are ready to receive an additional quantity of cement or concrete. After the wall of the silo has been constructed the desired height the cornice forming section or band 17 is placed in position on the brackets 16 and one or more segmental filling strips 29 placed in position on the brackets between the band 29 and the outer wall of the section 6. The inclined strips or rafters 18 are then positioned on the segmental plates or supports 21 and retained in fixed relation to the annular member 20 by adjusting the clamping nut 27, in the manner before described. The rafters 18 and filling strips 29 are then covered with a layer of concrete or cement and the same troweled off to form the cover 30 and cornice 31 of the silo. After the cement has hardened the nut 27 is removed which disengages the table or disk 23 from the rafters 18 thus permitting the latter to drop to the bottom of the silo, the cornice forming band 17 and the filling strips 29 being subsequently removed by detaching the brackets 16. After the silo is formed the opening at the top thereof is closed by a substantially conical shaped cap or top piece, indicated at 31 in Fig. 6 of the drawings.

In Fig. 7 of the drawings there is illustrated a modified form of the invention in

which the locking member or disk 23 is dispensed with, the inclined slats or rafters 18 being held in assembled position during the molding operation by means of bolts or similar fastening devices 32, which latter pierce the angular ends of the reinforcing bars 19' and the annular supporting band or member 20', as shown. If desired, however, the rafters or strips 18 may be formed in two or more sections, as indicated at 33 in Fig. 8 of the drawings, the sections 33 being pivotally connected by a hinge 34 and normally held in alinement with each other by a bolt or similar fastening device 35.

In Fig. 9 of the drawings there is illustrated a further modification in which the disk or table 23' is held in engagement with the rafters 18 by means of a post 24', which latter may be supported on the ground within the silo or in any other suitable manner. By adjusting the bolts 10 and 12 the mold sections or shells 5 and 6 may be loosened so that the latter may be readily adjusted vertically of the silo by manipulating the screws 15, in the manner before described.

While the mold is principally designed for making artificial stone silos, it is obvious that the same may be used with equally good results for making water tanks, closets, round houses, cisterns and other structures.

From the foregoing description, it is thought that the construction and operation of the device will be readily understood by those skilled in the art and further description thereof is deemed unnecessary.

Having thus described the invention what is claimed is:

1. A mold including inner and outer sections spaced apart to form an intermediate molding compartment, supporting members secured to the inner section, inclined rafters bearing against the supporting members, bars secured to the inner faces of the inclined members and having their free ends extended vertically above the same, an annular member engaging the extended ends of the bars, brackets secured to the exterior walls of the outer mold section, a cornice forming member projecting above the outer mold section and resting on the bracket, a filling member interposed between said band and the outer mold section and also resting on the brackets, said filling section being disposed approximately in horizontal alinement with the upper edge of the outer mold section, and means for supporting the extended end of said bars in engagement with said annular member.

2. A mold including inner and outer sections spaced apart to form an intermediate molding compartment, a supporting member secured to the inner mold section, an annular



lar band, inclined rafters bearing against the supporting member, bars secured to the inner faces of the rafters and extended through the band, a bar extending transversely across and resting on the annular band, a disk bearing against the inner faces of the rafters, a threaded rod secured to the disk and extending through the bar, and a nut engaging the threads on the rod for

clamping the bars of the rafters in engagement with the annular band. 10

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN H. FINKLE.

Witnesses:

F. J. ROONEY,  
A. B. KRAUSE.