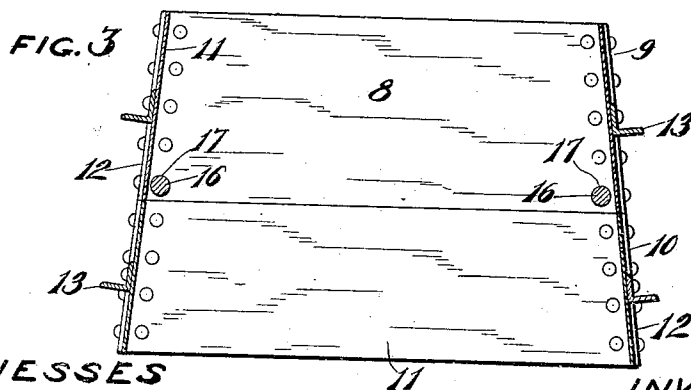
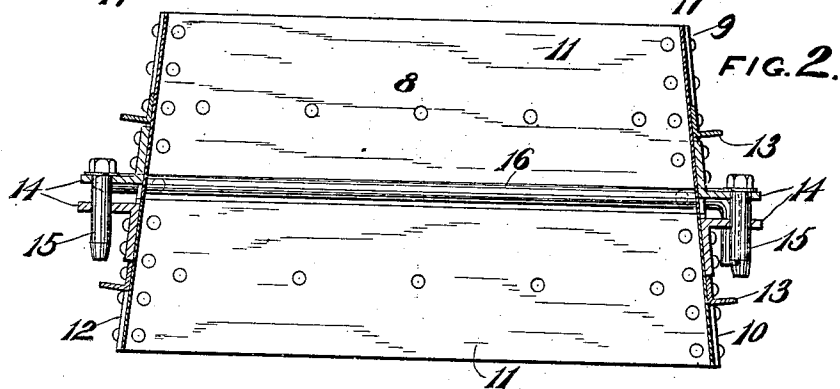
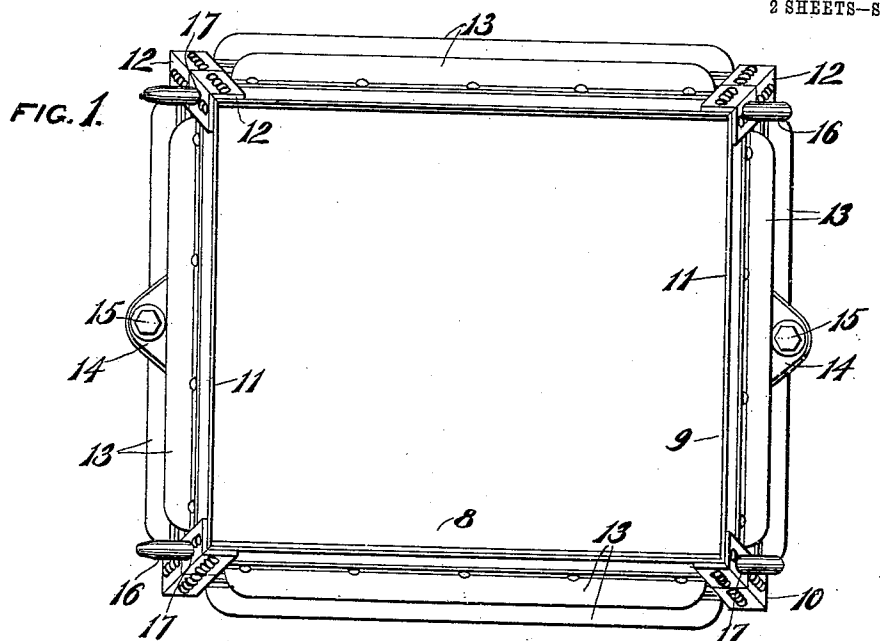




WITNESSES

L. J. Thener

Anna F. Schmidtbauer

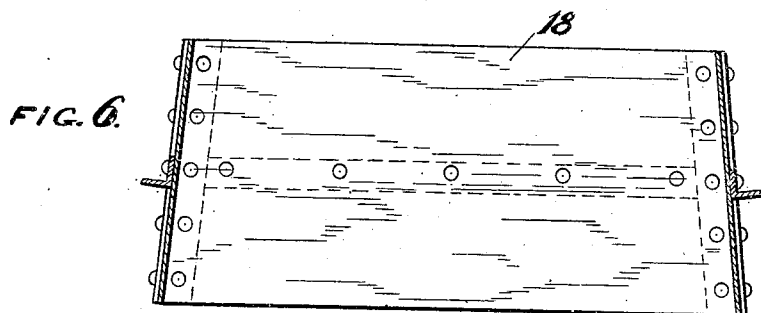
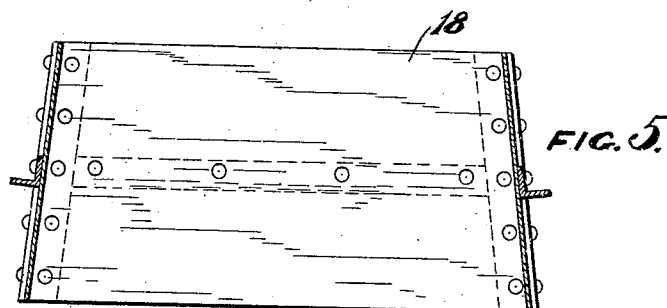
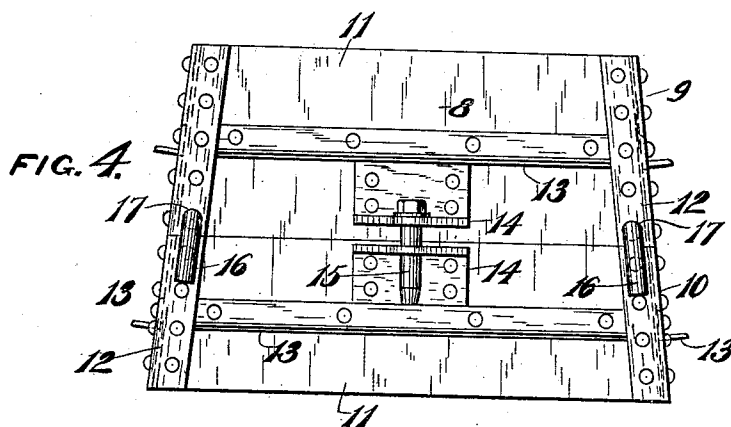
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939,849.

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MOLDING FLASK.
APPLICATION FILED DEC. 4, 1908.

Patented Nov. 9, 1909.
2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JAMES D. MILLAR, OF MILWAUKEE, WISCONSIN.

MOLDING-FLASK.

939,849.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed December 4, 1908. Serial No. 465,994.

To all whom it may concern:

Be it known that I, JAMES D. MILLAR, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Molding-Flasks, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to improvements in molding flasks, and it consists in forming the flask of sheet and structural metal and providing the flask with sand supporting means.

One of the objects of this invention is to provide a molding flask with removable sand supporting means which may be easily removed from the flask without disturbing the sand therein preparatory to removing the flask from the sand and replacing it with a slip flask.

With the above and other objects in view, the invention consists of the mold and its parts, and all equivalents thereof, as hereinafter set forth.

In the accompanying drawings, in which the same reference characters indicate the same parts in the several views; Figure 1 is a plan view of the complete flask; Fig. 2 is a central vertical longitudinal section thereof; Fig. 3 is a central vertical transverse section view thereof; Fig. 4 is an end view of the complete flask; Fig. 5 is a transverse vertical sectional view of the slip flask used in protecting the sand mold after the molding flask has been removed therefrom; and, Fig. 6 is a longitudinal vertical sectional view of Fig. 5.

Referring to the drawings the numeral 8 indicates the two part tapering flask consisting of a cope member 9 and a drag member 10. These members are each formed of four pieces of flat structural metal 11 cut to size and shape and joined together at the corners by angle corner pieces 12 which overlap the flat metal pieces and are riveted thereto. The flask sections or members are strengthened by means of horizontal angle plates 13 positioned against and riveted to the flat structural metal between the corner pieces.

Apertured alining plates 14 are connected to the end walls of each flask member and in connection with alining pins 15 are adapted to hold the cope member in alined position on top of the drag member in

forming the pattern in the sand. After the pattern has been formed in the sand it is necessary to lift the cope member and its contained sand, at the parting line, from the drag member and its contained sand in order to remove the pattern from the sand. Frequently in doing this the sand becomes loosened from the tapering flask and drops therefrom and the work has to be done over again. In order to obviate this difficulty and also provide a two part flask which is adapted to be used in connection with a slip flask, the cope member is provided with removable sand supporting rods 16 which are inserted in the openings 17 provided in the angle corners of the cope member near the lower edge thereof. The rods are removably positioned adjacent to the inner face of the walls of the cope member so that they will serve as a support for the sand when the cope member is lifted from the drag member. The rods are bent at right angles at one end to form handles and also act as stops to position the rods within the member, and the opposite ends of the rods are pointed so that they may be easily guided into the openings in the member. After the pattern has been formed in the sand and the pattern itself removed therefrom and the cope member with its contained sand replaced on the drag member, it is desirable to remove the whole flask from the sand and substitute a one piece slip flask 18, as shown in Figs. 5 and 6, therefore to protect the parting in the sand and to permit the two part flask to be again used to form other molds. This result is accomplished by means of the supporting rods being made removable thus providing the necessary support for the sand when the mold sections are parted to remove the pattern and permitting the supporting bars to be withdrawn endwise from the sand and the flask to allow the removal of both flask members without disturbing the sand in order to replace the members with the slip flask.

From the foregoing description it will be seen that a flask is provided which is strong, durable and light in weight and by means of the removable supporting rods the sand is held from accidentally dropping from the flask and when the rods have performed this function they may be withdrawn endwise and the flask removed and replaced by the slip flask.

While the supporting rods are shown round in cross section they may be of any other desirable shape.

What I claim as my invention is;

- 5 1. A molding flask, comprising a flask member, and a sand supporting rod removably connected to said flask member and removable therefrom endwise.
- 10 2. A molding flask, comprising a flask member provided with openings, and a sand supporting rod inserted through said open-

ings and removably positioned adjacent to one of the inner faces of the flask member and constructed and adapted to be removed therefrom endwise.

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

JAMES D. MILLAR.

Witnesses:

C. H. KEENEY,

ANNA F. SCHMIDTBAUER.