

L. W. DAMAN.

FLASK.

APPLICATION FILED JAN. 9, 1909.

940,858.

Patented Nov. 23, 1909.

3 SHEETS—SHEET 1.

FIG. 1.

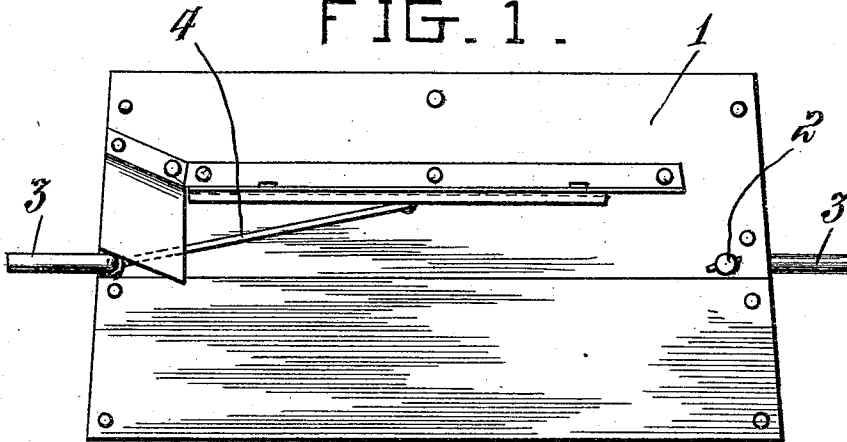
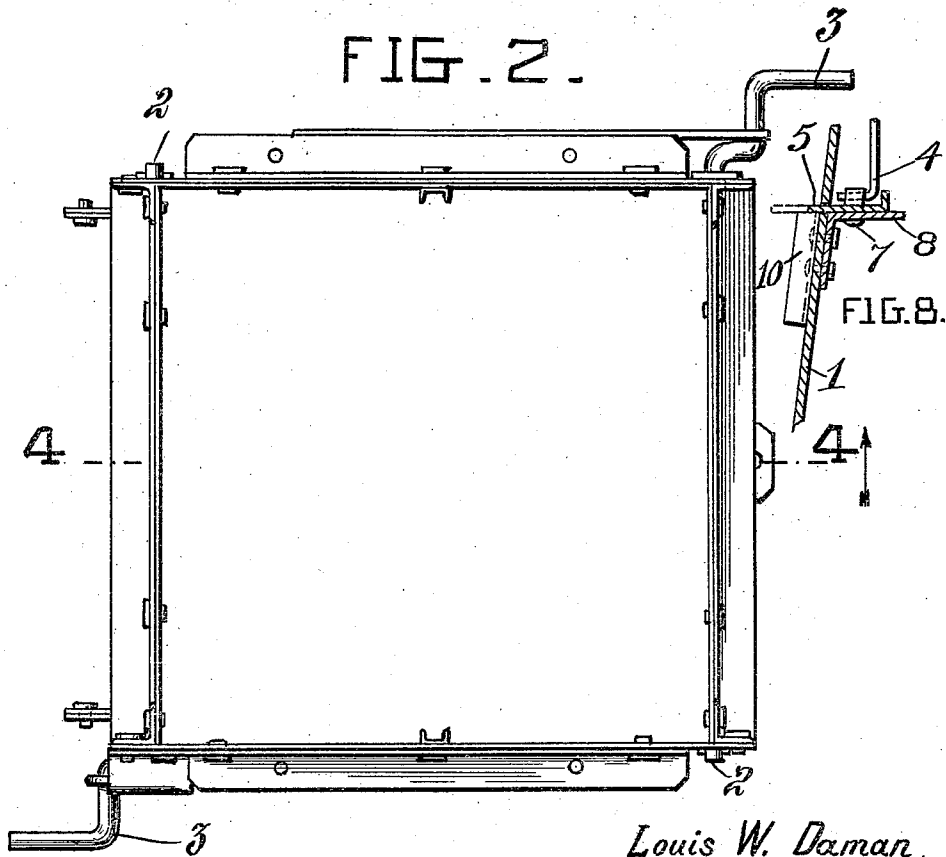


FIG. 2.



Witnesses:

C. Faconprez
L. A. Gauvin

Louis W. Daman,
Inventor.

By *Marion & Marion*
Attorneys

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FLASK;
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3 SHEETS—SHEET 2.

FIG. 3.

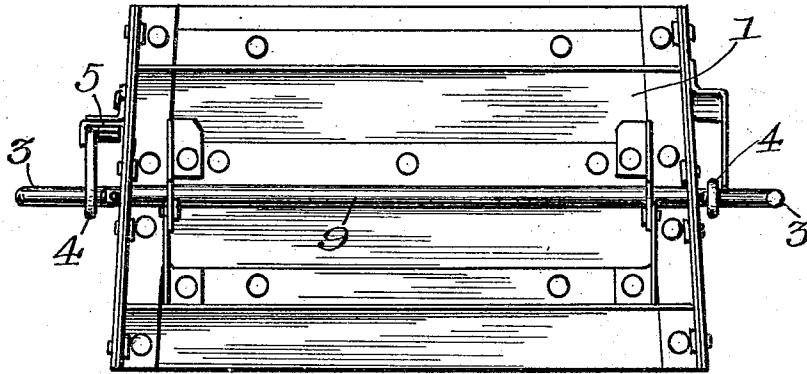


FIG. 4.

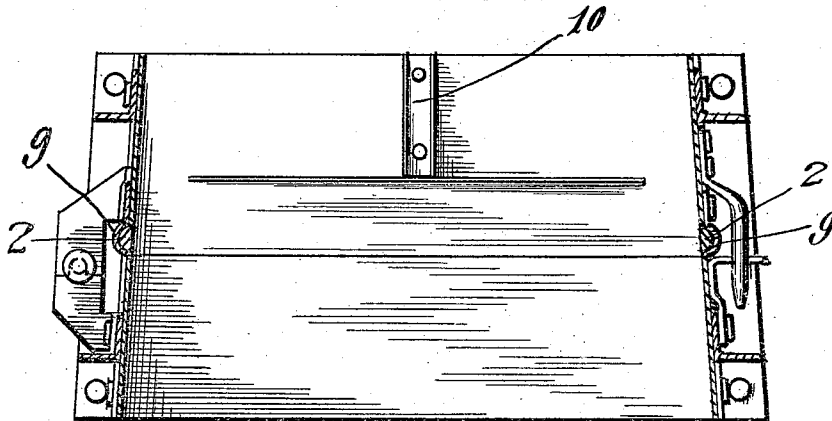
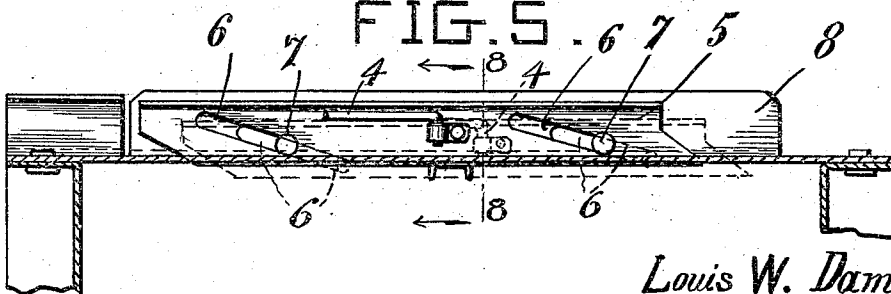


FIG. 5.



Louis W. Daman
Inventor,

Witnesses:
C. Faconprez
L. A. Garvin

By *Marion Marion*
Attorneys

L. W. DAMAN.
FLASK.

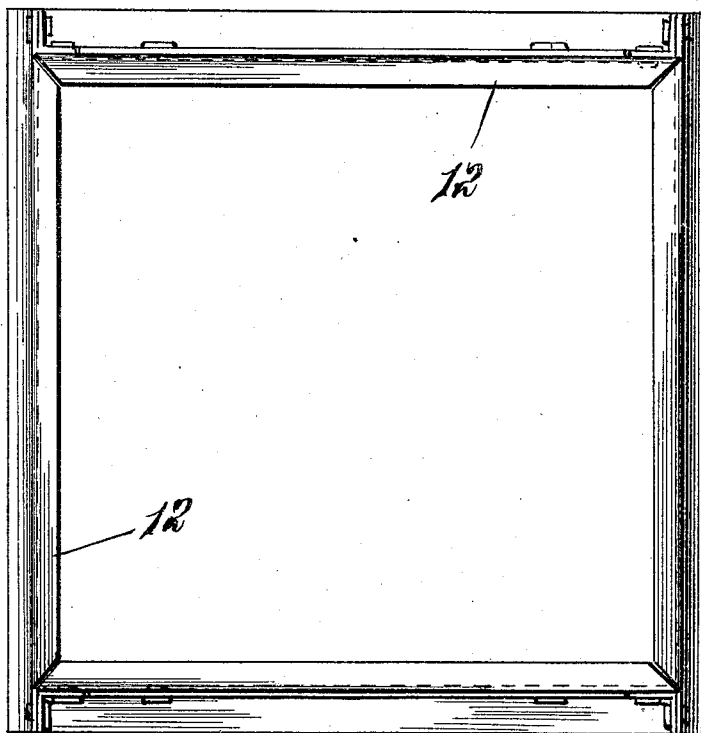
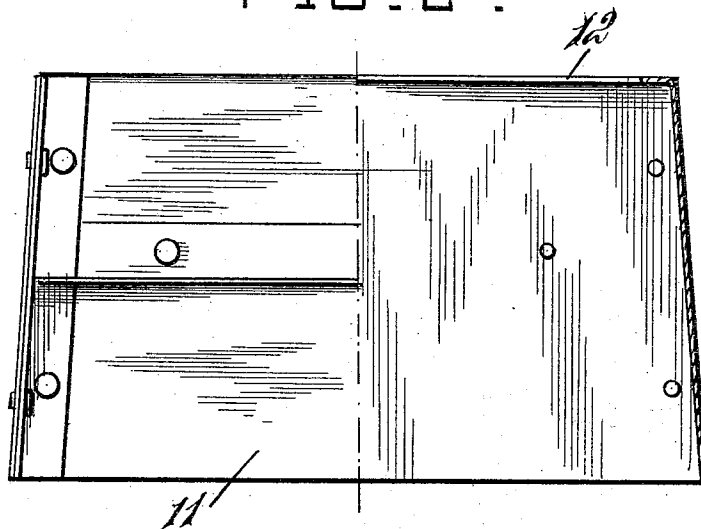
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3 SHEETS—SHEET 3.

FIG. 6.



Witnesses:

C. Tacomprey
L. H. Gaurin

FIG. 7.

Louis W. Daman

Inventor,

By

Marion Marion

Attorneys

UNITED STATES PATENT OFFICE.

LOUIS W. DAMAN, OF SACKVILLE, NEW BRUNSWICK, CANADA.

FLASK.

940,858.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed January 9, 1909. Serial No. 471,406.

To all whom it may concern:

Be it known that I, LOUIS W. DAMAN, a subject of the King of Great Britain, residing at Sackville, county of Westmoreland, in the Province of New Brunswick, Canada, have invented certain new and useful improvements in Flasks; and I do hereby declare that the following is 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.

The invention to be hereinafter described relates to flasks, and more particularly to the general class of such flasks as are used in foundries for molding or casting objects of various designs.

Broadly speaking, it comprises cope and drag sections pivotally connected, so that the cope may be "turned over" to allow the placing or removal of the patterns, means for retaining the sand in the cope when it is "turned over", and means for filling the narrow crack left by separation of the flask sections.

In order to more clearly disclose the construction, operation and use of the invention, reference should be had to the accompanying drawings forming part of the present application.

Throughout the several figures of the drawings, like reference characters designate the same parts.

In the drawings: Figure 1 is a side elevation of the flask as a whole; Fig. 2 is a plan view of the same; Fig. 3 is a left-hand elevation of Fig. 2; Fig. 4 is a vertical cross section on line 4—4 of Fig. 2; Fig. 5 is a fragmentary section, showing, in plan, a sand supporting plate and its support; Fig. 6 is a side elevation of the jacket, partly in section; Fig. 7 is a plan view thereof, and Fig. 8 is a fragmentary cross section of Fig. 5 on line 8—8, looking in the direction of the arrow with the plate 5 partially projected.

The flask as a whole comprises, of course, a cope and a drag section. These two sections have the same degree of taper from top to bottom, so that they may be readily removed from the sand mold after ramming.

The cope 1 has mounted in two of its opposite sides rotatable semi-circular bars 2, provided with operating crank handles 3, to which are loosely connected links 4, which are pivotally secured to the sliding sand supporting plates 5. These plates are provided

with cam slots 6, adapted to receive pins 7 secured to the fixed shelves 8 mounted on the sides of the cope 1. These plates are adapted to be projected through long narrow slots in the cope walls.

The bars 2 have their outer faces completely inclosed in long semi-tubular bearings 9 struck up from the cope walls. Consequently, in inoperative position, the flat faces of the bars will lie flush with the cope walls. When turned a quarter revolution from this position, one-half of the semi-tubular bearing will be opened to receive sand from the interior of the cope. Of course, when the bar is rotated to its former position, this sand will be forced back into the cope again. In this connection, it should be noted that the first quarter revolution of the bar also acts to project the sliding sand plates 5 into the cope. A suitable stop may be provided, of course, to limit rotation of the bars 2. If desired, the cope may be provided with ways 10, to receive and guide sand plates or the like, in the manner and for purposes well known in the art.

The operation of the invention is as follows: The pattern is placed in the drag, the sand is rammed tightly about the pattern, the cope is then lowered onto the drag and the rods 2 turned a quarter revolution to project the plates 5 and sand is rammed tightly into the cope. When the ramming has been completed, the cope is "turned over", the pattern is removed, and the cope is turned back onto the drag. When the cope is turned back onto the drag, the bars are rotated to normal position, withdrawing the plates 5 from the cope and forcing the sand, left in the semi-tubular journals 9, back into the small space occupied by the quadrant of the bars 2 when in their previous position. In this way, no crack is left in the face of the sand mold, and it presents a perfectly smooth, unbroken surface. As soon as the plates 5 have been withdrawn by turning of the rods 2 to normal position, the entire flask may be lifted bodily from the sand, leaving the mold ready for pouring.

In order to prevent blow outs and running out of the metal, a jacket 11 has been provided. This jacket is made with a taper similar to that of the mold, and is formed with a peripheral flange 12, which is adapted to rest upon the upper edge of the sand mold. The shape of the mold and the flange

both act to compress the sand slightly, and thereby hold it firmly during the molding operation.

5 In the preferred form of the construction, both flask sections and the jacket are made from sheet metal or the like, in order to prevent loss by breakage and to render them as light as possible.

10 It is clear that changes may be made in the construction, arrangement and disposition of the several parts of the invention, without in any way departing from the field and scope of the same, and it is meant to include all such within this application, where-
15 in only a preferred form has been disclosed.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

20 1. A flask of the character described, comprising a cope and a drag section, sand supporting plates slidably mounted on said cope section and adapted to be projected through the sides thereof, means for projecting said plates, semi-circular bars mounted in said
25 cope section and adapted to be turned to position to support the sand as the cope section is removed, and connections between said bars and said plates for operating the same simultaneously.

30 2. A flask of the character described, comprising a cope and a drag section, sand supporting plates slidably mounted on said cope

section and adapted to project therethrough to support sand within the cope section, tubular journals formed on the interior of said
35 cope section, semi-circular bars mounted in said tubular journals and adapted to be rotated to such position as to support sand within the cope section and to allow sand
40 from the cope section to pass into said tubular journals, and connections between said shafts and said plates for operating the same simultaneously.

3. A flask of the character described, comprising a cope and a drag section, sand supporting plates slidably mounted on said cope
45 section and adapted to project therethrough to support sand within the cope section, tubular journals formed on the interior of said cope section, semi-circular bars mounted in
50 said tubular journals and adapted to be rotated to such position as to support sand within the cope section and to allow sand from the cope section to pass into said tubular journals, connections between said
55 shafts and said plates for operating the same simultaneously, and means for limiting the movement of said bars.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

LOUIS W. DAMAN

Witnesses:

C. G. STEADMAN,
C. E. DIXON.