

S. S. CASKEY & J. M. DODGE.

MOLDING FLASK.

No. 474,210.

Patented May 3, 1892.

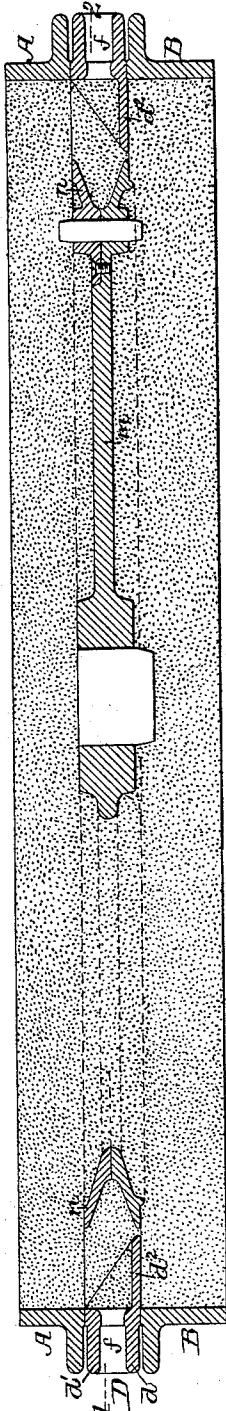


FIG. 1.

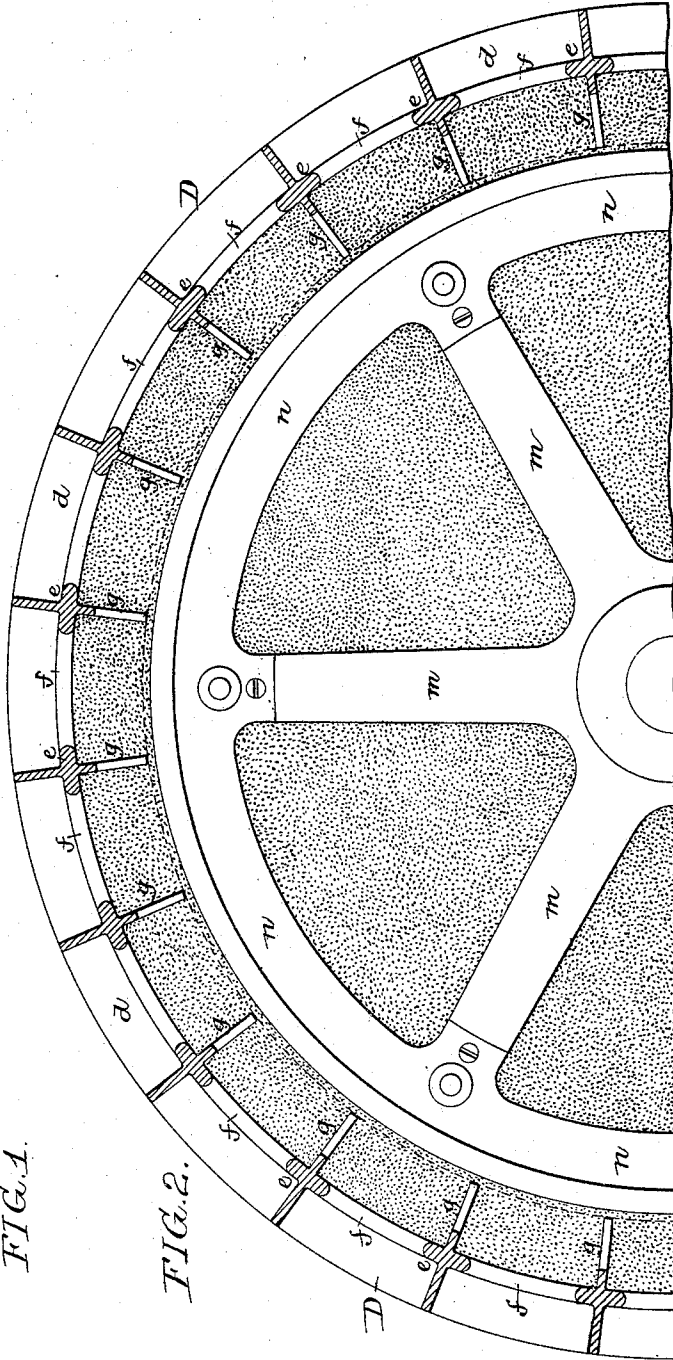


FIG. 2.

Witnesses:
Murray C. Boyer
A. V. Groupe

Inventors:
Samuel S. Caskey &
James M. Dodge
by their Attorneys *Howe & Howe*

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FIG. 3.

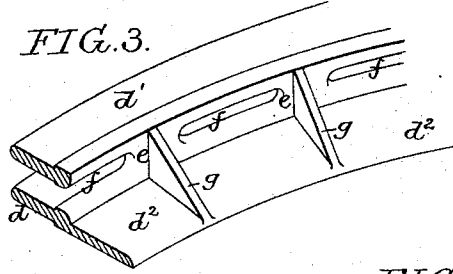


FIG. 4.

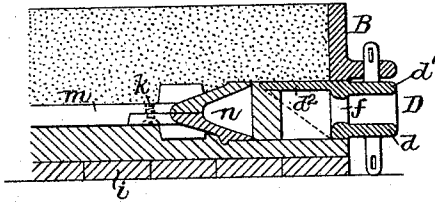


FIG. 5.

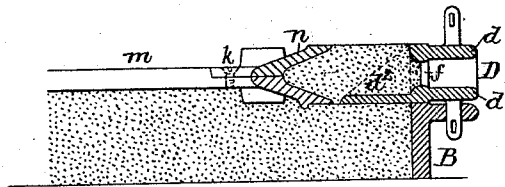


FIG. 7.

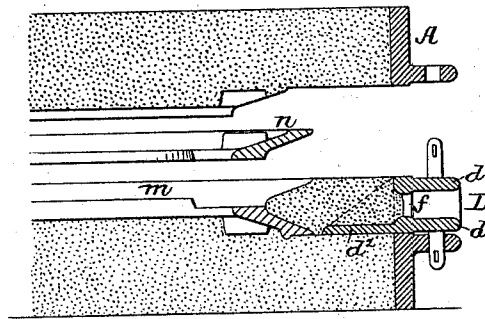


FIG. 6.

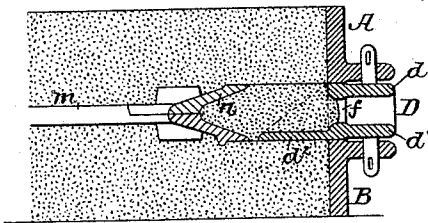


FIG. 8.

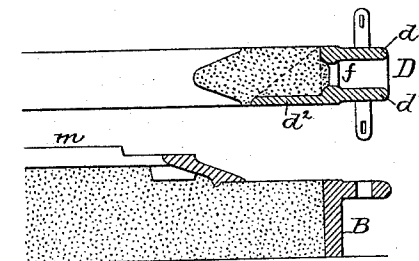
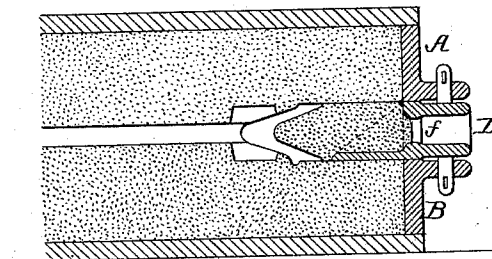


FIG. 9.



Witnesses:

Murray C. Boyer
A. V. Group

Inventors:

Samuel S. Caskey &
James M. Dodge
by their Attorneys

Henson & Henson

UNITED STATES PATENT OFFICE.

SAMUEL S. CASKEY AND JAMES M. DODGE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO THE LINK-BELT ENGINEERING COMPANY, OF SAME PLACE.

MOLDING-FLASK.

SPECIFICATION forming part of Letters Patent No. 474,210, dated May 3, 1892.

Application filed September 17, 1891. Serial No. 405,941. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL S. CASKEY and JAMES M. DODGE, both citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Molding-Flasks, of which the following is a specification.

The object of our invention is to so construct the cheek-piece of a three-part mold used for molding grooved pulleys and like articles that the mold can be packed more readily and evenly and can be suitably ventilated, as fully described hereinafter, reference being had to the accompanying drawings, in which—
Figure 1 is a transverse sectional view of the flask with the molding-sand packed around the pattern. Fig. 2 is a section on the line 1 2, Fig. 1, illustrating one-half of the flask. Fig. 3 is a perspective view of a portion of the cheek-piece of the flask; and Figs. 4, 5, 6, 7, 8, and 9 are diagrams illustrating the method of using our improved flask.

Heretofore in the manufacture of such cast-metal articles as grooved pulleys, where a three-part mold using a cheek-piece is employed, great difficulty has been experienced in making up the portion of the mold between the cope and drag, for in the first place it could not be readily packed so as to make it even and solid throughout, and in the second place it could not be properly ventilated. We overcome these objections in the following manner.

Referring to Fig. 1, A is the cope, and B the drag, of the mold, and situated between the cope and drag is a cheek-piece D, which is shown in detail in Fig. 3, this cheek-piece being formed of two rings d d' , united together at intervals by webs e , forming openings f , through which the mold can be packed and rammed and through which access may be had to the mold to form the ventilating-openings necessary for proper casting. The ring d has an annular flange d^2 , which extends into the mold to a point near the line of the rim of the wheel to be molded, as clearly shown in Fig. 1, this flange d^2 being strengthened by a series of braces g , which extend from the webs e , as shown clearly in Fig. 3 as well as in Fig. 2.

We will now describe the manner of packing a mold in which our improved cheek-piece is used.

We first lay the follow-board level and place the pattern m thereon, as shown in Fig. 4, the pattern being divided at the rim, so as to form a ring n , which is secured to the main pattern by screws k or other fastenings. The cheek-piece is then placed in position with the flange d^2 upward and resting on the follow-board, and the drag B is set upon the cheek-piece and keyed thereto, and sand is then rammed into the drag, as indicated in Fig. 4. The cheek-piece, follow-board, and drag are then reversed, as shown in Fig. 5, after which the follow-board is removed and the cheek-piece is rammed as shown in said figure, a parting-line being made at the upper edge of the cheek-piece and the flange d^2 supporting the rammed sand. It will be noted that the sand can be rammed not only from the top of the cheek-piece, but through the opening f therein, thus insuring the proper ramming of this portion of the mold, which is important in the case of grooved pulleys, as it is essential that the sand should be properly rammed into the groove of the pattern, so as to avoid the necessity of turning the pulley in the lathe after it has been cast. The cope A, being placed upon the cheek-piece and clamped thereto in the usual manner, said cope is then rammed with sand, as shown in Fig. 6, and after it has been properly rammed it is lifted off, as shown in Fig. 7, and the ring portion n of the pattern is detached from the main body m , as shown in Fig. 7, after which the cheek-piece D is removed, as shown in Fig. 8, the flange d^2 supporting the rammed sand in said cheek-piece. The body portion of the pattern can be readily removed, after which the cheek-piece is again mounted upon the drag and the cope upon the cheek-piece and the whole locked together ready for pouring. Previous to the locking, however, either during the process of building up the mold or after the mold has been built up, suitable vent-openings are made for the ready escape of gases that accumulate in the mold, the openings f in the cheek-piece per-

mitting the proper venting of the sand supported by said cheek-piece, as the venting-tools can be readily inserted through the openings.

5 It will thus be seen that by the use of the improved cheek-piece we are enabled to make an accurate mold, which will be properly vented and which will support the rammed sand in a firm and substantial manner.

10 We claim as our invention—

1. The combination, in a molding-flask, of the cope and drag with a cheek-piece situated between the cope and drag, said cheek-piece having a series of openings through which the
15 sand can be rammed, substantially as described.

2. The combination of the cope and drag with a cheek-piece situated between the cope and drag, said cheek-piece having an internal
20 supporting-flange for the sand and openings through which the sand between the faces of the cope and drag can be rammed and

through which vent-openings can be made in the sand, substantially as described.

3. The combination, in a cheek-piece for 25 molding-flasks, of the two rings, webs uniting the two rings together and provided with openings between the rings, and an internal flange forming an extension of one of the rings, substantially as described.

4. The combination, in a cheek-piece for 30 molding-flasks, of the two rings, webs uniting the two rings together and provided with openings between the rings, an internal flange projecting from one of the rings, and braces for 35 said flange, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

SAMUEL S. CASKEY.
JAMES M. DODGE.

Witnesses:

EUGENE ELTERICH,
HENRY HOWSON.