

J. B. BUCHANAN.
DENTIST'S FLASK.
APPLICATION FILED APR. 15, 1908.

963,418.

Patented July 5, 1910.

Fig. 1.

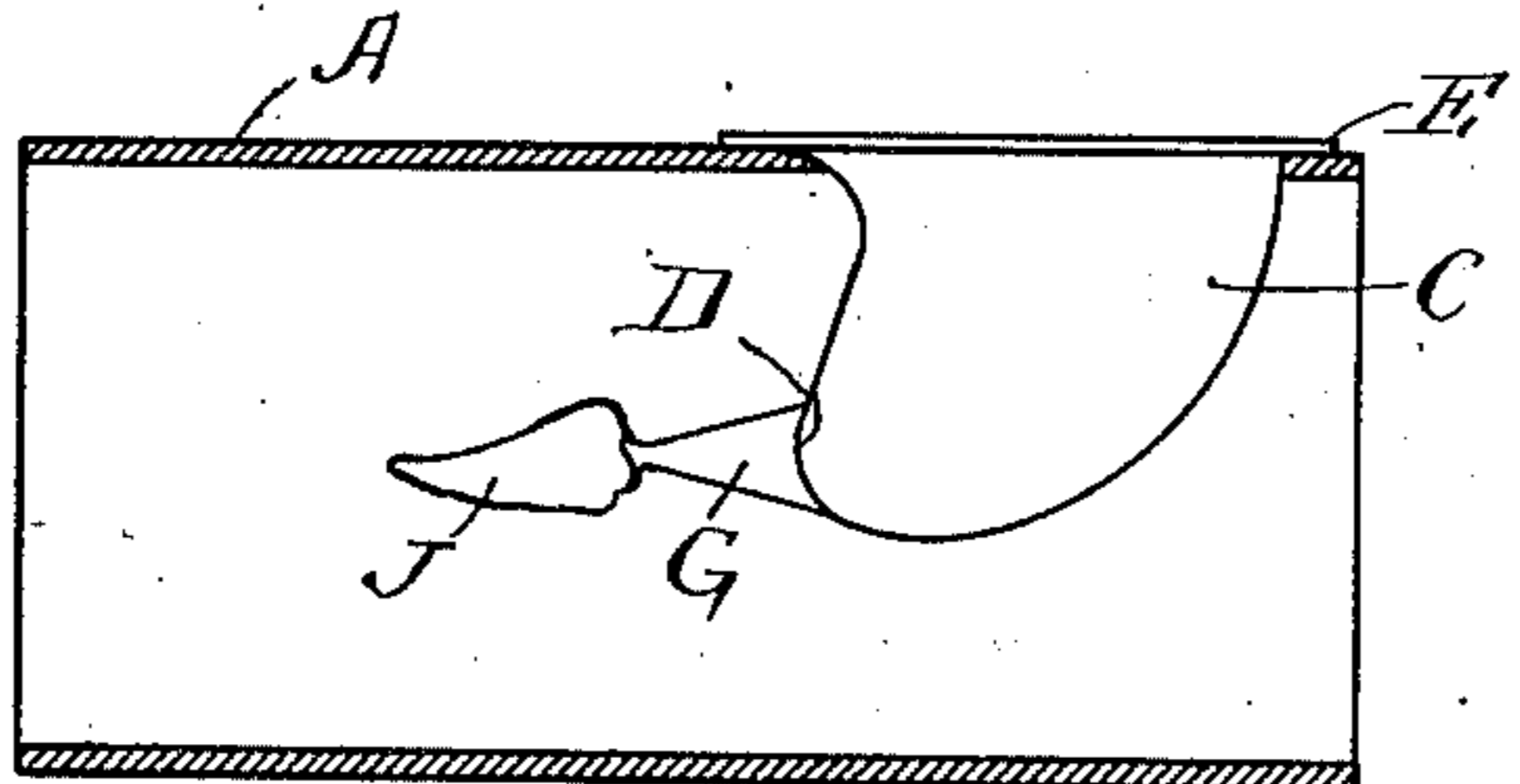


Fig. 2.

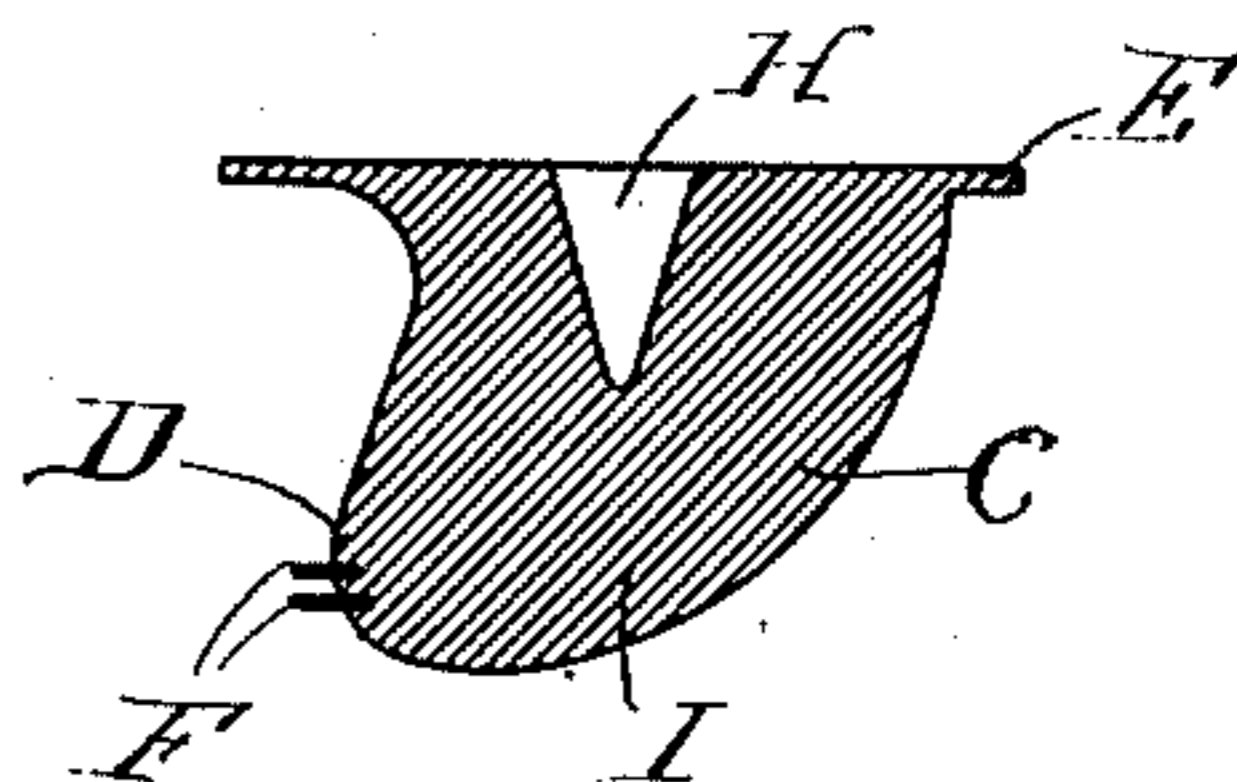


Fig. 3.

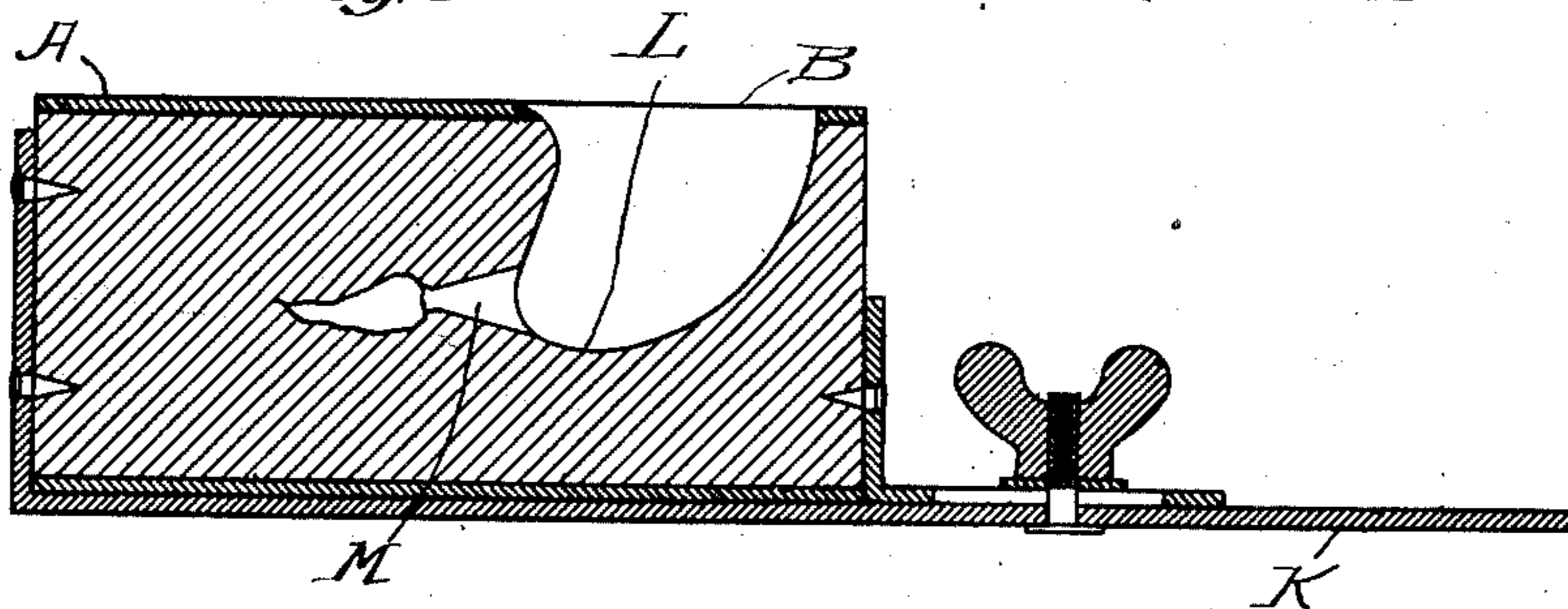
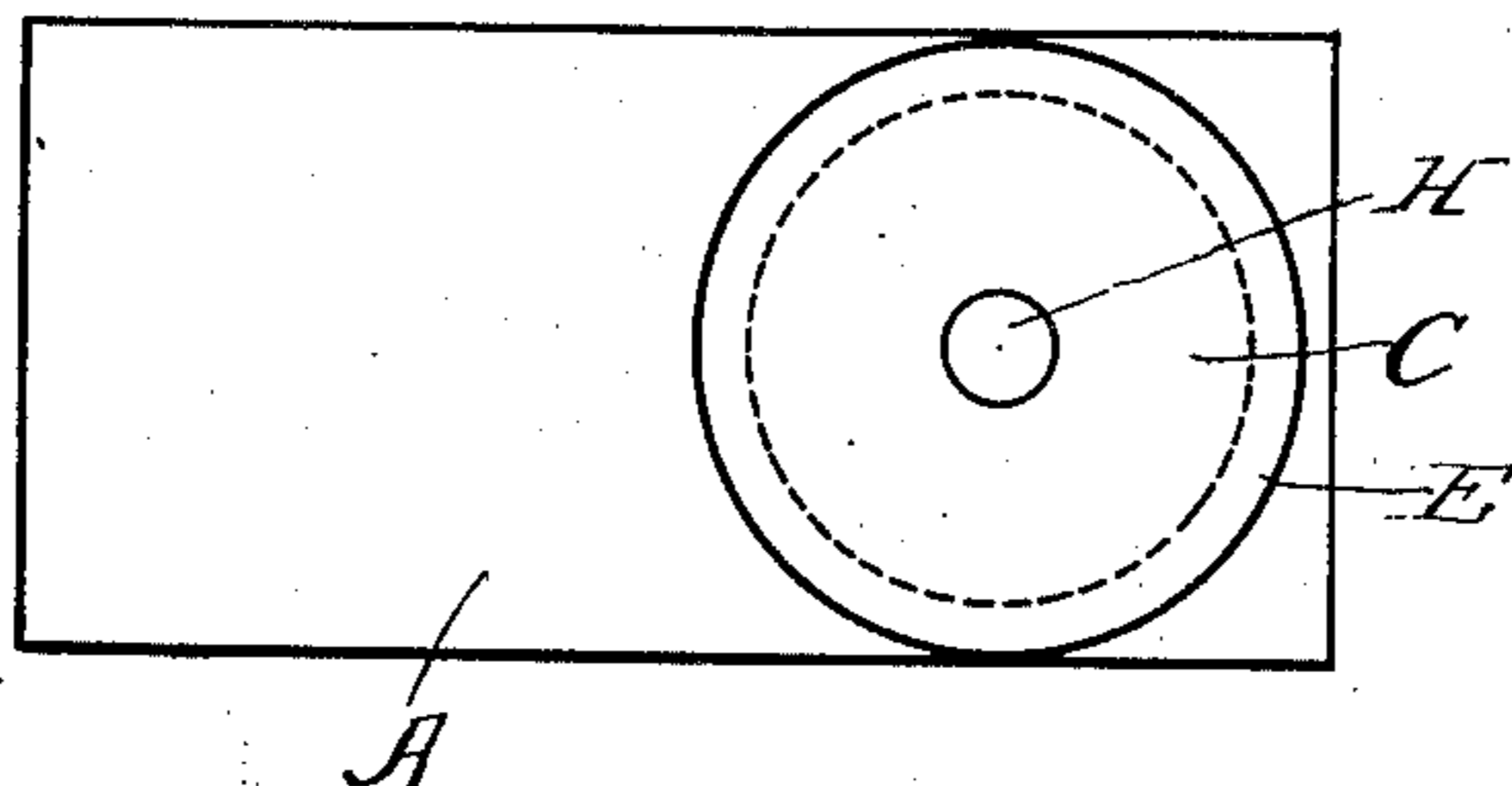


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES B. BUCHANAN, OF CHICAGO, ILLINOIS.

DENTIST'S FLASK.

963,418.

Specification of Letters Patent.

Patented July 5, 1910.

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To all whom it may concern:

Be it known that I, JAMES B. BUCHANAN, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dentists' Flasks; and I do hereby declare the following to be 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.

This invention relates to a novel construction in a flask for use by dentists in casting artificial teeth, the object being to provide a simple and efficient device of this character, and consists in the features of construction and combinations of parts hereinafter full described and claimed.

In the accompanying drawings illustrating this invention: Figure —1— is a view of the flask devoid of the plaster-of-paris filling, showing the main and auxiliary sprue in place preparatory to introducing the filling. Fig. —2— is a central vertical section of the main sprue. Fig. —3— is a central vertical longitudinal section of the flask showing the same ready to receive the metal to be cast, the wax pattern and auxiliary sprue having been melted out and the main sprue removed. Fig. —4— is a top plan view of the flask showing the main sprue in position therein.

The invention resides more particularly in the specific form and arrangement in a flask of main and auxiliary sprues whereby the metal to be cast is prevented from overflowing and is guided into the pattern cavity through a funnel shaped passage which latter is generally partly filled with excess metal, said pattern cavity and passage being horizontally disposed so that centrifugal force applied will produce uniform density in the casting.

A feature of my invention consists also in the formation by the main sprue of a large cavity in the flask, the bottom of which is disposed below the lowermost point in the funnel shaped passage so that the metal to be cast may be melted in said cavity and subsequently by rotating the flask carrier be forced by the resulting centrifugal force to flow into the pattern cavity.

My said flask consists preferably of a rectangular tube A of sheet metal open at both ends and provided in one wall with a circular opening B through which the main

sprue C is adapted to project into the said tube A. Said sprue C resembles in form a distorted thimble and consists of a cup, the bottom portion of which is disposed eccentric to the rim portion, the peripheral wall of said cup being bulged outwardly at one point as at D which said bulged portion projects beyond the remaining portion of the wall lying between the same and the rim, said rim being bordered by an annular flange E. Said portion of the wall containing the said bulge D is ogee curved in vertical section and the opposing portion is so curved that when the said cup is turned upon the free edge of the flange E at the point disposed in vertical alinement with the bulge D as a fulcrum, no part of said opposing portion will strike the wall of the cavity formed by the sprue. In other words the curvature of the said opposing portion is eccentric to the above mentioned point in the free edge of the flange E, the lowermost portion of the cup being disposed at less radial distance from said point than is the meeting point of said opposing portion with the diametrically opposite point in the flange E. At said bulge D I provide a plurality of needle point projections F substantially horizontally disposed upon which the larger end of a conical wax sprue G is secured, the latter being molded in the cavity H in the filling I of the sprue C, the apex end of said wax sprue G being compressed against and thus secured to the crown end of the wax pattern J of the tooth to be cast.

After mounting the sprue G on the sprue C and mounting the pattern J on the sprue G, said sprue C is inserted in the opening B in the tubular casing A of said flask as shown in Fig. —1—. Said casing A is then filled with plastic plaster-of-paris and after the latter is set the sprue C is removed. The sprue G and pattern H remain embedded in the plaster-of-paris and are melted out by heating the flask. The latter is then mounted on the arm K of a rotatable spindle and firmly secured to the latter in any suitable manner, said flask being so positioned that the pattern cavity is farthest removed from the axis of rotation of the arm K. The metal is now introduced in a finely divided cold state into the cavity L formed by the sprue C and is melted by applying heat preferably by means of a blow pipe. As soon as the said metal is molten the spindle is revolved at considerable speed so that

- the resulting centrifugal force throws the metal into the pattern cavity of the flask, such centrifugal force serving also to cause any air to be displaced and thus form a casting of uniform density as is well known. The delivery end of the funnel shaped passage M formed by the sprue G being very small enables surplus metal to be easily severed from the casting as will be obvious.
- 10 The device is very simple, efficient and easily operated and enables castings to be made which coincide in the minutest details with the pattern.
- I claim as my invention:
- 15 1. A flask comprising a tubular shell provided with an opening, a main sprue comprising a cup laterally bulged at one point and having the portion of its wall opposing said bulged portion disposed eccentric
- 20 to the rim of the cup in alinement with said bulged portion, a projecting pin on the latter adapted to receive and secure a wax sprue thereto, said wax sprue being adapted to support the wax pattern of the tooth
- 25 while introducing the plastic filling in the

flask, said main sprue forming a melting cup in said flask having its bottom portion disposed below the juncture therewith of the passage leading to the pattern cavity.

2. A flask comprising a tubular shell provided with an opening, a main sprue projecting through said opening and provided with a laterally extended lower end portion and adapted to form a lateral extension of the main cavity of the flask, a wax sprue adapted to be secured to said laterally extended portion of said main sprue and supporting the wax pattern at its free end, said main cavity formed by said main sprue constituting the melting pot and extending below the mouth of the pattern cavity formed by the wax sprue.

In testimony whereof I have signed my name in presence of two subscribing witnesses.

JAMES B. BUCHANAN.

Witnesses:

ARTHUR W. CAPS,
RUDOLPH WM. LOTZ.