

J. P. & F. A. LEDERLE.
 MEANS FOR CASTING DENTAL FILLINGS.
 APPLICATION FILED OCT. 7, 1907.

946,677.

Patented Jan. 18, 1910.

Fig. 1.

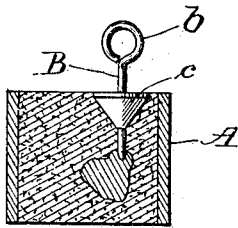


Fig. 2.

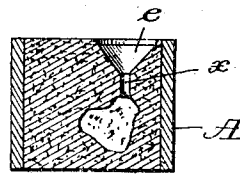


Fig. 3.

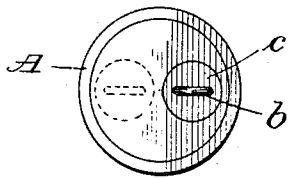


Fig. 4.

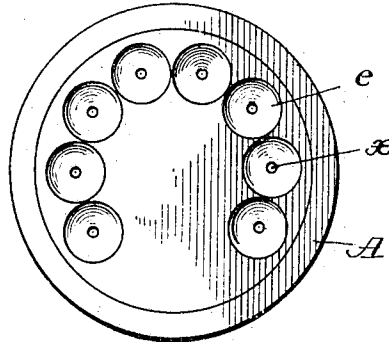
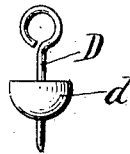


Fig. 5.



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MEANS FOR CASTING DENTAL FILLINGS.

946,677.

Specification of Letters Patent. Patented Jan. 18, 1910.

Application filed October 7, 1907. Serial No. 396,295.

To all whom it may concern:

Be it known that we, JOHN P. LEDERLE and FRANCIS A. LEDERLE, both citizens of the United States, and residents of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Means for Casting Dental Fillings, of which the following is a full, clear, and exact description.

Our invention relates to certain new and useful improvements in molds used by dentists for casting the fillings of teeth.

Heretofore in the prosecution of the art of casting dental fillings the means employed were designed with a view to the casting of but one filling at a time, and were so constructed that this casting had to be made in the center of the mold and did not allow for irregularities in the shape of the castings which would make it more convenient to place the sprue nearer one side of the flask than the other.

An object of our invention is to enable two or more castings to be made in a mold of the size which heretofore was devoted to the making of one casting.

Another object is to enable a casting to be made nearer one side of the flask than the other, and to locate the sprue at whatsoever point the irregular shape of the casting to be made would make it most convenient.

A further object of our invention is to provide an improved sprue former which can be conveniently inserted into the pattern of the cavity of the tooth of the patient when it is desired to remove the same, and is weighted so as to hold the said pattern up out of contact from the surface upon which the sprue former rests when it is laid down, and will form a countersink or crucible for the metal around the mouth of the sprue regardless of whether it is located in the center of the mold or not, substantially as hereinafter fully described and as particularly pointed out in the claims.

In the drawings:—Figure 1 is a transverse vertical section of a flask showing our improved sprue former in connection with the same. Fig. 2 is a similar view with the sprue former removed. Fig. 3 is a plan view of the same. Fig. 4 is a plan view of the flask showing several of our improved sprue formers in use in connection with the same. Fig. 5 shows a slightly modified form of our invention.

In the drawings, A represents a flask

which is, preferably, cylindrical in shape and B represents a sprue-former consisting of a wire or rod, say an inch in length having its upper end bent into a circle or other suitably shaped loop *b*, and having mediate said loop and its lower end, a metal boss *c*, preferably, of a diameter slightly less than one-half that of the inner circumference of the flask. The weight of the looped end of the sprue-former is so much greater than its opposite end that when said sprue-former is laid down, the boss serves as a fulcrum and the straight end of the former which is adapted to be stuck into the plastic pattern will always be raised from the surface upon which said former rests. This boss is of an inverted cone-shape with the conical sides thereof farthest from the loop, although it may be made almost hemispherical, substantially as shown by the boss *d* of the sprue D shown in Fig. 5 of the drawings. The loop *b* affords the operator a suitable finger grasp with which to grasp the sprue when it is desired to insert the same into the pattern or plastic material formed in the cavity of the tooth of the patient when it is desired to withdraw the same; and provides the means for suspending the plastic pattern on its lower end within the flask at any suitable point. The plaster of paris or other suitable molding material, while in a very soft condition, is poured into the flask until the latter is filled to about the level of its upper edge. The pattern is then inserted into the soft molding material by means of the sprue-former until the boss thereof is embedded up to its upper side, thus completely enveloping the pattern. When the molding material is set the sprue-former is pulled upward with sufficient force to extract the lower end of the same from the pattern, and withdraw it from the flask. When thus withdrawn the sprue-former leaves a sprue *a* and a countersink or crucible *e* in the upper surface of the mold. The mold is then heated to solidify the molding material and melt the material of the pattern until it, the latter, volatilizes, or until it is so liquefied that should it be necessary, by inverting the flask, it will drain out through the sprue *a* and countersink *e* and leave a perfect impression of the pattern in the flask. Metal is then poured into the crucible or countersink and flows through the sprue-hole into the mold and makes the casting. When sufficiently cooled the plaster of paris is re

moved by well known methods and the casting taken out.

Our improved sprue-former permits of the making of several castings in the same mold, substantially as shown in Fig. 4 of the drawings, and the loop at the upper end of the same permits of their being suspended by any suitable means, in any position desired within the mold so that the sprue-holder can be made to lead from the highest part of an irregular pattern, no matter where said highest point may be located, and thus avoid any overhang in the molding chamber and avoid forming an air space in the same above the end of the sprue-hole.

We do not desire to be confined to the exact length of the sprue-former as shown, nor to the shape of the boss of the same, for it is obvious that they may be changed, and the loop omitted without departing from the spirit of our invention.

What we claim as new is:—

1. A device of the character described comprising a crucible former having tapered sides, and a fixed rod extending therethrough

that is so constructed that the portion thereof opposite the tapered sides overbalances the latter.

2. A device of the character described comprising a crucible former having tapered sides, and a gate pattern consisting of a rod the upper end of which projects above the top of said crucible former and is provided with a finger-grasp that overbalances the opposite end of said device.

3. A device of the character described comprising a crucible former having tapered sides, and a gate pattern consisting of a rod extending through and projecting beyond said former the end thereof above the top of said former shaped into a loop that overbalances the opposite end of said rod.

In testimony whereof we have hereunto set our hands and seals this 4th day of October, A. D. 1907.

JOHN P. LEDERLE. [L. S.]

FRANCIS A. LEDERLE. [L. S.]

Witnesses:

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