Dec. 12, 1933. R. V. WILLIAMS 1,939,479

DENTAL SPRUE FORMER

Filed June 1, 1932

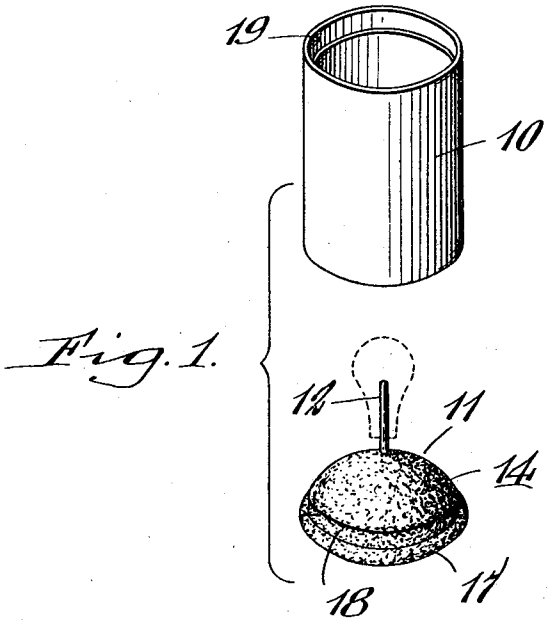


Fig. 1.

Fig. 2.

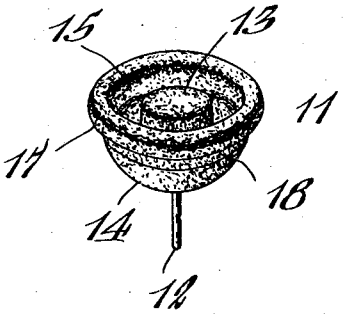
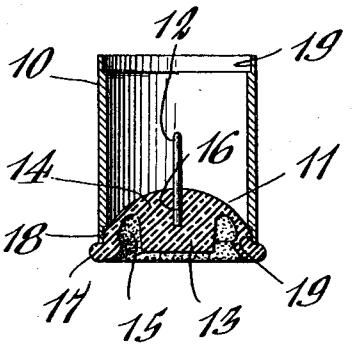


Fig. 3.



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Patented Dec. 12, 1933 1,939,479

UNITED STATES PATENT OFFICE

1,939,479

DENTAL SPRUE FORMER

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Application June 1, 1932. Serial No. 614,797

4 Claims. (Cl. 22—97)

This invention relates to a sprue former which has been particularly designed for use in the casting of dental restorations.

One of the principal objects of the invention is to provide a sprue former of this character which is so designed and constructed as to effectually absorb the usual dangerous and objectionable shocks transmitted to the pattern from the flask or inlay ring.

Another object of the invention is to provide an elastic or shock-absorbing sprue former which will firmly and positively grip the sprue pin and thereby prevent the sprue from falling out or being accidentally released from the sprue when the latter is tilted or turned upside down for the usual painting operation of the pattern.

A further object is the provision of a sprue former for use in the casting of dental restorations which forms a perfect seal with the inlay ring whereby danger of separation of these parts is prevented, and which is so constructed as to effect the ready removal of the sprue former from the ring after the investment is set without causing any disturbance of the investment along the sprue.

A still further object of the invention is to provide a sprue former which is easy to clean and be kept sanitary and which always leaves a clean and perfectly formed crucible in which to receive or melt the gold.

In the accompanying drawing:—Figure 1 is a detached perspective view of the sprue former together with the inlay ring used in connection therewith. Figure 2 is an inverted perspective view of the sprue former. Figure 3 is a central longitudinal section through the former and inlay ring, the parts being in their assembled position.

Similar characters of reference indicate corresponding parts throughout the several views.

Referring now to the drawing, 10 indicates the usual metallic flask or inlay ring used in the casting of dental restorations and 11 the improved sprue former which is made of a shock-absorbing material such as live rubber, and in which the customary sprue pin 12 is removably but firmly held.

In its preferred construction, the sprue former is substantially semi-spherical in shape and includes a central hub-like portion 13 which may be solid in its structure, as seen in Figure 3, and an outer semi-spherical or dome-like flexible portion 14 which encircles or embraces the hub-like portion and constitutes an attaching element for connecting the sprue former to the inlay ring. The hub and attaching portion of this sprue former are molded in one piece and an annular recess or depression 15 is formed between these parts to provide the necessary flexibility of the attaching portion relative to the central portion, the latter containing an opening 16 for receiving the sprue pin 12. By this construction, a substantially cylindrical hub portion is provided which may be said to be housed within or embraced by the substantially dome shaped and shock-absorbing outer portion or wall 14, the sprue pin projecting axially from the convex top side of the sprue former.

At its edge, the flexible outer wall 14 is preferably provided with an annular bead or shoulder 17 which is adapted to abut against the edge of the inlay ring in the manner shown in Figure 3. That portion 18 of the flexible wall immediately above the bead is substantially cylindrical and is adapted to firmly engage the annular groove or seat 19 formed in the inner wall of the inlay ring 10, whereby a perfect seal is formed between these parts and a firm vacuum grip assured between the sprue former and the casting ring.

In the use of the improved sprue former, after attaching the wax pattern to the pin 12, which may be of stainless steel, the same is placed in the opening 16 of the former-hub 13. The pattern is then painted and a file drawn across the beaded edge 17 of the rubber sprue former to produce the desired vibration of the investment upon the pattern; because the sprue former is of live rubber, it will permit vibration without danger of loosening the pattern from the pin, the latter being firmly gripped in the base or hub 13 and permitting one to tilt the former from side to side or upside down while painting the pattern without danger of the pin falling out of the base. Having completed the painting of the pattern, the inlay ring 10 is mounted on the former in the manner shown in Figure 3 and the outer investment poured carefully into the ring, the ring being slightly smaller in diameter than the attaching portion 14 of the sprue former to insure a firm vacuum grip which allows tapping or vibrating of the outer investment to place without danger of the ring and the former becoming separated. The recess 15 in the former provides the flexible attaching wall 14 which absorbs all shock and prevents the transfer of shock to the pattern.

After the investment has thoroughly crystallized, the sprue former is easily and readily removed by pressing the sides of its dome-like portion from the ring, freeing the sprue former and allowing it to be pulled away from the ring.

This eliminates the necessity of having to tap the former to remove it from the ring and investment and effectually avoids damage to the investment around the sprue pin. Upon removing the pin, the sprue former and pin may be washed with a brush, the whole providing a very neat unit with which to do inlay work and one which may be kept strictly sanitary.

I claim as my invention:—

1. A sprue former for use in the casting of dental restorations, comprising a body of shock-absorbing material having an annular flexible portion in spaced concentric relation thereto and adapted for attachment to an inlay ring, and a sprue pin removably mounted on said body.

2. A sprue former for use in the casting of dental restorations, comprising a body of shock-absorbing material having an annular recess therein forming an outer portion adapted for attachment to an inlay ring and free to flex relatively to the resulting central portion, the latter being adapted to receive a sprue pin.

3. A sprue former for use in the casting of dental restorations, comprising a body including a hub-like portion adapted to receive a sprue pin, and a flexible portion encircling said hub-like portion and adapted for attachment to an inlay ring, said flexible portion constituting a shock-absorbing wall between the hub-like portion and the inlay ring.

4. A sprue former for use in the casting of dental restorations, comprising a rubber body having a central portion adapted to receive a sprue pin, and an outer portion joined to the lower side of said central portion and extending upwardly therefrom in surrounding spaced relation thereto, said outer portion constituting an attaching element for connecting the sprue former to an inlay ring and forming a shock-absorbing wall between said ring and the sprue pin.

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