

P. BOURNE.
 SPLIT SLIDING SWIVELED DENTAL MOLDING RING.
 APPLICATION FILED JUNE 2, 1910.

980,751.

Patented Jan. 3, 1911.

Fig. 1.

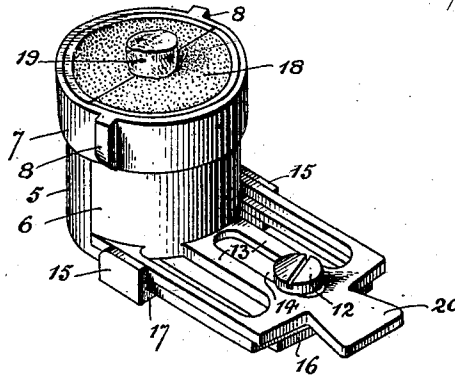


Fig. 2.

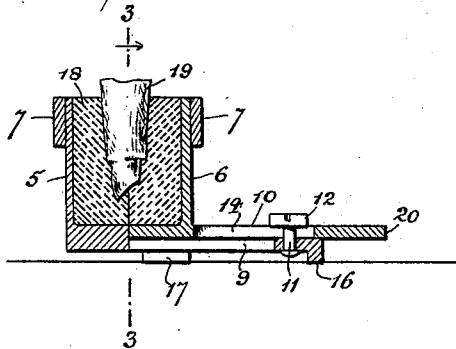


Fig. 3.

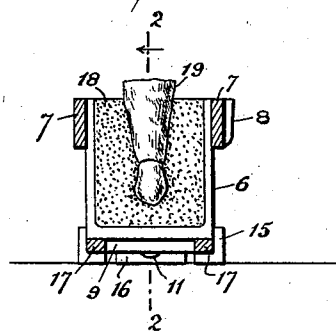
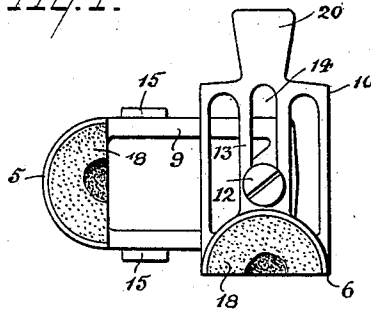


Fig. 4.



WITNESSES:

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SPLIT SLIDING SWIVELED DENTAL MOLDING-RING.

980,751.

Specification of Letters Patent.

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Application filed June 2, 1910. Serial No. 564,591.

To all whom it may concern:

Be it known that I, PHILIP BOURNE, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Split Sliding Swiveled Dental Molding-Ring, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to provide a ring wherein a mold is formed for casting a die for making dental metal crowns, said ring being arranged to part the mold in a radial path to form accurate half molded sections; to provide a ring, the halves thereof, when parted, present the mold firmly for manipulation; to provide a ring of the character specified with rests where- by it is supported on an operating table; and to provide a ring of the character specified which is simple, durable and efficient.

One embodiment of the invention is disclosed in the structure illustrated in the accompanying drawings, in which like characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a perspective view of a ring constructed and arranged in accordance with the present invention, showing the same as containing molding material and a pattern; Fig. 2 is a longitudinal section taken on the line 2—2 in Fig. 3; Fig. 3 is a cross section taken on the line 3—3 in Fig. 2; and Fig. 4 is a top plan view of a flask separated and disposed in position for manipulating the mold.

Heretofore rings have been provided for holding molding material wherein the pattern for forming the mold has necessarily provided an allowance for drawing the pattern from the mold. This method has resulted in an inaccuracy in the crowns formed from the die cast in such molds, in that the neck of the tooth stump has not been closely fitted by the crown. Further, the flasks heretofore provided have held the mold parts in awkward position for manipulating said molds.

In the present device the ring consists of two half-sections 5 and 6. The sections 5 and 6 are semi-cylindrical to form one united and perfect cylinder, over the joined ends whereof is slipped a binding collar 7. The collar 7 is unbroken, and is provided with

lugs 8, 8 whereby the same is more conveniently handled in being inserted over the ends of the ring sections 5 and 6. The sections 5 and 6 are formed on supporting extensions 9 and 10 respectively. The extension 9 has fixedly mounted thereon a slide rivet pin 11.

At the upper end of the pin 11 is provided a flat guide head 12. The guide head 12 extends over the side bars 13 of the extension 10, a slot 14 formed between the said bars providing a runway for the pin 11. The pin 11, with the head 12, constitutes a device for holding the extensions 9 and 10 in operative relation. Extended upward from the body of the extension 9 are guide members 15, 15, between which the extension 10 is supported when the section 6 is separated from the section 5. The flask is supported in raised position from the operating table on feet 16 and 17, 17. The extension of the feet 16 and 17 is sufficient to permit circulation of air below the flask body and the operating table.

In the operation of forming a mold when using a ring constructed and arranged in accordance with the present invention, moldine 18 is packed in the two half sections 5 and 6, the ring being disposed as shown in Fig. 4, in which position the sections 5 and 6 are open to manipulation, or to have the moldine inserted therein from the side. The moldine having been comfortably packed in the flask sections, the surfaces are treated with lycopodium to prevent the adhesion of the surfaces to the moldine. A pattern 19, which is a cast formed in plaster of paris or other suitable material from an impress taken direct upon the tooth, is now placed in one of the ring sections, and forced into the moldine contained therein, until about half buried in the said moldine. This being accomplished, the two ring sections are disposed in opposed relation, the section 6 resting between the guide members 15, 15. In turning the extension 10 and ring section 6 about the pin 11, the operator employs a handle 20, extended from the rear of the extension 10. From this position the two sections are placed together, the moldine being crowded by the pattern, and the said moldine being jammed to insure the perfect impression of the pattern in the mold formed in the said moldine.

During the jamming of the molding about

the pattern 19 the collar 7 is inserted over the ends of the ring sections 5 and 6. When the pattern is to be removed the collar 7 is first lifted from engagement with the ring sections 5 and 6, and the operator grasping by the fingers of the one hand the guide members 15, 15 and by the fingers of the other hand the handle 20, the ring sections 5 and 6 are gently separated, opening the mold on the line of the separation of the ring sections 5 and 6. The mold sections are then disposed in the position substantially as shown in Fig. 4 of the drawings. The pattern 19 is then removed from the mold section by which it is supported when the parting of the mold above described occurs.

When the die is cast the operation is as follows:—The extensions 9 and 10 are aligned, and the extension 10 slid between the guides 15, 15 to register the mold sections contained in the ring sections 5 and 6. When the ring sections are thus brought together the collar 7 is holdingly disposed around the upper ends thereof. The mold is now in position to receive the cast of fusible metal from which the dies are made. When the cast is made, and partially cooled, the ring may be opened by removing the collar 7 and separating the sections 5 and 6 in the manner above described.

It will be found that the die thus formed provides a contracted neck adapted to snugly fit the neck of the tooth for which the crown is intended.

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

1. A split dental molding ring, comprising a plurality of cup-like ring sections; a plurality of guide extensions each connected with one of said ring sections; guide members for said extensions adapted to form a straight separation path for said extensions; and a pivotal connection between said extensions whereby the one is rotated upon the other.

2. A split dental molding ring, comprising a plurality of semi-cup-like ring sections; a plurality of guide extensions each connected with one of said ring sections; a pivot pin formed on one extension; a slotted member formed on the other extension to surround in guided relation said pin; and vertical guide members formed on one of said extensions near one of said ring sections to control the movement of the ring sections in parting.

3. A split dental molding ring, comprising a plurality of semi-cup-like ring sections; a plurality of guide extensions each connected

with one of said ring sections; a pivot pin formed on one of said extensions; a slotted member formed on the other of said extensions to surround in guided relation said pin; vertical guide members formed on one of said extensions near one of said ring sections to control the movement of the ring sections in parting; and a plurality of depended extensions adapted to form supporting rests for said ring.

4. A split dental molding ring, comprising a plurality of semi-cup-like ring sections; a plurality of guide extensions each connected with one of said ring sections; a pivot pin formed on one of said extensions; a slotted member formed on the other of said extensions to surround in guided relation said pin; and a plurality of vertical guide members disposed near the stationary ring section to receive in guided relation the movable ring section as the same is registered with the said stationary section, said guide members being shortened to permit the swing of the movable ring section when drawn from out of engagement with said guide members.

5. A split dental molding ring, comprising a plurality of cup-like ring sections; a plurality of guide extensions each connected with one of said ring sections; guide members for said extensions adapted to form a straight separation path for said extensions; a pivotal connection between said extensions whereby the one is rotated upon the other; and a tightly fitting binding collar to extend over the end of said sections to hold the same in fixed relation.

6. A split dental molding ring, comprising a plurality of semi-cup-like ring sections; a plurality of guide extensions each connected with one of said ring sections; a pivot pin formed on one of said extensions; a slotted member formed on the other of said extensions to surround in guided relation said pin; vertical guide members formed on one of said extensions near one of said ring sections to control the movement of the ring sections in parting; a plurality of depended extensions adapted to form supporting rests for said ring; and a tightly fitting binding collar to extend over the end of said sections to hold the same in fixed relation.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

PHILIP BOURNE.

Witnesses:

E. F. MURDOCK,
PHILIP D. ROLLHAUS.