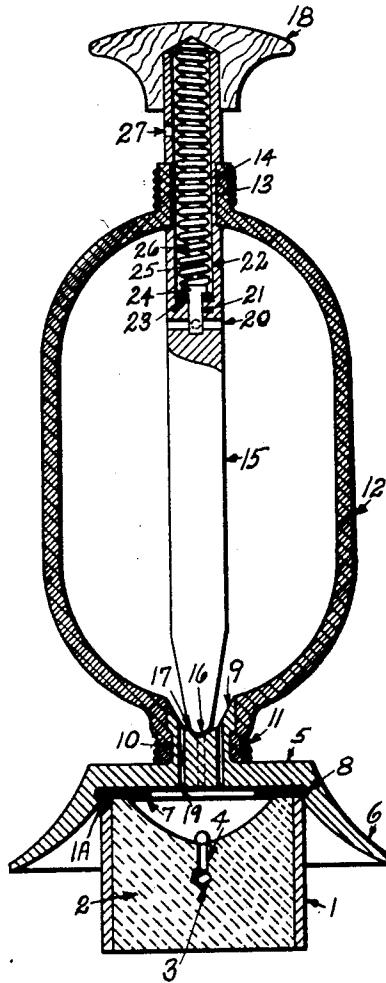


F. B. DAVIS.
MOLDING APPARATUS.
APPLICATION FILED AUG. 1, 1919.

1,387,769.

Patented Aug. 16, 1921.



Inventor

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MOLDING APPARATUS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK B. DAVIS, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in a Molding Apparatus, of which the following is a specification.

The invention is designed particularly for use by dentists in casting inlays.

The drawing shows a central vertical section through the apparatus.

1 marks a mold holder having a seating surface 1^a on its upper edge, 2 a molding composition, 3 a mold and 4 the opening to the mold. The mold is of the ordinary form and the manner of preparing it is well known.

It is desirable to force the metal into the mold with pressure. The metal is ordinarily melted at the opening 4 with a blow pipe. To obtain good results the pressure must be applied before the metal entering the mold cools to any great extent. With my apparatus this is simply and conveniently done.

A seating plate 5 has the flaring flange 6 extending therefrom forming a cup-shaped seating device that can be instantly put in place on the holder 1. A gasket 7 is secured to the plate preferably by forming the groove 8 at the base of the flange and forcing the gasket into it.

A projection 9 extends upwardly from the plate. An annular groove 10 is formed in the projection. The end 11 of a bulb 12 is secured in the groove so as to make a tight joint capable of sustaining pressure. The upper end 13 of the bulb is suitably secured in a groove 14 in a push pin 15.

The push pin has a pointed end 16 seating in a socket 17 so that the pin may swing relatively to the plate 5. The pin has a handle 18 at its upper end. Openings 19 extend through the plate 5 from the seating surface to the bulb.

In operation, the dentist having melted the metal grasps the bulb with one hand; places the plate on the mold; exerts pressure on the handle to hold the plate on the holder and to close the joint at the seating surface; and then squeezes the bulb compressing the contained air and forcing it into the mold. The apparatus is held in place until the metal begins to set. The piv-

otal mounting of the push pin permits it to swing slightly without disturbing the joint.

It is desirable to limit the air pressure that may be exerted on the mold. This is accomplished as follows:—Radial openings 20 are arranged in the pin 15 and lead to an axial opening 21. The opening 21 leads to a larger opening 22, the shoulder at the bottom of the opening 22 forming a seat 23. A valve 24 operates on the seat 23. The valve has a stem 25 extending into a spring 26. The spring holds the valve closed until there is an excess of pressure on the lower face of the valve. When this occurs the valve opens and the air passes out through an opening 27. The escaping air informs the operator of the condition and he can then temper his grasp accordingly.

What I claim as new is:—

1. In a molding apparatus, the combination of a mold; a movable air compressor adapted to be moved and operated manually; and means carried by the compressor and movable therewith for connecting the compressor with the mold.

2. In a molding apparatus, the combination of a mold; a movable and collapsible air compressor adapted to be moved and operated manually; and means carried by the compressor and movable therewith for connecting the compressor with the mold.

3. In a molding apparatus, the combination of a mold; a movable bulb-shaped collapsible air compressor adapted to be moved and operated manually by compressing the bulb within the hand of the operator; and means carried by the compressor and movable therewith for connecting the compressor with the mold.

4. In a molding apparatus, the combination of a mold; a movable and collapsible air compressor adapted to be moved and operated manually; and means carried by the compressor and movable therewith for connecting the compressor with the mold, said means comprising a seating device seating on the mold.

5. In a molding apparatus, the combination of a mold; a movable and collapsible air compressor adapted to be moved and operated manually; means carried by the compressor and movable therewith for connecting the compressor with the mold, said means comprising a seating device seating

on the mold; and means extending through the compressor for exerting pressure on the device.

5 6. In a molding apparatus, the combination of a mold; a movable and collapsible air compressor adapted to be moved and operated manually; means carried by the compressor and movable therewith for connecting the compressor with the mold, said
10 means comprising a seating device seating on the mold; and means extending through the compressor for exerting pressure on the device and having a flaring seating cup and gasket.

15 7. In a molding apparatus, the combination of a mold; a movable air compressor adapted to be moved and operated manually; means carried by the compressor and movable therewith for connecting the compressor with the mold; and devices for limiting the pressure exerted by the compressor.

20 8. In a molding apparatus, the combination of a mold; a movable air compressor adapted to be moved and operated manually; means carried by the compressor and movable therewith for connecting the compressor with the mold; and devices for limiting the pressure exerted by the compressor

ing the pressure exerted by the compressor comprising a relief valve operating on a predetermined pressure.

30 9. In a molding apparatus, the combination of a seating plate; a collapsible bulb attached to and movable with the plate, there being an opening from the plate to the bulb; and a push pin pivotally mounted
35 on the plate and extending through the bulb.

10. In a molding apparatus, the combination of a seating plate; a collapsible bulb attached to and movable with the plate, there being an opening from the plate to the bulb; and a push pin pivotally mounted
40 on the plate and extending through the bulb and containing a relief valve.

11. In a molding apparatus, the combination of a plate adapted to make a seat on a mold; a push pin for exerting pressure on the plate, said push pin having a ball joint with the plate; and means for delivering
45 air under pressure through the plate.

50 In testimony whereof I have hereunto set my hand.

FRANK BROUGHTON DAVIS.