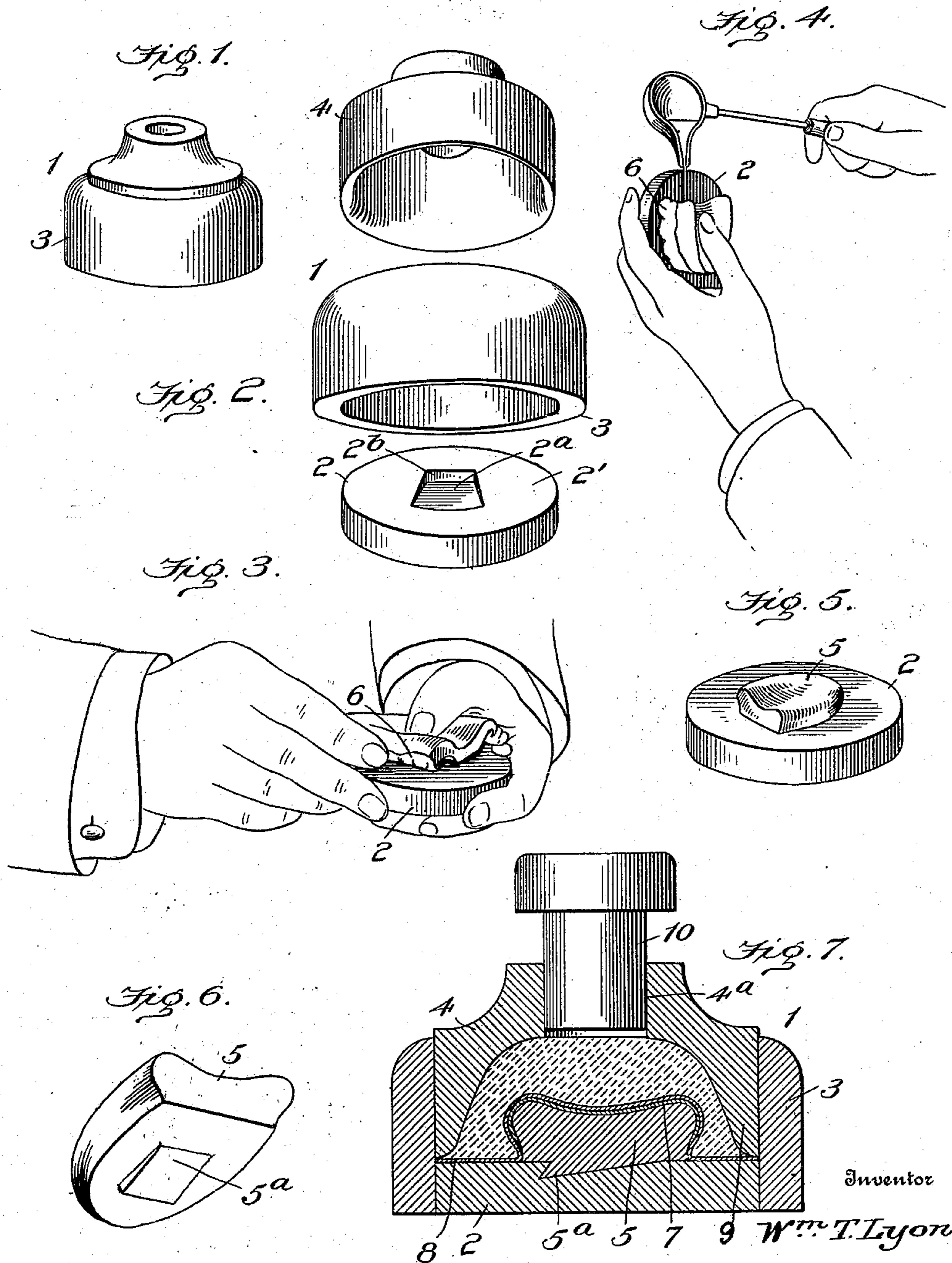


W. T. LYON.
DIE SUPPORTING BLOCK AND SWAGER.
APPLICATION FILED JULY 31, 1907.

919,901.

Patented Apr. 27, 1909.



Witnesses
Charles H. Wagner.
H. Woodard

By Fred G. Deterich & Co
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM T. LYON, OF PORTLAND, OREGON.

DIE-SUPPORTING BLOCK AND SWAGER.

No. 919,901.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed July 31, 1907. Serial No. 386,410.

To all whom it may concern:

Be it known that I, WILLIAM T. LYON, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Die-Supporting Blocks and Swagers, of which the following is a specification.

My invention relates to certain new and useful improvements in swagers, and particularly seeks to provide an improved swager adapted to be used in connection with the improved type of dental appliance disclosed in my co-pending application filed on even date herewith, Serial No. 386,409, and in its generic nature, the invention embodies an improved form of swaging mechanism hereinafter more fully described.

In its more detail nature, the invention comprises certain novel details of construction, combination and arrangement of parts, all of which will be first fully described, then specifically pointed out in the appended claims, and illustrated in the accompanying drawings, in which:—

Figure 1, is a perspective view of the swager forming a part of my invention. Fig. 2, is a similar view showing the parts thereof separated. Fig. 3, is a detail perspective view showing the manner of placing the impression in position on the die supporting block and filling around the outer edge with a plastic material to prevent escape of molten metal. Fig. 4, is a similar view showing the method of casting the die by pouring the fusible metal into the heel of the impression. Fig. 5, is a perspective view of the die supporting block and die. Fig. 6, is an inverted perspective view of the die removed from the casting block. Fig. 7, is a central, vertical longitudinal section of the device hereinafter specifically referred to.

Referring now to the accompanying drawings, in which like letters and numerals of reference indicate like parts in all of the figures, 1 designates the swager which is formed in three parts, consisting of the die supporting block 2, the ring 3 and the follower 4, as shown in Fig. 2 of the drawings, by reference to which it will be seen that the die supporting block 2 has its upper face 2' provided with a wedge-shaped depression 2^a whose lower end is provided with an undercut portion 2^b to interlock with the similarly shaped lug 5^a on the under face of the die 5. The ring 3 fits snugly over the die supporting

block 2, in practice, and the follower 4 fits within the ring 3, over the block 2. Any improved means of holding the three parts of the swager together when in the position shown in Fig. 1, may be provided, as such means, *per se*, forms no part of my present invention; such holding means may be that shown in my co-pending application hereinbefore referred to, or the three sections may be clamped together in any approved manner.

In the practical application of my invention, the impression of the mouth is taken with plaster of paris on an impression tray, as in any ordinary operation, and after the excess of plaster is trimmed off, the tray may be reversed and the plaster of paris impression held flatwise on the die supporting block over the depression 2^a, as shown in Fig. 3 of the drawing. After the impression has been placed against the die supporting block directly over the depression therein, (see Fig. 3) the operator fills around the outer edge of the impression with moldine or plaster 6, to prevent the escape of the molten metal which is to be poured into the impression, as hereinafter described.

The block 2 with the plaster impression is thoroughly heated by placing the same over a slow flame to prevent the metal from chilling too quickly, since the fine lines of the mouth are brought out much better, if this is done. After the die supporting block has been warmed, as stated, the molten metal is poured into the impression through the heel thereof, as shown in Fig. 4. As soon as the metal has become sufficiently cooled to become "set" the plaster impression is removed from the block leaving the metal die in position on the face of the die supporting block, ready for the next operation, it being understood that the molten metal has run into the depression 2^a and become interlocked therewith. The metal plate 7 may then be placed over the die 5 in the usual manner, after which, the ring 3 is placed over the die supporting block, and a flexible diaphragm 8 may be placed over the metal plate 7, and the die, and the plastic material 9 filled into the ring; after which the follower 4 is pressed down into the ring to compress the plastic material therein, the follower 4 having a central aperture 4^a to permit the insertion of a swaging plunger 10 which may be operated in any approved manner,

either by hammering thereon, or by the use of the machine disclosed in my co-pending application hereinbefore referred to. The parts are then in the position shown in Fig. 5 7, the block 2 may be removed from the ring 3 and the swaged plate removed from the die very readily. The die may be also removed from the block 2 by sliding it out of the depression 2^a from the back toward the front 10 thereof.

By constructing a swager having a casting block, as shown and described, the die may be readily removed from the block and other dies substituted or formed thereon without 15 in any manner destroying the die so as to prevent its future use, whenever desired. This is a very great advantage of my invention and enables the dies to be re-used, a thing that is impossible with the ordinary 20 type of die supporting block now in common use.

From the foregoing description taken in connection with the accompanying drawings, it is thought the complete construction, operation, advantages and use of my invention

will be readily understood by those skilled in the art to which the invention appertains.

What I claim is:—

1. In a swager, a die supporting block having a wedge-shaped depression in one face to receive a portion of the die to removably retain the same, the bottom surface of the depressed portion sloping from the bottom of the depression at one end to the top thereof at the other end, substantially as shown and 35 described.

2. In a swager, a die supporting block having a depression in one face to receive a portion of the die to removably retain the die, the bottom surface of the depressed portion 40 commencing at the top of the block at one end of the depression and extending downwardly toward the other end, said block having an undercut portion at such other end, substantially as shown and described.

WILLIAM T. LYON.

Witnesses:

W. P. LAROCHE,
A. T. LEWIS.