No. 826,977. PATENTED JULY 24, 1906.

G. J. WEBER.

DENTAL SWAGING DEVICE.

APPLICATION FILED SEPT. 21, 1905.

Fig. 1.

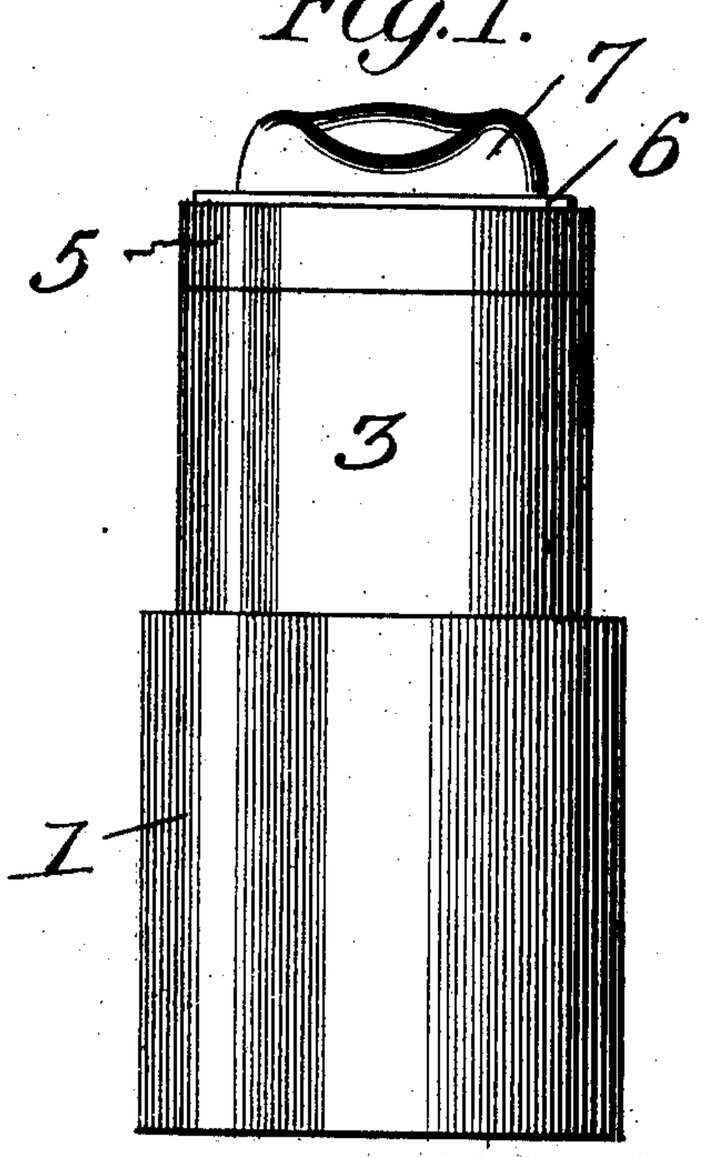


Fig. 2.

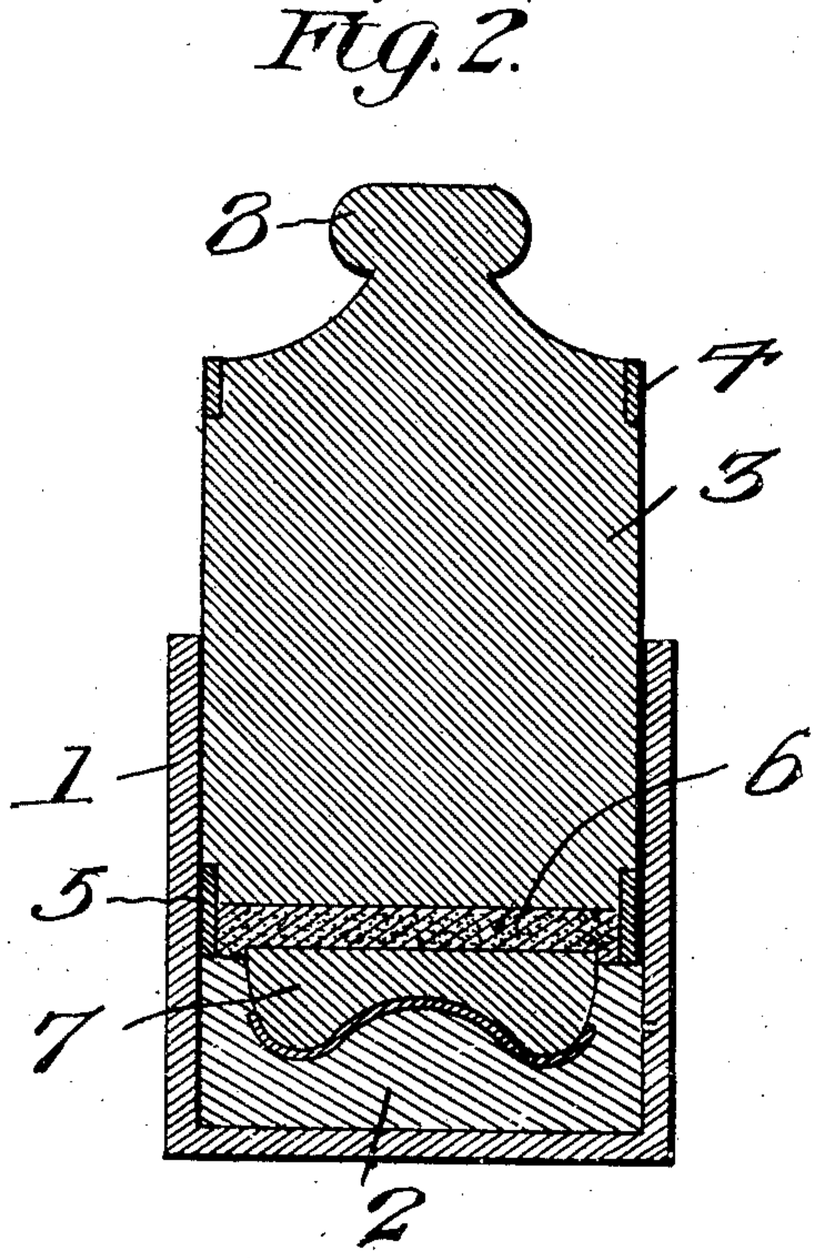


Fig. 3.

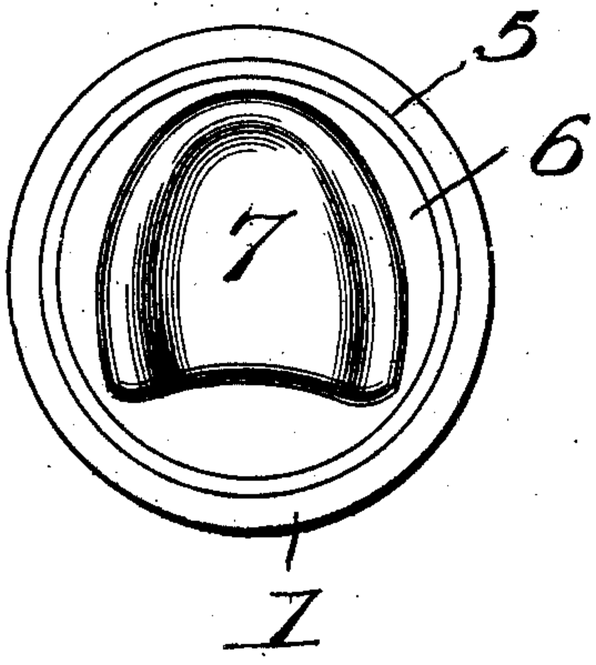
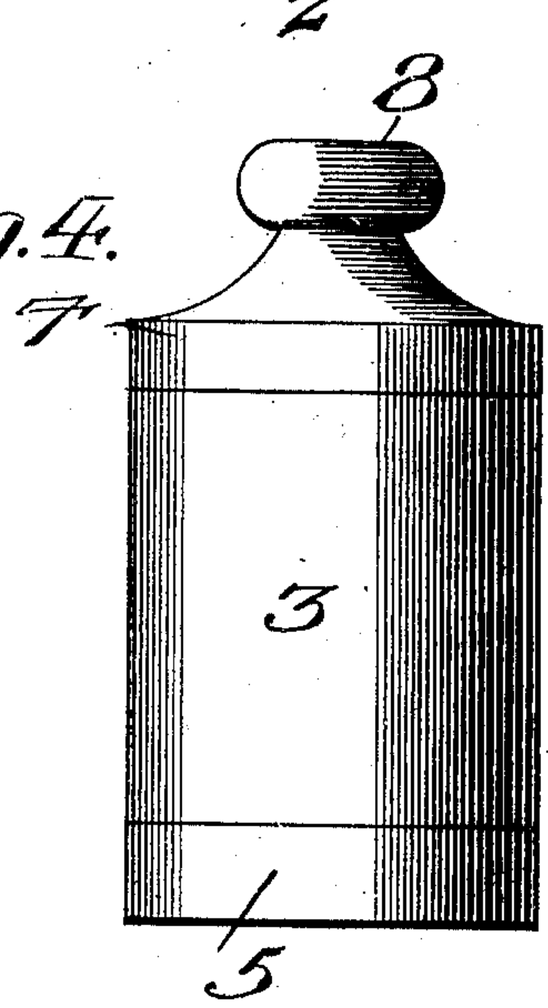


Fig. 4.



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DENTAL SWAGING DEVICE.

No. 826,977. Specification of Letters Patent. Patented July 24, 1906.

Application filed September 21, 1905. Serial No. 279,439.

To all whom it may concern:

Be it known that I, GEORGE J. WEBER, a citizen of the United States, residing at Liberty Center, in the county of Henry and State of Ohio, have invented new and useful Improvements in Dental Swaging Devices, of which the following is a specification.

This invention relates to improvements in dental swaging devices designed for metal dental plate, cusp, and similar work.

The object of the invention is to provide a swaging device which is simple of construction, durable and efficient in use, and comparatively inexpensive of production and which reduces the number of parts customarily employed and simplifies the operation of swaging dental elements of the stated character.

In the drawings hereto annexed and forming a part of this specification, Figure 1 is a side elevation of the swaging device with the plunger inverted from its normal position to receive the die, the latter being applied thereto. Fig. 2 is a central vertical section of the same, showing the parts as they appear in the act of swaging a plate. Fig. 3 is a top plan view of the plunger and die as they appear in Fig. 1. Fig. 4 is a side view of the plunger *per se*.

In carrying my invention into practice I provide a cup or receptacle 1 of suitable size for the purpose and preferably made of steel. In the bottom of this cup is placed an anvil-body or work-backing 2, composed of paraffin, soft rubber, or some other suitable plastic or semiplastic material.

A plunger 3 is provided to fit within the cup and is preferably made of hard wood or some other preferred material which is inexpensive and at the same time prevents, to a large extent, the noise produced in the operation of hammering when a metallic plunger is employed. The body of the plunger corresponds cross-sectionally in form to the cross-sectional contour of the chamber of the cup 1 and is recessed at its upper and lower ends to receive metallic bands 4 and 5, which provide wear-surfaces to contact with the cup and reinforce the wooden plunger to prevent all liability of the same splitting under the blows from a hammer or pressure from a press. The bands are countersunk in the recesses to lie flush with the outer surface of the plunger, and the band 5 projects below the bottom surface of the plunger to form a shallow recess or receptacle for a die-backing 6, composed of wax or some other suitable material which is hard under normal temperature and softens under the application of heat.

The die 7 may be of any suitable construction adapted for plate or cusp work and is adapted in use to rest against the backing 6. In applying the die to the backing the latter is softened by heat and the rear face of the die seated thereon and embedded therein, so that the backing will hold the die removably in operative position.

The upper end of the plunger may be provided with a reduced concussion-head 8 to receive the blows from a hammer or mallet or may be squared or rendered plane-surfaced for the effective bearing of the follower of a screw-press thereon when a press is employed to produce pressure in the swaging operation. Either end of the plunger is adapted to be fitted in the cup, the plunger thus being rendered reversible, so that it may be supported in inverted position for the ready application of the die thereto and then inserted with the die-carrying end downward for swaging.

In operation the plunger is inverted and supported in the cup in the position shown in Fig. 1, and while in this position the die is applied thereto in the manner previously described. The plate to be swaged is then placed upon the die and the plunger lifted out of the cup and the latter inverted and placed over the bottom or die-carrying end of the plunger. The complete swaging device is then reversed to the position shown in Fig. 2 and rested upon a swaging-block and a hammer or mallet employed on the concussion-head 8 to force the plunger downward under the blows thereon and effect the swaging of the plate, which latter is yieldingly backed by the anvil-body 2. The operation of subjecting the plunger to pressure may, however, be carried out by the use of a screw-press, as before described.

It will thus be seen that my invention provides a simple and effective swaging device which may be inexpensively manufactured and in which the plunger may be supported for the convenient application of the die and plate and that the construction employed reduces the number of parts customarily used and materially simplifies the operation of swaging.

It will of course be understood that the construction may be varied in the details noted and in the form and proportions of the parts to better render the device adaptable for use in swaging plates, cusps, and other similar dental elements.

The anvil-body or work-backing 2 may and preferably is made of a plastic composition of clay and glycerin, and in connection therewith thin sheets of rubber may be used between the plate and die and backing to prevent direct contact between the plate and backing and keep the parts clean. This form of backing will maintain its plasticity and consistency, and by its use I am enabled to swage a plate on a plaster model without damage to the latter.

Having thus described the invention, what I claim is—

1. A dental swaging device comprising a cup having an anvil or work-backing therein, a reversible plunger adapted to be seated at either end within the cup and provided at one end with a wear-ring forming a recess, and a plastic die-backing seated in the recess.

2. In a dental swaging device, a plunger comprising a body formed of wood and having countersunk reinforcing-bands at its end, one of said bands projecting to form a shallow recess or receptacle for a die-backing.

3. A dental swaging device comprising a cup having a work-backing therein, and a plunger adapted to be supported in normal or inverted position within the cup, said plunger comprising a body annularly grooved at each end, wear-rings countersunk in said grooves and lying flush with the outer surface of the body, one of said rings extending beyond the adjacent end of the body to form a shallow chamber or recess, and a die-backing seated in said chamber or recess, substantially as described.

4. In a dental swaging device, a plunger having a countersunk band projecting therefrom to form a recess for a die-backing.

5. In a dental swaging device, a plunger comprising a wooden body having a wear-band or ring countersunk therein at one end, said ring projecting to form a recess or receptacle for a die-backing.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE J. WEBER.

Witnesses:

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J. L. GINTZEL.