Smith & Wilcox,

Dental Impression Cup.

No. 77,773. Patented May 12, 1868.

Fig. 1.

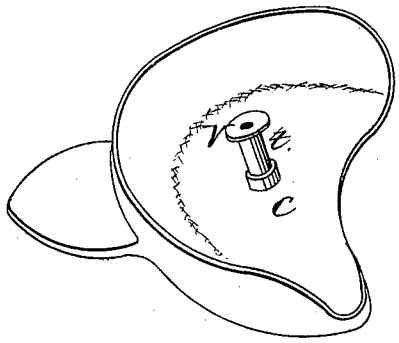


Fig. 2.

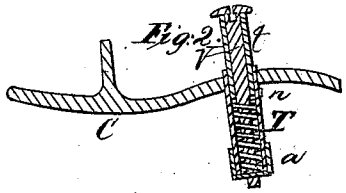


Fig. 3.

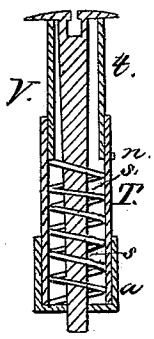


Fig. 4

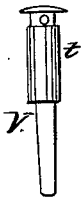


Fig. 5

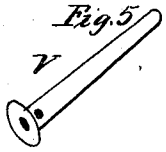


Fig. 7,

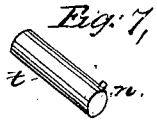
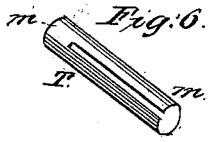


Fig. 6.



Witnesses:
Charles Herzog
A. DuBois

Inventors:
Edward C Smith
David G. Wilcox

United States Patent Office.

EDWARD C. SMITH AND DAVID F. WILCOX, OF GREENVILLE, NEW YORK.

Letters Patent No. 77,773, *dated May* 12, 1868.

IMPROVEMENT IN DENTISTRY.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, EDWARD C. SMITH and DAVID F. WILCOX, both of Greenville, county of Greene, State of New York, have invented certain new and useful Improvements in Dentistry; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the impression-cup, with the air-tubes inserted.

Figure 2 is a sectional view through the middle of the cup and tubes.

Figure 3, a section of the tubes and valve-rod.

Figure 4, a view of valve-rod and smaller tube; and

Figures 5, 6, and 7, separate views of the various parts.

There is, in the practice of dentistry, great difficulty in removing the plaster, wax, or other material used in taking impressions from the mouth, after an impression has been made. By the pressure of the plaster against the surface of the mouth, the air is excluded, and, in consequence thereof, the atmospheric pressure on the outside of the plaster is so great as to cause pain to the patient, and sometimes destroys the impression in attempting to remove the material.

The object of this invention is to overcome this difficulty by furnishing a simple device by which atmospheric air may be introduced between the plaster and the surface of the mouth.

We successfully accomplish this by inserting, in the impression-cup, air-tubes in connection with a valve-rod and spiral spring, as hereinafter set forth.

By reference to the drawings, it will be seen that fig. 1 shows the impression-cup with the air-tubes and valve-rod V inserted. The tube *t* is passed through the bottom of the cup C, and is intended to come as far above the bottom of the cup as the plaster, the top of the valve-rod V being about even with the upper surface of the plaster when the impression is about to be made. The tube *t* is surrounded with the plaster, and the top of the valve-rod only remains uncovered.

In order that the valve-rod may fit closely to the roof of the mouth, and also yield to the pressure of the plaster as the impression is made, the air-tube *t* is made to slide down into the larger tube, T, at the same time compressing the coil-spring *s*, which is placed in the lower part of the tube T, and rests upon the bottom of the cap *a*. The cap *a* may fit closely on the tube T, or screw on to it.

In order to keep the tube *t* in place, a projection, *n*, is placed on the lower end, which runs in the slot *m m* in the side of the larger tube T. The valve-rod V is perforated in the upper end, as shown in fig. 5, the opening in the top connecting with the opening through the body of the rod. When the top of the valve-rod V is pressed against the roof of the mouth, air is communicated thereto through the tubes *t* T. The tube *t*, fitting closely to the head of the valve-rod V, prevents the plaster from obstructing the air-holes in the valve-rod. Should the air-holes become obstructed by the plaster, or otherwise, air may be admitted by pressing up the valve-rod so as to make an opening between the top of tube *t* and the head of the valve-rod, as shown in fig. 4. The introduction of air between the impression-plaster and the surface of the mouth, destroys the "suction," and the impression may be removed without injury.

Having thus described our invention, what we claim, is—

1. The introduction of air between the surface of the mouth and the material used in taking impressions for artificial bases for teeth, by means of air-tubes T *t*, valve-rod V, and spring S, substantially as set forth.

2. We claim, in combination with the impression-cup C, the tubes *t* T, valve-rod V, and coil-spring *s*, when arranged and operating substantially as and for the purposes set forth.

EDWARD C. SMITH,
DAVID F. WILCOX.

Witnesses:
N. DU BOIS,
CHARLES HERZOG.