

H. WEINSTEIN.
TOOTH BRUSH.
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993,006.

Patented May 23, 1911.

Fig. 1.

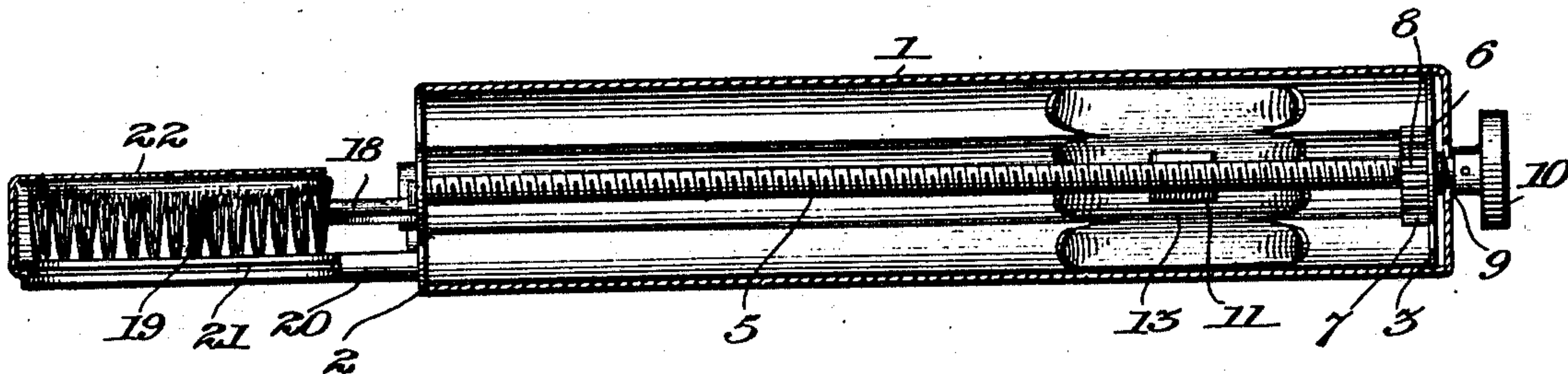


Fig. 2.

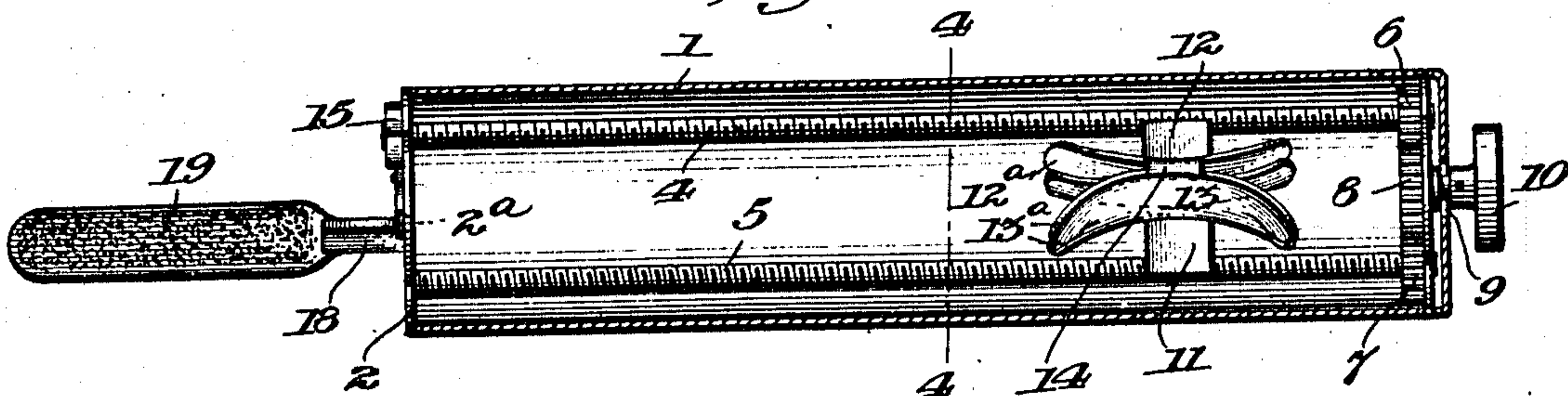


Fig. 3.

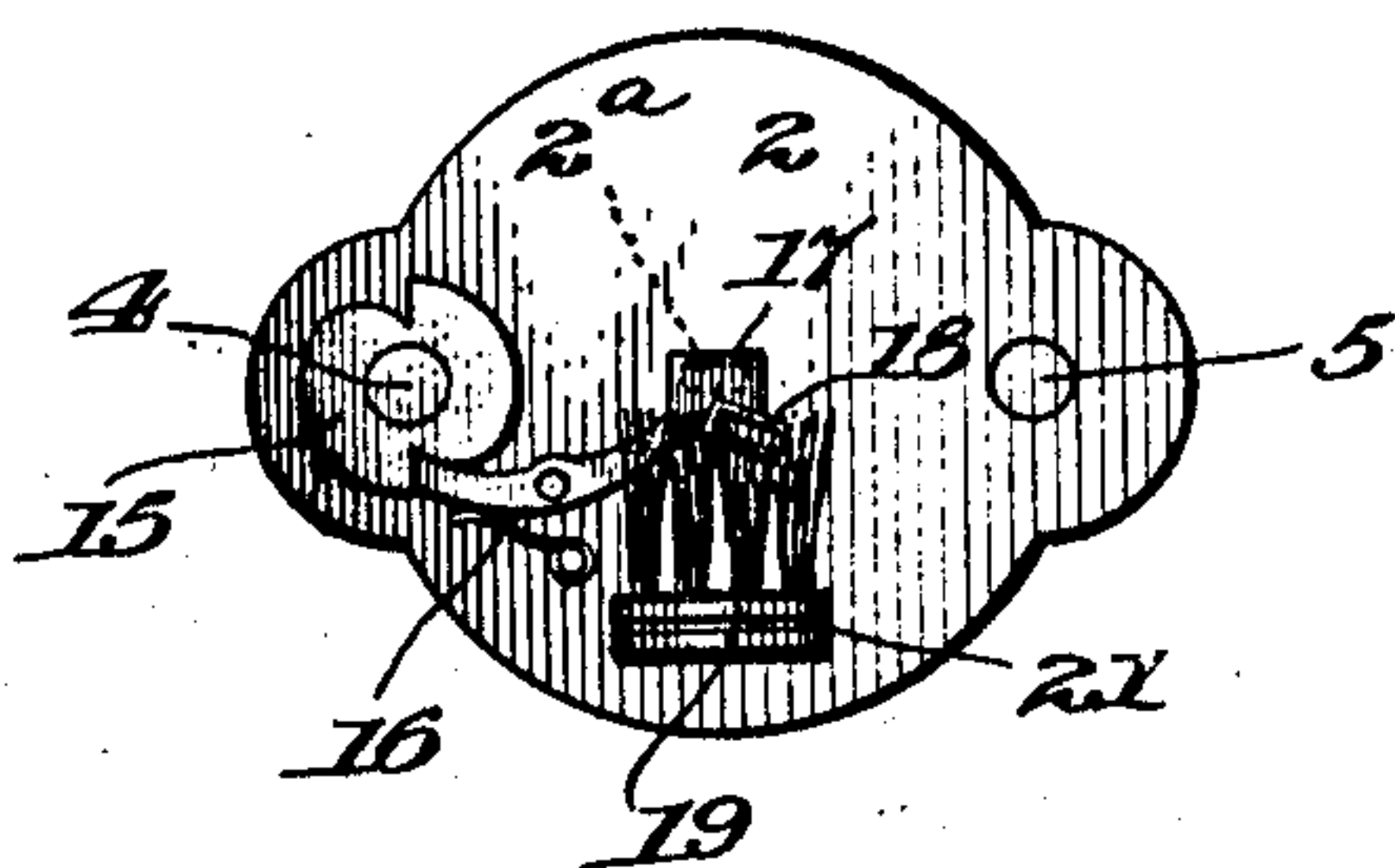
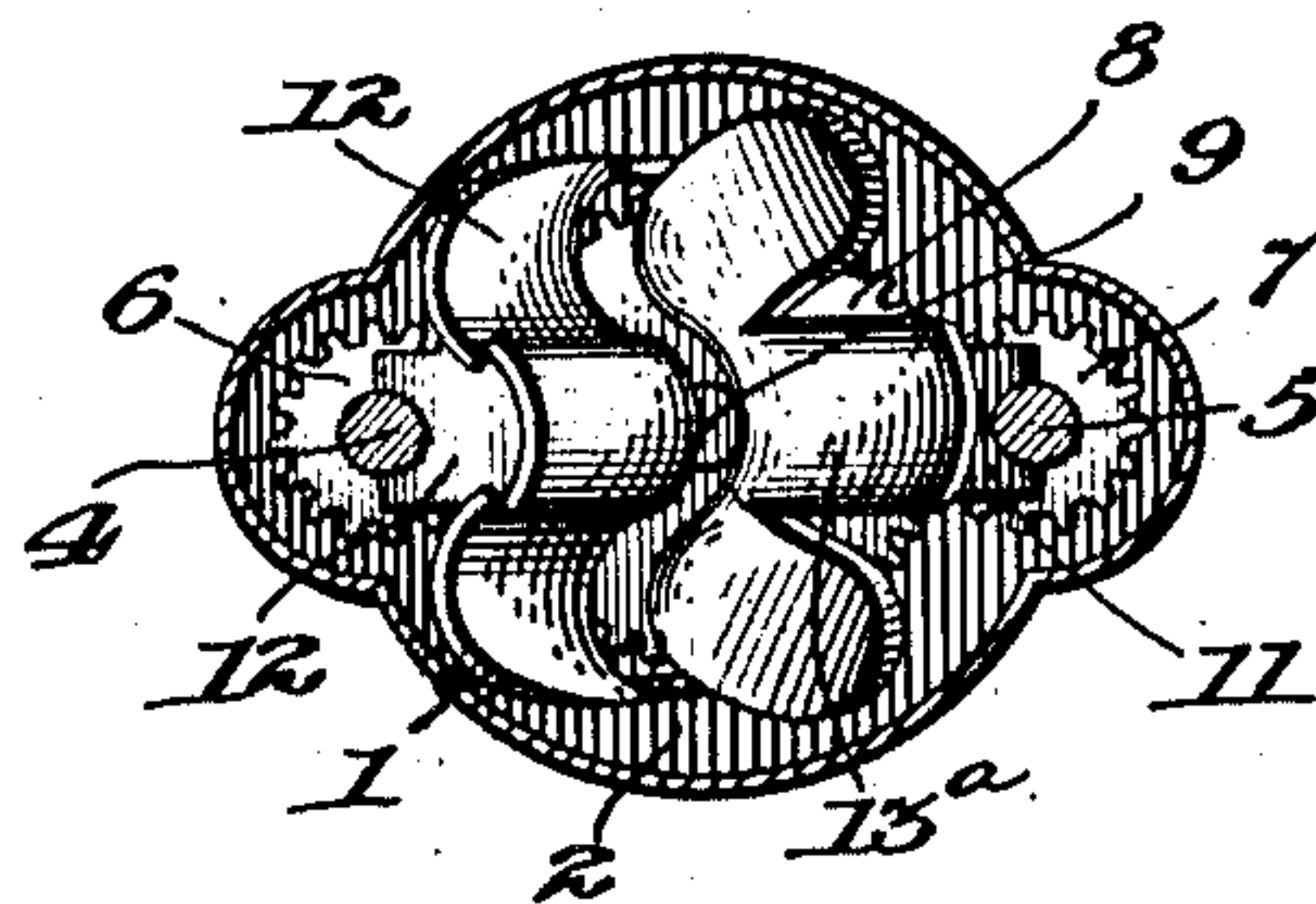


Fig. 4.



Witnesses:

M. H. Owsand
N. W. Edlin

Inventor:
Henry Weinstein

UNITED STATES PATENT OFFICE.

HENRY WEINSTEIN, OF CLEVELAND, OHIO.

TOOTH-BRUSH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY WEINSTEIN, a subject of the Czar of Russia, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Tooth-Brushes, of which the following is a specification.

This invention relates to fountain brushes, and more particularly to such implements constructed for use as a tooth brush.

The object of my invention is to provide a fountain brush having a hollow handle, with means within the handle to progressively compress a collapsible tube of dentifrice, from its rear to its front or discharge end, to feed the contents thereof to the brush when and in quantity required.

With this end in view, the invention consists in a casing forming a handle and provided interiorly with a removable frame comprising parallel screw shafts journaled at their ends in front and rear heads, said front head carrying a brush, a spring pressed lever carrying at one end a gate or shut off, and a delivery tube, said lever and its adjuncts being operated by a cam secured to one of the screw shafts.

The invention will be described in detail in the following specification and claimed in the closing paragraphs.

In the accompanying drawing: Figure 1 is a longitudinal section of a tooth brush embodying my invention. Fig. 2 is a similar section taken in a plane perpendicular to that shown in Fig. 1. Fig. 3 is an end elevation, looking toward the front or brush end. Fig. 4 is a section taken on line 4-4 of Fig. 2.

The parts or elements of the device are marked with identical reference characters in the several figures.

The handle 1 is of metal, and may be of the form shown, or cylindrical, and within it is a frame consisting of front and rear heads 2 and 3 connected by parallel screw shafts 4 and 5 which are journaled in said heads, and fitted at one end with pinions 6 and 7 which mesh with a gear wheel 8 secured to a stub-shaft 9 that projects beyond the end of the handle, when the parts are assembled, and is provided with a detachable thumb wheel 10, by which the screws may be rotated, through the gears. A cross-head 11 threaded to engage the respective screw-shafts carries a slidable compressor consisting of concavo-convex plates 12 and 13, con-

nected at their outer edges at 14. The forward ends of these plates are split and curved outward to form fingers 12^a and 13^a adapted to readily ride upon and compress between them an ordinary tube of dentifrice.

The screw-shaft 4 extends beyond the head 2 and has secured thereto a cam 15 which is adapted to actuate a spring pressed lever 16 fulcrumed on said head. The free end of the lever is provided with a shut-off or gate 17 carrying at one side a discharge tube 18 bearing such relation to the vent opening 2^a in head 2 as to register therewith when the spring pressed end of lever 16 is not within the notches of the cam 15. When the end of said lever is within one or the other notches of the cam, the tube 18 will be moved downward until its outer end is covered by the tooth brush, and the gate will close the opening 2^a in head 2, as best shown in Figs. 1 and 3.

The brush 19 has a shank 20 which is firmly and detachably secured to head 2, and, in the instance shown, is provided on the edges of its head with grooves 21 to receive the flanges of a slip cover 22 to be used when the brush is not in use.

In operation, the thumb-piece 10 will be removed, then the handle 1 slipped from the frame, when a tube containing dentifrice may be inserted within the compressor, the discharge nozzle thereof being inserted in the aperture 2^a of head 2. When the parts are restored to the position shown in the drawings, but with the tube of dentifrice contained therein, it will be seen that by rotating the thumb-piece 10 the screw-shafts 4 and 5 will cause the compressor to travel toward the head 2, at the same time causing (through cam 15 and lever 16) the gate 17 to be moved away from the head vent 2^a and the discharge tube 18 to be moved in register therewith, and above the tops of the bristles of the brush.

I have shown the aperture 2^a as rectangular to accommodate the Colgate dentifrice tube, but it will be understood that it may be made to receive any of the tubes on the market, and threaded if necessary to engage the threaded discharge nozzle of the tube.

I claim:

1. A tooth brush, comprising a tubular handle, and a removable frame consisting of front and rear heads connected by screw-shafts, carrying pinions, a gear wheel engaging said pinions and having its shaft

project through the rear head, a tube compressor actuated by the screw-shafts, a brush having its shank secured to the front head, said front head being provided with a vent,
 5 a discharge tube carried by said head, and means carried by said head to aline the discharge tube with the head vent and the brush when the compressor is moved forward.

10 2. A tooth brush comprising a tubular handle and a removable frame consisting of front and rear heads connected by screw-shafts carrying pinions, a gear wheel engaging said pinions and having its shaft
 15 project through the rear head, a compressor actuated by the screw-shafts, a brush having its shank secured to the front head, a cam secured to one of the screw-shafts, a spring pressed lever pivoted on the front head engaging the cam at one end and provided at
 20 the other end with a gate and discharge tube.

3. A tooth brush comprising a tubular handle, and a removable frame consisting
 25 of front and rear heads connected by screw-shafts carrying pinions, a gear wheel engaging said pinions and having its shaft project through the rear head, a brush having its shank secured to the front head, a
 30 cam secured to one of the screw-shafts, a spring pressed lever pivoted on the front head engaging the cam at one end and provided at the other end with a gate and

discharge tube, and a compressor actuated by the screw-shafts and consisting of a threaded cross head and concavo-convex plates having forwardly projecting curved fingers.

4. A tooth brush, comprising a tubular handle, and a removable frame consisting of front and rear heads connected by pinions, a gear wheel engaging said pinions and having its shaft projected through the rear head, a tube compressor actuated by the screw-shafts, a brush having its shank secured to the front head, said front head being provided with a vent, a cam secured to one of the screw-shafts, a spring pressed lever pivoted on the front head engaging the cam at one end and provided at the other end with a gate and discharge tube, which latter is attached to the gate lengthwise perpendicular and widthwise at a proper angle to the rectangular gate so as to aline the gate with the head vent when compressor is stationary, and to aline the discharge tube with the head vent and bristle top of the brush when the compressor is moved forward.

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

HENRY WEINSTEIN.

Witnesses:

C. A. NEALE,
 M. E. COWELL.