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T. RUSE

1,911,973

DOUBLE ACTION ROTATING TOOTHBRUSH

Filed June 9, 1932

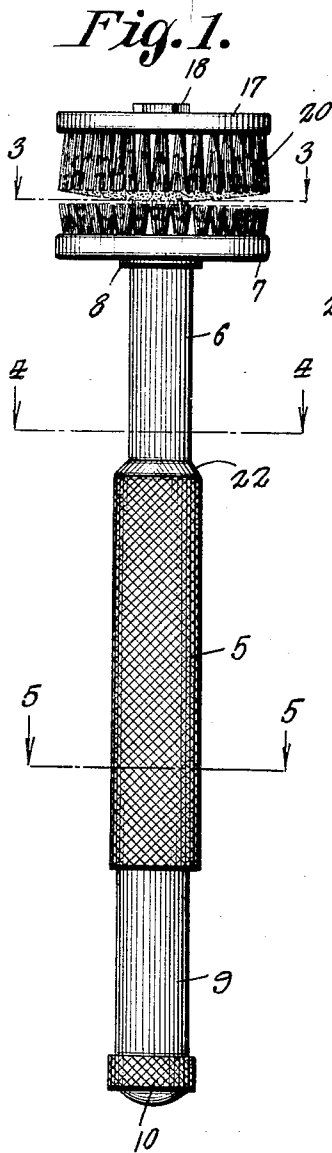


Fig. 3.

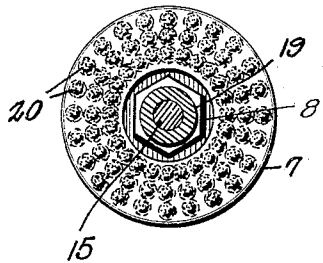


Fig. 4.

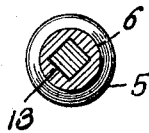
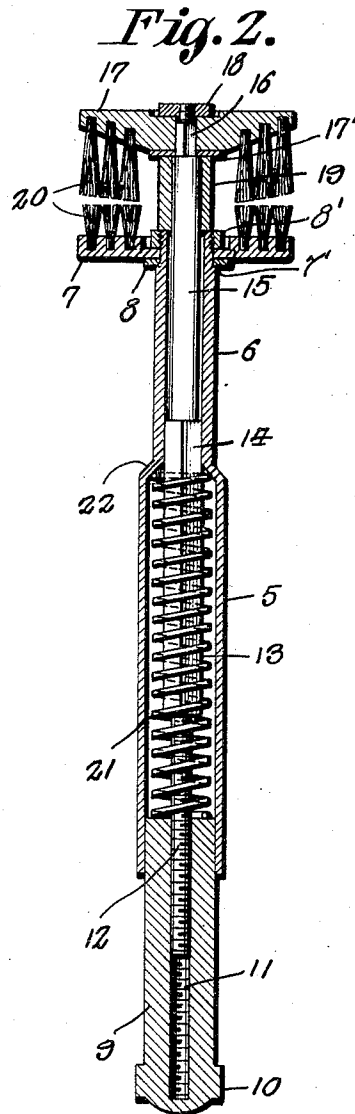
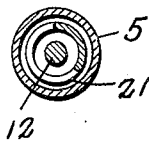


Fig. 5.



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DOUBLE ACTION ROTATING TOOTHBRUSH

Application filed June 9, 1932. Serial No. 616,231.

My invention relates to improvements in toothbrushes and more particularly rotary toothbrushes.

It is an object of the invention to provide a toothbrush having opposed rotary brushes, manually operable to clean the inside and outside of the teeth simultaneously.

A further object of the invention is to provide a rotary toothbrush comprising opposed brushes and tensioning means for holding the brushes in firm contact with the teeth.

A still further object of the invention resides in detachably mounting the rotary brushes on the handle, so they may be readily removed and new brushes substituted therefor, when necessary.

Another object of the invention is to provide a device of the above-mentioned character which is simple and durable in construction, reliable and efficient in use and inexpensive to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing, forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a side elevation view of the toothbrush,

Fig. 2 is a longitudinal sectional view of the same,

Fig. 3 is a cross section taken on lines 3—3 of Fig. 1,

Fig. 4 is a cross section taken on lines 4—4 of Fig. 1, and,

Fig. 5 is a cross section taken on lines 5—5 of Fig. 1.

In the drawing, wherein for the purpose of illustration, I have shown a preferred embodiment of my invention, the handle of the toothbrush comprises a tubular casing 5, having a reduced upper end 6, the extremity of which is square to receive the outer rotary brush 7, which is supported thereon by the collar 8, resting on the shoulder 7', and the brush is removably held in place by the nut 8', threaded on the end 6. The outer surface of the casing 5, is knurled, so as to be

easily gripped between the fingers and slidably mounted in the lower end of the casing is a plunger 9 having a knurled flange 10 at its lower end. The plunger 9 is provided with a central screw-threaded bore 11, to receive the screw-threaded rod 12 extending from the shaft 13, extending longitudinally of the casing 5. The lower end of the shaft 13 is square shape, as at 14, and is adapted to fit in the square bore of the reduced end 6, establishing connection between the shaft and end 6 of the casing, so that turning of the casing will rotate the shaft. The upper end of the shaft 13 is round, as at 15, and extends beyond the upper end of the casing, having its upper extremity of square shape, as at 16, to receive the inner rotary bush 17 which rests on the washer 17' and is held thereon by the nut 18. A ferrule 19 mounted on the upper end of the shaft 15, between the inner and outer brushes, holds the brushes in proper spaced relation. The bristles of the brushes are disposed in confronting relation and it will be observed that the bristle face of the inner brush is beveled. A coil spring 21 is mounted on the lower end of the shaft 13 between the shoulder 22 and plunger 9 and maintains a tension on the shaft to draw the brushes together.

In use, the handle of the toothbrush is grasped between the thumb and forefinger of one hand with the plunger 9 resting in the palm of the hand and upon pulling the handle downwardly the plunger 9 will be depressed, moving the brushes 7 and 17 apart, so as to permit the brushes to be disposed within the mouth in proper relation to the teeth. Upon release of the plunger 9, the coil spring 21 will move the brushes into firm contact with the inner and outer sides of the teeth and the ferrule 19 is gripped between the upper and lower teeth holding the brushes in place. Upon turning the handle with the fingers the brushes will be rotated and the inner and outer sides of the teeth will be simultaneously cleaned. By turning the plunger 9, the spring 21 may be adjusted to the correct tension for holding the brushes in proper contact with the teeth.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that certain changes in the shape, size and arrangement of the parts may be made without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:—

1. A rotary toothbrush comprising a handle, a shaft slidably mounted in said handle and connected therewith, a pair of opposed rotary brushes, respectively mounted on said handle and shaft, and tensioning means for holding said brushes together.

2. A rotary toothbrush comprising a handle, a shaft slidably mounted in said handle, a brush mounted on the upper end of said handle, a second brush mounted on the upper end of said shaft in opposed relation to said first mentioned brush, a ferrule mounted on said shaft between said brushes, and tensioning means for holding said brushes together.

3. A rotary toothbrush comprising a tubular handle, a shaft slidably mounted in said handle, a brush fixedly mounted on the upper end of said handle, a second brush mounted on the upper end of said shaft in opposed relation to said first mentioned brush, a ferrule mounted on said shaft between said brushes, a plunger slidably mounted in the lower end of said handle having threaded connection with said shaft, and a coil spring mounted on said shaft, normally holding said brushes together.

4. A rotary toothbrush comprising a tubular handle, a shaft slidably mounted in said handle, a brush fixedly mounted on the upper end of said handle, a second brush mounted on the upper end of said shaft in opposed relation to said first mentioned brush, tensioning means for holding said brushes together and means for adjusting said tensioning means.

5. A rotary toothbrush comprising a tubular handle, a shaft slidably mounted in said handle, a brush fixedly mounted on the upper end of said handle, a second brush mounted on the upper end of said shaft in opposed relation to said first mentioned brush, a plunger slidably mounted in the lower end of said handle having adjustable connection with said shaft, and a coil spring mounted on said shaft between said plunger and a shoulder in said handle.

In testimony whereof I affix my signature.

THOMAS RUSE.