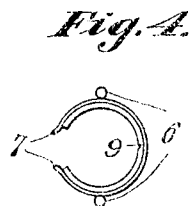
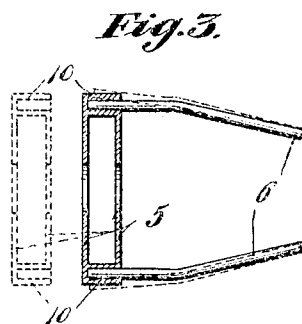
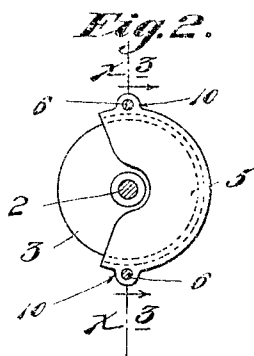
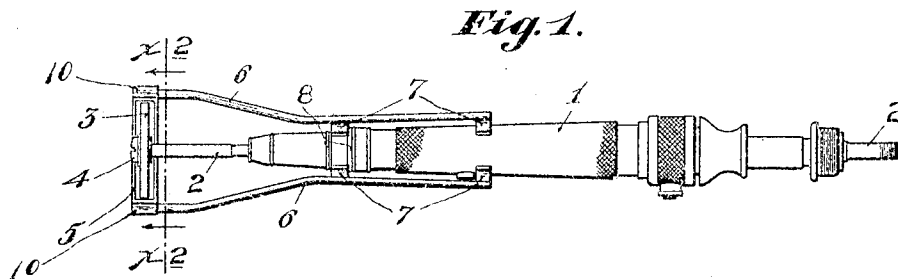


No. 869,417.

PATENTED OCT. 29, 1907.

F. W. CHANDLER.  
STONE GUARD FOR DENTAL GRINDING TOOLS.  
APPLICATION FILED DEC. 10, 1906.



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# UNITED STATES PATENT OFFICE.

FRANK W. CHANDLER, OF VALLEY CITY, NORTH DAKOTA.

## STONE-GUARD FOR DENTAL GRINDING-TOOLS.

No. 869,417.

Specification of Letters Patent.

Patented Oct. 29, 1907.

Application filed December 10, 1906. Serial No. 347,084.

To all whom it may concern:

Be it known that I, FRANK W. CHANDLER, a citizen of the United States, residing at Valley City, in the county of Barnes and State of North Dakota, have invented certain new and useful Improvements in Stone-Guards for Dental Grinding-Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to dental grinders and has for its object to provide a simple and efficient detachable guard for the grinding wheels thereof.

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

This device, in its preferred form, is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a plan view, showing the grinder with one of my improved guards applied thereto. Fig. 2 is a transverse section taken on the line  $x^2 x^2$  of Fig. 1, the parts being shown on a larger scale than in Fig. 1. Fig. 3 is a section taken on the line  $x^3 x^3$  of Fig. 2; and Fig. 4 is a view showing one end of the shield supporting clamp.

Referring to the parts of the grinder, the numeral 1 indicates the barrel or handpiece thereof, the numeral 2 the rotary spindle, and the numeral 3 the small grind stone which is preferably secured to the projecting-end of the spindle 2 by a screw 4, the said parts being the usual construction. The spindle 2 which carries the stone 3 may be driven by the usual flexible power driven shaft (not shown).

The segmental shield or housing 5 has such internal dimensions that it will clear the stone 3 with as little waste of space as possible, and circumferentially extends through somewhat more than 180 degrees, but has sufficient peripheral opening to permit the wheel 3 to be moved edgewise into and out of said shield. The shield 5 is attached to the projecting ends of a pair of spring arms 6, preferably formed from heavy wire, and provided at their inner ends with means for detachably securing them to the barrel or handpiece 1. This attaching means is preferably a pair of segmental clamping springs 7 to which the said arms or rods 6 are soldered, brazed or otherwise secured. The two segmental clamping springs 7 are adapted to be sprung around the barrel or handpiece 1 and to engage frictionally

therewith under sufficient tension to hold the shield properly positioned with respect to the grind stone 3. The barrel 1 is formed with more or less peripheral grooves, such for instance as indicated at 8, and one of these clamping springs 7 is preferably engaged therewith or between certain thereof to properly position the arms 6 and shield 5, as shown in Fig. 1. Preferably, the spring clamps 7 are lined with rubber, leather or other pliable material, indicated at 9 in Fig. 4. These linings 9 prevent defacing of the barrel 1 and the clamping springs and, furthermore, render the said clamp less liable to slip on said barrel.

In practice it is necessary for different kinds of work to use grind stones of different diameter, and it is desirable that for each stone, as small a shield as possible should be employed. Hence, I make the shield detachable from the arms 6 and provide shields of different size for different stones. As shown in the drawings, the shield 5 is preferably, at diametrically opposite points, provided with lugs 10 having receiving sockets for the outer ends of the rods 6, which preferably do not extend completely through the said lugs, but terminate inward of the outer face of the shield, as shown in Fig. 3. Said Fig. 3 shows, by dotted lines, the shield removed from the spring rods 6 and shows the said spring rods sprung slightly further apart. The said spring rods are adapted to be inserted into the receiving lugs of shields of different size, and when inserted, their outward spring tension will frictionally hold said shield to the said rods with sufficient force to prevent accidental slippage under ordinary usage.

The device described has been put into actual use and has been found efficient for the purposes had in view. It is of small cost and may be very quickly and easily applied to and removed from the grinding tool.

What I claim is:

1. The combination with a dental grinding tool comprising a barrel, a rotary spindle, and a grinding stone carried by said spindle, of a segmental shield inclosing a part of said stone, and a supporting frame detachably secured to said shield and provided with means for detachable engagement with the barrel of said tool, substantially as described.

2. The combination with a dental grinding tool, comprising a barrel, a rotary spindle and a grinding stone carried by said spindle, of a segmental shield inclosing a part of said stone, a pair of laterally spaced spring rods detachably secured to said shield, and means for supporting said rods from the barrel of said tool, substantially as described.

3. The combination with a dental tool, comprising a

- barrel, a rotary spindle and a grinding stone carried by said spindle, of a segmental shield 5 inclosing a part of said stone and provided with peripheral ears 10, a pair of spring rods 6, the outer ends of which are engageable with seats of said lugs 10, and a pair of segmental clamping springs 7 secured to said rods 6 and detachably engageable with the barrel of said tool, substantially as described.
4. A stone guard for a dental grinding tool, comprising
- 10 a segmental shield, a pair of spring rods for supporting

said shield, and a pair of segmental spring clamps secured to said rods and detachably engageable with the barrel of the grinding tool, substantially as described.

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

FRANK W. CHANDLER.

Witnesses:

JAS. W. STULL,  
R. W. BASSETT.