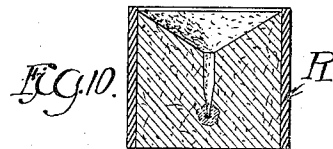
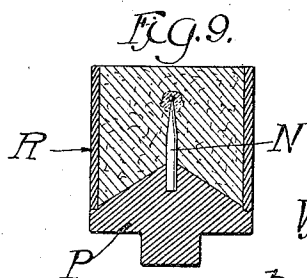
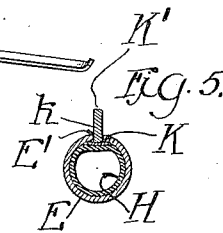
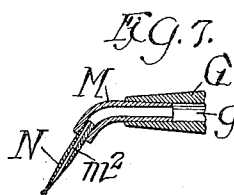
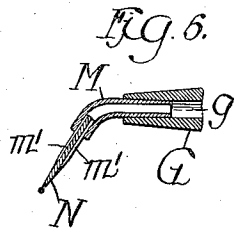
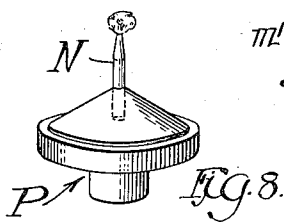
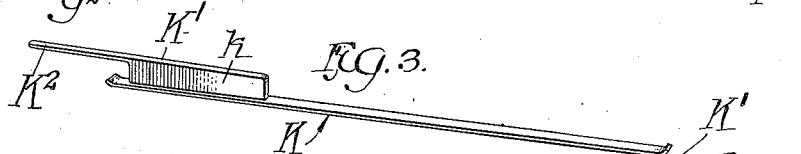
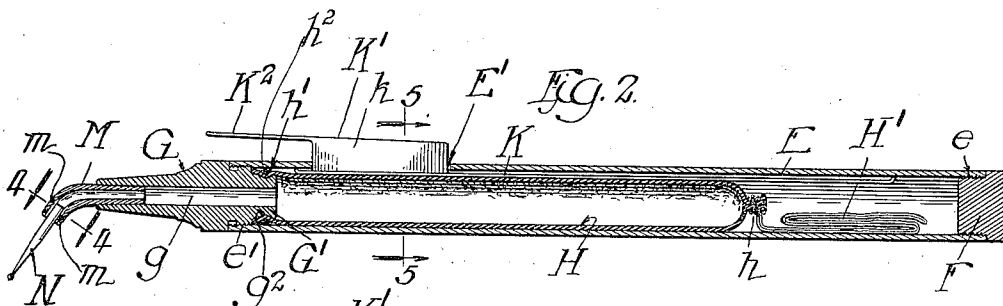
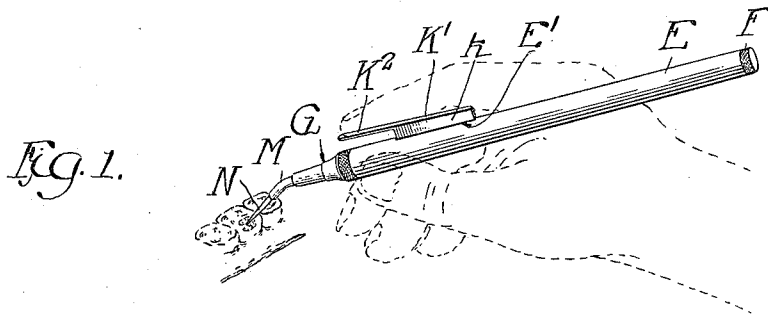


V. LASBURY.
DENTAL TOOL.

APPLICATION FILED JAN. 31, 1910.

1,015,039.

Patented Jan. 16, 1912.



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VINCENT LASBURY, OF CHICAGO, ILLINOIS.

DENTAL TOOL.

1,015,039.

Specification of Letters Patent.

Patented Jan. 16, 1912.

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To all whom it may concern:

Be it known that I, VINCENT LASBURY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dental Tools; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in dental tools and more particularly to a dental tool which is adapted for use in connection with the metal inlay filling of teeth.

The various advantages of my improved tool will appear as I proceed with my specification.

The invention consists of the combination of parts hereinafter described and more particularly pointed out in the appended claims.

In dental metal inlay work, the cavity of the tooth to be filled is plugged with wax to form a pattern for the inlay filling. A pointed instrument is then heated and stuck into the wax plug which melts and flows about the point of the instrument which is usually provided with a channel above the point so that when the wax is again cooled, the instrument will have a grip on the plug. Cold water is then discharged upon the wax to chill and harden it, whereupon it may be removed by means of said instrument. In carrying out this operation with the tools at present in use, the dentist uses one hand for manipulating the pointed tool and the other hand for discharging a stream of water on the wax plug by means of the usual bulb. Thus, the use of both hands is required. After the wax pattern has been removed it is detached from the end of the pointed tool and placed on the end of a pin which is adapted to be supported on the base of a mold box. A plaster of Paris mold is then made from the wax pattern and into this is cast the gold inlay filling. In this operation it is not only necessary to use both hands in cooling and removing the wax pattern, but the wax pattern itself has to be double handled in removing it from the pointed tool to the pointed pin of the mold box. It is thus likely to be deformed or altered, with the result that the inlay

filling finally produced will not fit the cavity for which it is designed and it is necessary to make another pattern.

The object of the present invention is to provide a tool which will overcome these difficulties in that it requires the use of one hand only for both cooling the wax pattern and for removing it, and that no handling of the wax pattern itself is required.

In the drawings:—Figure 1 is a perspective view of my improved dental tool illustrating the manner of its use. Fig. 2 is a longitudinal, sectional view of the tool. Fig. 3 is a perspective view of the compression member and its connected parts. Fig. 4 is a cross-section through the end of the tool on an exaggerated scale on the line 4—4 of Fig. 2. Fig. 5 is a cross-section through Fig. 2 on the line 5—5 thereof. Fig. 6 and Fig. 7 are partial longitudinal sections showing modifications to be referred to later. Fig. 8 is a perspective view of the base of a mold box, showing a pin in position therein and supporting a wax pattern. Fig. 9 is a vertical section through the mold box filled with plaster of Paris. Fig. 10 shows the mold box inverted with the base and pin removed, ready for casting the gold filling.

My improved tool consists of a cylindric barrel or hollow tube E threaded at one end, as at *e*, to receive a threaded cap F, and threaded at the other end, as at *e*¹, to receive the screw-threaded end of a nozzle G which has a central longitudinal discharge bore *g*. Said nozzle G is provided at its inner end beyond the thread *e*¹ with a projection G¹ which has formed on its surface an annular groove *g*².

H indicates a compressible elastic tube of nearly the length of the barrel, made of rubber or other suitable material. It is closed at one end, as indicated at *h*, and attached at the other end, as at *h*¹, to the nozzle G. Said compressible elastic tube is secured to said nozzle in any convenient manner as, for example, by inserting the projection G¹ into the open end of the tube and tying a string *h*² around the tube to hold it engaged in the groove *g*².

K indicates a compression member which lies within the barrel E in engagement with the flexible tube H. Said compression member consists preferably of a strip of metal, of substantially the length of the flexible tube

H. It is provided near the nozzle end of the tool with a projecting web k which extends through a slot E^1 formed in the barrel E and connects with an operating member in the form of a finger or thumb piece K^1 . The thumb piece K^1 is projected beyond the web k , as indicated at K^2 , so that when it is compressed by the thumb or first finger to compress the flexible tube H, said projection will abut against the body of the barrel E and thus afford a firm grip of the tool when the flexible tube is collapsed. This projection also makes it possible to grip the tool nearer the discharge end if desirable in getting at the tooth.

M indicates a tube, one end of which is adapted to be inserted into the bore g of the nozzle G, and the other end of which is adapted to receive a pin N. The engaging parts of the nozzle, tube and pin are nicely fitted together so that they will maintain their relative position when in use and at the same time are readily removable by simply turning one with respect to the other in order to loosen them. As illustrated herein, the tube M is bent at an angle but it is to be understood that this angle may be varied depending upon the kind of work the particular tool is intended for. Several tubes M of various angles may be provided with each tool.

Formed in the inner walls of the tube M are a plurality of longitudinal grooves m forming channels about the base of the pin N. Said channels are adapted for the discharge of small streams of water which will pass beyond the pin N onto the wax plug when the point of the pin is engaged therein.

My improved dental tool is used as follows: The cavity of the tooth is plugged with wax in the usual manner. The operating member K^1 of the compression member K is then pressed down by the thumb or finger to collapse the flexible tube H and discharge the air therefrom, and the tool is dipped into a glass of water until the discharge ends of the channels in the tube M are covered. The operating member K^1 is then released, whereupon the tube H sucks up a supply of water. The tool is then grasped so that either the thumb or forefinger, depending upon the convenience of the operator, rests lightly upon the operating member K^1 . After heating the point of the pin N, the tool is then manipulated to bring the point of the pin N into engagement with the top of the wax plug. Next the member K^1 is compressed until the extension K^2 comes into contact with the barrel E. This causes the water in the tube H to be discharged through the nozzle G, tube M and channels m about the pin N onto the plug of wax, thus chilling the wax and causing it to harden. The operator now has a firm grip upon the handle of the tool and it may be readily manipu-

lated as any other tool to remove the wax pattern from the cavity. By means of a pair of pliers or otherwise, the pin N with the mold of wax thereon, is then removed from the tool and placed in the base P of a mold box (see Fig. 8). The tube R forming the side walls of the mold box is then placed upon the base and a plaster of Paris mold of the wax pattern made in the usual manner, as indicated in Fig. 9. After the plaster of Paris has hardened the base and pin N are removed, the mold box inverted, as indicated in Fig. 10, and the metal inlay cast in the ordinary way. It is apparent from this description that the wax pattern is not touched or handled in any way after it is removed from the cavity of the tooth, so that there is no possibility of its being deformed or altered. At the same time, the operator gets the full benefit of the free use of one hand to assist in the work, the other hand alone being required to manipulate the tool.

Instead of forming the discharge channels m in the inner walls of the tube M, said channels may be formed on the outer surface of the pin itself so as to discharge at the side thereof at a point or points above the point of the pin, it being necessary that said channels shall not discharge so near the point as to be covered by the wax when the tool is inserted therein. For example in Fig. 6, said channels are indicated at m^1 formed on the outer surface of the pin itself, while in Fig. 7, is shown a single channel m^2 running through the body of the pin and discharging at one side thereof.

In order to renew the flexible tube H the threaded cap F is removed and also the threaded nozzle G and with it the flexible tube itself. The old tube is then removed from, and a new one applied to, the projection G^1 on the nozzle and the parts replaced. In order to facilitate the insertion of the flexible tube H into the barrel E it is preferable to tie a string H^1 to the end of the said tube which may be first projected through the barrel E and the tube H then drawn after it. This or some equivalent method will be necessary for the reason that it is preferable to make the tube H as near the diameter of the barrel E as possible in order that it may hold a sufficient amount of water without the necessity for an unusually large barrel to receive it. The string H^1 is also useful in straightening out the flexible tube which is likely to become twisted by the screwing on of the nozzle.

When the tube H is removed the compression member K falls into the barrel E but is prevented from dropping out of the barrel by means of the projection K^2 of the thumb piece K^1 . Said projection is, however, not made too long to prevent the compression member from being bodily removed from the barrel by passing the web k and the

operating member K¹ through the slot E¹ or vice versa when the structure is assembled.

It is apparent that the dental tool described herein may be modified in various ways without departing from the spirit of the invention and I do not wish to be limited to the details of construction shown in the drawings except as pointed out in the appended claims.

I claim as my invention:—

1. In a dental tool of the class described, a hollow handle member, a nozzle located at one end of said handle member, a compressible, elastic reservoir member carried by said handle member and connected with said nozzle, a pin removably connected to said nozzle, and a channel or channels communicating with said nozzle and adapted to discharge about the body of said pin upon the article engaged thereby.

2. In a dental tool of the class described, a hollow handle member, a nozzle located at one end of said handle member, a compressible, elastic reservoir member carried by said handle member and connected with said nozzle, a discharge tube engaged within said nozzle, a pin removably mounted in the outer end of said discharge tube, and a channel or channels adapted to connect the interior of said discharge tube with the outer surface of said pin at a point or points above the point of the pin.

3. In a dental tool of the class described, a hollow barrel comprising the handle of the tool, a nozzle located at one end of said barrel, a compressible, elastic tube located within said barrel and connected with said nozzle, a compression member adapted to compress the compressible, elastic tube and bearing upon substantially the full length thereof located within said barrel, an operating member located without the barrel adapted to operate said compression member, a pin removably connected to said nozzle, and a channel or channels communicating with said nozzle adapted to discharge about the body of said pin.

4. A dental tool of the class described comprising a barrel forming the handle of the tool, a compressible, elastic tube located

within said barrel, a nozzle secured to the end of said barrel, a compression member comprising a flat bar located between the inner walls of said barrel and the outer wall of said compressible, elastic tube, an operating member located without the barrel adapted to operate said compression member, said operating member being adapted to be brought against the body of the barrel when said compression member is operated, a discharge tube secured to the end of said nozzle, a pin removably secured at the outer end of said discharge tube, and a channel or channels adapted to connect the interior of said discharge tube with the outer surface of said pin at a point or points above the point of the pin.

5. A dental tool of the character described comprising a barrel forming the handle of the tool, a compressible, elastic tube located within said barrel, a nozzle provided with a discharge opening there-through secured to the end of said barrel, said compressible, elastic tube being closed at one end and having its other end secured to the inner end of said nozzle, a compression member in the form of a flat bar extending longitudinally of said compressible, elastic tube and located between said tube and the inner walls of said barrel, said barrel being provided with a slot near said nozzle, a web formed on said compression member projecting through said slot, a finger piece formed on said web lying without said barrel and having a projection adapted to engage the outer surface of said barrel when said compressible, elastic tube is compressed, a discharge tube adapted to fit within the discharge opening of said nozzle, a pin removably secured to the outer end of said tube, and channels formed about the base of said pin and connecting with the interior of said tube.

In testimony, that I claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 20th day of January A. D. 1910.

VINCENT LASBURY.

Witnesses:

CLARENCE E. MEHLHOPE,
T. H. ALFREDS.