

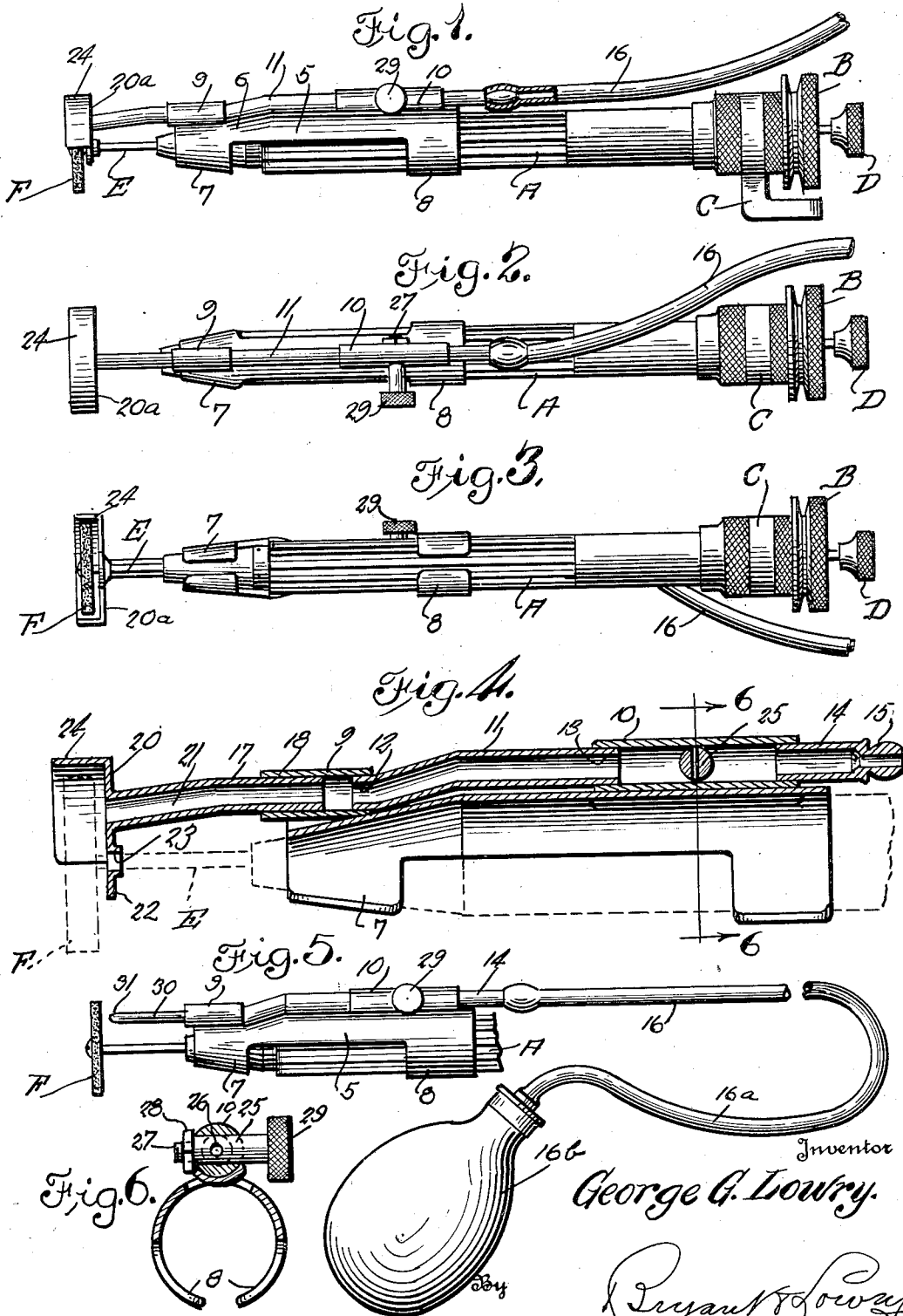
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ATTACHMENT FOR DENTAL HAND PIECES AND STONE PROTECTORS AND WATER COOLERS

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ATTACHMENT FOR DENTAL HAND PIECES
AND STONE PROTECTORS AND WATER
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2 Claims. (Cl. 32—10)

This invention relates to certain new and useful improvements in attachments for dental hand pieces and stone protectors and water coolers.

The primary object of this invention is to provide a liquid feed device for a dental hand piece having the end presented to the grinding wheel thereof for supplying moisture to the grinding wheel and to the teeth thereby preventing overheating of the grinding wheel while the tooth is being ground and preventing the resultant pain caused by said overheating.

A still further object of this invention is to provide a device of the above mentioned character including a detachable clamp adapted to be attached to any dental hand piece easily and conveniently, without requiring alterations in the hand piece.

A still further object of the invention is to provide a detachable clamp of the above mentioned character for a dental hand piece having a grinding wheel guard associated therewith adapted to partially encircle the grinding wheel to prevent the moisture fed thereto from being thrown by centrifugal force into different portions of the patient's oral cavity.

A still further object of this invention is to provide an attachment for any dental hand pieces of the above mentioned character in which the liquid or water supply pipe is provided with a valve in close proximity to the end of the dental hand piece whereby the operator may, at will, control the supply of liquid to the grinding wheel.

A still further object of this invention is to provide a detachable grinding wheel guard which may be alternately removed for the insertion of a spray nozzle or jet having its end presented to the grinding wheel of the dental hand piece.

Other objects and advantages of the invention will become apparent during the course of the following description forming a part of this specification, taken with the drawing, wherein,

Figure 1 is a side elevational view of the device embodying this invention illustrating the same applied to a dental hand piece;

Figure 2 is a top elevational view of the same illustrating the grinding wheel enclosing guard and controlling valve;

Figure 3 is a bottom elevational view showing the gripping fingers of the detachable clamp and the manner in which the same are associated with the dental hand piece;

Figure 4 is an enlarged longitudinal cross-sectional view of the attachment illustrating the clamping bracket, liquid supply pipe and detachable guard carried thereby;

Figure 5 is a side elevational view of the invention showing the grinding wheel guard removed and the spray pipe or jet positioned in lieu thereof; and

Figure 6 is a vertical cross-sectional view taken on line 6—6 of Figure 4, looking in the direction of the arrows and illustrating the controlling valve interposed in the water supply pipe carried by the removable bracket.

In the drawing wherein for the purpose of illustrating the invention and wherein like reference characters will be employed to designate like parts throughout the same, the reference character A will generally be employed to designate a dental hand piece having a rotatable shaft driven by means of the pulley B and a bracket C for being attached to a universal shaft. The usual thumb piece D is provided for tightening and loosening the jaws of the hand piece which engages the tool shank E. A grinding wheel F is mounted on the tool shank in the usual manner.

The invention comprises a frame 5 having a tapering portion 6 adapted to conform with the hand piece A and formed on the frame 5 at opposite ends thereof are clamping arms 7 and 8. The clamping arm 7 is tapered to also conform to the shape of the hand piece tip.

Formed integral with the clamping frame 5 are tubular portions 9 and 10 which are connected by means of a pipe or tube 11 which has its ends inserted in the tubular portions 9 and 10 as at 12 and 13. Extending in the opposite end of the tubular portion 10 is a nipple 14 having a bulbous shaped end 15 adapted to receive a flexible hose 16 such as rubber. The opposite end of the rubber tube or hose 16 may be connected to a water supply pipe.

Inserted within the open end of the tubular portion 9 is an angular pipe 17 as at 18 and it will be noted that the angular pipe 17 is provided with a slip fit within the tubular portion 9 so that the same may be quickly and easily removed when desired.

Formed on the outer end of the angular tube 17 is an interchangeable grinding wheel guard 20 so that the bore 21 of the angular tube 17 extends therethrough and is presented to the grinding wheel F. An extension 22 is formed on the guard 20 and is provided with an aperture 23 for the passage of the tool spindle E thereby holding the guard 20 in place. The guard is formed from metal or other material and includes a semi-circular band 24 secured to the portion 20a by welding or the like.

The tubular portion 10 is provided with a trans-

verse bore in which is received a rotary valve plug 25 having a transverse bore 26 adapted to register with the bore formed in the tubular portion 10. One end of the rotary valve plug 25 is screw threaded as at 27 for receiving a nut 28 to retain the plug in place while the opposite end is provided with a thumb piece 29 for the manual operation of the valve.

As shown in Figure 5, the angular tube and guard 20 has been removed and in lieu thereof there has been inserted into the tubular portion 9 a spray pipe 30 having a tapered end 31 which is presented to the grinding wheel F substantially in the same position as the angular tube 17. Instead of connecting the pipe 16 to a water supply pipe or faucet, the same may be connected to a tube 16a of a bulb 16b having a supply of water therein so that by manipulating the bulb 16b by hand pressure, water or liquid may be projected from the spray tube 30 through the tapered end 31 onto the grinding wheel F. It is to be understood that the attachment will be constructed of material that lends itself to sterilization with the hand piece, and may be formed of any suitable material for the purpose, such as chrome-nickel alloy, or chromium plated metal.

The form of the invention herewith shown and described is to be taken as the preferred embodiment of the same and various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

I claim:—

1. An attachment for a dental hand piece carrying a grinding stone, comprising a bracket clip, a tubular member carried thereby, means for supplying water to one end of the tubular mem-

ber, an outlet pipe for the water attached to the other end thereof for directing water onto the grinding stone, a guard rigid with the outer end of the outlet pipe and adapted to partially inclose the grinding stone, said pipe and guard being detachable from the tubular member to permit substitution of guards of different sizes, said attachment adapted to be disposed laterally of a dental hand piece with which the attachment is adapted to be associated and a portion of the guard traversing the end of the dental hand piece and having a bearing therein laterally of the point of rigid connection between the guard and outlet pipe for the shaft of a dental hand piece and a manually operable valve in the tubular member for controlling the throw of water onto the grinding stone.

2. An attachment for a dental hand piece carrying a grinding stone, comprising a bracket clip, a tubular member carried thereby, a water supply pipe attached to one end of the tubular member, an outlet pipe for the water attached to the other end thereof, a water control valve in the tubular member for controlling the flow of water there-through, a guard carried by the outer end of the outlet pipe and spaced outwardly of the end of the dental hand piece for partially inclosing the grinding stone, said attachment adapted to be disposed laterally of a dental hand piece with which the attachment is adapted to be associated and a portion of the guard traversing the end of the dental hand piece with a bearing in the guard for the shaft supporting the grinding stone onto which the water is adapted to be thrown under control of said valve.

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