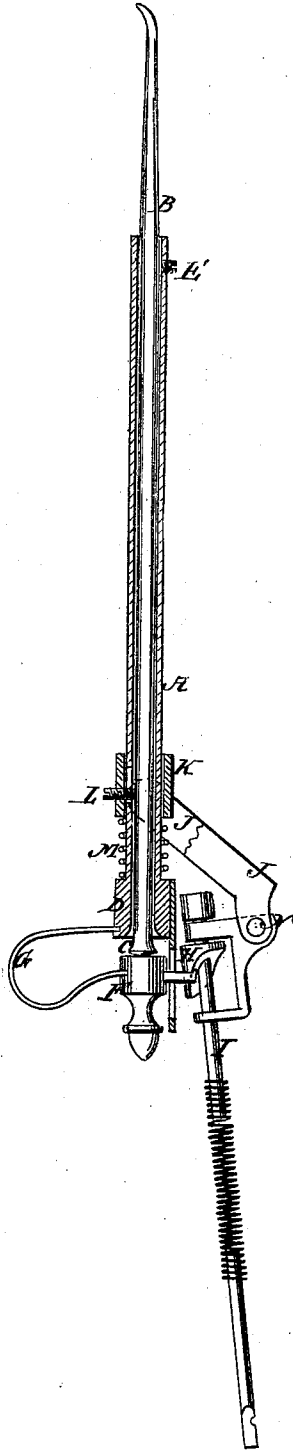


C. M. RICHMOND & A. WARNER, Jr.

DENTAL-PLUGGERS.

No. 177,157.

Patented May 9, 1876.



WITNESSES:

E. Wolff
John Goethals

INVENTOR:

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UNITED STATES PATENT OFFICE.

CASSIUS M. RICHMOND AND ALEXANDER WARNER, JR., OF SAN FRANCISCO,
CALIFORNIA.

IMPROVEMENT IN DENTAL PLUGGERS.

Specification forming part of Letters Patent No. **177,157**, dated May 9, 1876; application filed
March 13, 1876.

To all whom it may concern:

Be it known that we, CASSIUS M. RICHMOND and ALEXANDER WARNER, Jr., of the city and county of San Francisco, California, have invented a new and Improved Dental Plugger, of which the following is a specification:

The mallet is mounted by a spring on the upper end of a tubular stock adapted for receiving different tools. A cam mounted on a revolving shaft arranged parallel to the stock lifts the mallet and the spring throws it back against the head of the tool to strike the blow. The frame in which the cam-shaft runs is mounted on the tool-stock, so that the latter has a little endwise motion in the frame for allowing the tool to reciprocate, and a spring in the stock, beneath the head of the latter and the frame, raises the tool after being forced down by the hammer. A joint in the frame of the cam-shaft allows the cam to be adjusted so as to strike light or heavy blows, as required.

The drawing is a sectional elevation of our improved plugger, which is designed for hand use as well as for the engine.

A is the tubular tool-stock, in which the tools B of different kinds are arranged, so that they project at the head a little above the head D of the stock, and are held by a set-screw, E. F is the mallet, which is mounted on the spring G attached to the head of the stock, so that the mallet will strike against

the head of the tool. H is the cam for raising the mallet. It is mounted on the shaft I, which is to be turned by any competent foot-power, and which is arranged parallel to the stock in a frame, J, fitted on the stock A by a sleeve, K, in which the stock is free to slide to a certain extent, limited by the screw L, which also prevents the frame from turning on the stock. M is the spring, arranged on the stock between sleeve K and head D, to retract the tool after being forced on the work by the mallet. N is the joint of the frame J, by which the cam is shifted to vary the force of the blows.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The cam-shaft frame J, mounted on the tool-stock A by sleeve K, and screw L, arranged to allow the stock to slide relatively to the frame, substantially as specified.

2. The spring M combined with the tool-stock A, head D, and the frame-sleeve K, substantially as specified.

3. The cam-shaft frame J, having a joint, N, in combination with the mallet and tool-stock, substantially as specified.

CASSIUS MONTEZUMA RICHMOND.
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Witnesses:

E. O. COCHRANE,
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