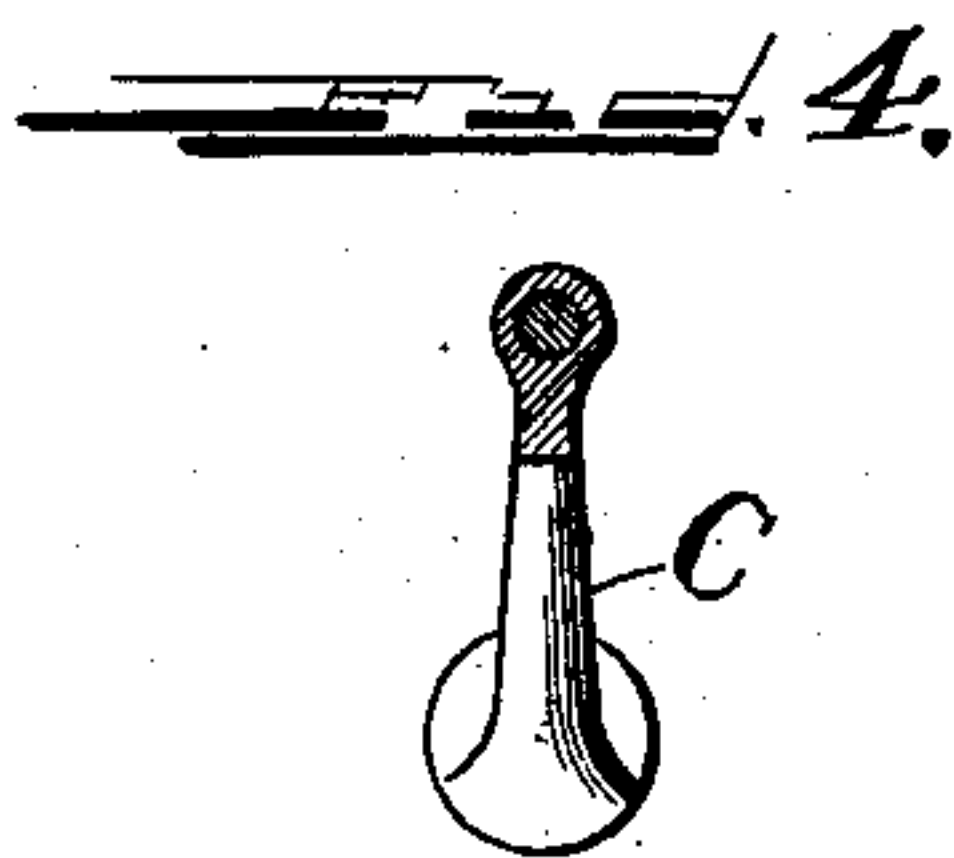
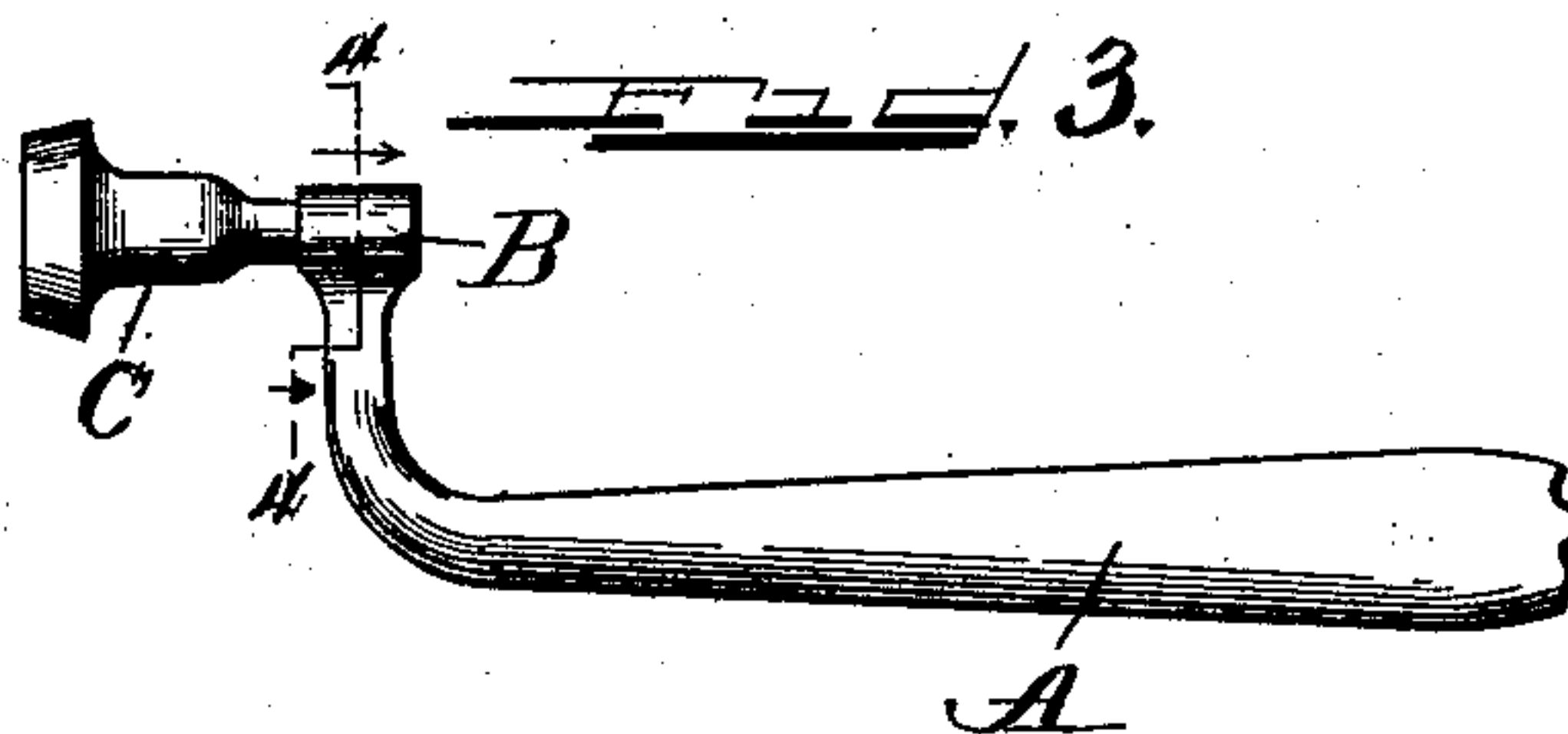
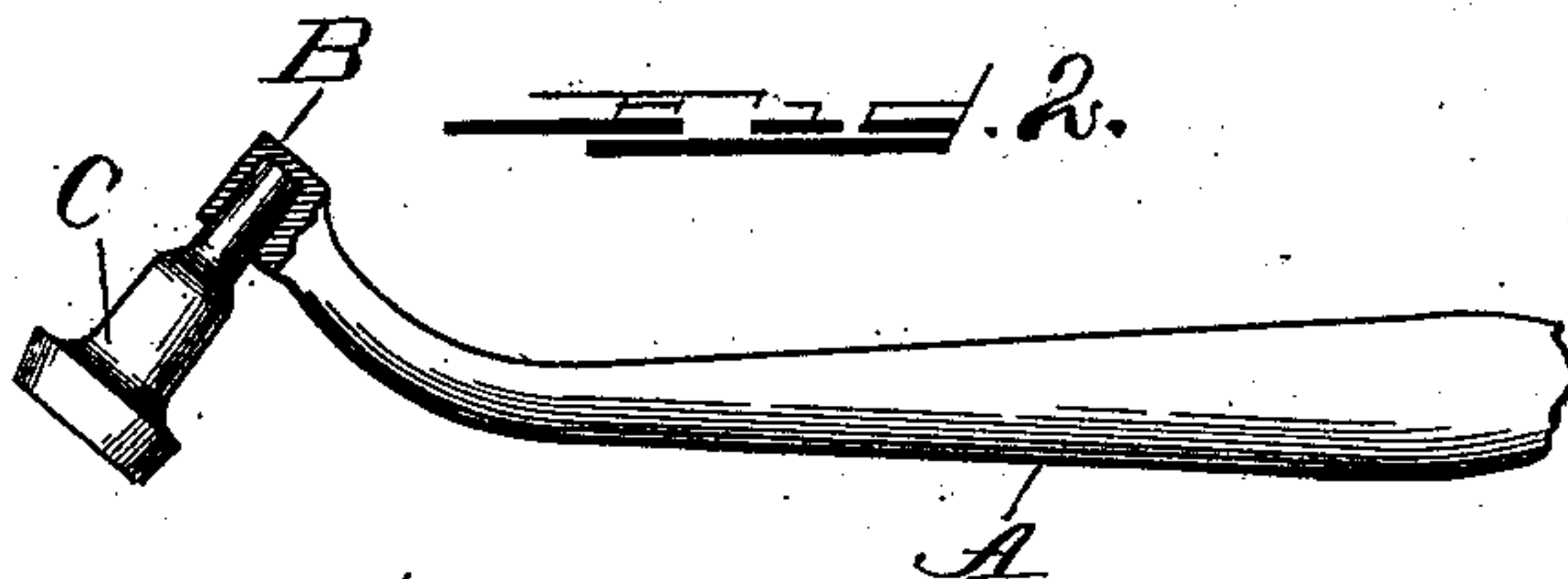
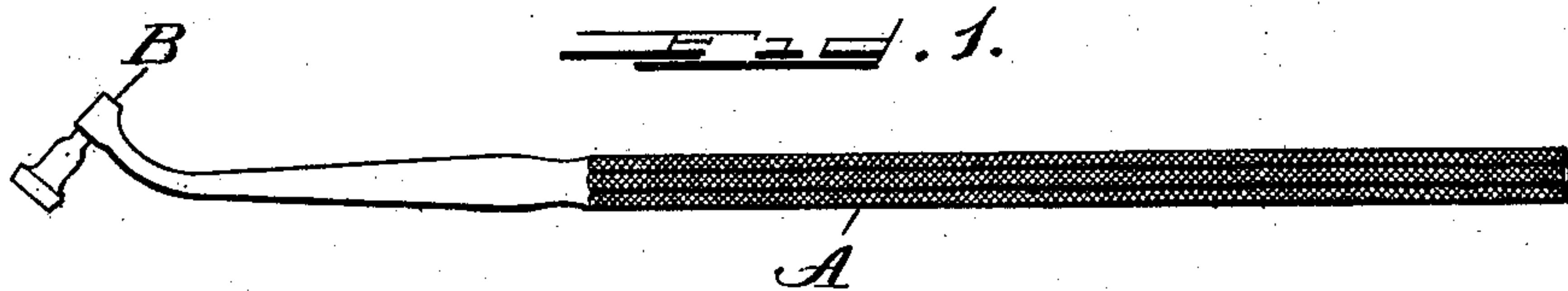


No. 691,763.

Patented Jan. 28, 1902.

W. E. HARPER.
DENTAL INSTRUMENT.
(Application filed Mar. 26, 1900.)

(No Model.)



WITNESSES

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WILLIAM E. HARPER, OF CHICAGO, ILLINOIS.

DENTAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 691,763, dated January 28, 1902.

Application filed March 26, 1900. Serial No. 10,249. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. HARPER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dental Instruments, of which the following is a specification.

This invention relates to improvements in dental instruments, and more especially to the pluggers used in filling cavities with amalgam, and has for its object a tool of the above-described character which when the plugger becomes worn out or is found to be otherwise unserviceable may be discarded and a new one readily substituted. Furthermore, my invention renders it practicable to employ wooden pluggers or plugging-points which the dentist may shape to fit each individual cavity at an almost inappreciable cost. These and such other objects as may hereinafter appear are attained by the devices illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a dental instrument embodying my invention, showing a plugger set on an axis oblique to that of the handle. Fig. 2 is an enlarged sectional elevation of a portion of the instrument illustrated in Fig. 1. Fig. 3 is a detail side elevation of a modified form of the instrument, showing the plugger on an axis parallel to that of the handle, but in a different plane. Fig. 4 is a detail section on the line 4 4 of Fig. 3 looking in the direction indicated by the arrows.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A indicates the handle, which may be of any suitable shape and dimension, said handle terminating at one end in a head B, having a socket therein set off to one side of the axis of the handle. In Figs. 1 and 2 the axis of the socket in the head is oblique to the axis of the handle, while in Fig. 3 the axis of the socket in the head is parallel with the axis of the handle, but is in a different plane therefrom. The stem of the tool or working point has a tight frictional taper fit in the socket in the head, so that when forced therein it will hold without other fastening, and more particularly in the case of the pluggers the

pressure of the tool or point will be substantially in a line with the axis of the point, so that such pressure will tend to aid in holding the point in place. While the points, as shown in the drawings, may differ materially in the contour of their working surfaces, I propose to have them all provided with stems of the same dimensions, so that the points will be interchangeable with the handles. As a result of this construction I am enabled to provide wooden plugging-points of various sizes, which a dentist can trim down or whittle to substantially correspond with the exact outlines of the cavity being filled, and after being used the point can be thrown away without an appreciable expense to the dentist. Further, the plugger-points and my improved handle are assembled in such relation to each other, as clearly shown by the drawings, that such wooden points may be firmly pressed into a tooth at varying angles in such a manner that the force is applied in the direction of the length of the plugger, so that there is no tendency to break the stem from the plugger at the point where it enters the socket in the handle. This is of especial importance in the art to which my invention relates, because where a generally circular end is provided on the plugger when made of metal, as is now universally the case, manifestly the plugger seldom, if ever, fits the cavity, and hence there is more or less flow or displacement of the amalgam filling when the pressure is applied thereto by the plugger, whereas if the plugger substantially fits the cavity the amalgam will be forced solidly into place and so as to completely fill the cavity.

While I have shown the head containing the socket as formed integral with the handle and shank, of course, if deemed expedient, the head could be formed separately and screw-threaded to the shank without departing from the spirit of my invention so long as the head, handle, and shank are so assembled with relation to each other as to form practically one rigid continuous instrument.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

As a new article of manufacture, a dental instrument which comprises a handle having its one end bent upwardly and provided with

an enlarged head having a socket formed therein, said socket having plain walls with the upper wall thereof angularly disposed with relation to the handle and a plugger having a shank held in said socket by frictional contact with its one end abutting against said upper wall of the socket whereby the lines of force when the tool is in use are exerted upon said end of the plugger-shank and the upper wall of the socket and distributed along the said upwardly-bent end, substantially as described.

WILLIAM E. HARPER.

Witnesses:

C. L. WOOD,
M. E. SHIELDS.