

(No Model.)

A. DE VILBISS.
BONE FORCEPS.

No. 571,040.

Patented Nov. 10, 1896.

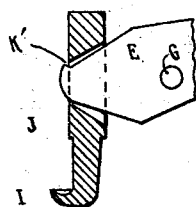


Fig. 1.

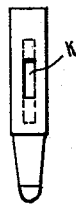


Fig. 2.

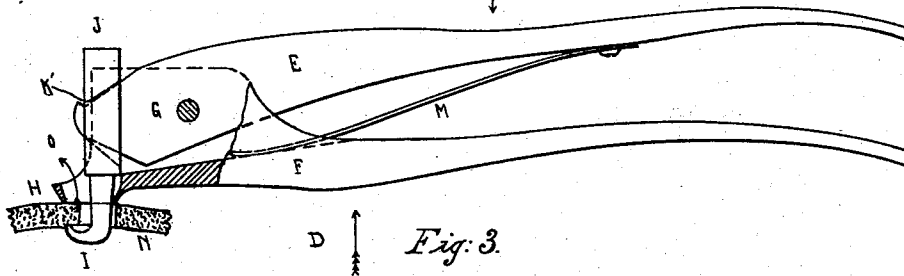


Fig. 3.

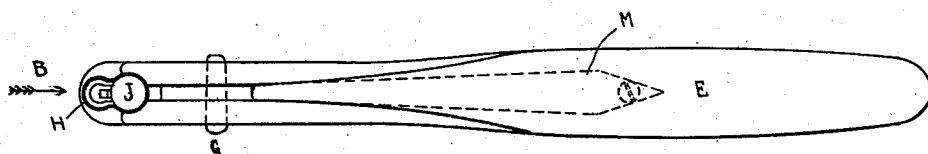


Fig. 4.

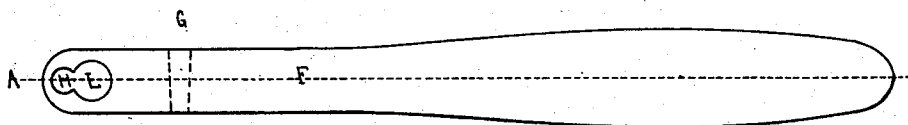


Fig. 5.

Witnesses.

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UNITED STATES PATENT OFFICE.

ALLEN DE VILBISS, OF TOLEDO, OHIO.

BONE-FORCEPS.

SPECIFICATION forming part of Letters Patent No. 571,040, dated November 10, 1896.

Application filed April 17, 1896. Serial No. 588,024. (No model.)

To all whom it may concern:

Be it known that I, ALLEN DE VILBISS, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Bone-Cutting Forceps; 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 improvements in bone-cutting forceps of the variety known in the art of surgery as a "rongeur." This instrument has commonly been provided with two members, consisting of a pair of handles pivoted together and adapted to operate a pair of cutting-jaws. It cuts in a manner, "little by little," known as a "snipping" cut. To the operation of trephining this well-known instrument, though largely used, is not well adapted.

My invention consists, first, in providing this instrument with a third member, which in form is a vertically-operating plunger provided upon its lower extremity with a circular cutter adapted to operate in conjunction with a mate cutter, both of which cutters are connected with and adapted to be operated by a pair of pivoted handle-levers; second, in providing upon the lower extremity a peculiarly-formed cutter particularly adapted to its use, and, third, in a novel manner connecting one of the pivoted levers with the plunger aforesaid. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure I illustrates a portion of the upper pivotal connection of the upper handle-lever with the plunger, which latter is shown in vertical section on line A, Fig. V. Fig. II is a vertical side view of the plunger, viewed in the direction of arrow B. Fig. III illustrates a side elevation of the entire apparatus, in which view the lower lever-cutter is shown in section on line A. Fig. IV is a top view of the entire apparatus, seen in the direction of arrow C. Fig. V is an under view of the lower handle-lever, viewed in the direction of arrow D.

Similar letters refer to similar parts throughout the several views.

E is the upper and F is the lower handle-lever. These are pivoted together at C. Upon the left-hand extremity of the handle-lever F is formed a jaw having an open cutter H. This cutter is adapted to operate in conjunction with a mate cutter I, formed upon the lower extremity of the plunger J. The plunger J is vertically mortised at K. Said mortise is preferably longer upon the vertical side nearest the pivotal connection G of the lever-handles E and F in such a manner as to form substantially an acute angle at K', where the left-hand jaw or extremity of the handle E is formed into a similar angle and adapted to operate upon the plunger J at a point the nearest possible in vertical line with the cutter H. The plunger is preferably circular in cross-section and is fitted within a corresponding bore L of the lower handle-lever F, where in it is adapted to be given a vertical movement by means of the handle-lever E, operating upon pivot G and angle K, before described, in an obvious manner.

A circular offsetting concave cutter I (shown in Figs. I and III) is formed upon the lower extremity of the plunger J. A spring M is secured to the handle E and adapted to impinge upon the inner side of handle F for resisting the closing pressure upon and for opening the said handle in the ordinary manner common in the operation of such instruments.

When used upon a skull, the operation of this instrument is as follows: An opening of suitable form and size for the passage of the cutter I is placed therein, when the handles E and F are compressed, and the bone N, by means of the cutters H and I, is rapidly cut away, the cuttings passing outward of the skull and away in the direction of arrow O, as clearly illustrated in Fig. III of the drawings.

Having described my invention, what I claim as new, and desire Letters Patent for, is—

1. A bone-cutting instrument consisting of the pivoted members E and F, plunger J having an offsetting cutter upon the lower extremity thereof and adapted to act in conjunction with a cutter H upon and actuated by handle F substantially as shown.

2. A bone-cutting instrument consisting of

the pivoted members E and F, spring M, and
plunger J, being provided with an offsetting
cutter upon its lower extremity and adapted
to act in conjunction with a corresponding
5 cutter H, attached to the pivotal member F
substantially as shown.

3. In a bone-cutting instrument consisting
of the pivotal handle-levers F and E, plunger

J, and the angular connection K and K' sub-
stantially as shown. 10

In testimony whereof I have affixed my sig-
nature in presence of two witnesses.

ALLEN DE VILBISS.

Witnesses:

J. C. PRENTISS,

A. D. STEWART.