

(No Model.)

W. S. HOW.  
DENTAL PLIERS.

No. 468,746.

Patented Feb. 9, 1892.

FIG. 1.

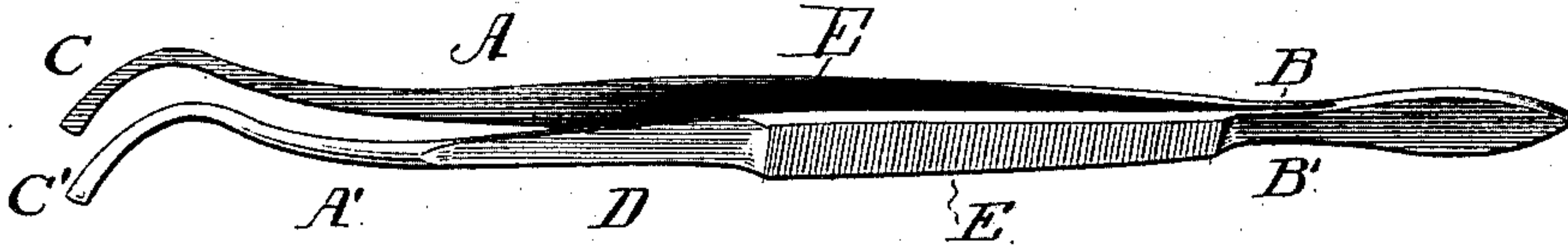


FIG. 2.

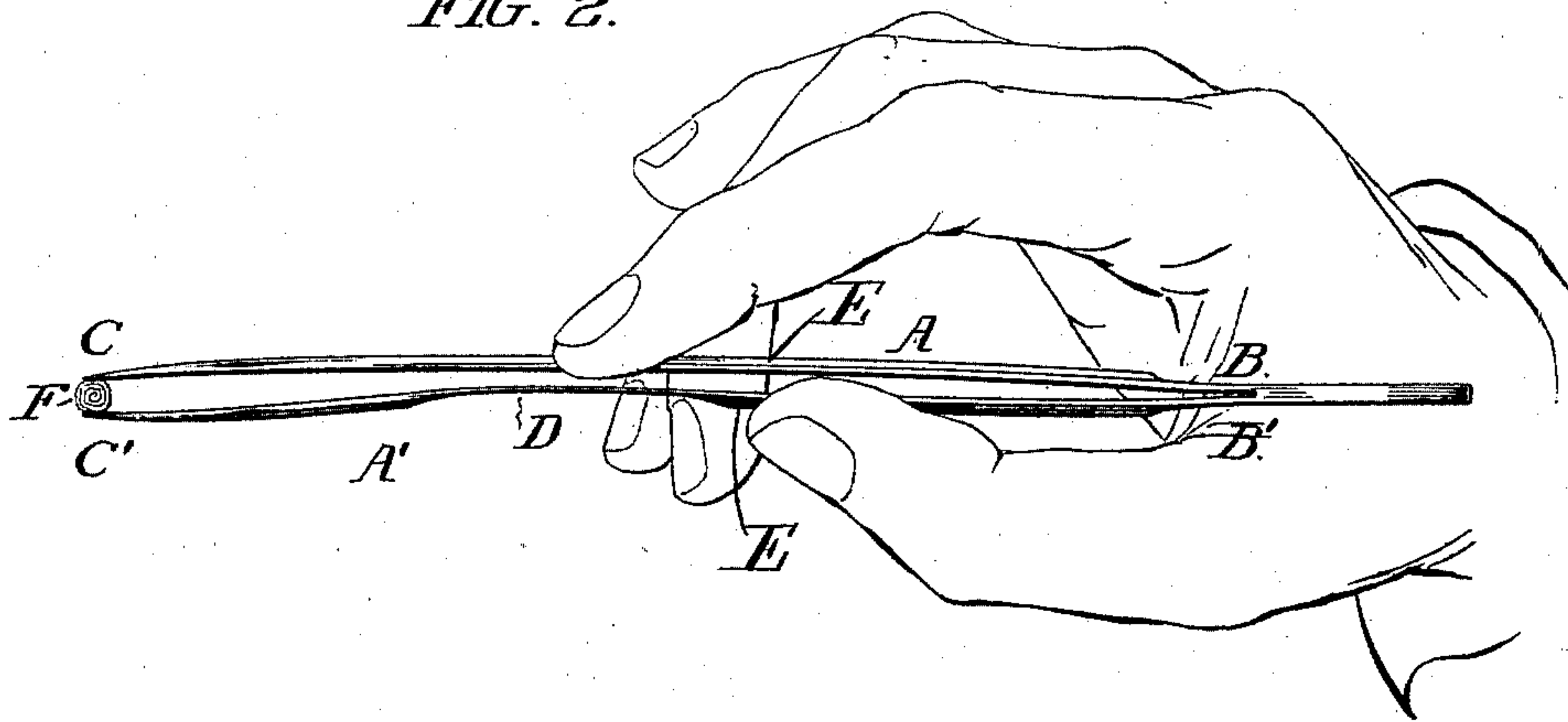


FIG. 3.

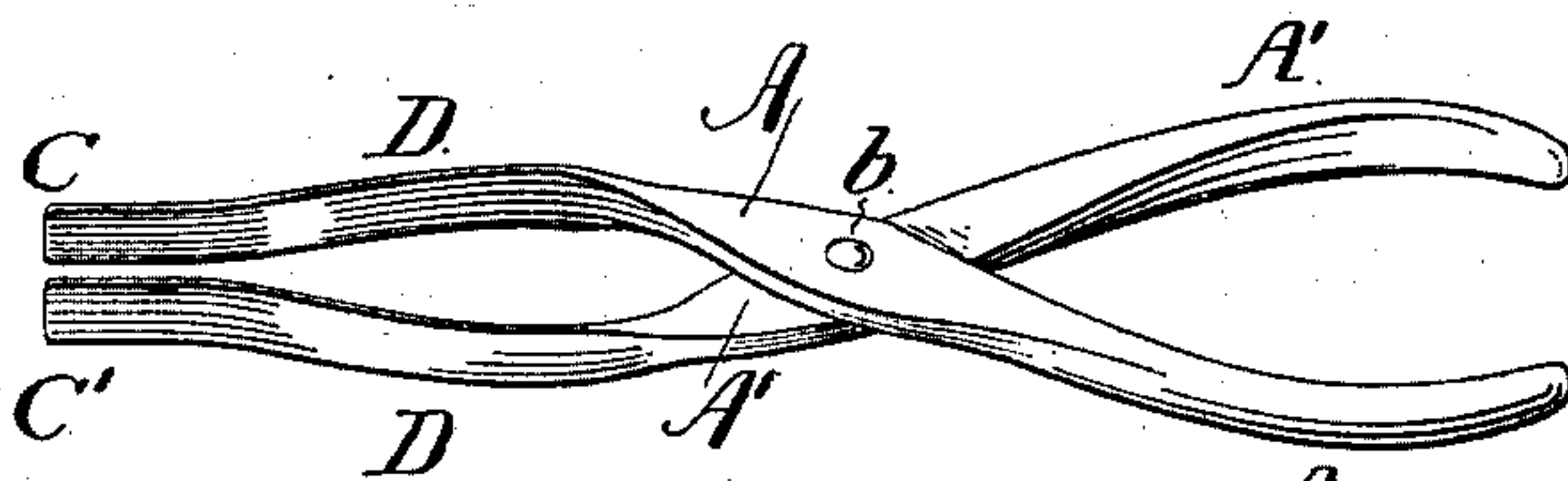


FIG. 4.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WOODBURY STORER HOW, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR  
TO THE S. S. WHITE DENTAL MANUFACTURING COMPANY, OF SAME  
PLACE.

## DENTAL PLIERS.

SPECIFICATION forming part of Letters Patent No. 468,746, dated February 9, 1892.

Application filed December 3, 1891. Serial No. 413,898. (No model.)

*To all whom it may concern:*

Be it known that I, WOODBURY STORER HOW, of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Dental Pliers or Tweezers and Similar Implements, of which the following is a specification.

My invention relates to certain improvements, as hereinafter claimed, applicable to various spring-jawed implements of the class adapted for grasping and handling sundry articles, especially foil-carrying pliers or tweezers for dentists' use; and my object, mainly, is to provide implements of this class so constructed that while adapted to grasp with sufficient pressure to hold and carry or support the desired articles or substances shall yet be incapable of exerting undesirable pressure or so forcibly grasping the articles handled as to result in injury thereto, such as pressing out of shape, indenting, fracturing, &c.

In the accompanying drawings, which show my improvements as applied to tweezers or pliers adapted to dentists' use, Figure 1 is a view in perspective of a suitably-constructed implement. Fig. 2 is a plan view of the implement, showing it in use with a loosely-rolled cylinder of gold-foil carried thereby. Fig. 3 shows in perspective a modified construction of the implement, and Fig. 4 a view in perspective of an implement showing other modifications.

The jaws A A' of the pliers or tweezers are yieldingly joined or coupled in any suitable way, as by the integral plate-springs B B' at the butt-end of the implement, and terminate at the opposite end of the implement in the curved operative ends or clamping-points C C'.

In advance of the pressure-applying portion of the implement, which in the example shown is the hand-gripping portion thereof, one jaw is made to yield readily, this yielding portion D of the jaw being shown as formed by considerably reducing its thickness for a suitable part—say one inch, more or less—of its length. By roughening or indenting the surface E,

to which the pressure is applied, as shown, a good finger-hold for the operator is provided.

As is well understood by dentists, in certain operations of filling various cavities in the natural teeth with gold it is desirable that the gold cylinders, pellets, or mats employed as filling shall be conveyed to the cavities without alteration in form and with the least possible preliminary compression. By my improvements it will be seen that by means of the readily yielding or very delicate spring D of, say, twelve-thousandths of an inch in thickness, in advance of the pressure-applying or hand-gripping portion of the tool, provision is made for exerting only about that pressure required to grasp and support the filling material, thus guarding against injurious effects upon the material, even though the operator should very forcibly compress the jaws, or even bring them in contact in rear of the yielding portion D. In event, however, of there being required a more forcible pressure upon material being handled, the operator can grasp the jaws in advance of the spring portion D.

My invention may be modified in various ways without departing from its leading feature, whereby provision is made for grasping articles without undue pressure. For instance, as represented by Fig. 3, the jaws may be coupled by a pivot b. Each jaw may be provided with the integral spring D in advance of the coupling and with pressure-applying handles in rear thereof, while, as represented by Fig. 4, a coiled-wire spring may be employed in advance of the pressure-applying portion of the tool as an equivalent of the plate-spring. If preferred, both jaws may be of wire, with either a plain or coiled spring portion in advance of the pressure-applying portion thereof, and the degree of resilience or sensitiveness to pressure of the spring may of course be varied in different implements, according to the uses for which they may be intended, the spring be longer or shorter than shown, as circumstances may render expedient, the operative ends or clamping-surfaces be varied, as desired, and pressure be applied



to the jaws in rear of the spring portion thereof by hand or otherwise.

I claim as my invention—

5 A gripping implement having the jaw or jaws constructed to yield readily between the pressure-applying and gripping portions of the implement, substantially as set forth.

In testimony whereof I have hereunto subscribed my name.

WOODBURY STORER HOW.

Witnesses:

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FRANKLIN TOWNSEND.