

T. W. GRAYDON.
Dentaphone.

No. 225,365.

Patented Mar. 9, 1880.

Fig. 1.

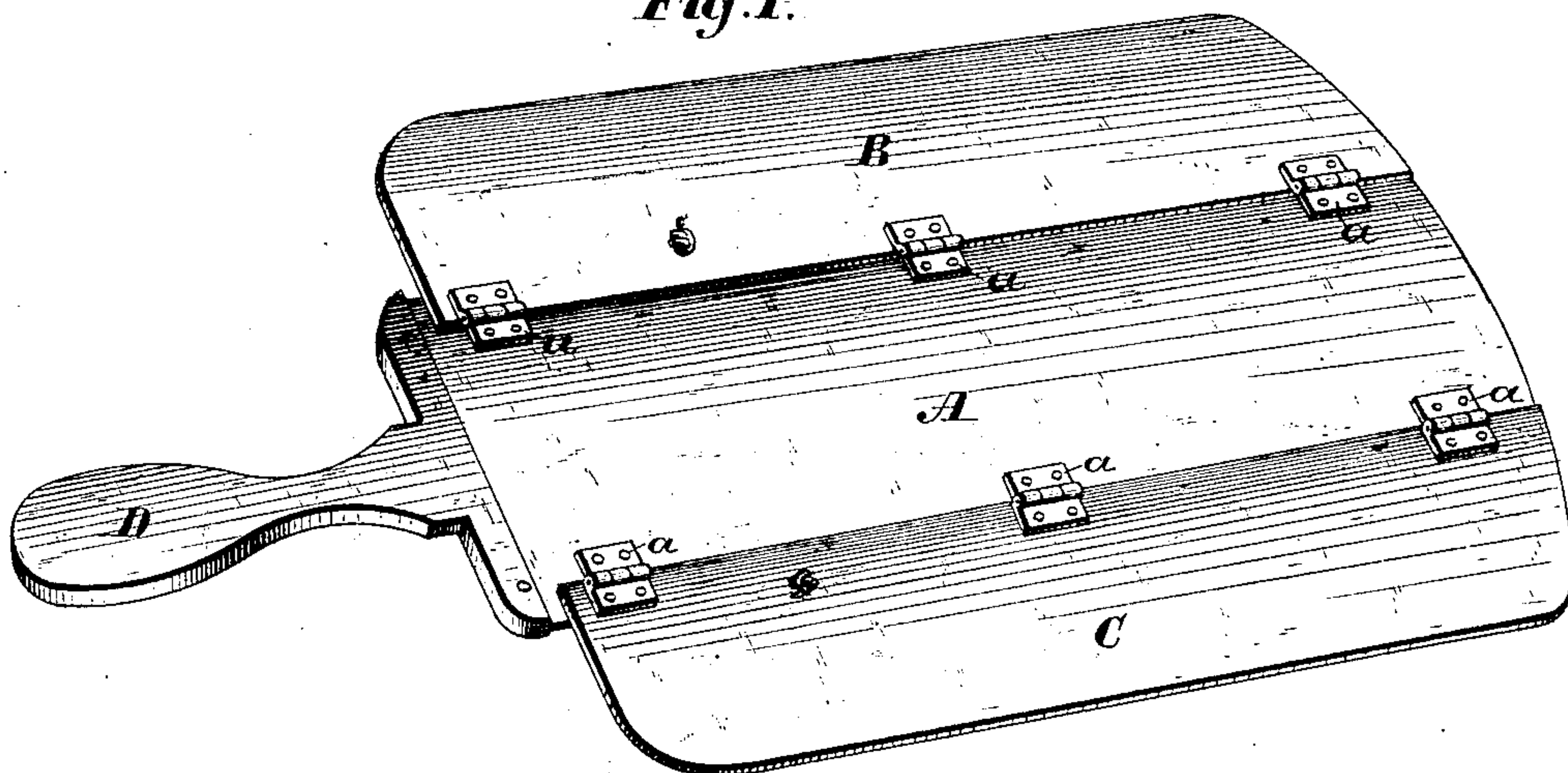


Fig. 2.

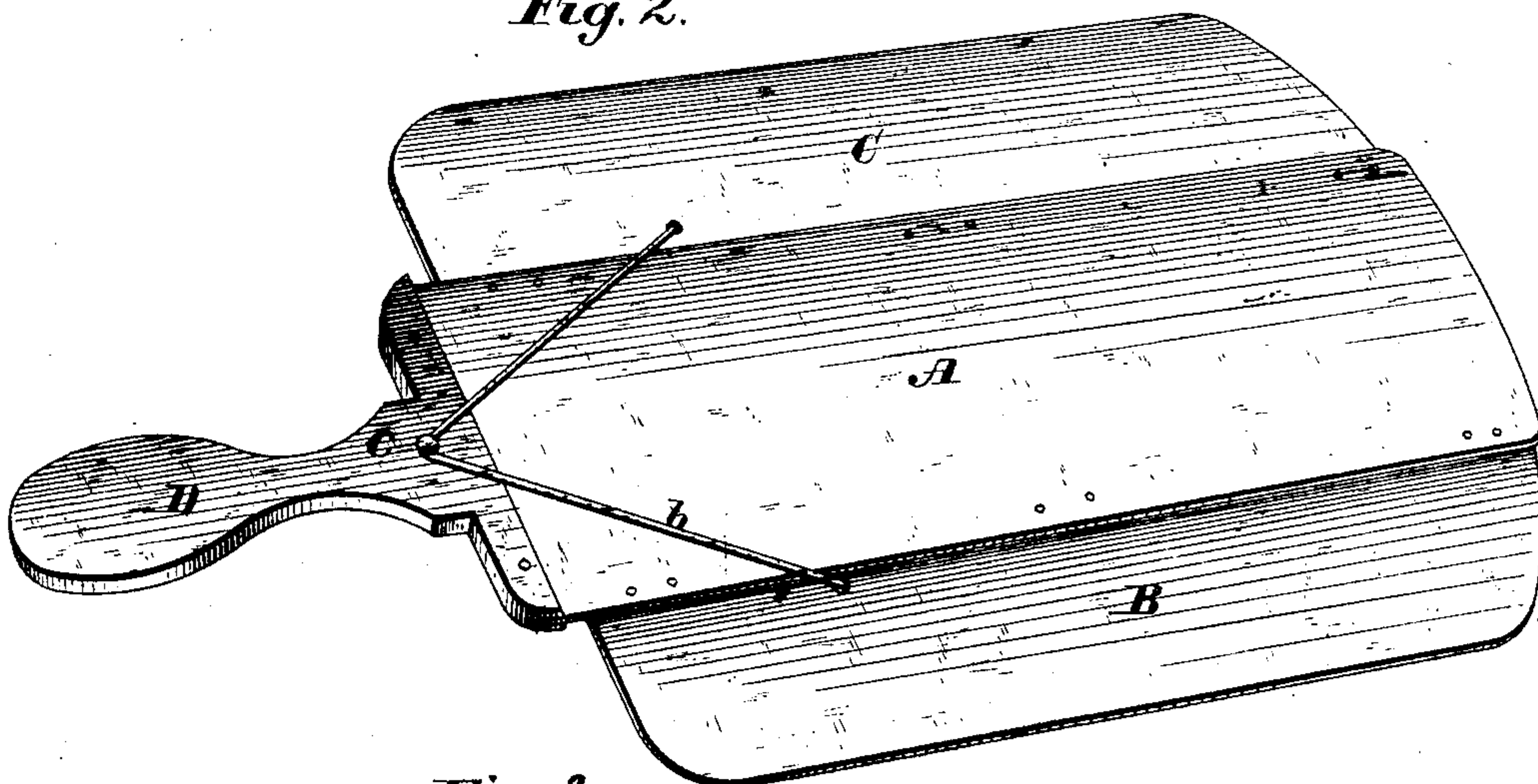
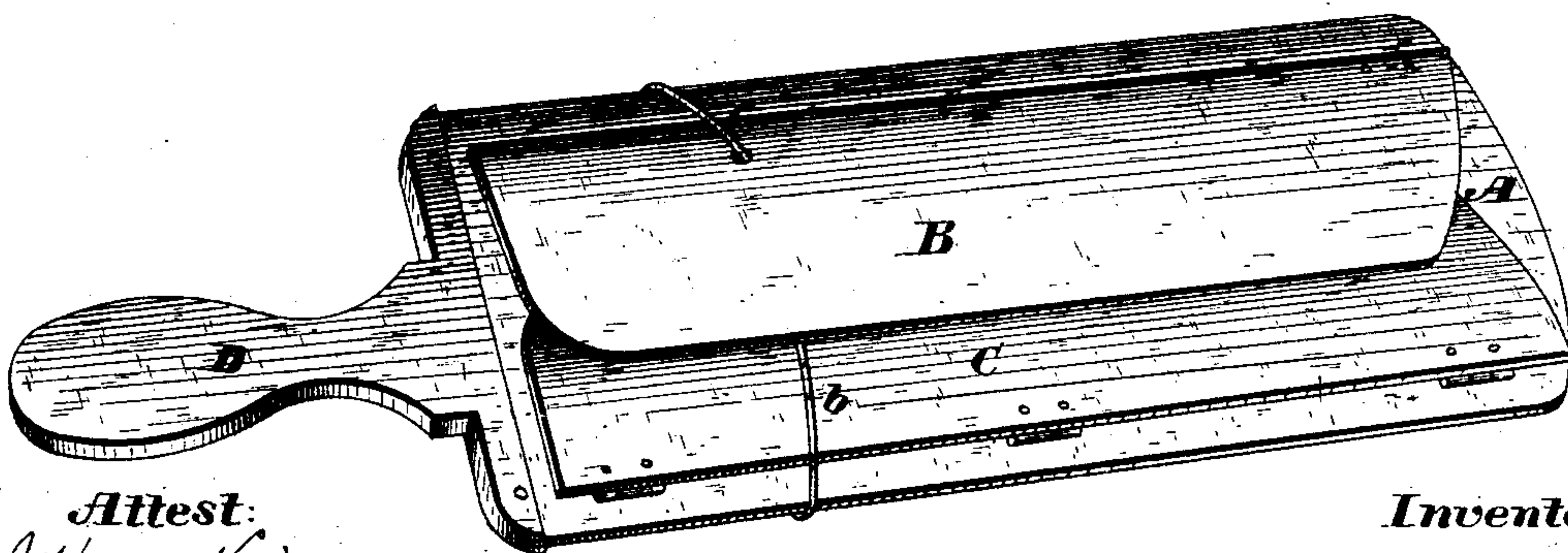


Fig. 3.



Attest:

J. Henry Kaiser.
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By James L. Norris.
Atty

UNITED STATES PATENT OFFICE.

THOMAS W. GRAYDON, OF CINCINNATI, OHIO.

DENTAPHONE.

SPECIFICATION forming part of Letters Patent No. 225,365, dated March 9, 1880.

Application filed February 7, 1880.

To all whom it may concern:

Be it known that I, THOMAS W. GRAYDON, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented new and useful Improvements in Dentaphones, of which the following is a specification.

This invention relates to improvements in folding dentaphones, or instruments for transmitting sound to the auditory nerve of a deaf person through the teeth.

My present invention consists in the combination, in a dentaphone, of a diaphragm composed of a main or base section and a side section or leaf (one or more) hinged together at various points along their edges in the direction of their length, with their edges overlapping each other to form stops for the sections when completely unfolded for use.

In the drawings, Figure 1 is a front perspective view of my improved dentaphone unfolded, ready for use. Fig. 2 is a similar rear view of the same; and Fig. 3 is a perspective view of the dentaphone folded, to secure compactness and portability.

Referring to the drawings, the diaphragm is shown as being composed of three sections, in which A designates the main or base section, and B C the side or leaf sections. These sections may be made of metal, hard rubber, collodion, or other suitable material; or they may be made of a fabric possessing an elasticity equal, or about equal, to the material named.

The side or leaf sections are made in the present example nearly equal in length and in width to the main or base section, and are each hinged or pivoted upon the said main or base section at various points along their longitudinal edges, preferably by what are termed in the arts "rule-joints" having stops; but other forms of joints can be employed by providing the main or base section with suitable stops, to limit the outward swing of the side sections or leaves when unfolding the sections to form an expanded homogeneous diaphragm.

The side or leaf sections are shown as overlapping the longitudinal edges of the main or base section, and hinged upon the front face or surface of the same, and by such construc-

tion and organization the outward swing or movement of the side sections or leaves is limited when unfolding the sections for use, and each side section or leaf can be brought parallel, or nearly so, with the main or base section, and are in close contact with each other for receiving and transmitting sound, thus securing in a folding diaphragm results and benefits equal to a dentaphone in which the diaphragm is made up as an integral.

The main or base section and the side sections or leaves can be made in various forms, to secure the advantages herein named, so long as the sections are joined together at various points longitudinally along their edges. The main or base section will in many instances be supplied with but a single side or leaf section, hinged together in the direction of their length, the two being made of such size as to produce when unfolded a diaphragm of the desired magnitude.

The sections when unfolded for use are liable to fold, or partially fold, in handling, and to prevent such I combine with the sections a cord, *b*, which traverses the main or base section, so that it can be drawn down and made to connect with a pin, *c*, arranged on the handle D of the main or base section, and thus retain the side sections or leaves in substantially a straight condition with respect to the main or base section.

I do not claim herein the combination of a diaphragm composed of two or more sections hinged or otherwise secured together so as to be expanded into substantially a homogeneous diaphragm for use, or be closed or folded completely together when not in use, as such is covered by me in an application for patent filed December 9, 1879; nor do I in this application claim the hinging of the sections composing the diaphragm directly at their edges by hinge-joints arranged at right angles, or thereabout, to the handle, as such is the subject-matter of an application for Letters Patent filed by me in the United States Patent Office January 30, 1880.

What I claim is—

The combination, in a dentaphone, substantially as hereinbefore described, of a diaphragm composed of a main or base section

and a side or leaf section, (one or more,) overlapping each other and hinged together at various points in the direction of their length, so as to fold one upon the other and prevent
5 sliding of its parts when unfolded, and produce substantially a homogeneous diaphragm with all of its parts in close contact, as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

THOMAS W. GRAYDON.

Witnesses:

JAMES L. NORRIS,
JAMES A. RUTHERFORD.