

(No Model.)

2 Sheets—Sheet 1.

J. D. HARPER,
MUTE OR DAMPER FOR BANJOS.

No. 526,899.

Patented Oct. 2, 1894.

Fig: 1.

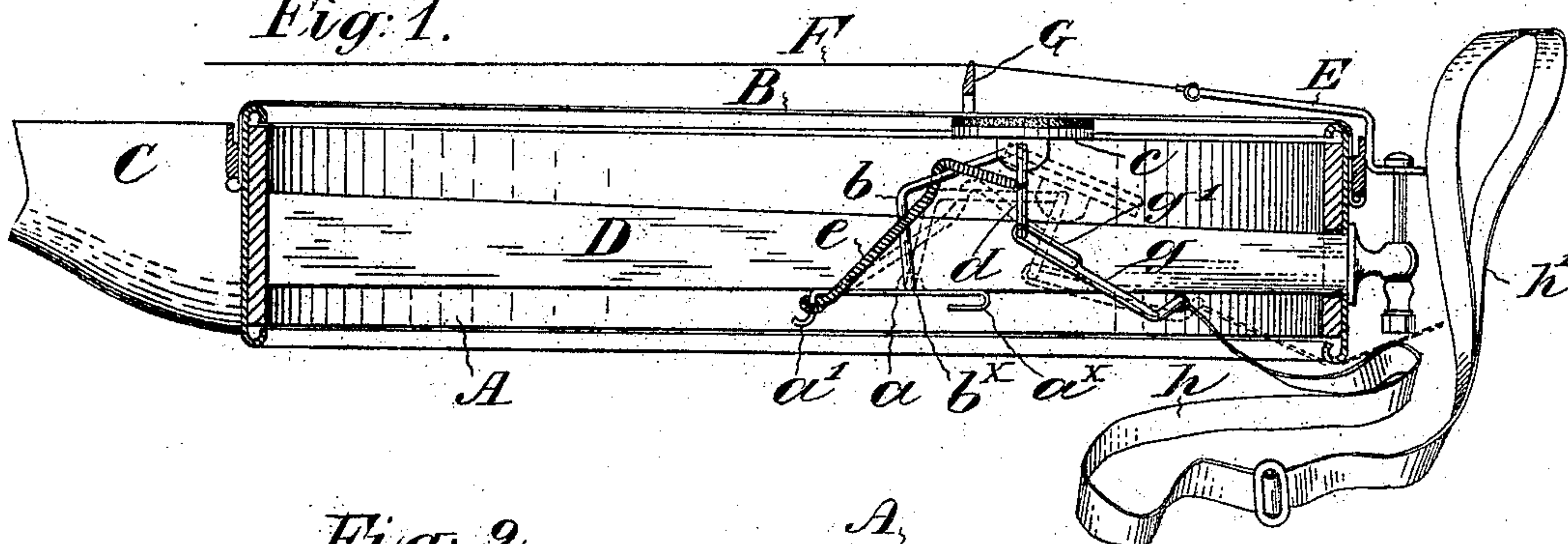


Fig. 2.

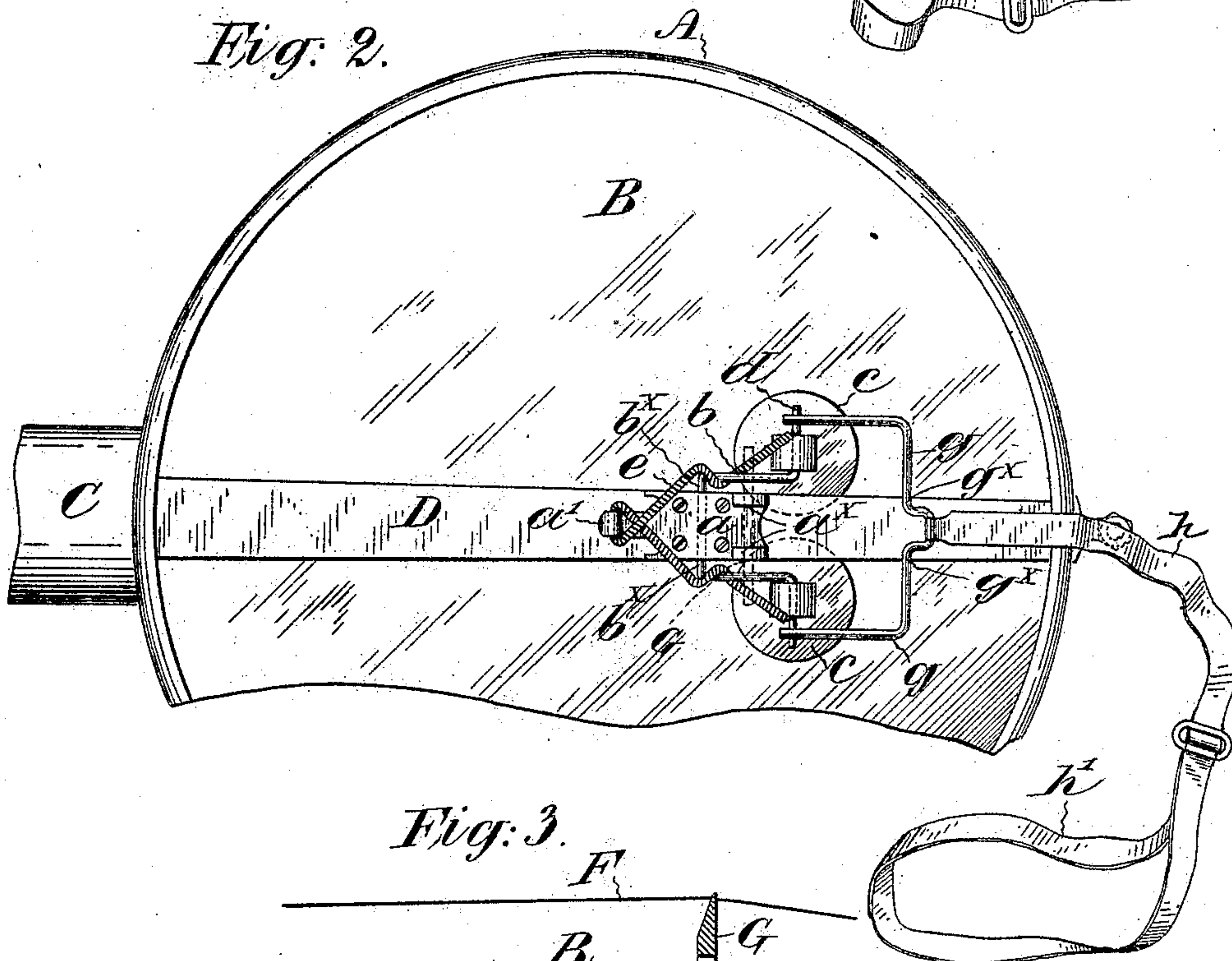
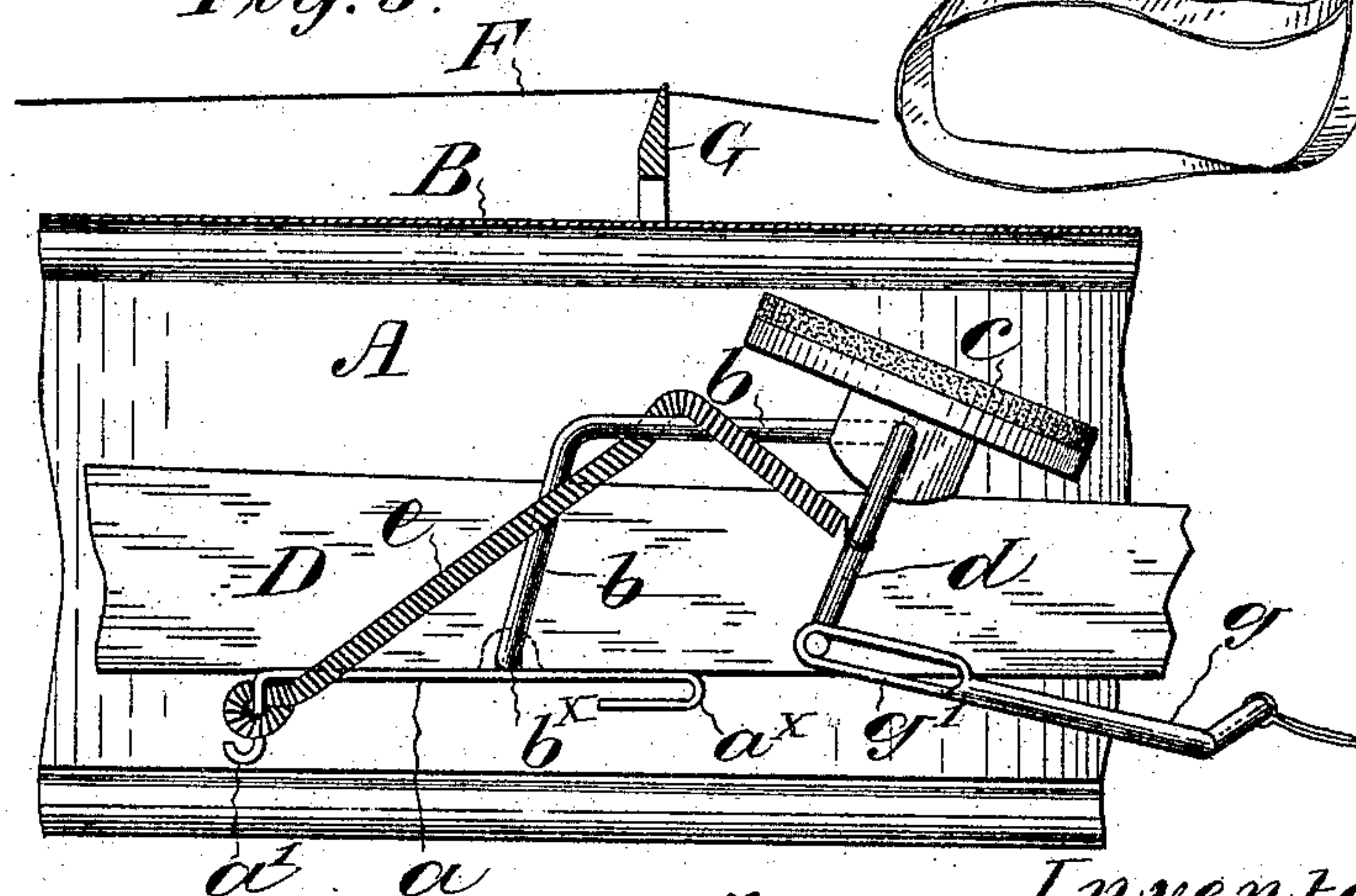


Fig: 3.



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Inventor:
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Fig. 4.

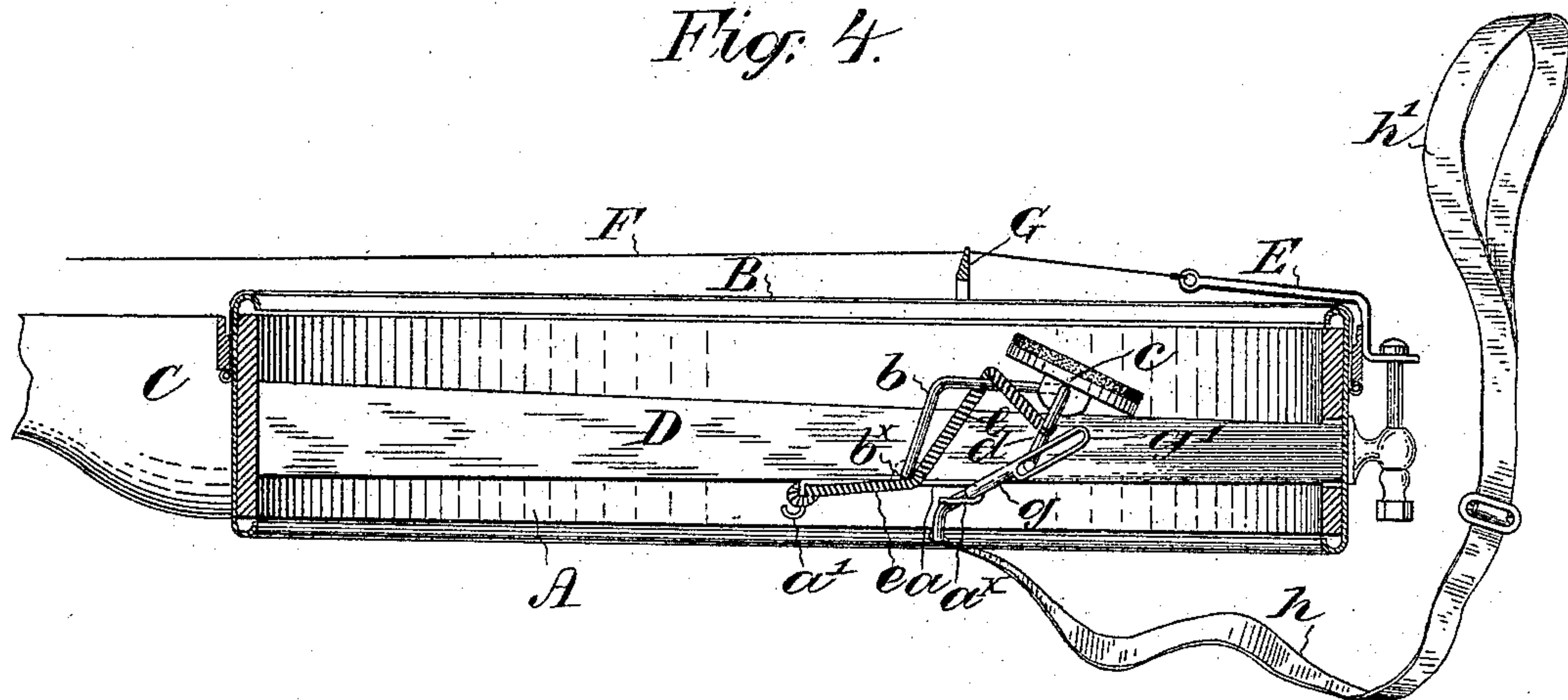
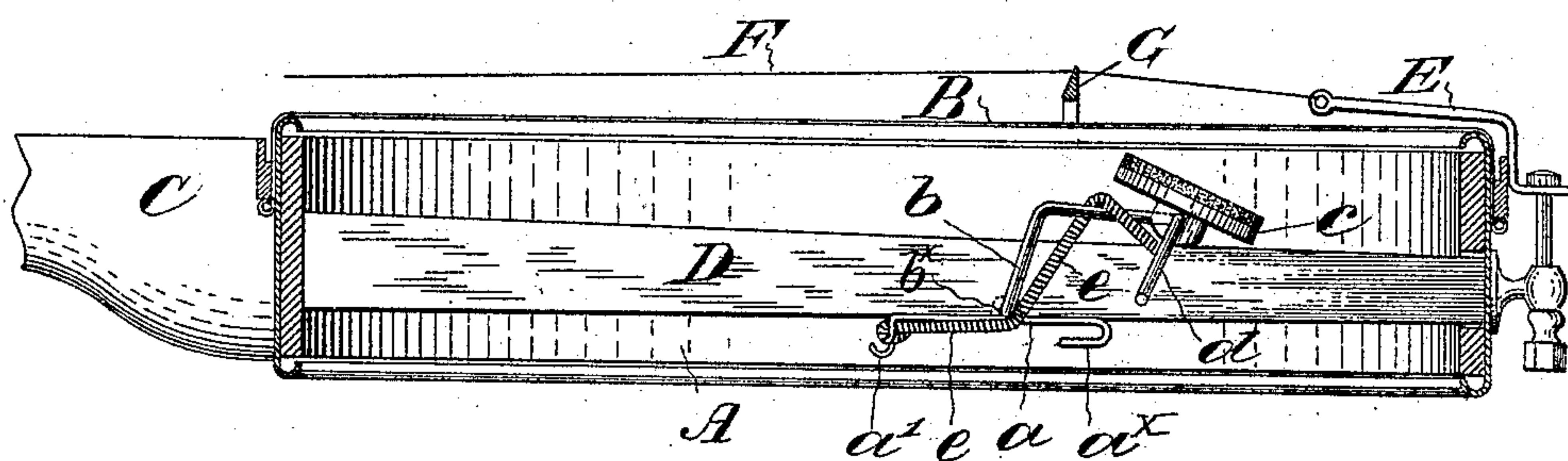


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN D. HARPER, OF BROOKLYN, NEW YORK.

MUTE OR DAMPER FOR BANJOS.

SPECIFICATION forming part of Letters Patent No. 526,899, dated October 2, 1894.

Application filed February 8, 1894. Serial No. 499,490. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. HARPER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Mutes or Dampers for Banjos, &c., of which the following is a specification.

My invention relates to mutes or dampers for softening the tones of stringed musical instruments, the object being to provide the instrument with a readily controllable damper adapted to be applied to the inner face of the tympanum or head under the bridge.

The invention will be fully described hereinafter and its novel features carefully defined in the claims.

In the accompanying drawings which illustrate an embodiment of my invention as applied to a banjo—Figure 1 represents the damper in side elevation applied to the under side of the head of a banjo, the hoop of the banjo-body being represented in section. Fig. 2 represents the damper in plan, the banjo-head being seen from the under side. Fig. 3 is a side elevation of the damper on a scale double that of Fig. 1 and representing the damper-pad as off from the head. Figs. 4 and 5 are views similar to Fig. 1, but showing the parts of the damper in different positions and illustrating its capabilities, as will be hereinafter explained.

Referring primarily to the first three figures, A represents the hoop of the banjo; B, the parchment head strained thereon; C, the neck, only a part of which is shown; D, the bar which spans the hoop and unites the neck thereto; E, the tail-piece; F, the strings, and G, the bridge. These parts are all common to the ordinary banjo and form no part, in themselves, of my invention. Their illustration is, however, necessary to an understanding of the operation of my damper.

The damper or mute is mounted on the bar D, below that point on the head where the bridge G is situated, and it may be applied to any banjo. The damper comprises, broadly, a pad applied to the under side of the parchment head at the bridge and adapted to be controlled by the player at will; that is, it may be held, normally, pressed up to the head by a spring and is provided with means whereby the player can draw it away from

or off from the head at will; or it may be held, normally, away from the head by a spring and be provided with means whereby the player can, at will, apply it to the head.

The damper device may, of course, be constructed in various ways. I have shown the best construction now known to me and this I will now describe.

On the bar D is secured a plate, *a*, and under this plate is hinged a bail, *b*, of wire, the two angular, L-shaped arms of which carry, respectively, the two damper-pads, *c, c*. Preferably the pad *c*, is constructed of a plate or disk of some hard material, as metal, celluloid, ivory, &c., faced with a softer material, as felt or leather. The hinging of the bail *b*, allows the pads *c*, to be moved up to or away from the head. In Fig. 1 the full lines show the pads in contact with the head and the dotted lines show them off or out of contact. On the respective pads *c*, are rigid crank-arms, *d*, which are formed, as herein shown, from prolongations of the arms of the bail *b*. The pads *c*, are held in elastic contact with the parchment head by a spring, *e*. As herein shown this is a slender spiral spring made from steel wire attached at its ends to the respective crank-arms *d*, and its crossed bight made to engage a hook, *a'*, formed on the plate *a*. At each side a branch of the spring crosses the upright part of the arm of the bail *b*, and passes inwardly about the horizontal part thereof, as clearly shown. A rubber cord will serve the purpose, but it is not so durable. Coupled to the pins of the crank-arms *d*, is a wire bail, *g*, to which is secured a flexible connector or strap, *h*, having formed in it a loop, *h'*.

In using the instrument provided with the damper the player passes his hand through the loop *h'*, the latter embracing his wrist, and by drawing gently on the strap *h*, he draws the damper-pads away from, or out of contact with the head B, thus allowing the head to vibrate normally; or, by allowing the strap to slacken, the spring *e* will set the pads on the head and thus soften the tone. The movement of the arm or wrist required to produce this shifting of the damper, is so slight that an experienced player may produce beautiful tremolo effects by a vibration of his wrist, and any player may operate the damper while playing, without interfering

with his play in the least. In playing the banjo the little finger of the right hand rests on the head of the banjo and the damper may be operated by simply rocking the hand on this finger as a fulcrum. As the vibrations of the strings are communicated to the head B, through the bridge G, the damper-pad is applied under the bridge, as shown, but as the pressure on the bridge causes the latter to depress the head slightly and thus produce an elevation on the inner face of the head, I find that it is important to place the pad *c*, eccentric to the bridge, or so that the foot of the bridge shall not co-incide with the center of the pad, but be near one edge of the latter. This permits the entire surface of the pad to rest fairly on the head. Moreover, as the bridge has two feet, thus producing two indentations in the head, I prefer to employ two pads, one under each foot of the bridge and to so mount these pads that they will be in a degree independent, whereby they may adapt themselves to the inequalities in the surface of the head produced by the bridge. The flexure of the wire bail *b*, will suffice for this.

Some players may prefer to have the pads of the damper held normally out of contact with, or off from the head by the spring *e*, and to have the damper so constructed that the player may apply the pads to the head by drawing on the strap or cord *h*. This may be done without any change in the construction by merely setting the parts as shown in Fig. 4. To so set the parts the branches of the spring *e*, are drawn up over the shoulders, *b*^x, of the bail *b*, and this serves to apply the spring so as to hold the pads *c*, out of contact with the head B. The bail *g*, is then turned back and its cross branches, *g*^x, made to engage hooks, *a*^x, on the plate *a*. These hooks form fulcrum bearings for the bail, *g*, which thus becomes a lever. To allow for the play of the parts, the arms of the bail *g*, are slotted at *g*['], where they are coupled to the crank-arms *d*.

If the player does not desire to use the damper or mute for the time being, he may uncouple and remove the bail *g*, by springing apart its bands, or arms, and draw up the branches of the spring *e*, over the shoulder *b*^x, as seen in Fig. 5. This holds the pads out of contact, as has been explained.

I contemplate the manufacture and sale of my damper as an article of manufacture, independently of the instrument; and I do not limit myself to the particular construction shown in all respects as this may be varied without departing materially from my invention. For example, there may be but one pad and any suitable form of spring may be used for holding it in its normal position. Any suitable flexible connector may be employed, adapted to be connected to the arm of the player.

I am aware that stiff rods and levers have been employed for operating dampers, the said operating rod projecting out of the space

within the hoop and pressing against the body. Such devices I do not claim.

The plate *a*, is merely a base-piece for connecting the several parts of the damper mechanism. It will be obvious that the hooks *a*['] and *a*^x, could be set in the bar D, and that the bail *g*, could be hinged on the said bar; but where the damper is to be sold separately it is desirable to connect all of these parts through the medium of a base-plate.

The crank-arms *d*, serve only as a convenient intermediary for attaching the bail *g*, to the damper.

Having thus described my invention, I claim—

1. A damper or mute for a stringed instrument, comprising two independently mounted pads to be applied to the head under the respective feet of the bridge, a hinged bail which carries said pads on its respective arms, a spring which holds said pads in their normal position, and a flexible connector or strap coupled at one end to the damper and adapted to be coupled at the other end to the arm or wrist of the player, whereby the latter is enabled to operate both of the damper pads simultaneously with the arm of the hand used in picking the strings.

2. The combination with a stringed musical instrument having a head and a bridge resting on the head and supporting the strings, of a damper mounted on the instrument adjacent to the inner face of the head, said damper comprising a hinged bail *b*, the pads *c*, carried by the arms of the bail, the spring which holds the pads in their normal position, a bail *g*, coupled to the damper, and a flexible connector *h*, coupled to said bail *g*, substantially as set forth.

3. A damper or mute for a stringed musical instrument, comprising a plate *a*, a hinged bail *b*, having L-shaped arms, pads *c*, carried by the respective arms of the bail *b*, a spring *e*, having its branches twined about the arms of the bail *b*, as described, crank-arms *d*, on said pads, a bail *g* coupled to said crank-arms, and a flexible connector *h*, coupled to said bail *g*, substantially as set forth.

4. A damper or mute for a stringed musical instrument, comprising a plate *a*, having fulcrum hooks *a*^x, a bail *b*, having shoulders *b*^x, a spring *e*, having its branches twined about the arms of the bail *b*, and adapted to be drawn over the shoulders *b*^x, a lever bail *g*, having branches *g*^x, adapted for engagement with the fulcrum hooks *a*^x, and its branches having slotted connections with arms on the respective pads, and a flexible connector *h*, coupled to said bail *b*, substantially as and for the purposes set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN D. HARPER.

Witnesses:

HENRY CONNETT,
JAS. KING DUFFY.