

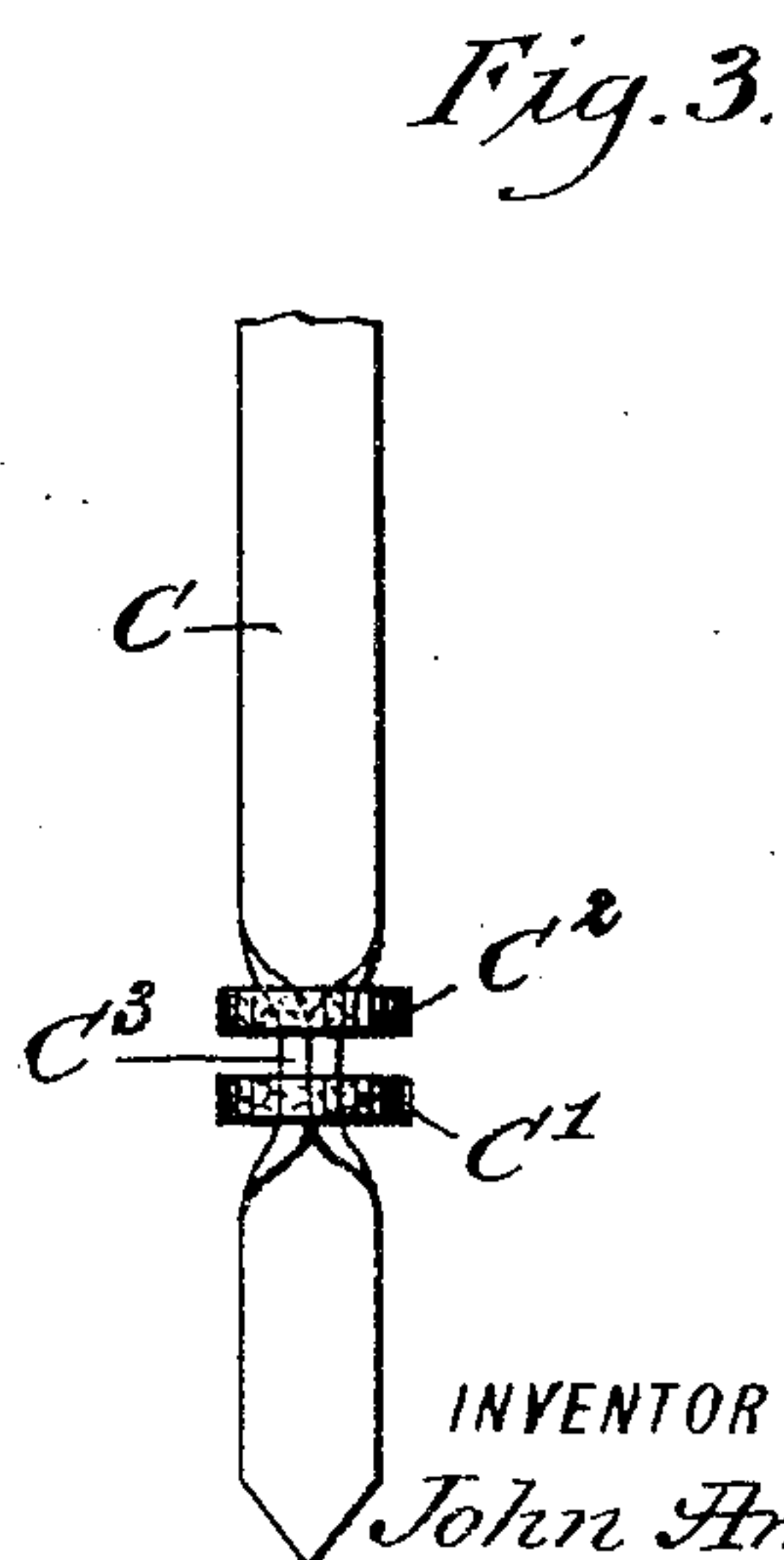
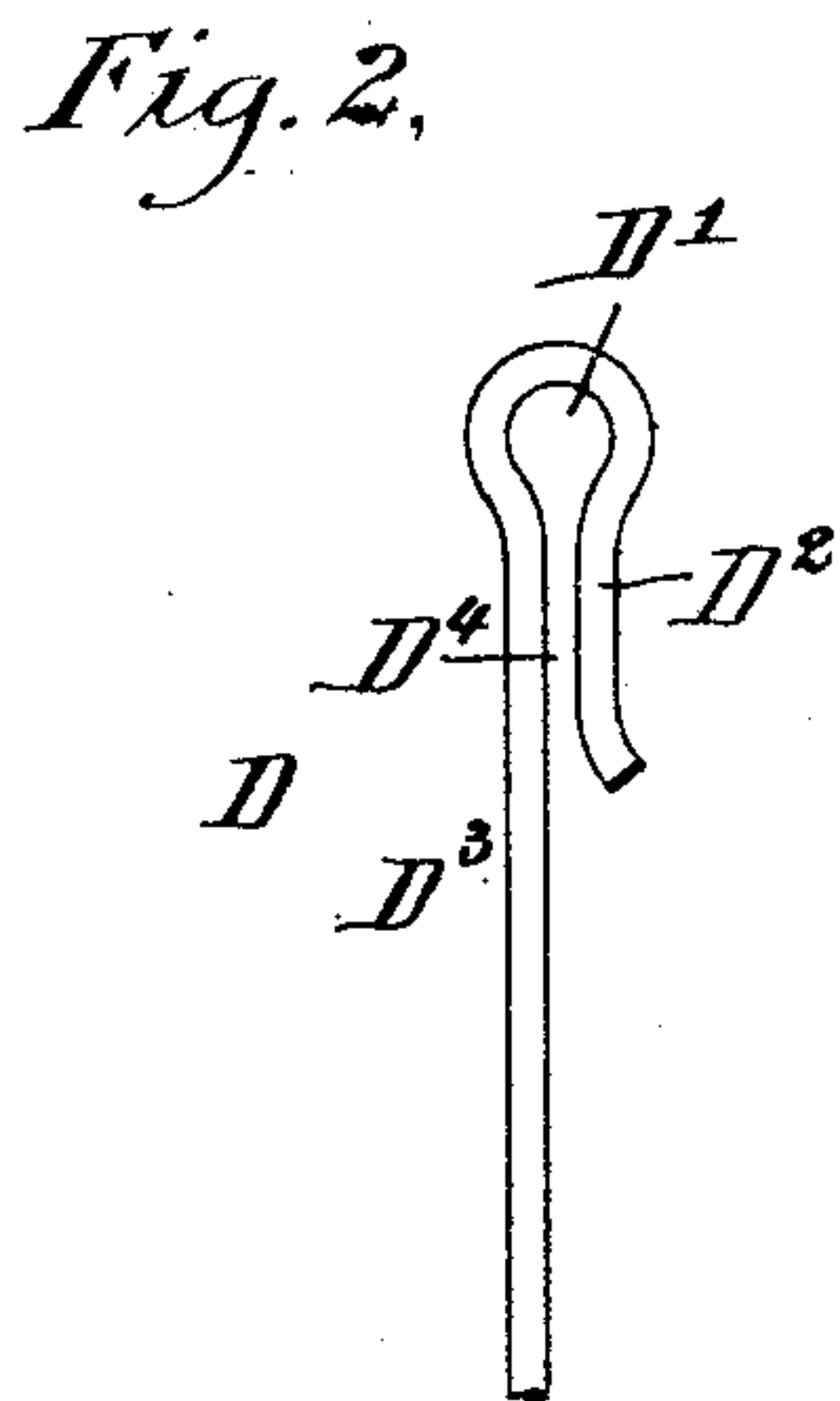
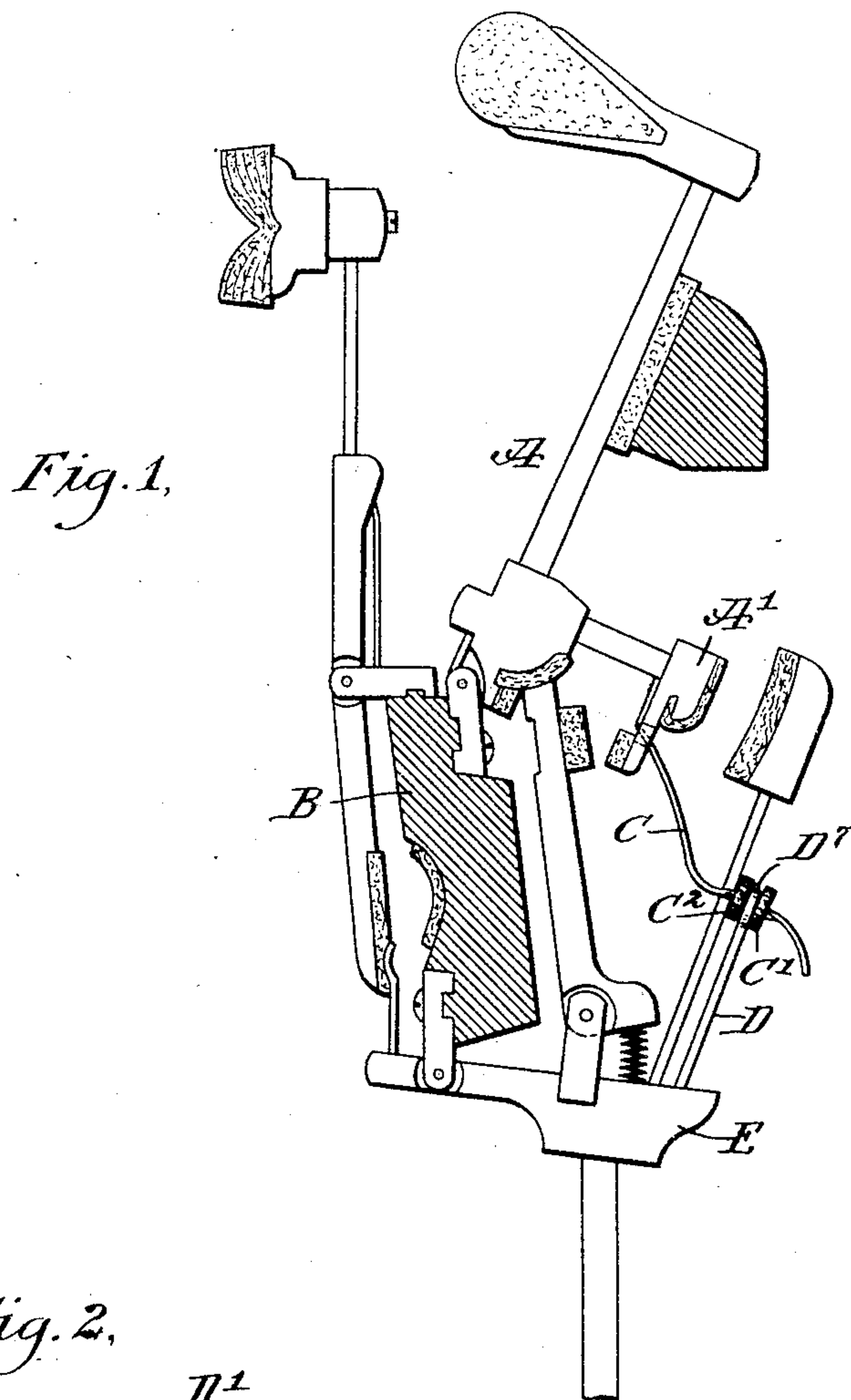
No. 780,403.

PATENTED JAN. 17, 1905.

J. AMMON.

BRIDLE STRAP FOR UPRIGHT PIANO ACTIONS.

APPLICATION FILED NOV. 1, 1904.



**WITNESSES:**

Edward Thorpe.  
Rev. W. Norton }

INVENTOR

John Ammon

BY

*Munn*  
ATTORNEYS

# UNITED STATES PATENT OFFICE.

JOHN AMMON, OF NEW YORK, N. Y.

## BRIDLE-STRAP FOR UPRIGHT-PIANO ACTIONS.

SPECIFICATION forming part of Letters Patent No. 780,403, dated January 17, 1905.

Application filed November 1, 1904. Serial No. 230,907.

*To all whom it may concern:*

Be it known that I, JOHN AMMON, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Bridle-Strap for Upright-Piano Actions, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved bridle-strap for upright-piano actions arranged to insure a quick and convenient attachment of the bridle-strap to the bridle-wire to prevent the bridle-strap from easily wearing out or breaking and to cause a forceful back pull on the hammer.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of an upright-piano action provided with the improvement, the rails being shown in section. Fig. 2 is a face view of the bridle-wire, and Fig. 3 is an enlarged plan view of a portion of the bridle-strap.

Bridle-straps as heretofore used were usually made of a piece of tape reinforced at one end by a piece of leather, and the reinforced portion was provided with an aperture for engagement with the point of the bridle-wire. The leather of the reinforced portion in time became hard and brittle, and hence readily broke at the apertured and consequently weak portion. With the improvement presently to be described in detail this defect is overcome and a durable non-apertured bridle-strap is produced which can be readily fastened in position on the bridle-wire, preferably of a special construction.

The hammer A of a piano-action is fulcrumed in the usual manner on the center rail B, and to the back-stop A' of the hammer is glued or otherwise secured one end of a bridle strap or tape C, engaging at its other end a bridle-wire D, held on a wippen E. The bridle-strap C is preferably a flat piece of fabric

material, (woven, braided, or otherwise produced,) and on the said bridle-strap are secured or formed spaced projections C' and C<sup>2</sup>, preferably in the form of disks of felt, rubber, or other suitable material and glued or otherwise fastened to the bridle-strap. As shown in Fig. 3, the bridle-strap C is provided with a contracted portion C<sup>3</sup>, formed by folding over or doubling up the material from opposite sides, and this contracted portion C<sup>3</sup> is adapted to receive the disks C' and C<sup>2</sup>, the latter being for the purpose provided with central apertures to allow of slipping the disks over the free end of the strap onto the said contracted portion C<sup>3</sup>. The disks C' and C<sup>2</sup> are then secured in place by the use of glue or other fastening means. The disks are spaced apart a distance corresponding approximately to the thickness of the wire, so that the opposite faces of the disks C' and C<sup>2</sup> abut against the faces of the eye D' of the bridle-wire D.

The wire employed for making the bridle-wire D is bent to form the eye D' in such a manner that the eye is open at the bottom and the terminal D<sup>2</sup> of the eye is extended downward parallel to the shaft D<sup>3</sup> of the bridle-wire to form a narrow passage-way D<sup>4</sup>, up which the contracted portion C<sup>3</sup> of the bridle-strap is slipped to pass the said contracted portion into the opening of the eye D'. The contracted portion C<sup>3</sup> is somewhat larger than the passage-way D<sup>4</sup>, and hence when the portion C<sup>3</sup> is slipped up the passage-way D<sup>4</sup> then the terminal D<sup>2</sup> is sprung outward, and when the contracted portion C<sup>3</sup> has passed into the opening of the eye D' then the terminal D<sup>2</sup> springs back by its own resiliency to its normal position, so that the contracted portion C<sup>3</sup> is not liable to accidentally pass back into the passage-way D<sup>4</sup> at the time the bridle-strap C is slack.

Although I prefer the use of the disks C' and C<sup>2</sup> on the contracted portion C<sup>3</sup> of the bridle-strap C, I do not limit myself to this particular form, as the same may be varied without deviating from the spirit of my invention.

It is understood that by the arrangement described the bridle-strap C is not weakened by punching a hole in the same for engage-



ment with the point of the bridle-wire, as heretofore constructed; but, on the contrary, the portion engaged with the eye D' of the bridle-wire is strengthened by forming the  
 5 doubled-up contracted portion C<sup>3</sup> and fastening the disks C' and C<sup>2</sup> in position on the bridle-strap. By attaching the upper end of the bridle-strap directly to the back-stop A' of the hammer A instead of to the hammer-  
 10 butt, as heretofore practiced, a more forceful pull is had on the hammer when the action is in use.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

15 1. An upright-piano action having a bridle-strap provided with spaced projections for engagement with a bridle-wire.

2. An upright-piano action having a bridle-wire provided with an open eye, and a bridle-  
 20 strap having spaced projections for engagement with the said eye.

3. An upright-piano action having a flat bridle-strap, portions of which are folded over from opposite sides, and disks secured  
 25 on the said portions and spaced apart.

4. An upright-piano action having a flat bridle-strap, portions of which are folded over from opposite sides, disks secured on the said portions and spaced apart, and a bridle-wire formed into an eye, open at the bottom, 30 for the passage of the part of the strap between the disks, for the said part to pass into the said eye, the disks engaging opposite faces of the eye.

5. In an upright-piano action, a bridle-strap 35 having a contracted portion and provided with spaced projections on said contracted portion, and a bridle-wire provided with an eye having a resilient terminal, said terminal extending down parallel with the body of the wire 40 and forming therewith a narrow passage-way through which the contracted portion of the bridle-strap is slipped into the eye.

In testimony whereof I have signed my name to this specification in the presence of two sub- 45 scribing witnesses.

JOHN AMMON.

Witnesses:

THEO. G. HOSTER,  
 EVERARD BOLTON MARSHALL.