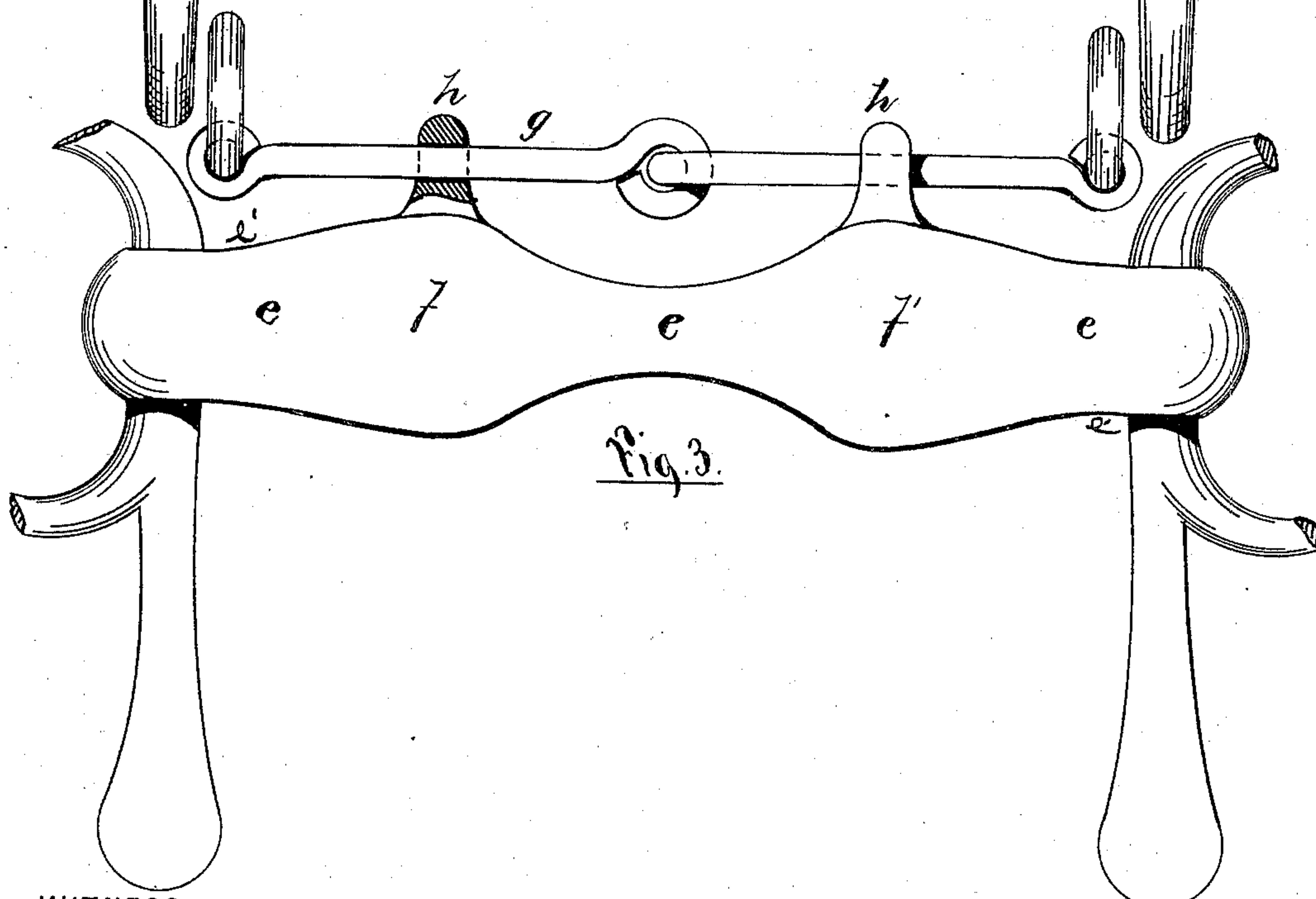
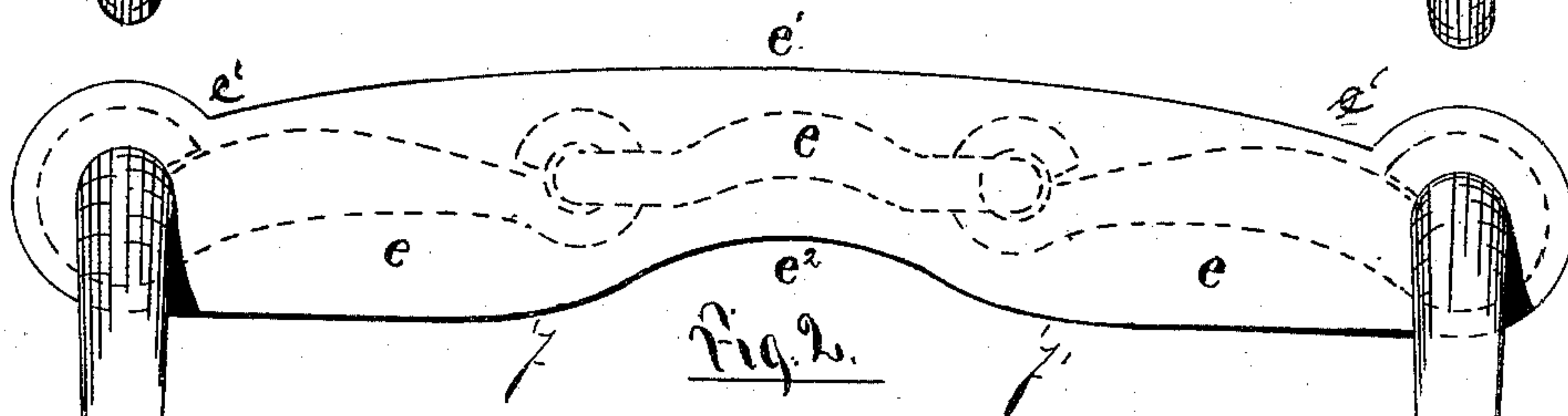
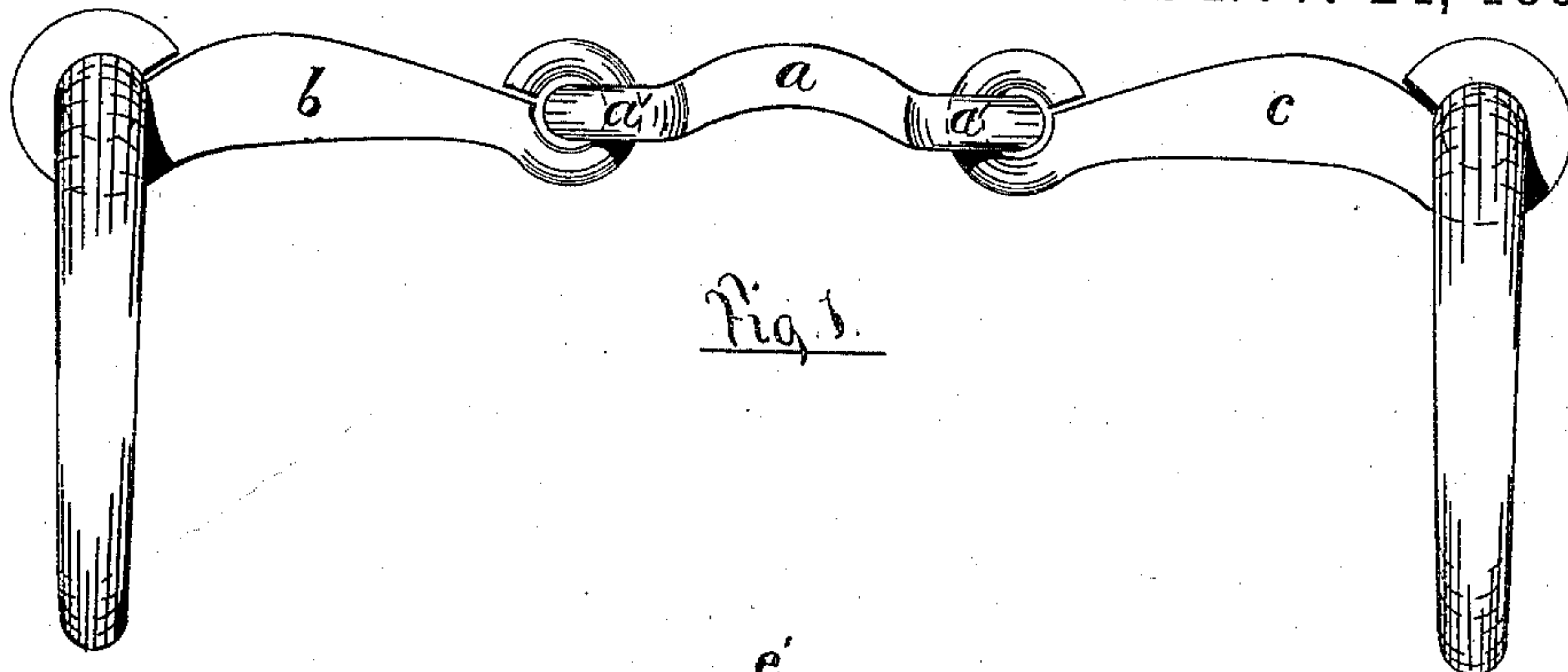


(Model.)

H. S. SQUIER.
RUBBER COVERED BIT.

No. 331,009.

Patented Nov. 24, 1885.



WITNESS:

INVENTOR:

Frank F. Campbell
Oscar A. Michel.

Horace S. Squier.

by *Drake & Co.* ATTORNEYS

UNITED STATES PATENT OFFICE.

HORACE S. SQUIER, OF NEWARK, NEW JERSEY.

RUBBER-COVERED BIT.

SPECIFICATION forming part of Letters Patent No. 331,009, dated November 24, 1885.

Application filed September 2, 1885. Serial No. 175,954. (Model.)

To all whom it may concern:

Be it known that I, HORACE S. SQUIER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Rubber-Covered Bits; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

In said drawings, in which similar reference-letters indicate corresponding parts in each of the views shown therein, Figure 1 is a top view of the jointed or flexible core and cheek-pieces of my improved bit. Fig. 2 is a similar view of said bit, the core being covered with rubber; and Fig. 3 is an elevation of the back of the bit illustrated in Fig. 2, having a check-bit connected therewith.

The invention illustrated in the above-described drawings relates to improvements in those bits having a chain or linked mouth-piece and provided with a covering of flexible material, the object of said invention being to strengthen the jointed mouth or core piece and yet secure the desired flexibility, and to so form the bit when finished as to give ease and comfort to the mouth of the horse, and still, when necessary, to provide sufficient leverage to make a very powerful bit.

The invention consists of a rubber-covered bit having the central portion reduced in diameter, with bulbs formed between said center and the cheek-pieces, the core being composed of a stiff central portion and connected with the cheek-pieces by one or more jointed portions, one each side of said central portion.

The invention also includes the attachment of a check-bit to a rubber-covered bit.

The above devices are preferably formed substantially as illustrated in the drawings and as described and claimed hereinafter.

Bits covered with rubber or other flexible material are found to possess many advantages over the ordinary uncovered bit; but although they have been successfully introduced and found a ready sale, yet distrust obtains because of their great liability to break.

To secure the requisite strength in the core as heretofore made it has been necessary to increase the diameter thereof and the rubber covering, which results in a very ungainly and unsightly bit, obstructing the breathing of the horse, besides rendering the bit very uncomfortable.

By reason of my peculiar construction I retain the original strength of an ordinary uncovered bit and attain the flexibility and other advantages of a rubber covered bit without interfering with the movement of the horse's tongue or obstructing the passage of the air, and producing a bit of sightly and ornamental appearance.

As indicated in the drawings, the core of the mouth-piece is composed of a stiff central section or portion, *a*, which is preferably curved to give the bit the desired form, the said portion *a* being provided with eyes *a'* and connected with the cheek-pieces at each end thereof by one or more side portions, *b c*. The preferred arrangement is, however, to divide the core into three portions of about the same length, the portion *a* being curved forward. The cheek-pieces may be formed in any well-known manner, as they are not a material part of the invention. Around the jointed core thus formed is applied a covering of leather or rubber, *e*, preferably molded thereon, and inclosing not only the core mouth-piece between the cheek-pieces, but also the ends of the side portions, *b c*, which are bent around the beams of the cheek-pieces, as the dotted lines on Fig. 2 indicate. From said figure—viz., Fig. 2—which is a top view of the bit, it will be seen that the front *e'* of the bit is curved in one long sweep extending from cheek to cheek, while the back portion extends from each side toward the center in a line approximately straight and then curves inward and forward, forming a recess or tongue-depression, *e''*. This depression extends around three sides of the bit—the back, as shown in Fig. 2, and the top and bottom, as indicated in Fig. 3. From the depressed central portion the bit swells into two bulbous portions, *f f'*, and slopes away to the cheek-pieces. As thus formed, the bit is smaller in diameter at the center, providing space for the tongue of the horse and the passage of air. This peculiar

and advantageous formation is attained by curving the central portion, *a*, and dividing the core into three parts of about the same length, the curved link *a* forming and permitting the tongue-depression of the completed covered bit, and the rubber rising over and inclosing the joints of the core forms the bulbs *ff'*. Thus it will be seen that the core-pieces or metallic mouth-piece can be made of the same amount and strength of material and the joints fully as strong as in an uncovered bit, and yet attain the flexibility and advantages of a flexible rubber-covered bit. Because of the thickened portions *ff'* of the covering the rubber is massed at the joint where it is needed, securing strength and elasticity thereat. Moreover, as the bit tapers toward the cheek-pieces it does not keep the lips of the horse apart, as in similarly-covered bits when the ends thereof are enlarged.

In Fig. 3 is shown a check-bit, *g*, attached to the rubber-covered bit by rubber eyes *h*, which are formed integral with the covering of the bit. Through said eyes the bit extends, and may be straight with a central joint, as indicated in the figure, or with several joints therein; or it may be curved as in ordinary check-bits, and either jointed or stiff, according to circumstances.

Having described my invention, I desire to claim the following:

1. A rubber-covered bit having the center thereof reduced in diameter with thickened or bulbous portions on each side thereof and tapering toward the cheek-pieces, for the purposes set forth.

2. A rubber-covered bit having a jointed or flexible core composed of three portions, the central portion being curved, and a rubber covering, which conforms to the shape of the core, being centrally reduced in diameter and thickened or bulbous around the joints of the core, for the purpose set forth.

3. The combination, with a rubber-covered bit having rubber eyes formed integrally therewith, of a check-bit extending through said eyes and held in connection thereby with the rubber bit, for the purposes set forth.

4. A rubber-covered bit composed of a jointed core consisting of three portions, the joints being placed between the center of the core and the cheek-pieces and dividing the said core into three portions of approximately the same length, whereby a stiff elongated central link is formed, which constitutes a fulcrumal portion, the said jointed core being covered with rubber, which yields only at the joints at each end of the stiff central link, and by reason of its elasticity and its firm adhesion to the stiff fulcrumal central link causes the bit to return to its normal straight position when the tension of the reins upon the same is removed, substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of August, 1885.

HORACE S. SQUIER.

Witnesses:

FREDK. F. CAMPBELL,
CHARLES H. PELL.