

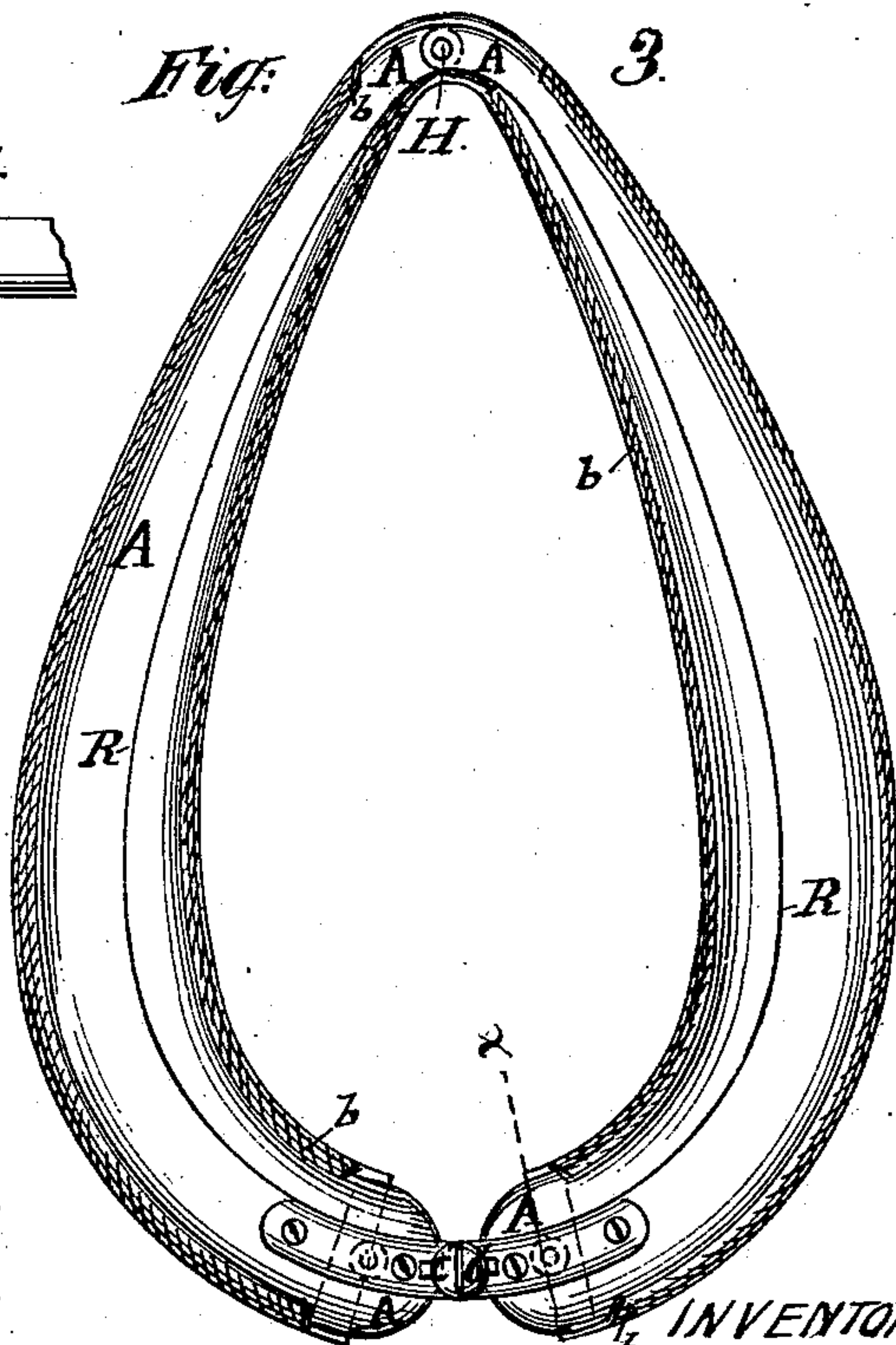
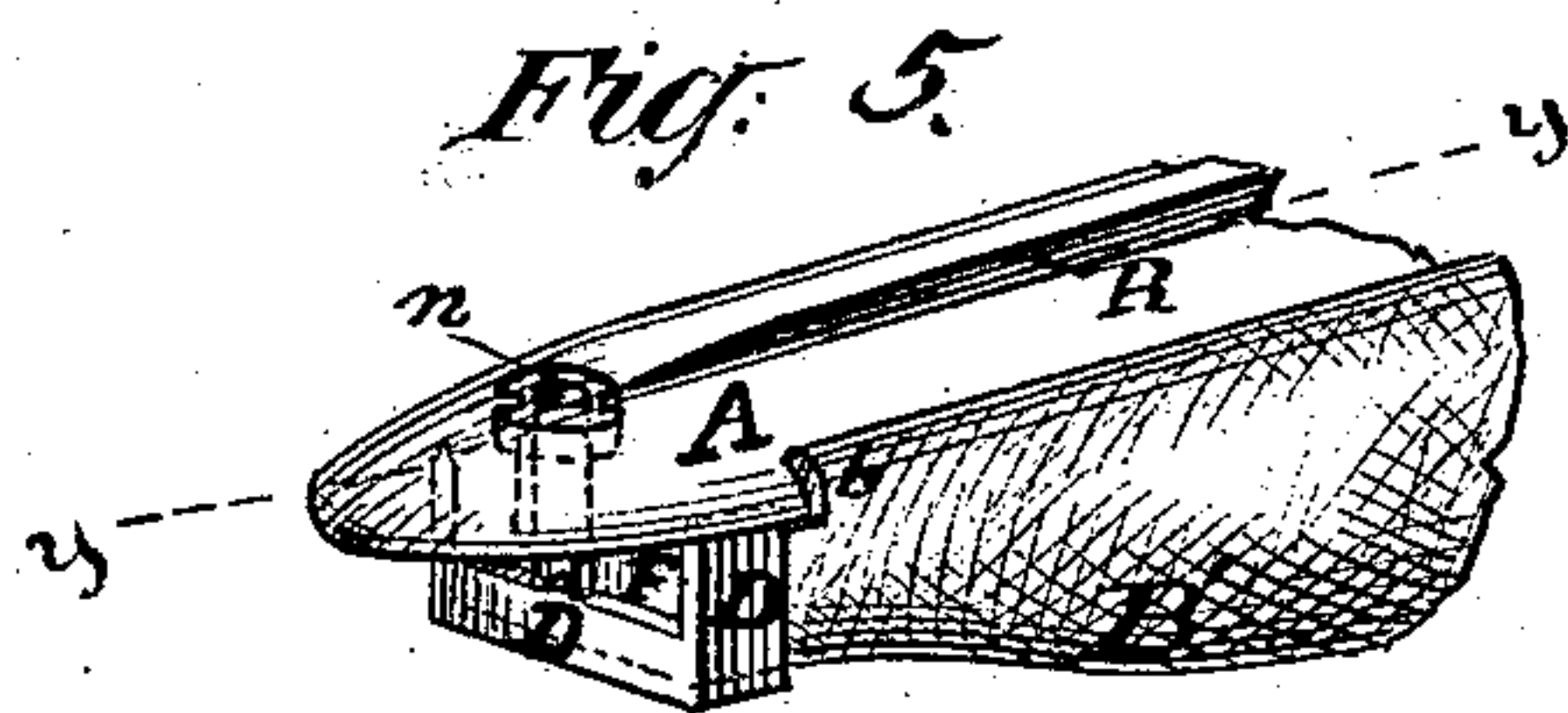
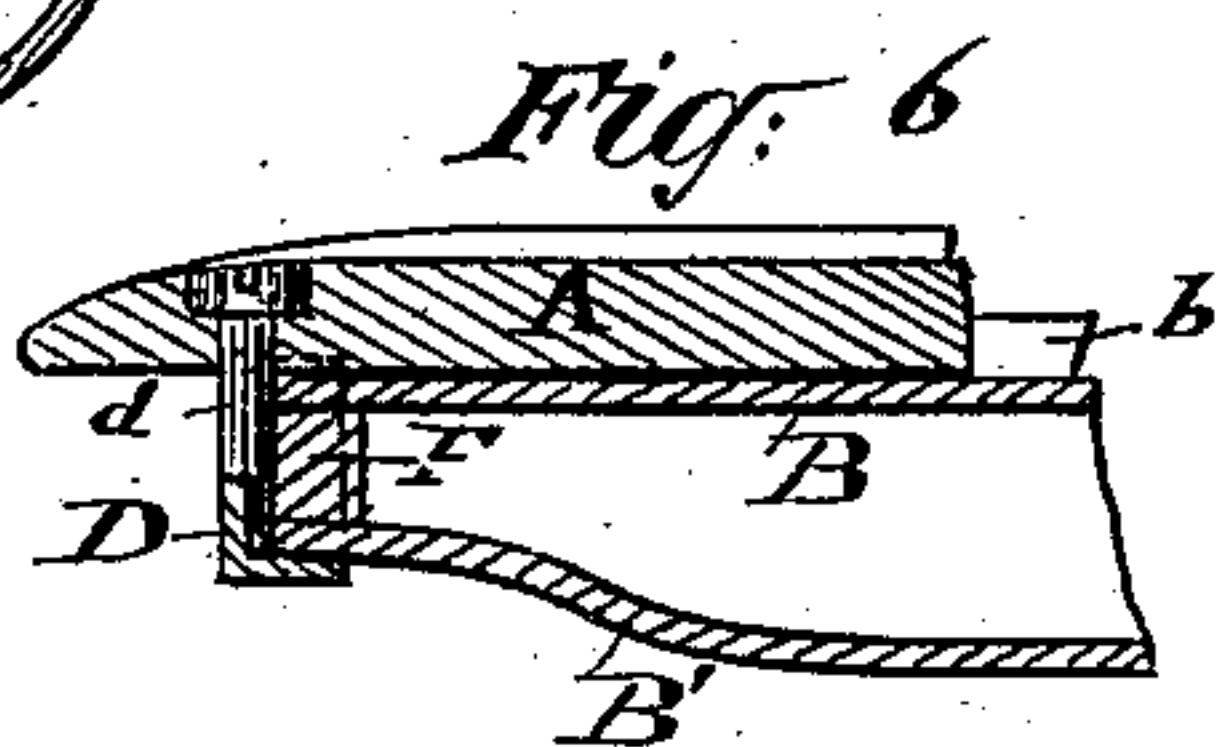
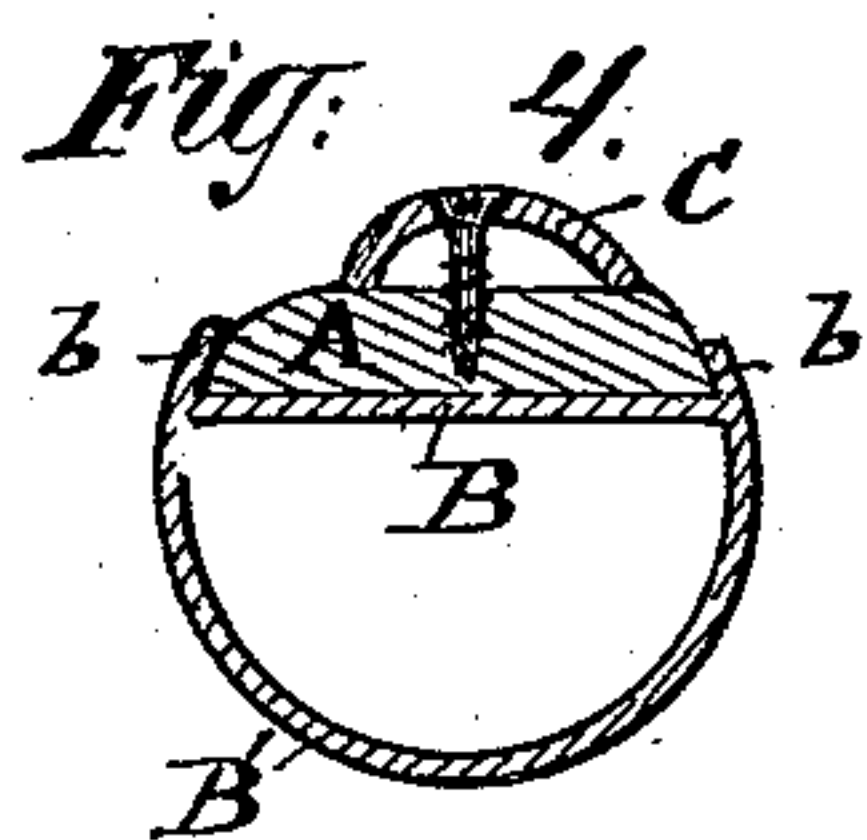
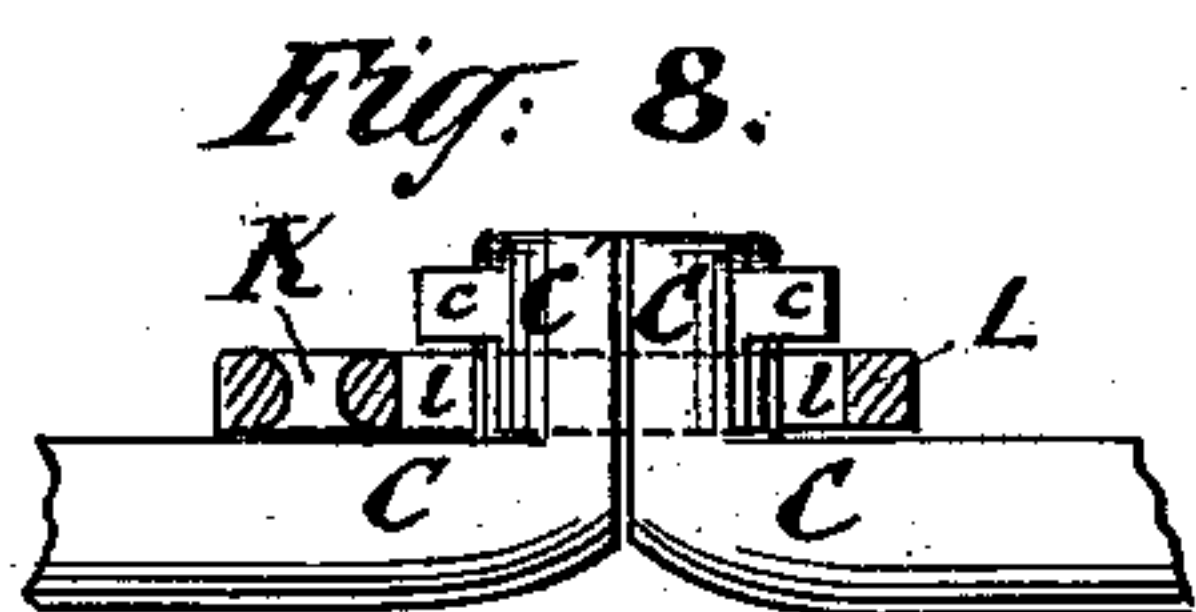
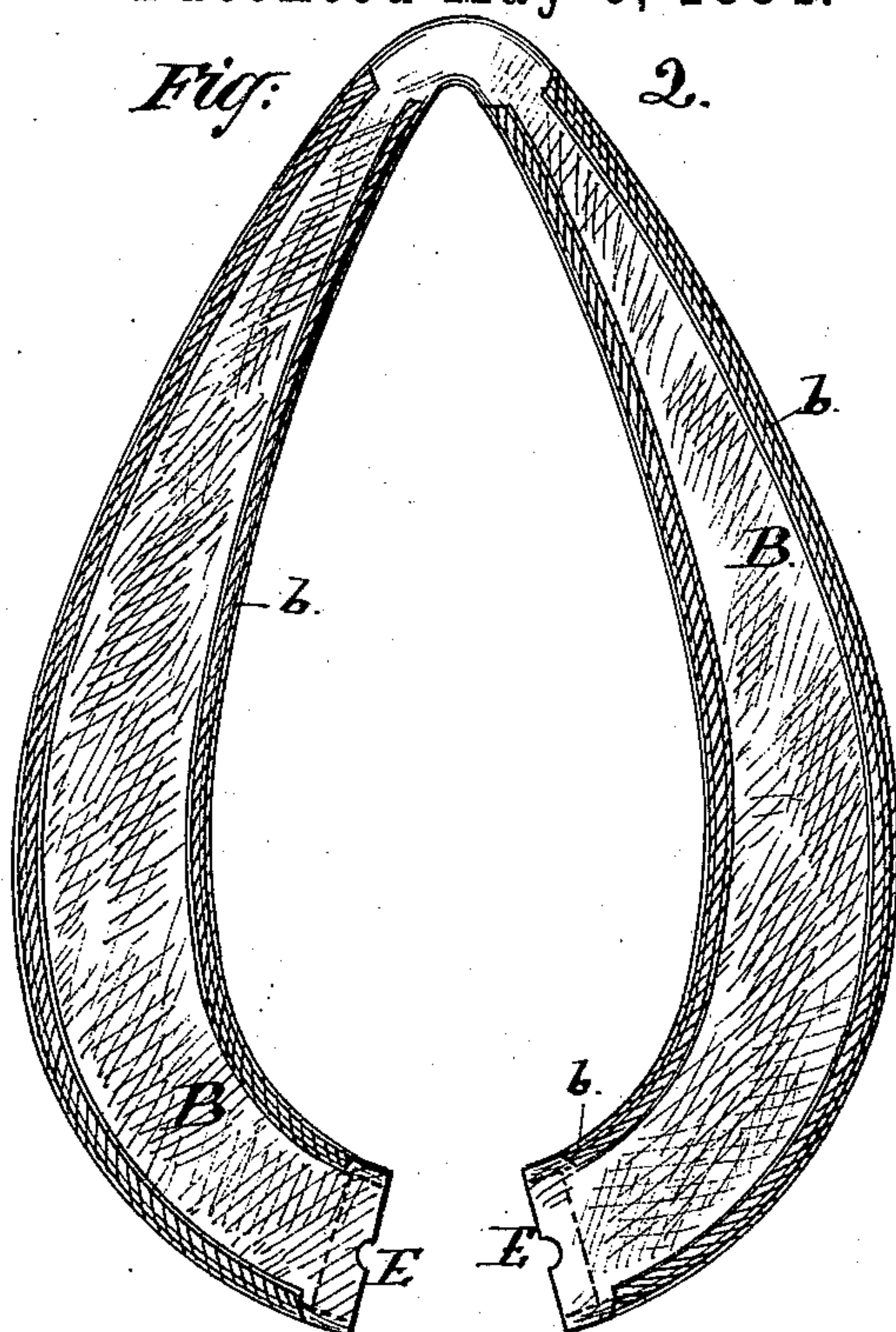
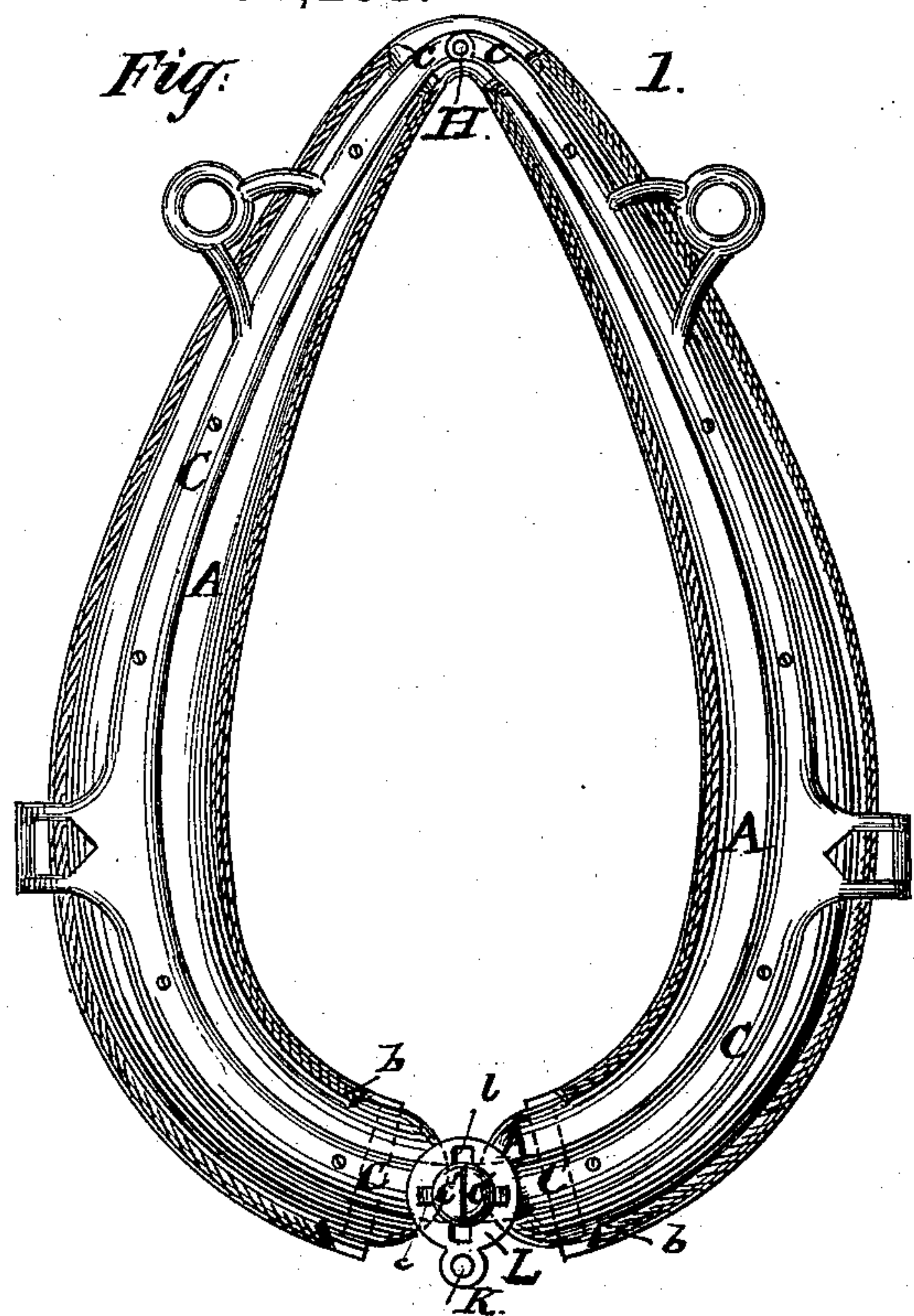
(No Model.)

C. A. PETTIE.

HORSE COLLAR.

No. 298,231.

Patented May 6, 1884.



WITNESSES

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# UNITED STATES PATENT OFFICE.

CHARLES A. PETTIE, OF BROOKLYN, NEW YORK.

## HORSE-COLLAR.

SPECIFICATION forming part of Letters Patent No. 298,231, dated May 6, 1884.

Application filed November 1, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. PETTIE, residing in Brooklyn, Kings county, in the State of New York, have invented an Improvement in Harness-Collars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification.

My invention is an improvement on the harness-collar patented by me in Letters Patent No. 269,596, of December 26, 1882, in which the pad, or that portion of the collar resting against the animal, is adapted to be filled with compressed air, so as to form an elastic yielding cushion.

In the drawings illustrating my improvement, like letters indicate like parts.

Figure 1 is a view of the complete collar, showing the frame A securely fastened to the pad and the hames C screwed to the frame and fastened at the bottom by means of the catch. Fig. 2 is a view of the air pad or cushion, showing the inside face, B, which rests against the frame, and the strips *b*, by which the pad is secured to the frame. Fig. 3 is a view of the collar as used with detachable hames. Fig. 4 is a sectional view of Fig. 1. Fig. 5 is a perspective view of the end of the collar when used with detachable hames, showing the clamp for closing the open ends of the pad. Fig. 6 is a sectional view of Fig. 5 through the lines *y y*, showing the method of closing the open ends of the pad. Fig. 7 is a sectional view of Fig. 3 through the line *x x*. Fig. 8 is an end view of the bottom of the hames, showing the method of securing the lower ends of the collar when on the horse.

The object of my invention, as stated in the Letters Patent No. 269,596, before granted to me, is to produce a harness-collar which shall be soft and yielding and readily adapt itself to the shape of the animal's neck and to the movements of the latter in drawing the load. To accomplish this, instead of the ordinary collar-pad stuffed with straw, hair, or other like material, I employ a hollow pad filled with air. This furnishes a soft elastic cushion which readily yields to the strain in pulling the load, and regains its former shape when the strain is removed, and at the same time adapts itself to the shape and contour of the neck of the

horse. By means of a passage through the top of the collar-pad, as mentioned in my former patent, the interior of the two sides of the collar communicate with each other, and air can readily pass from one side to the other to equalize the pressure on the collar. The hollow pad is firmly secured to a rigid frame, and to enable the collar to be placed on the horse, it opens at the bottom by means of a hinge at the top of the frame, and is then dropped over the horse's neck, and the lower ends are secured by any suitable fastening.

In the invention described and claimed in my former patent, the elastic pad was open for its whole length on the side to which the solid frame was attached, and was made a closed vessel to retain the compressed air only by having a perfectly-tight connection or joint between its edges and the solid frame.

The method of constructing my improved collar is as follows: The pad or elastic part of the collar is a complete and continuous bag or cushion of vulcanized india-rubber, of suitable shape for a collar, open only at the lower ends, and having an air-passage extending across the top, the interior thus forming a continuous cavity, and allowing the air to pass from one side to the other. The side or face of the pad against and upon which the frame hereinafter described rests is flat, as shown at B, Figs. 2 and 4, and has extending along each edge a strip of rubber cloth or of leather, *b*, by means of which the pad is secured to the frame. The pad or cushion having been vulcanized, the mold over which it is formed is withdrawn through the open ends E, and the air, entering, fills the pad, when the ends are closed by plugs of soft rubber. The rigid frame A, as I prefer to construct the collar, consists of two separate pieces of wood, one for each side of the collar, of the required shape to rest against the flat side B of the pad and fit within the strips *b*, as shown in Figs. 1, 3, and 4. These strips are then securely fastened to the outside of the frame, generally by nailing the one to the other. To securely close the pad and prevent any escape of the air, I fill the open ends with plugs of soft rubber, as before stated, (shown at F, Figs. 5 and 6,) which tightly fit the inside of the pad, and then around the outside of the ends I place an



iron clamp (shown at D, Figs, 5, 6, and 7) having a bolt, *d*, firmly attached thereto, which extends through the wooden frame A, and is provided with a nut, *n*. This clamp  
5 closely encircles the pad, as will be seen from the drawings, and, being screwed to the frame, presses the rubber plug and the edges of the pad tightly together, and effectually closes the  
10 end of the pad, and prevents any air from escaping when the collar is used. The edges of the clamp next to the frame are sharpened, so that they will bite into the wood of the frame and maintain a firm hold, as shown at *d'*, Fig. 7.  
15 If found necessary, a suitable cement may be used between the rubber plug and the pad, to make the joint more tight.

As I prefer to construct my improved collar, the hames, which are generally separate from the collar, are screwed or otherwise per-  
20 manently fastened to the frame A, as shown at C, Fig. 1, and in section in Fig. 4. The hames are thus united to the frame and pad, and form a part of the collar.

To enable the collar to open at the bottom,  
25 so as to be placed on the neck of the horse, the two sides of the hames are hinged together at the top, as shown at H, Fig. 1. The wooden frame not extending across the top of the collar, the pad is flexible enough at the  
30 top to allow the bottom to be opened as wide as may be necessary. After the collar is placed upon the horse's neck, the lower ends are secured together by a catch or fastening on the lower ends of the hames, as shown in  
35 Fig. 1, an enlarged end view of such fastening being shown in Fig. 8. The two bottom ends of the hames where they come together are enlarged and so shaped as to form a circular projection, *C'*. Extending out from the front of  
40 this circular projection on each hame are two lugs, *c c*. Over this circular projection *C' C'* a ring of metal, *L*, having two slots, *l l*, corresponding with the lugs *c c*, fits. The ring *L* having been placed over the projection *C'*  
45 *C'*, so that the slots *l l* slide over the lugs *c c*, as shown in Fig. 8, the ring is turned as shown in Fig. 1. The two ends of the hames are thus securely held together, and the solid part of the ring coming under the lugs *c c*, the ring is  
50 prevented from dropping off. The ring may be provided with a projection, as *K*, for the purpose of attaching the yoke-chain and strap to the collar.

Though I prefer to secure the hames to the  
55 frame, yet my improved collar may be used

with detachable hames, which can be removed from or placed on the collar at pleasure. In such construction of the collar the two sides of the frame are hinged together at the top, being extended across the top of the pad for  
60 that purpose, and the fastening for securing the lower ends of the collar is placed on the frame, as will be seen in Fig. 3. On the outside of the frame is a groove, *R*, (shown more distinctly in Figs. 5 and 7,) in which the hames  
65 fit, and which hold them in place when on the collar. I prefer, however, the construction of collar in which the hames are permanently secured to the frame and constitute a part of the collar, as not only more convenient, but strong-  
70 er and more durable.

The pad in my improved collar is filled with atmospheric air instead of compressed air. This has the advantage that, while enough air is inclosed in the pad for the purposes of a  
75 cushion, the pad is more soft and flexible, there is less liability of the air escaping, and all trouble and difficulty of forcing air into the pad are avoided.

This method of fastening the hames to the  
80 collar may be used where the pad or bodyside of the collar is constructed in the usual manner—that is, filled with straw, hair, or any like material. A frame is secured to the pad, and the hames, hinged at the top and capable of  
85 being fastened together at the bottom, are then screwed or otherwise attached to the frame in the manner described.

What I claim as my invention is—

1. In a harness-collar, the combination of  
90 the hollow pad B, constructed substantially as described, the frame or solid part A, and the hames C, hinged together at the top, and having a fastening, *C'*, at the bottom, substantially as and for the purposes described.  
95

2. In a harness-collar, the combination of the hollow pad B, constructed substantially as described, and the frame A, hinged together at the top and having a fastening at the bot-  
100 tom, as and for the purposes described.

3. The combination, with the hollow pad B and the frame A and hames C, attached together, of the fastening consisting of the pro-  
105 jections *C'*, the lugs *c*, and the ring *L*, substantially as described, and for the purposes set forth.

CHARLES A. PETTIE.

Witnesses:

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SAMUEL LEA.