No. 690,632. Patented Jan. 7, 1902.

H. J. BREEZE.

HORSE COLLAR.

(Application filed Nov. 14, 1899.)

(No Model.)

Fig. 1.

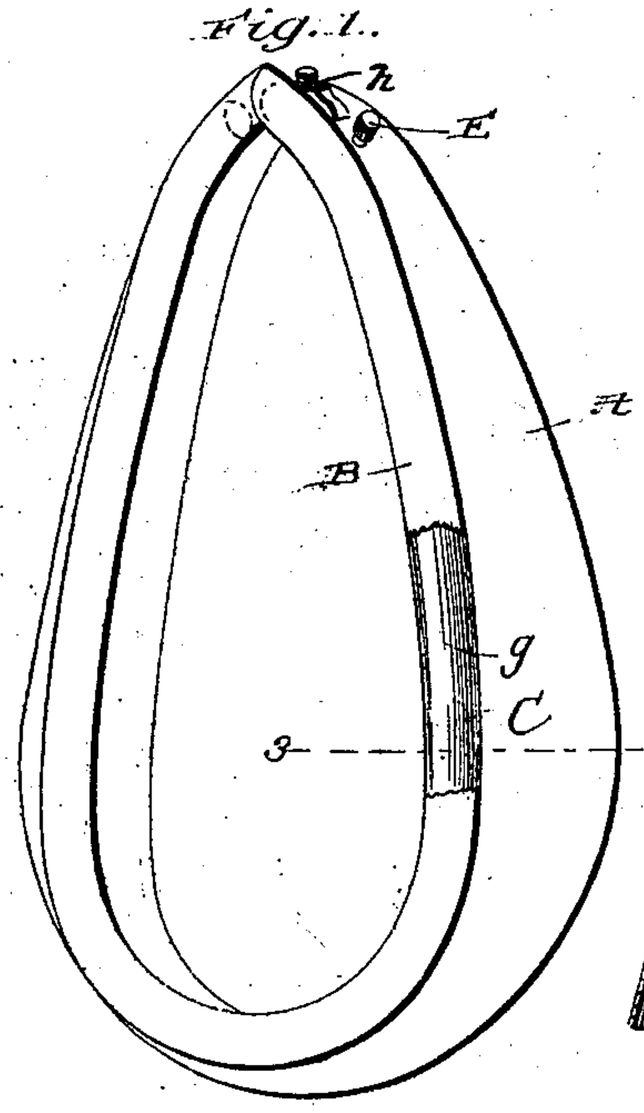


Fig. 2.

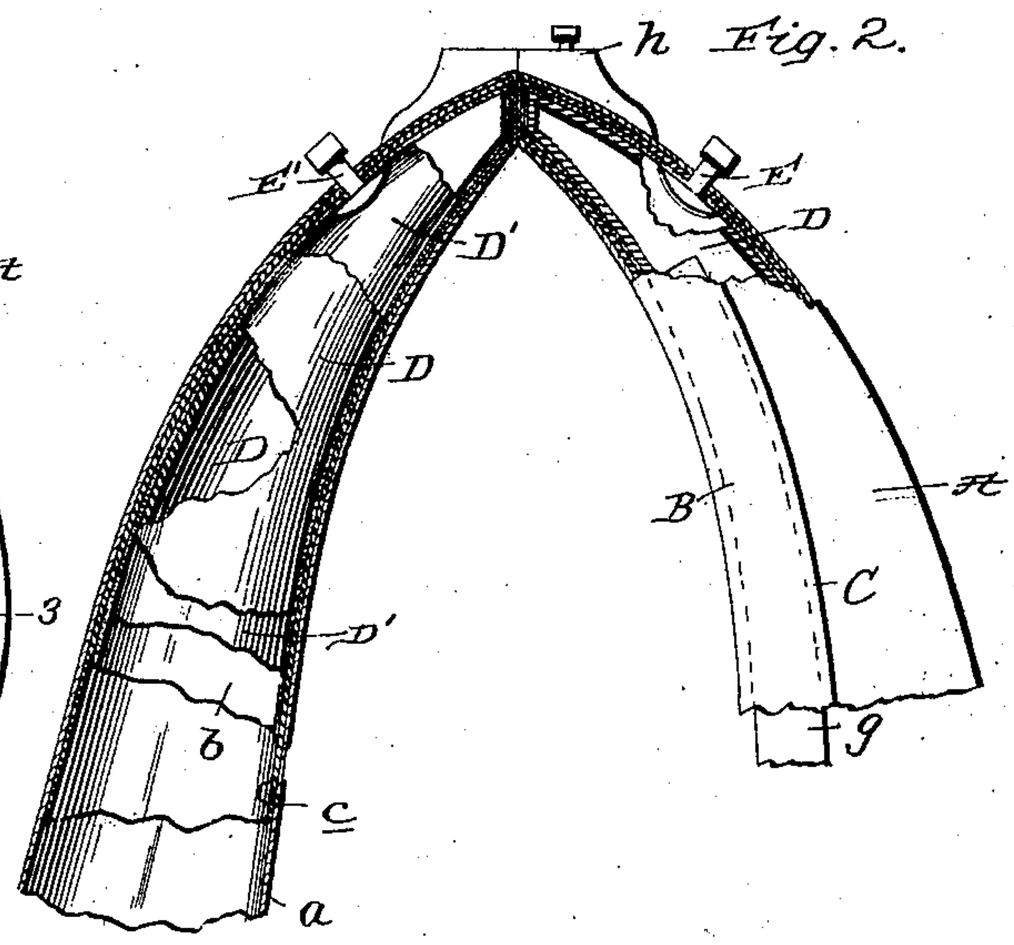


Fig. 3.

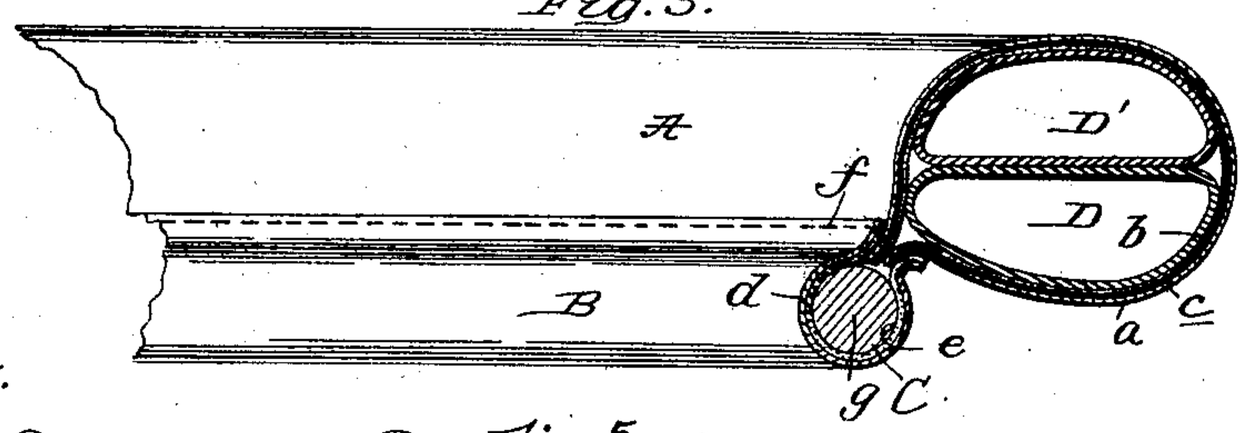


Fig. 4.

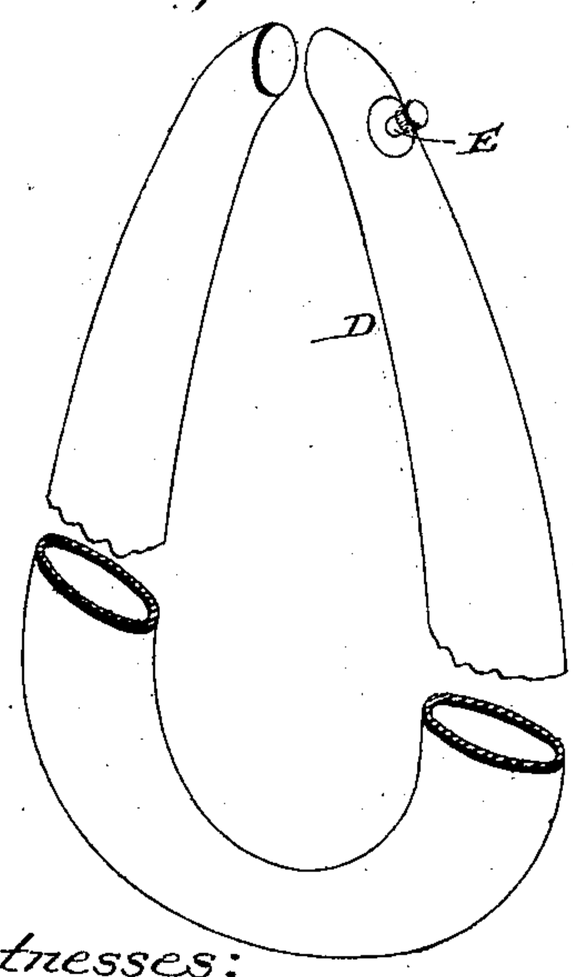
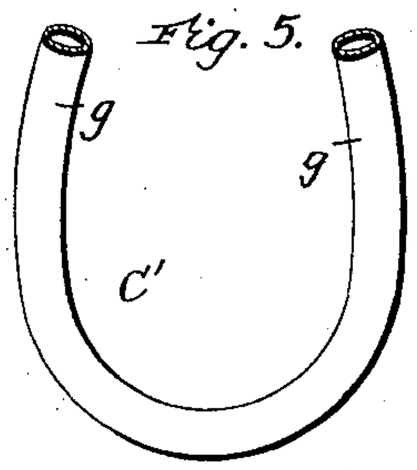


Fig. 5.



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UNITED STATES PATENT OFFICE.

HERBERT J. BREEZE, OF PORT HURON, MICHIGAN.

HORSE-COLLAR.

SPECIFICATION forming part of Letters Patent No. 690,632, dated January 7, 1902.

Application filed November 14, 1899. Serial No. 736,947. (No model.)

To all whom it may concern:

Be it known that I, HERBERT J. BREEZE, a citizen of the United States, residing at Port Huron, in the county of St. Clair and State of Michigan, have invented new and useful Improvements in Horse-Collars, of which the following is a specification.

My invention relates to pneumatic horse-collars—*i. e.*, collars in which the after-wales are cushioned by inflatable tubes—and its novelty and advantages will be fully understood from the following description and claim when taken in conjunction with the accompanying drawings, in which—

Figure 1 is perspective view of my improved horse-collar with a portion of the fore-wale broken away to illustrate the resilient shape-retaining frame occupying the same. Fig. 2 is an enlarged view of the upper part of the collar with some of the parts in elevation, some in section, and others partly broken away. Fig. 3 is an enlarged transverse section taken in the plane of line 3 3 of Fig. 1. Fig. 4 is a broken perspective view of one of the inflatable tubes of the collar. Fig. 5 is a broken perspective view illustrating the lower portion of a modified resilient shape-retaining frame.

Referring by letter to the said drawings, and more particularly to Figs. 1 to 4 thereof, A is the after-wale, and B the fore-wale, of my improved collar. The former is preferably formed of an outer layer of leather *a*, an inner layer of canvas *b*, and a layer of rubber cloth *c*, the latter being interposed between the leather and canvas and having for its purpose to prevent moisture from penetrating to and deteriorating the rubber of which the inflatable tubes, presently described, are formed. The forward-wale B is preferably formed of an outer layer *d*, of leather, and an inner reinforcing-layer *e*, of canvas, and is connected to the after-wale by stitches *f* in the ordinary manner.

C is the resilient shape-retaining frame, which for the sake of cheapness, lightness, and strength is formed in one piece and preferably of wood. This frame conforms in shape to the collar when closed and is preferably circular in cross-section and of a size to fully occupy the fore-wale, as best shown in Figs. 1 to 3, whereby the necessity of employing stuffing in said wale is obviated and the production of the collar is materially cheapened. The arms *g* of said frame are adapted to normally rest in the position shown in Fig. 1, and thereby hold the collar closed. They are also susceptible of being drawn apart when the collar is to be opened, and when released are adapted to spring back into the position shown in Fig. 1.

It will be appreciated from the foregoing that the frame C is not only calculated to preserve the shape of the collar when the inflatable tubes, presently described, are inflated and deflated, but is also adapted by its tendency to close and keep the collar closed to remove strain from the usual fastener *h* at the upper end of the collar.

I prefer, as before stated, to form the frame C of a wood possessing the requisite springiness or resiliency. I do not desire, however, to be understood as confining myself to a wood frame, as when desired a resilient frame C′, formed in one piece of light steel tubing, such as shown in Fig. 5, may be employed, the said frame being of a shape and size in cross-section to fully occupy the fore-wale in the same manner as is done by the frame C.

D D′ indicate inflatable tubes, of rubber, which are arranged side by side in and extend from end to end of the after-wale B. The tube D is provided adjacent to one end of the after-wale with an air-nozzle E, and the inflatable tube D′ is provided adjacent to the other end of the said after-wale with an air-nozzle E′. These air-nozzles extend outwardly from the after-wale and rest in a convenient position for the connection and operation of the air-pump used in inflating the tubes.

The tubes D D′ are arranged side by side and in practice are equally inflated, so that they each occupy one-half of the interior of the after-wale. When thus arranged and inflated, each of the said tubes supports the other, and together they form a very elastic cushion. It will also be observed that in the event of air leaking from one tube the other tube will expand and substantially occupy the space given up by the one from which the leakage took place, and thus tend to preserve the fullness and elasticity of the after-wale. The said tubes D D′ are also made sufficiently

heavy to enable one to fully occupy and form an efficient cushion in the after-wale in case the other is entirely depleted of air by a leak or any other cause. Being made of rubber the tubes D D′ when inflated possess considerable resiliency and have a tendency to press their ends together. By virtue of this they are enabled to materially assist the resilient frame contained in the fore-wale in normally holding the collar closed and also to cause the after-wale to snugly and comfortably fit the neck of the horse.

It will be appreciated from the foregoing that my improved horse-collar is very strong and durable and at the same time is simple and inexpensive and very light, all of which are material and important advantages.

Having thus described my invention, what I claim is—

The herein-described normally closed horse-collar formed in one section and comprising an after-wale, partially-inflated tubes arranged side by side in and extending throughout the length of the after-wale with their ends adjacent to the ends of said after-wale and each occupying a portion of the interior thereof; said tubes having a tendency to press their ends together to assist in normally holding the ends of the collar together and the collar closed, a fore-wale, and the resilient shape-retaining frame formed in one piece and arranged in and fully occupying and extending throughout the length of the fore-wale with its ends arranged adjacent to those of said wale; said resilient frame being normally closed whereby it is adapted to normally hold the ends of the collar under pressure against each other and thereby hold the collar closed and retain the shape of the same.

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

HERBERT J. BREEZE.

Witnesses:

E. N. BRANAGAN,

B. A. BOKER.