

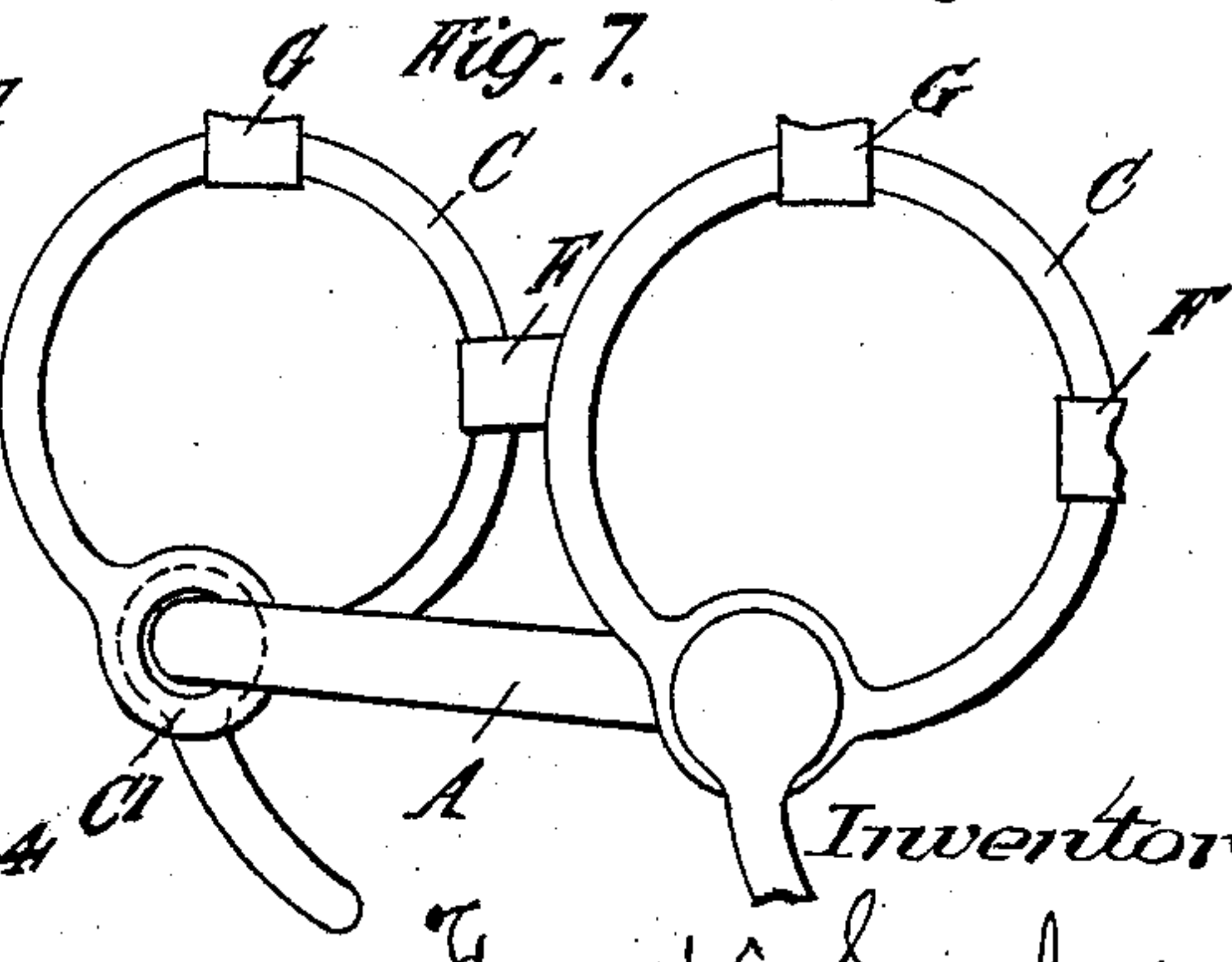
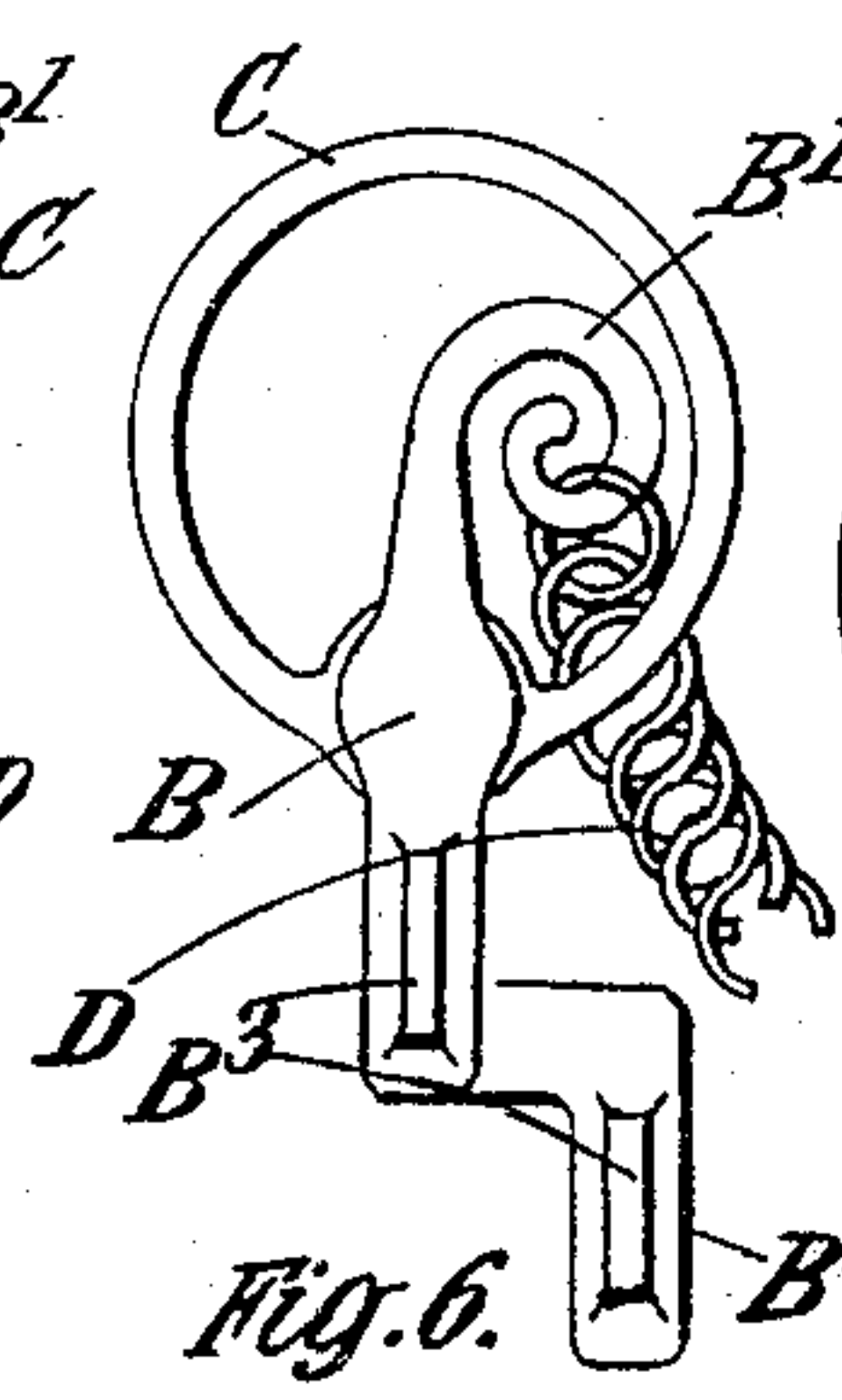
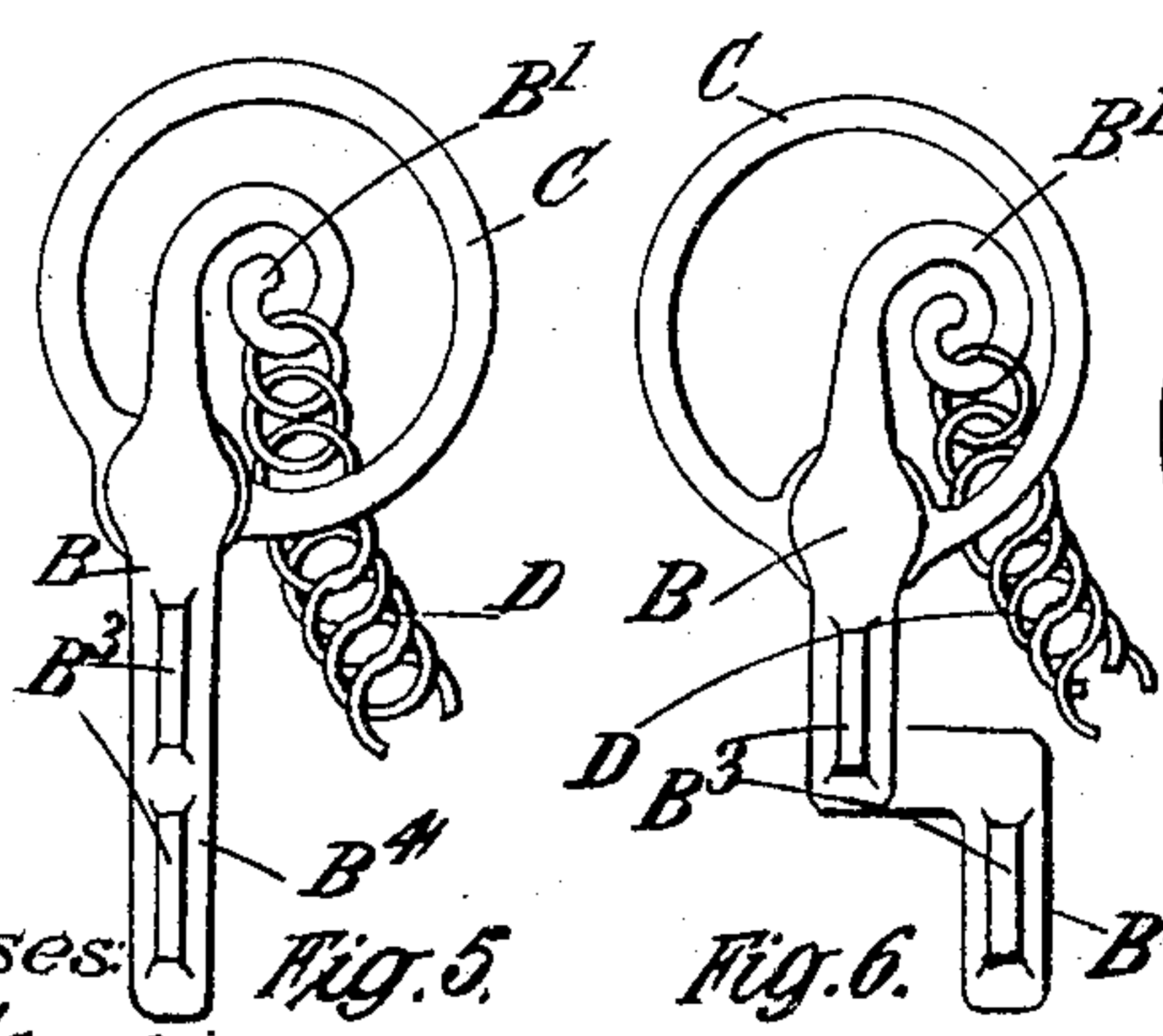
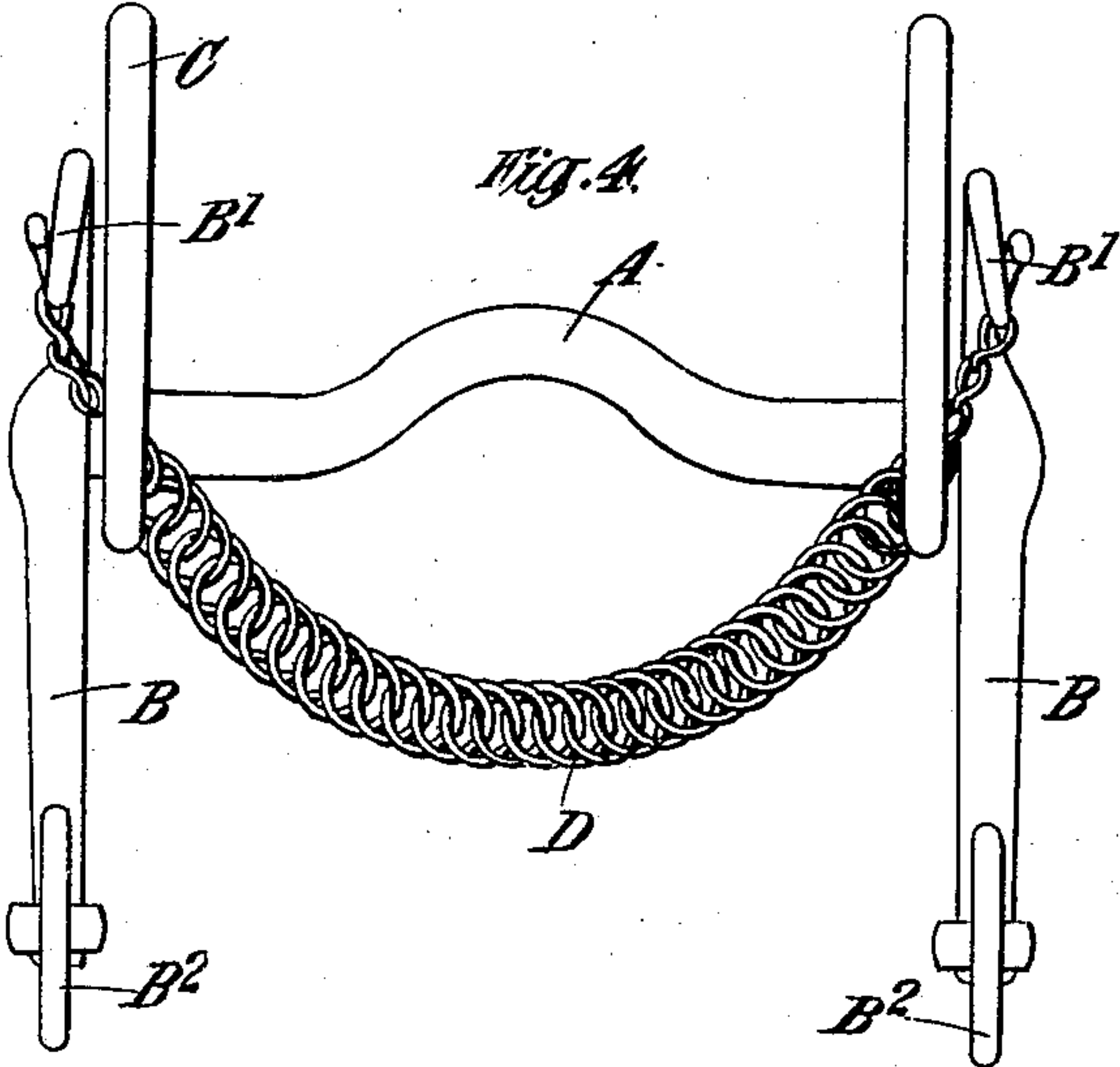
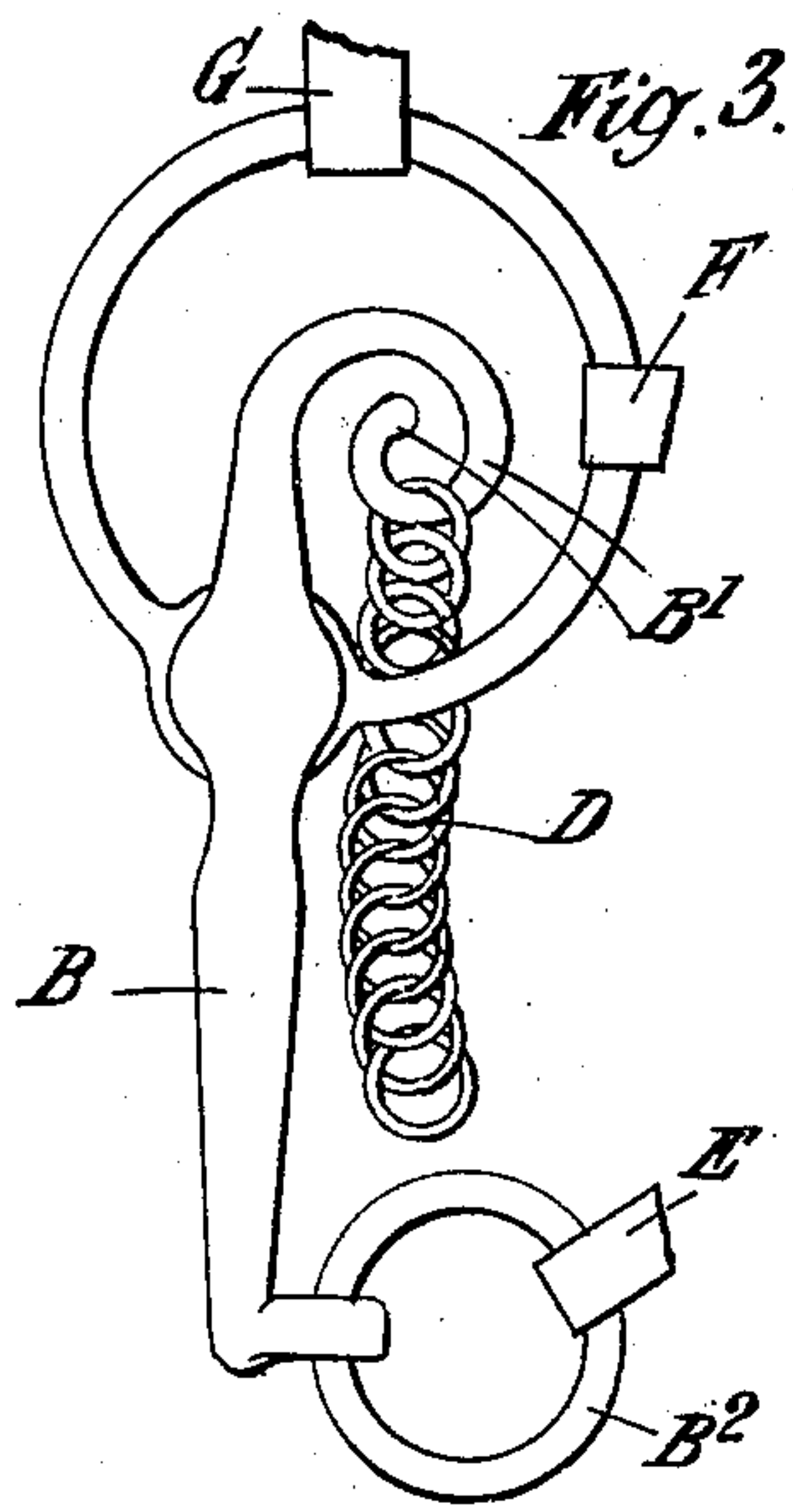
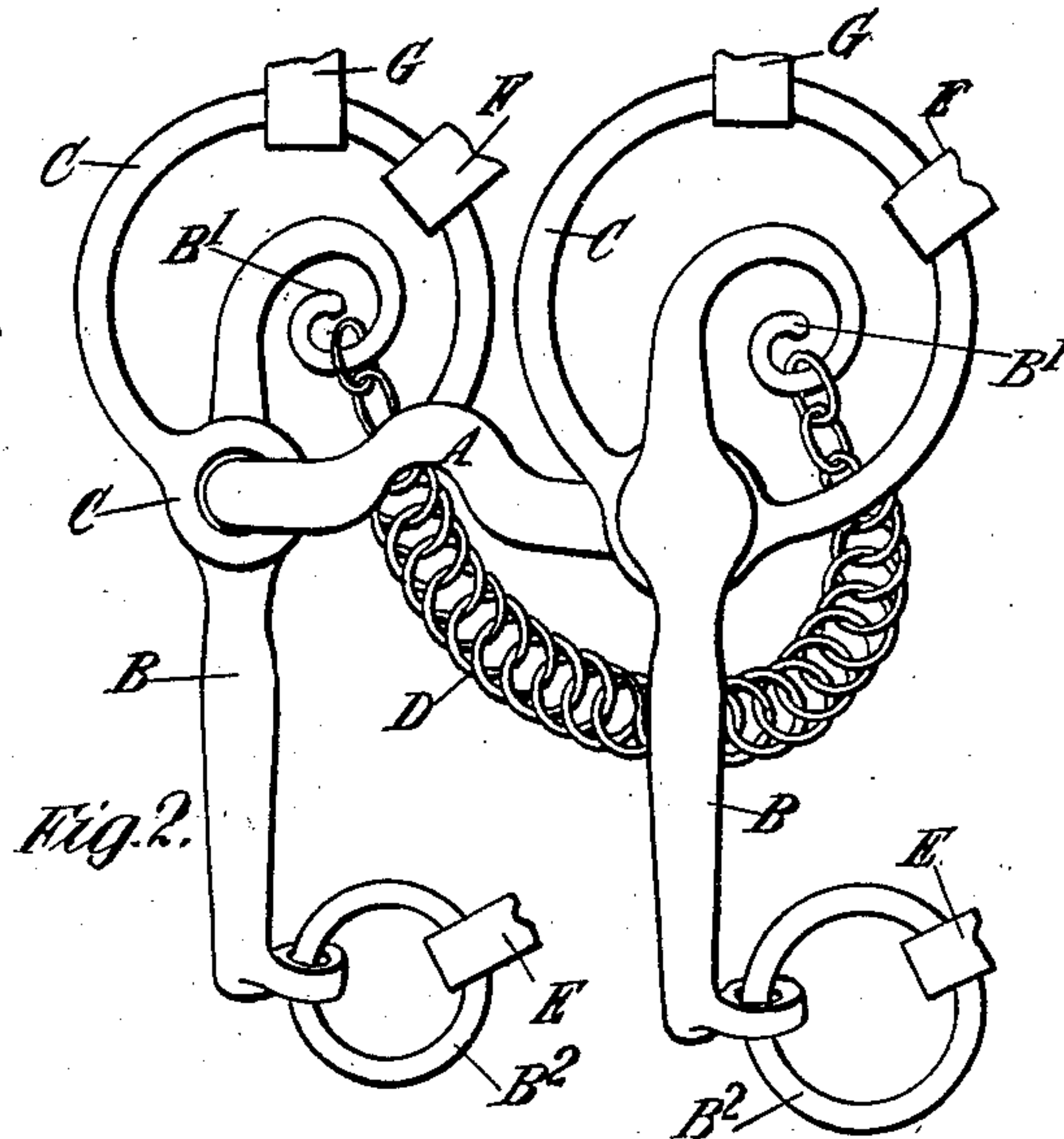
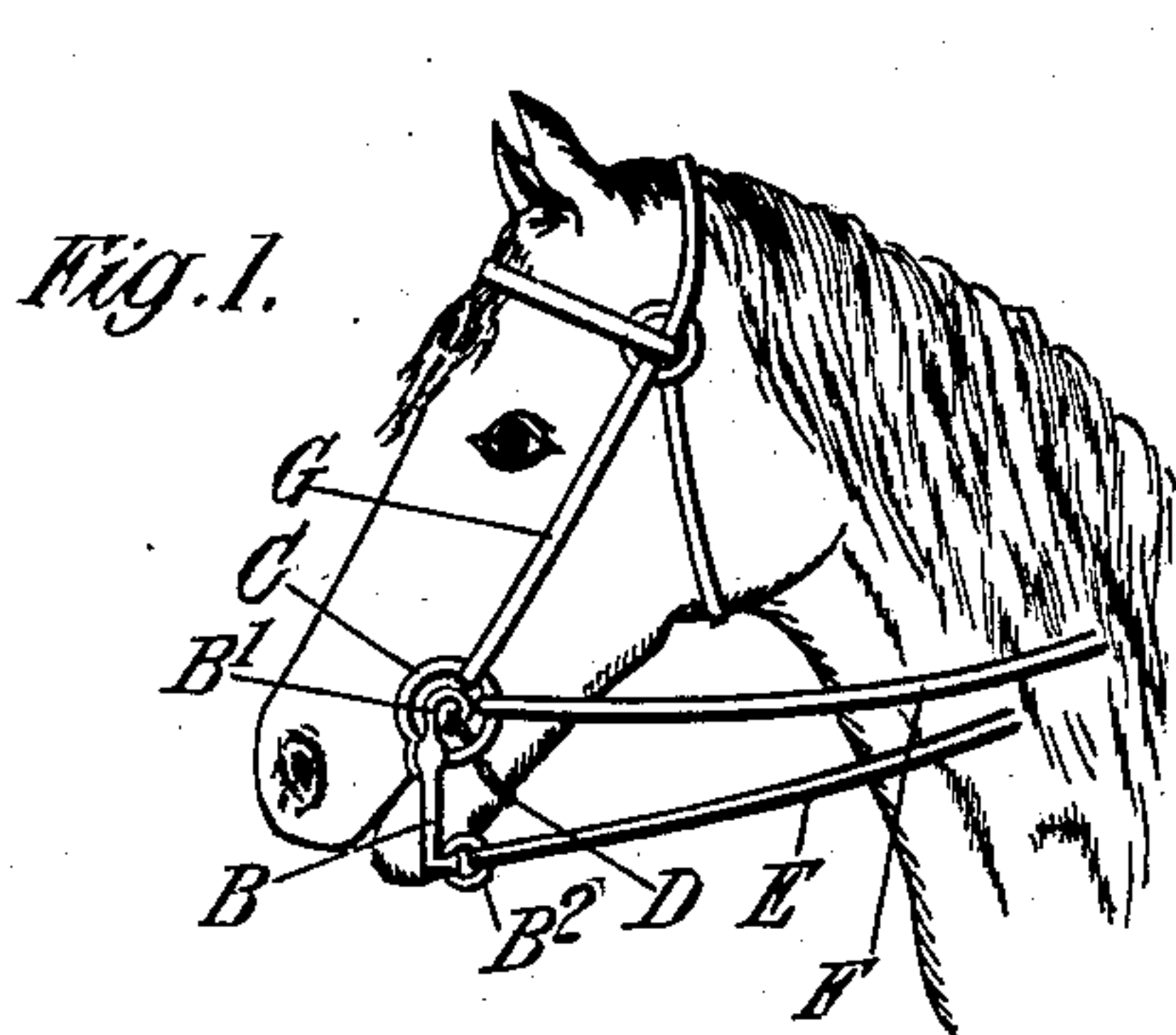
No. 898,394.

PATENTED SEPT. 8, 1908.

F. SWALES.

BIT.

APPLICATION FILED MAY 18, 1907.



Witnesses:
P. F. Nagle.
L. Douville.

Inventor
Frank Swales.
By Niedermeier & Fairbanks,
Attorneys.

UNITED STATES PATENT OFFICE.

FRANK SWALES, OF EAST SHEEN, ENGLAND.

BIT.

No. 898,394.

Specification of Letters Patent.

Patented Sept. 8, 1908.

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To all whom it may concern:

Be it known that I, FRANK SWALES, a subject of the King of Great Britain, residing at Palewell Lodge, East Sheen, in the county of Surrey, England, gentleman, have invented certain new and useful Improvements in or Relating to Bits, of which the following is a specification.

This invention relates to bits for animals, of the kind in which a snaffle bit and a curb bit are combined and which are applicable for riding and driving and capable of employment as a snaffle or curb or as a combined snaffle and curb bit.

According to my invention in a bit of the kind referred to, the mouth bar is loosely supported by plain snaffle rings having eyes which intersect the said rings and in which the side pieces are arranged exteriorly to the snaffle rings and adapted to carry the curb chain; the bit having comparatively short side pieces or side cheeks formed integrally with or secured to the mouth bar. The curb bit is formed with a spiral or volute shaped hook for the attachment of the curb chain. The snaffle bit may if desired be employed without the curb; it is however preferred to combine the snaffle bit and curb bit.

In connection with snaffle bits it has usually been the practice to employ a jointed or a straight bit and to connect the rings or side pieces with the head piece or bridle; the arrangement which will be well understood, is however unsatisfactory owing to the readiness with which the bit may be drawn through the mouth and the inefficiency in furnishing a highly satisfactory means of guiding the animal. In connection with curb bits also there are many disadvantages as at present ordinarily constructed, the side pieces or side cheeks being connected at their upper ends with the head piece and the curb chain while at their lower ends the curb rein is attached. As a result of this construction, when the curb rein is pulled, the side cheeks are turned, together with the mouth-bar, but it will be seen that the bit has in reality a floating fulcrum inasmuch as the attempt to apply the curb by pulling the curb rein causes the side pieces to exert a pull on the head piece of the bridle and this being practically inextensible the bit is drawn back in the mouth. Thus no curbing effect

is obtained, the mouth-bar in most cases finding a bearing against the molars or grinders. The head-piece is moreover drawn forward and downward producing pressure upon the top of the animal's head. Such pressure which is much greater than is ordinarily estimated, is very objectionable and causes the animal to lower the head. In addition to the above objections the operation of the bit entails the use of side pieces or cheeks of considerable length and owing to the force required and the necessity for adopting a slender form of side pieces fracture frequently results although steel is employed in the manufacture of such bits.

One of the objects of this invention is to enable metal—by which is meant non-corrodible metal—to be employed in the production of bits.

With a view to obviating or minimizing the above mentioned disadvantages and providing a bit which will efficiently curb the animal without causing pressure upon the top of the animal's head, it is proposed to support the mouth bar by means of snaffle rings arranged one near each end of the mouth bar; the latter takes a bearing in eyes formed on the said rings, the said eyes being intersected approximately by the main circular portion of the ring. The head piece of the bridle is attached to the snaffle rings. The latter serve the purpose of burs and greatly assist in guiding the animal. The eyes pertaining to the snaffle rings may be arranged differently if desired but I have found the arrangement above referred to answer well in practice. The mouth-bar may be of any desired type, such as straight, Port, Mullen, or any other suitable form. The side-pieces may be secured to the mouth bar in any convenient manner and; for the purpose of the present invention, are comparatively short. The upper ends of the side pieces are formed as volutes and constitute outwardly inclined hooks for the reception of the curb chain, the aforesaid outwardly inclined formation affording a ready means of attaching the curb chain while insuring the latter from accidental detachment. The lower ends of the side cheeks are provided with means whereby the curb rein may be attached.

In order that the said invention may be

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clearly understood and readily carried into effect, I will proceed to describe the same with reference to the accompanying drawings, in which:—

5 Figure 1 is a view illustrating a bit constructed according to my invention and adapted for riding; the bit being shown applied to a horse. Fig. 2 is a perspective view of the bit detached from the bridle and drawn
10 to a larger scale; Fig. 3 being a corresponding side view, and Fig. 4 a front elevation. Figs. 5 and 6 are side views of bits having side pieces adapted for driving. Fig. 7 is a perspective view of a snaffle bit arranged accord-
15 ing to my improved method.

Referring to Figs. 1 to 4 the mouth bar A is formed or provided with side pieces B and supported by the snaffle rings C; the latter being formed each with an eye C' through
20 which the mouth bar A passes. The side pieces B may thus be moved independently of the snaffle-rings C. The curb chain D is attached to the side pieces B by means of one of the links of the chain, the said link being
25 engaged with outwardly extending volute hooks B' formed at the upper end of each of the side pieces. At the lower end of each side piece, rings B² are provided for the attachment of the curb rein E. The outwardly
30 extending end of the hooks B' afford a ready means of attaching the curb chain while its detachment is obviated by the turns of the volute. The curb hook usually employed is thus rendered unnecessary. The
35 snaffle rein F is attached to the snaffle rings, the latter being attached to and carried by or suspended from the head piece G.

In Figs. 5 and 6 two forms of curb driving bits are shown in which the mouth bar is sup-
40 ported by a snaffle ring C in a similar manner to that described with reference to Figs. 1 to 4, the attachment of the curb rein being effected by buckling the rein in the one or the other of the slots B³, B⁴ formed in the side-
45 pieces B.

The improved construction of bit may be advantageously employed in connection with a bearing rein without the application of a
50 second bit; the said bearing rein may be of the kind usually known as the side bearing rein, or the over draw check rein may be used.

When the bit is used as a snaffle simply (see Fig. 7), the mouth bar may be formed
55 with any suitable side pieces or an extra ring may be employed. As a snaffle bit the improved means of attaching the ring to the mouth bar and head piece enables the mouth bar to be held in proper position in the
60 mouth and effectually prevents the same slipping through to one side of the mouth. A further result is that the guiding effect is exercised instantaneously thereby superseding the double ring snaffle ordinarily

employed. The improved mode of attach- 65 ment also insures a more direct pull on the bar without causing tension on the head piece and consequent pressure on the head of the animal.

By means of the improved construction, the 70 curb bit not being attached to the bridle or head piece and the mouth bar turning or rocking in the eye of the snaffle ring, there is no perceptible displacement at the point of attachment with the side pieces of the 75 bridle or head piece and no appreciable movement of the bit takes place. Consequently there is no pressure on the top of the animal's head tending to cause the lowering of the latter. On the contrary the effect is 80 to cause the raising of the head owing to the curb chain performing its function efficiently. Moreover, owing to the curb chain being connected above the fulcrum of the curb a direct effect is obtained with the chain on 85 the lower jaw thus enabling shorter side pieces or cheeks to be used. The arrangement also insures the curb chain retaining its position in the chin groove. The rings being against the cheeks of the animal and 90 the side pieces being arranged in a plane exterior thereto, the liability of the animal holding the bit is obviated. Further the chin strap, usually connected with the ring on the curb chain, is dispensed with, the 95 means of attaching the curb enabling the same to follow the movements of the horse's jaw. A considerable economy in manufacture is hereby effected by reason of the chin loops being rendered unnecessary, the form- 100 ing and finishing the said loops heretofore entailing operations which considerably increased the cost of producing the bits.

What I claim and desire to secure by Letters Patent of the United States is:— 105

1. In a bit, the combination of a mouth bar, plain snaffle rings having eyes intersecting said rings for loosely supporting said mouth bar, and side pieces formed integrally with said mouth bar and arranged exteriorly 110 to the snaffle rings for carrying the curb chain.

2. In a bit, the combination of a mouth bar, plain snaffle rings having eyes intersecting said rings for loosely supporting said 115 mouth bar, and short side pieces secured to the mouth bar and arranged exteriorly to the snaffle rings for carrying the curb chain.

3. In a bit, the combination of a mouth bar, plain snaffle rings having eyes intersecting said rings for loosely supporting the 120 mouth bar, side pieces mounted on said mouth bar, and spiral shape hooks formed on the side pieces for attachment of the curb chain.

4. In a bit, the combination of a mouth bar, side pieces formed on said mouth bar for connection with the curb reins, volute 125

shape hooks on the said side pieces for holding the curb chain, snaffle rings having eyes intersecting said rings for supporting the mouth bar so that the latter may move
5 rotatively, the said rings being adapted for connection with the head piece of the bridle and with the snaffle rein.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK SWALES.

Witnesses:

WALTER. J. SKERTEN,
T. SELBY WARDLE.