

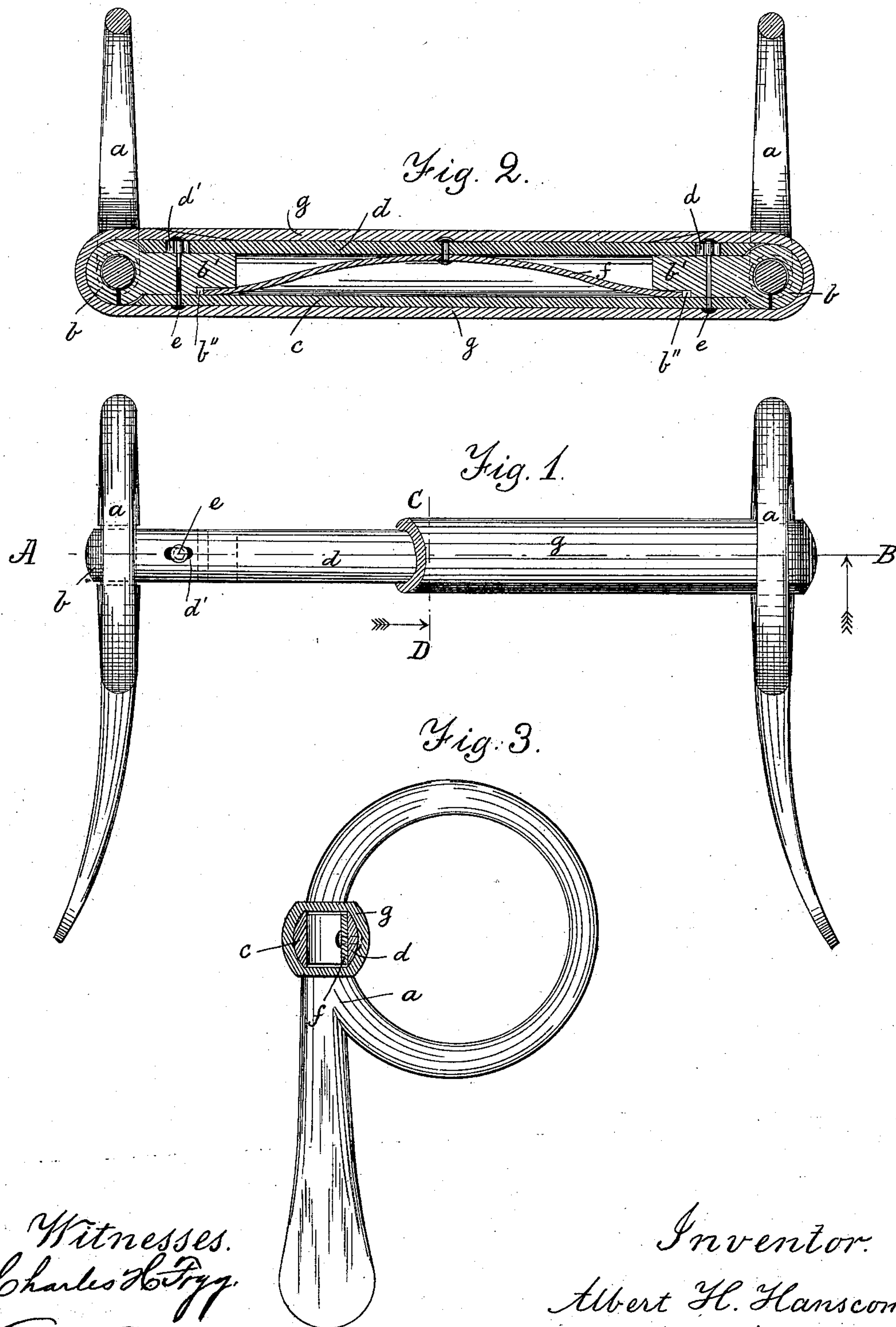
(No Model.)

A. H. HANSCOM.

BRIDLE BIT.

No. 376,088.

Patented Jan. 10, 1888.



Witnesses.
Charles H. Fry
C. W. Robbins

Inventor.
Albert H. Hanscom.
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UNITED STATES PATENT OFFICE.

ALBERT H. HANSCOM, OF WINTERPORT, MAINE.

BRIDLE-BIT.

SPECIFICATION forming part of Letters Patent No. 376,088, dated January 10, 1888.

Application filed June 17, 1887. Serial No. 241,534. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. HANSCOM, a citizen of the United States, and a resident of Winterport, in the county of Waldo and State of Maine, have invented new and useful Improvements in Bridle-Bits, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in 10 bridle-bits; and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a rear elevation of the bit, with a portion of the covering shown as 15 removed. Fig. 2 represents a longitudinal section on the line A B, shown in Fig. 1, and Fig. 3 represents a cross-section on the line C D, shown in Fig. 1.

Similar letters refer to similar parts wherever they occur on the different parts of the 20 drawings.

Flexible bridle-bits heretofore made have been either too yielding or not yielding enough, or so constructed as to yield easily at a gentle strain, and become, in case great strain is put 25 upon them, at once entirely rigid and of no more use than a common unyielding bit. Another class of yielding bits have their yielding element either wholly or partly made of rubber, and experience has shown that rubber or any 30 of such gums will in a short time become set—that is, the rubber will become like dough or putty, ready to take any shape, but entirely inelastic and unfit to form any part of a bit.

The object of my invention is to form a metallic frame-work for the bit which shall serve to connect the cheek-rings by a strong flexible intermediate ligature composed of plates of metal which need not be tempered, and to 40 combine with such plates a metallic spring bent so as to form what is usually termed an "elliptic" spring. This elliptic spring is inserted within the frame-work that forms the ligature between the cheek-rings, and so confined that it cannot get out of place, and yet 45 is free to slide longitudinally as the frame of the bit bends, and having always a tendency to bring the frame or ligature back to a straight line. By this arrangement and construction 50 I am enabled to produce a bit that is yielding to any desired extent and will never "set" or

become distorted in any manner—a bit that will be made quite cheap, very durable, light, and always to be depended upon.

In the drawings, *a a* represent the cheek-rings, of any suitable form or pattern, which 55 are loosely pivoted to the eyes *b b*, which latter are preferably made slitted, as shown in Fig. 2, to permit their being expanded for receiving the cheek-rings, and afterward to be 60 closed up, as shown.

b' b' are the inwardly-projecting shanks of the eyes *b b*, as shown in Fig. 2.

c and *d* represent the thin metal plates extending lengthwise from one eye to the other. 65 One of said plates, *c*, is firmly secured to the shanks *b' b'* by means of the rivets *e e*, (one or more for each shank.) The other plate, *d*, is held in contact with the shanks *b' b'*; but it is free to adjust itself lengthwise relative to said 70 shanks as the bit is bent, said plate *d* having for this purpose slots *d' d'*, through which the rivets *e e* pass loosely and above which the latter are headed in a manner like that shown in the patent granted September 7, 1886, No. 348,834, 75 to John A. Fairbanks. I prefer to make the plates *c d* of the sectional form, as fully shown in Fig. 3.

To the interior of the plate *d* is secured in a suitable manner, preferably by means of one 80 or more rivets, the elliptic metal spring *f*, the ends of which are made to press against the inside of the plate *c* at or near its ends; and in practice I prefer to have the ends of said metal spring *f* enter grooves or cut-away portions *b''* 85 *b''* in the shanks *b' b'*, as shown in Fig. 2. Said spring serves to resist the pulling strain of the bit and allows it to yield properly relative to such pulling strain, and when the latter is relieved the said spring will cause the bit to be 90 come straight, as originally.

Instead of only one single metal spring, as shown in the drawings, two opposing springs may be used, or elliptic leaf-springs may be used, without departing from the spirit of my 95 invention.

g is the external leather or other covering, as usual.

It will thus be seen that the yielding ligature is all metal and composed of the metal 100 plates *c d*, connected to the eyes of the cheek-rings, and the metal spring *f*, interposed be-

tween the metal plates, and in the structure no rubber or solid filling is used.

What I wish to secure by Letters Patent, and claim, is—

5 1. In a bridle-bit, the eyes *b b* for the cheek-rings, and the metal strips or plates *c d*, connected to the shanks *b' b'* of said eyes, in combination with the metal spring *f*, interposed between said plates, as and for the purpose set
10 forth.

2. In a bridle-bit, the eyes *b b* and plates *c d*, one of which is firmly secured to the shanks *b' b'* of said eyes and the other free to slide thereon, combined with the interposed metal
15 spring *f*, adapted to bear against the interior surfaces of said plates *c d*, as set forth.

3. The eyes *b b*, having shanks *b' b'*, provided with grooves or recesses *b'' b''*, for receiving the ends of the metal spring, combined with the plates *c d* and interposed metal spring *f*, substantially as and for the purpose set forth. 20

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 14th day of June, A. D. 1887.

ALBERT H. HANSCOM.

Witnesses:

ALBAN ANDRÉN,

HENRY CHADBourn.