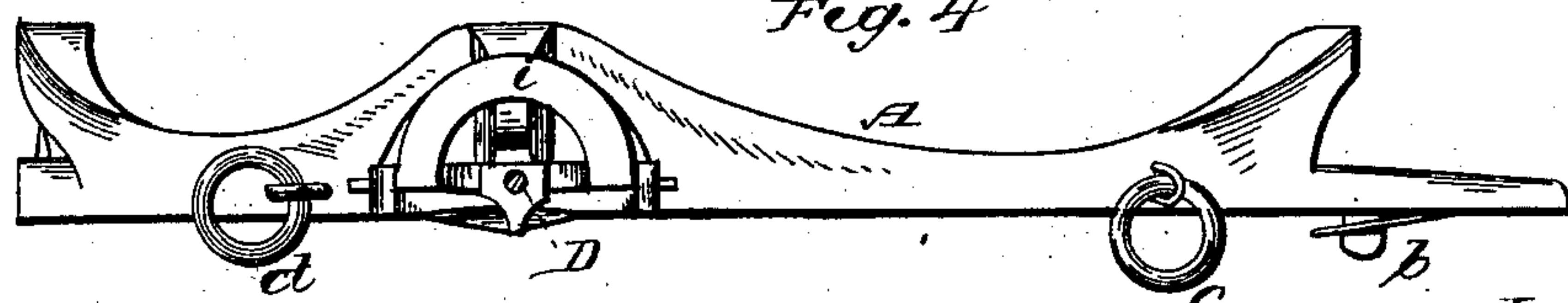
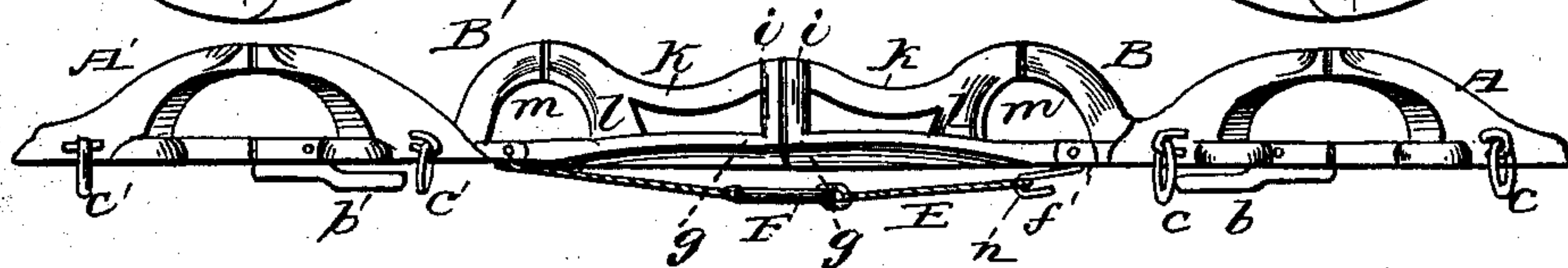
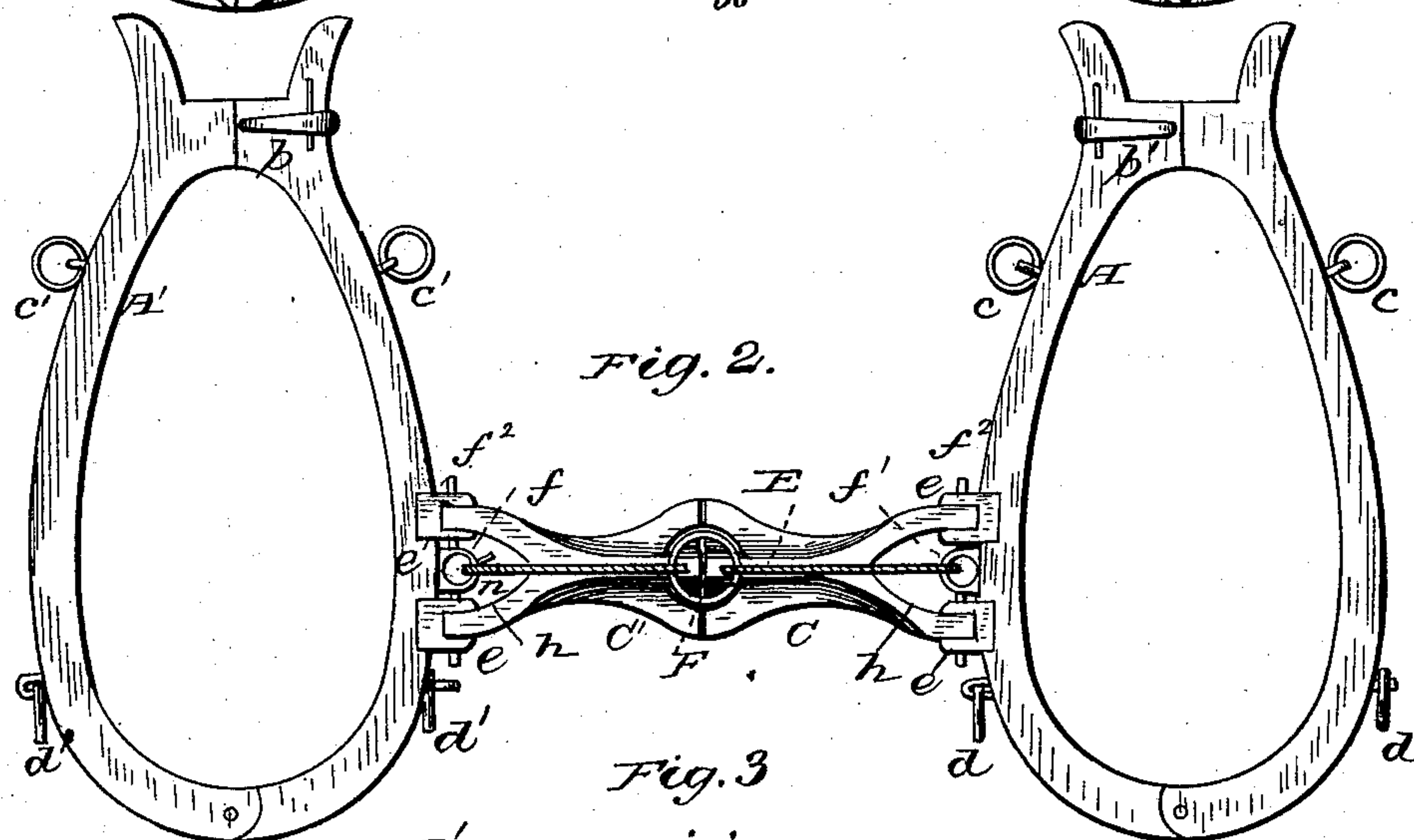
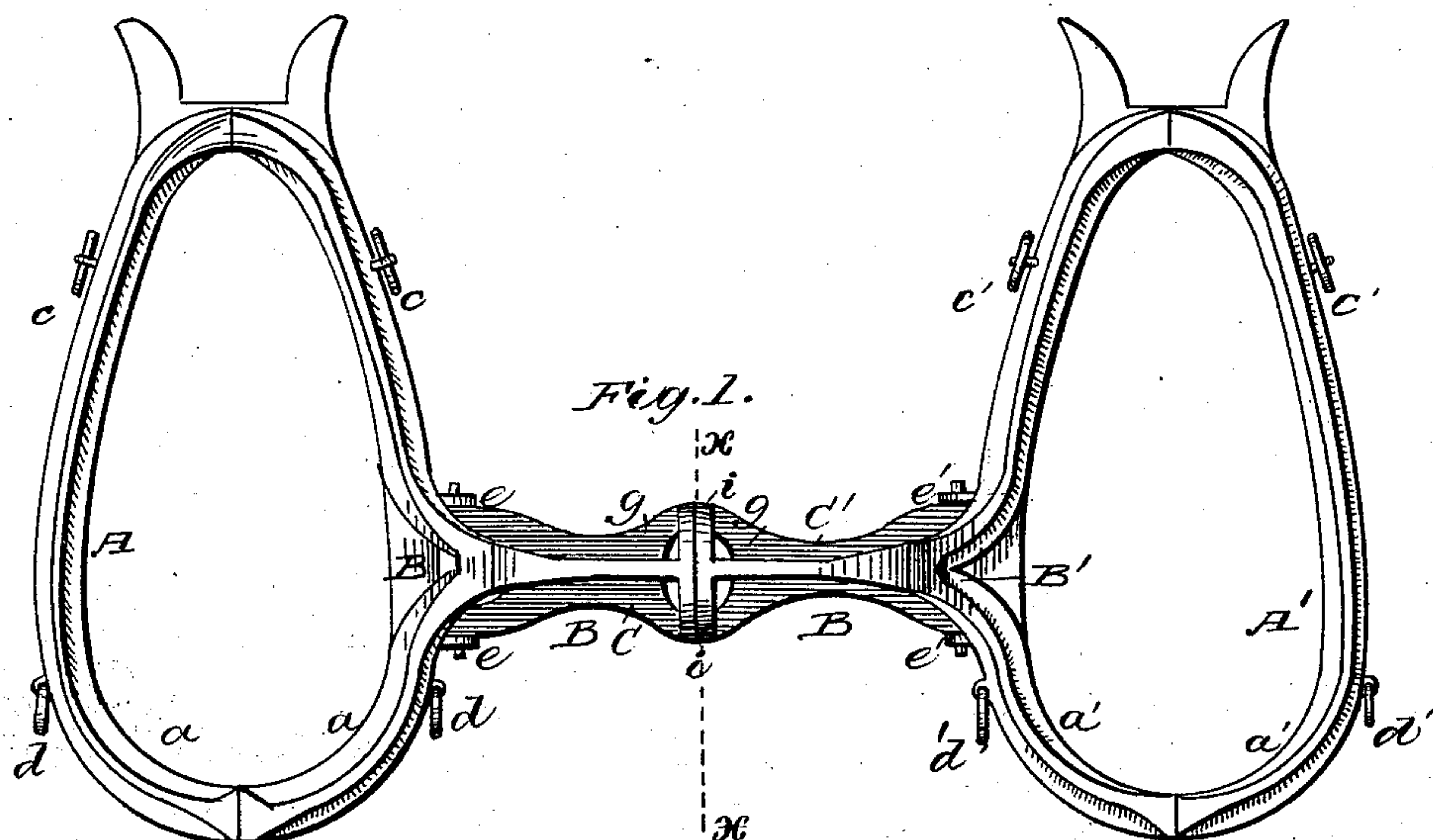


C. H. COOLEY.
Harness.

No. 221,156.

Patented Nov. 4, 1879.



Witnesses
Fred G. Dieterich
August Peterson

Inventor
Charles H. Cooley.
by Louis Baggett
his attorney.

UNITED STATES PATENT OFFICE.

CHARLES H. COOLEY, OF GRIND STONE CITY, MICHIGAN.

IMPROVEMENT IN HARNESS.

Specification forming part of Letters Patent No. **221,156**, dated November 4, 1879; application filed April 5, 1879.

To all whom it may concern:

Be it known that I, CHARLES H. COOLEY, of Grind Stone City, in the county of Huron and State of Michigan, have invented certain new and useful Improvements in Harness; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a front view. Fig. 2 is a rear elevation. Fig. 3 is a top view; and Fig. 4 is a cross-section on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to the hames of a harness; and it consists, essentially, in the combination, with the hames, of an adjustable coupling, back of which, midway between the hames, the draft strap or tug is secured.

The object of my invention is to dispense with side tugs and whiffletrees, and thereby facilitate attachment of the team to or detachment from the wagon, plow, or other implement which it is desired to pull or operate.

In the drawings, *A A'* are the hames, the parts or side pieces, *a a' a'*, of each of which are hinged together at the bottom and united at the top by a spring lock or fastening, *b b'*, thus dispensing with hame-strings or thongs. Upon the side pieces of each of the hames are secured two sets or pairs of rings, as usual, the upper set (denoted by *c c* and *c' c'*, respectively) being for the lines to pass through, and the lower set, *d d d'*, for the neck-yoke straps.

The right side piece of one of the hames *A* and the left of the other, *A'*, is provided with a curved laterally-projecting and bifurcated bracket, *B B'*, which terminates in a flat step or shoulder, impinging upon a corresponding step or shoulder upon the coupling-bar, which will be hereinafter described. Back of these brackets *B B'* is a pair of couplings, *e e e' e'*, consisting each simply of two projecting lugs, perforated vertically, and a coupling-pin inserted through the perforation. Between each

pair of couplings is an eye or perforated ear, *f f'*, which, like the couplings, is firmly secured upon or made in one piece with the hame.

The adjustable coupling or coupling-bar consists of two parts, *C C'*, connected together in the middle by a pin or bolt, *D*, which is inserted through perforated shoulders formed in the head of the back plates, *g g*, of the coupling. These back plates are bifurcated at each end, forming coupling-heads *h h* on one side of each section *C C'*, which fit into the couplings *e e e' e'*, and are secured therein by the pins *f² f²*. The other end of each of the plates *g* is united to a segment or half-circle, *i*, at a right angle to the plate, the two half-circles *i i* being set against and sliding upon each other around a common center formed by the pivot bolt or pin *D*.

k is a plate or brace, which extends from the top of the arc of plate *i*, and is secured upon plate *g* by a downward-projecting connecting-arm, *l*, forming, with the end of brace *k*, a curved abutment, *m*, which, when each of the parts *C C'* is in its proper position, will impinge upon the opposite shoulders or bearings formed upon the hames *A A'* by the brackets *B B'*, as described.

E is a stout cord, strap, or chain, one end of which is secured in the eye or ring *f* of hame *A*, and the other end has a hook, *n*, by means of which that end may be secured in the eye *f'* of the opposite hame, *A'*. The cord *E* is divided in the middle by a ring, *F*.

From the foregoing description, taken in connection with the drawings, the operation of my improved hames and adjustable coupling will be readily understood. The draft chain or tug is secured in the central ring, *F*, back of the connecting coupling-bar *C C'*, and midway between the hames, which are enabled to "give" relative to each other by the vertical pivots formed by the side couplings, *e e e' e'*, and the horizontal coupling *D*, so that in a certain sense the connecting-bar *C C'* answers the purpose of a universal joint or link between the hames. At the same time these are prevented from swinging forward of the connecting-bar by the abutments *m B* on

each side impinging upon each other, thus at all times equalizing the strain upon the shoulders of the team, and the connecting bar or coupling cannot double on account of the semi-circles *i i*, which impinge and slide upon each other.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. As an improvement in harness, the hames A A', pivoted vertically in connecting-bars C C', so as to have an unobstructed rearward but limited forward motion, and the said bars C C' pivoted in a common center at their meeting ends in the direction of their length, substantially as described, for the purpose set forth.

2. In combination, the hames A A', provided

with couplings *e e e' e'*, eyes *f f'*, and shoulders B B', pivoted connecting-bars C C', constructed with shoulders *m* and segments *i* and pivot D, all combined and arranged to operate substantially as described, for the purpose set forth.

3. In combination with the pivoted hames A A' and adjustable connecting-bars C C' D, the draft-cord E, having ring F, for the attachment of a single tug, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES H. COOLEY.

Witnesses:

WM. C. WILLIAMSON,
F. T. SINCLAIR.