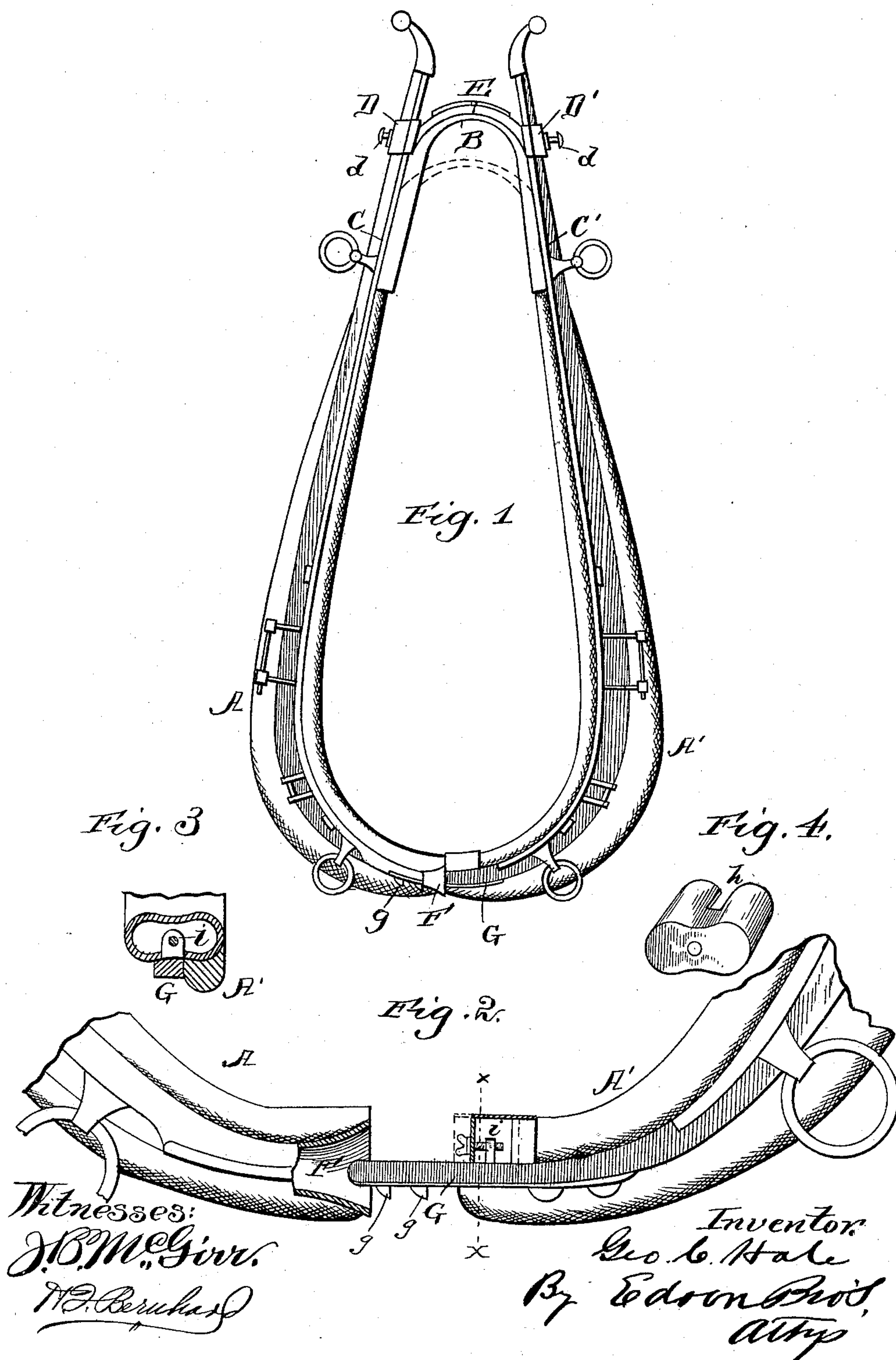


(No Model.)

G. C. HALE.
COUPLING FOR HORSE COLLARS.

No. 452,929.

Patented May 26, 1891.



UNITED STATES PATENT OFFICE.

GEORGE C. HALE, OF KANSAS CITY, MISSOURI.

COUPLING FOR HORSE-COLLARS.

SPECIFICATION forming part of Letters Patent No. 452,929, dated May 26, 1891.

Original application filed November 6, 1890, Serial No. 370,478. Divided and this application filed March 21, 1891. Serial No. 385,851. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. HALE, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Couplings for Horse-Collars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to a coupling device for fastening together the lower ends of a combined hames and collar, and it forms a division of an earlier application filed by me on the 6th day of November, 1890, Serial No. 370,478.

The object of the present improvement is to provide a coupling which will enable the hames and collar to be expeditiously spread or contracted laterally to adapt the collar and hames for use on different horses and at the same time provide a very rigid and firm connection which has the necessary strength and stability to stand effectually the rough usage and strain which a collar and hames are subjected to in the fire-department service, for which purpose my improvement is designed.

In an earlier patent issued to me on the 22d day of June, 1880, No. 229,120, I have shown and described a spring-arm attached to one end of the collar, fitting in a flared mouth which is rigid with the other end of the collar; and in my improved fastening or coupling device I employ such spring-arm and flared mouth in connection with an adjustable cap or sleeve which is attached to the lower end of one section of the collar to close the space between the meeting lower ends of the two members of such collar.

My invention further consists in the novel construction and arrangement of parts, as will be hereinafter fully explained.

To enable others to understand my invention I have illustrated the improvement in connection with a combined collar and hames, such as forms the subject-matter of my earlier pending application.

In the accompanying drawings, Figure 1 is an elevation of my combined collar and hames with the present improvement applied thereto.

Fig. 2 is an enlarged view of the lower ends of the two parts or sections of the collar, showing my improvement applied to one member thereof. Fig. 3 is a vertical transverse sectional view through the fastening device and the adjustable cap on the plane indicated by the line *x x* of Fig. 2; and Fig. 4 is a perspective view of an adjustable cap, showing the same in an inverted position to illustrate the slot in the lower side thereof.

Like letters of reference denote corresponding parts in the several figures of the drawings.

For the better understanding of my present improvement I have shown the fastening and adjustable device applied to the adjustable horse-collar of the character and construction forming the subject-matter of my earlier application, and in Fig. 1 the letters *A A'* designate the lower fixed members or sections of the collar. *B* is an upper telescopic sectional member of the collar. *C C'* are the hames, which are bolted or otherwise rigidly fastened to the lower sections *A A'* of the collar, and which have their upper ends extended above the corresponding ends of the lower sections *A A'* of the collar. On the extended ends of the hames *C C'* are the adjustable sleeves *D D'*, each provided with a binding or clamping screw *d*, which operates in said sleeve and binds against the hames. Between the two hames and above the upper sections of the collar is a hinged bridge-plate *E*, which spans the space between the hames, said bridge-plate being rigidly fastened on opposite sides of its pivot to the upper section of the collar and having its ends rigidly fastened to the adjustable sleeves *D D'*. These adjustable sleeves and the bridge-plate serve to sustain the collar-section *B* at the desired elevation to adapt the collar for vertical adjustment.

It will be understood that the mechanism hereinbefore described is embraced and claimed in my prior application and that the same is not claimed herein.

I will now proceed to describe the improvement which it is desired to cover by patent in this application. The lower end of section *A* of the collar is provided with a flared or bell-shaped mouth *F*, which is rigidly fixed to said

section with its larger open end facing the other section A' of a collar, and this section A' is provided with a spring-arm G, which extends or protrudes beyond said section A' and is adapted to pass through the flared mouth when the two sections of the collar are brought together, such spring-arm G being further provided on its lower side with depending lugs g, which take against the edge of the mouth at the contracted end thereof to prevent the spring-arm from being withdrawn from the flared mouth, and thereby effectually couple the two parts of the collar together.

It frequently happens in the fire service that a horse becomes disabled and it is necessary to use in an emergency another animal in running to the fire. As time is the great element in fighting fires, it is essential in a horse-collar for fire-department service that the collar must be capable of being rigidly fastened together in a very secure and firm manner, and at the same time the collar should be capable of adjustment to horses' necks of different sizes. For the purpose of lateral adjustment or for widening the collar at the lower end, I employ the adjustable cap H, which is connected to the lower end of the section A'. This adjustable cap fits snugly to the section A', and it preferably conforms in shape to the same and fits flush with the surface of the collar to avoid chafing the neck of the animal. In the lower side of this adjustable cap I provide a longitudinal slot h, (shown more clearly in Fig. 4,) and through this slot projects a stud or bearing i, which is rigidly fastened to the spring-arm G and extends into the space or chamber formed within the adjustable cap. In this stud or bearing operates the adjustable screw I, which is connected in any suitable manner with the head or closed end of the adjustable cap, and by turning this screw the cap can be projected from one section of the collar to the other section thereof. In addition to affording adjustment for the cap, this screw serves to hold the cap firmly in place on the collar. By reference to Fig. 1 it will be noted that the cap is projected sufficiently beyond the section A to close the space between the lower ends of the two sections of the collar, and that the closed head or end of said adjustable cap affords an abutting surface for the lower end of the section A of the collar, whereby the movements of the sections A A' relatively to each other are limited and varied by the adjustable cap.

The operation and advantages of my invention will be readily understood by those skilled in the art from the foregoing description, taken in connection with the drawings.

I am aware that changes in the form and proportion of parts and details of construction of the devices herein shown and described as

an embodiment of my invention can be made without departing from the spirit or sacrificing the advantages of my invention, and I therefore reserve the right to make such modifications as fall within the scope of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a coupling for horse-collars, the combination, with the sections of a horse-collar and the coupling applied to the lower ends of said sections, of a cap or sleeve fitted to one collar-section above the coupling device and adapted to be adjusted toward or from the other collar-section, substantially as described.

2. In a coupling for horse-collars, the combination, with the sections of a horse-collar and the coupling-arm and mouth connected, respectively, to the collar-sections, of the adjustable cap or sleeve independent of the coupling and fitted to the lower end of one of the collar-sections, on which it is movable toward or from the other collar-section, substantially as described.

3. The combination, in an adjustable horse-collar coupling, with a mouth and a coupling-arm, of a slotted cap fitted on one end of the collar and working over a fixed stud, and a screw connected to said cap and stud, substantially as described.

4. The combination, in an adjustable horse-collar coupling, of a mouth, a coupling-arm, the slotted cap, a stud rigid with the arm and working in the slot of the cap, and an adjusting-screw, substantially as described.

5. In a coupling for horse-collars, substantially such as herein shown and described, the cap or sleeve fitted to the end of one section of the collar to lie substantially flush therewith and adapted to be projected or adjusted beyond the end of said collar-section and form an abutment for the end of the other collar-section and close the space between the two collar-sections above the coupling-arm, as herein set forth.

6. In a coupling for horse-collars, the adjustable cap or sleeve attached to the lower end of one of the sections of the collar above the hame-fastening, and an adjustable screw supported on the collar-section and connected to said cap or sleeve to hold the same in a fixed position and enable it to be projected beyond the end of the collar-section to which it is applied, as and for the purpose described.

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

GEORGE C. HALE.

Witnesses:

JOS. FORREST,

II. F. BERNHARD.