(No Model.) 3 Sheets—Sheet 1.

H. W. ROSS.

HORSE COLLAR.

No. 493,299. Patented Mar. 14, 1893.

Fig. 1.

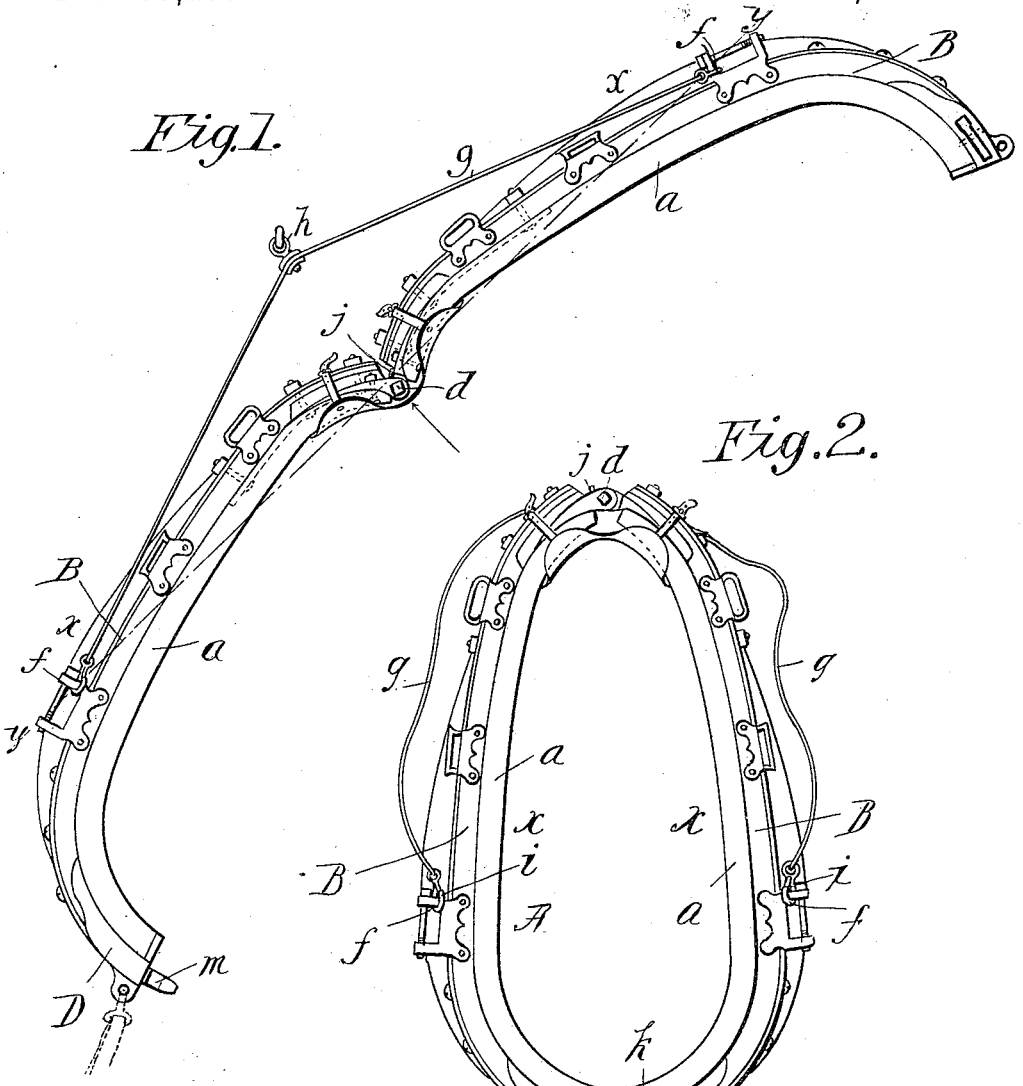


Fig. 2.

Witnesses:
J. W. Garfield.
J. F. Queen.

Inventor:
Henry W. Ross,
by Chapin & Co
Attys

(No Model.) 3 Sheets—Sheet 2.

H. W. ROSS.

HORSE COLLAR.

No. 493,299. Patented Mar. 14, 1893.

Fig. 3.

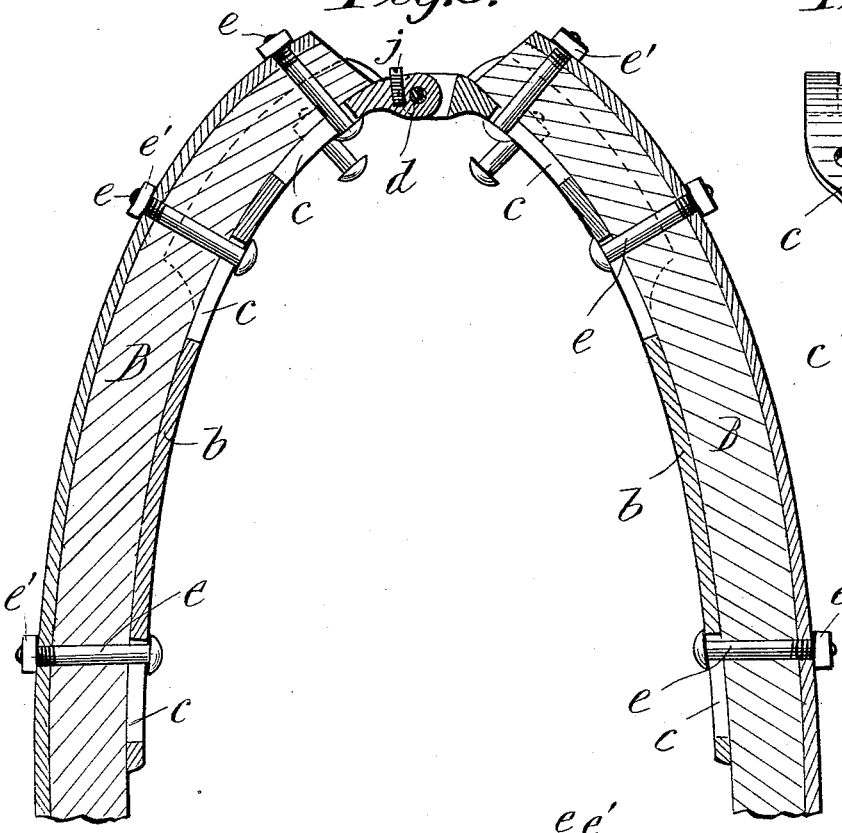


Fig. 4.

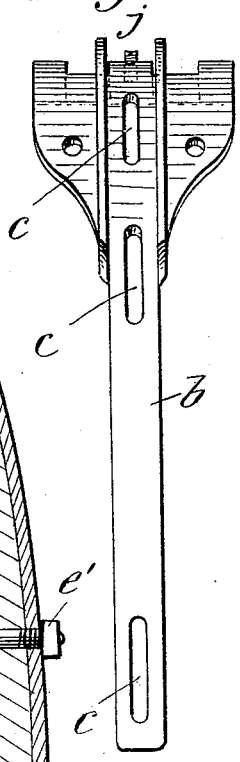


Fig. 5.

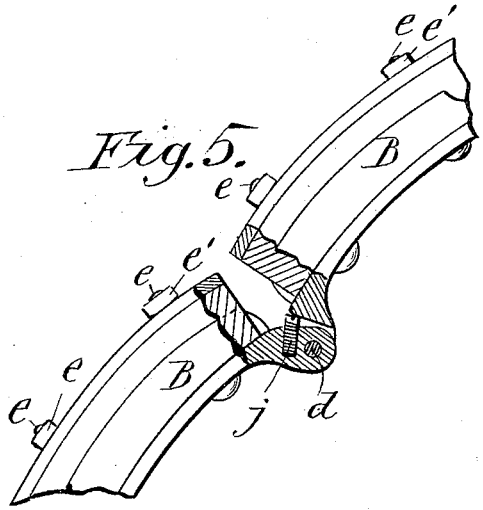
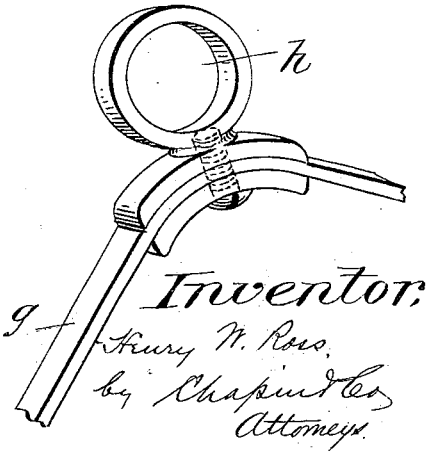


Fig. 6.



Witnesses:

J. W. Garfield

C. F. Dieners.

Inventor:

Henry W. Ross.

by Chapin & Co

Attorneys.

(No Model.) 3 Sheets—Sheet 3.

H. W. ROSS.

HORSE COLLAR.

No. 493,299. Patented Mar. 14, 1893.

Fig. 7.

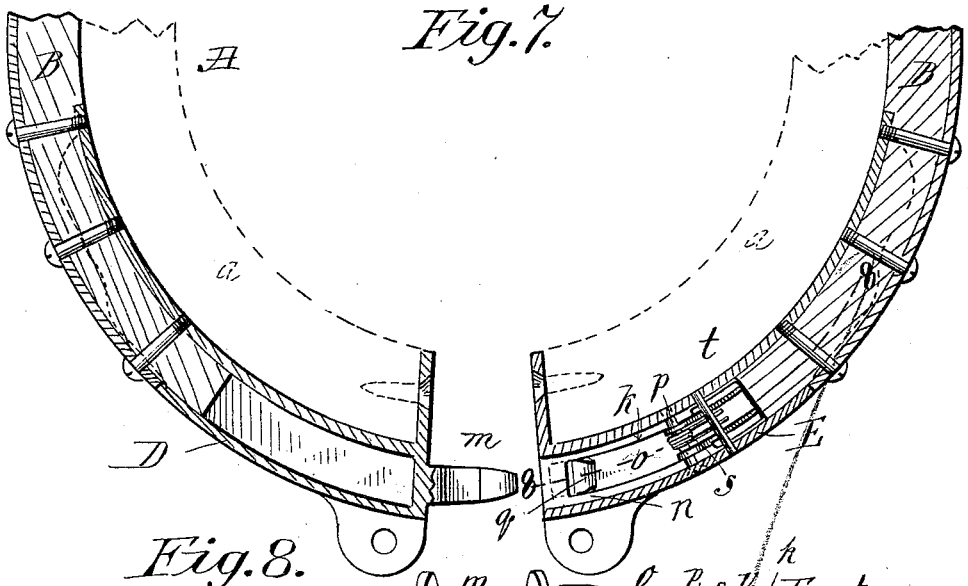


Fig. 8.

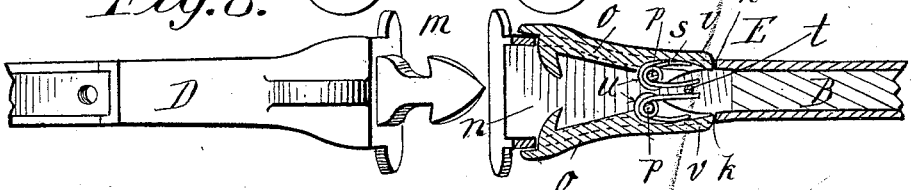
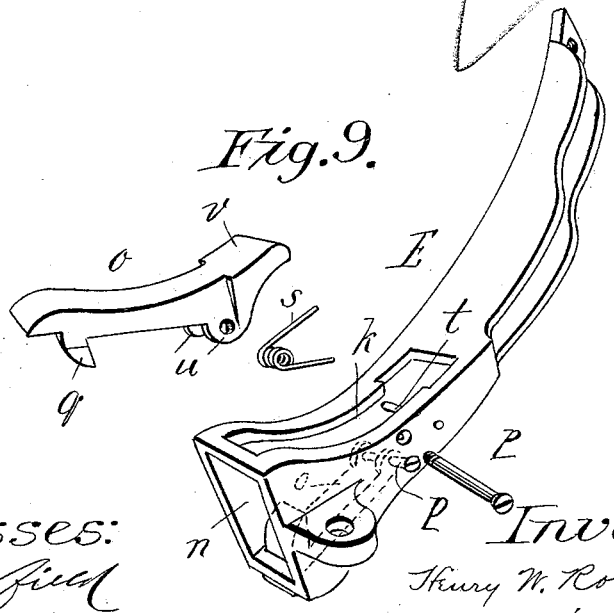


Fig. 9.



Witnesses:
J. W. Garfield
C. F. Dieterich.

Inventor:
Henry W. Ross.
by Chapin & Co.
Attys

UNITED STATES PATENT OFFICE.

HENRY W. ROSS, OF SPRINGFIELD, MASSACHUSETTS.

HORSE-COLLAR.

SPECIFICATION forming part of Letters Patent No. 493,299, dated March 14, 1893.

Application filed August 28, 1891. Serial No. 403,946. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. ROSS, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Horse-Collars, of which the following is a specification.

This invention relates to improvements in collars for horses, the same being especially designed for fire-horses, and to have capabilities for insuring the most ready and rapid disposition and automatic securing or locking of the collar about the neck of the horse, when dispatch is necessary, as on the sounding of a fire alarm.

The invention consists in the combination or arrangement of parts, and the construction of certain of the parts all substantially as will hereinafter more fully appear and be set forth in the claims.

Referring to the accompanying drawings in which the improved horse-collar is illustrated,—Figure 1 is a front view of the collar shown as suspended with the parts thereof opened or separated. Fig. 2 is a front view of the collar closed. Fig. 3 is a view on a larger scale of portions of the hames and appurtenances which are comprised as parts of the collar shown in section and in the relations as assumed when the collar is closed. Fig. 4 is an inner face view of one of the metallic strips or bushings which directly constitutes one member of the hinge. Fig. 5 is a view of portions shown in Fig. 4, but in their opened relations. Fig. 6 is a perspective view of the supporting device for the suspension strap. Fig. 7 is a view on a scale similar to Fig. 3 showing in section the lower extremities of the hames, and confining appliances therefor. Fig. 8 is a bottom plan view of one of the hame extremities and a sectional view on the line 8—8 Fig. 7. Fig. 9 is a representation in perspective of the casting for one of the hame extremities which comprises the socket and catch devices for receiving and engaging the extension of the other hame.

In the drawings, A represents the collar as a whole,—and, regarded as a part thereof, are the hames, B B, which are secured to the cushioned portions, *a*, of the collar by riveting or otherwise. Each hame at its upper extremity, and on its inner side, has rigidly connected thereto a rigid metallic strip, *b*, the same being secured by the bolts, *e*, which are passed through the thickness of the hame and through the slots, *c*, which are formed lengthwise in said strips, the heads of the bolts lying upon the face of the said strips at the borders of the slots and receive at their outer extremities the nuts, *e'*. The said strips are upwardly extended beyond the ends of the hames and are hinge-jointed as at *d;* and the collar at the lower extremity of each side portion thereof which comprises one of the said hames has means for engagement with the corresponding portion of the other hame which will be hereinafter described in detail.

The side members, *x x*, of the collar have, intermediately thereof, eyes, *f*, or other equivalent means for the connection therewith of the strap, *g*, which by its end portions is connected to said intermediate parts of the separable collar members. The members are so constructed at the hinge, that when swung open as shown in Fig. 1, and as illustrated also in the enlarged view Fig. 5 a line between the points of engagement of the strap, *g*, with the collar members, at *f*, will be slightly above the pivot, *d*. Thus when the collar is open as shown in Fig. 1 and suspended, the draft or tension on the cord or strap, *g*, being equal to the whole weight of the collar, there will be no tendency of the hinged members to swing downwardly, but immediately the parts of the collar members are moved so that the pivotal point, *d*, is above the said line between the points of supporting connection, the collar will immediately from the preponderance of weight at the free extremities of its members that is between the points, *f*, and the free ends close together and become automatically secured by the engagement of the parts of the catch device provided at the free ends of the hames. On the forcing of the pivotal point above said line, *y y*, as by the upward pressure against one or the other of the members, occasioned by the contact thereon by the horse's neck or otherwise, the closing will immediately be effected, without the removal of the ring, *h*, from the hook or support therefor, for the preponderating lower ends, on the down-swinging of the collar members will more than counterbalance the weight of the portions above the eyes, *f*, and the collar will

bodily rise slightly in order to permit the specified movements if the support for the ring, *h*, is not lowered. In practice, however at the time an alarm is struck, as the harness is applied the support, *h*, is under the existing arrangements, lowered as the collar is applied, and finally the ring, *h*, is detached from the hook, the strap being regarded as a fixture of the collar, although when desired it may be disconnected therefrom by releasing the engagement of the snap-hooks, *i*.

In the making up of the collar, in conjunction with the hames if it is desired that a somewhat longer collar be provided, the same may be constructed, with hames of the given length, by adjusting the metallic strips, *b b*, so as to have a proper degree of extension beyond the upper ends of the hames, as may readily be done by loosening the bolts, *e*, sliding up the strips, *b b*, and resecuring the bolts, the padded or cushioned parts of the collar being correspondingly fitted.

In order that the pivotal point, *d*, may have a position when the parts of the collar are opened, more or less, as desired, below the said line, *y y*,— between the points of support,—the adjusting screw, *j*, is provided, the same entering with a screw engagement into one of the strips, *b*, near the pivot, as shown more particularly in Figs. 3, 4 and 5, and all so that when the parts are opened the head of the screw on the one collar member will come to a contact more or less quickly with a part adjacent the pivot on the other member. It will be plain that the screw, *j*, may be so adjusted that the pivotal point, *d*, may be so nearly in the line between the points of support that the slightest upward pressure against the parts of the collar above the points of support will be required to effect the closing, or on the other hand the screw may be so adjusted that comparatively much more movement will be required to effect the closing.

Each hame at its lower extremity is bushed with a metallic casting, the one D having its extremity constituted by the double hooked tongue, *m*, while the other casting is formed with the socket, *n*. The opposite side walls of the socket are apertured as at *k*, set within which apertures are the dogs, *o o*, which are hung on the pivot stud, *p*, therefor and near their extremities the said dogs are formed with the hooks *q*, for engaging the hook, *m*, which is provided upon the other casting. The said dogs, *o o*, are maintained in their innermost dispositions as shown in Fig. 8 by the springs, *s*. As shown, each of these springs comprises an intermediate coil and the legs extended therefrom; and the coil is mounted upon the pivot stud for the dog, one leg being extended to lie against the extension arm, *v*, of the said dog, the other spring leg being held in the proper tension by the stop-pin, *t*. The portion of the dog which engages the pivot stud, *p*, therefor, is formed with the separated ear-pieces, *u*, within the intermediate space between which ear-pieces the spring is compactly located.

It will be apparent that the ends of the collar on coming together will be automatically locked, and securely maintained in their engagement by the catch devices described, but on desiring to open the parts, such may readily be done by pressing on the portions, *v v*, of the spring constrained dogs, when the hooks, *q*, will disengage from the double hook, *m*.

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

1. A collar formed of two members pivoted together at their upper extremities and a supporting strap or the like, connected, for the support of the collar, to said members at intermediate points thereof, and an adjustable stop adjacent the hinge for regulating the extent of opening of the said members whereby the collar may, by said strap, be suspended opened, having its point of hinge connection, as desired in greater or less proximity to a line between the said points of support substantially as and for the purpose set forth.

2. A collar formed of two members pivoted together at their upper extremities and a supporting strap or the like, connected, for the support of the collar, to said members at intermediate points thereof, and an adjustable stop adjacent the hinge for regulating the extent of opening of the said members, whereby the collar, may, by said strap, be suspended opened, having its point of hinge connection, as desired in greater or less proximity to a line between the said points of support, and a snap catch applied for connecting the separable ends of the members, substantially as and for the purpose set forth.

HENRY W. ROSS.

Witnesses:
WM. S. BELLOWS,
H. A. CHAPIN.