

(No Model.)

2 Sheets—Sheet 1.

C. A. R. AHL.
HORSE COLLAR.

No. 535,653.

Fig. 1. Patented Mar. 12, 1895.

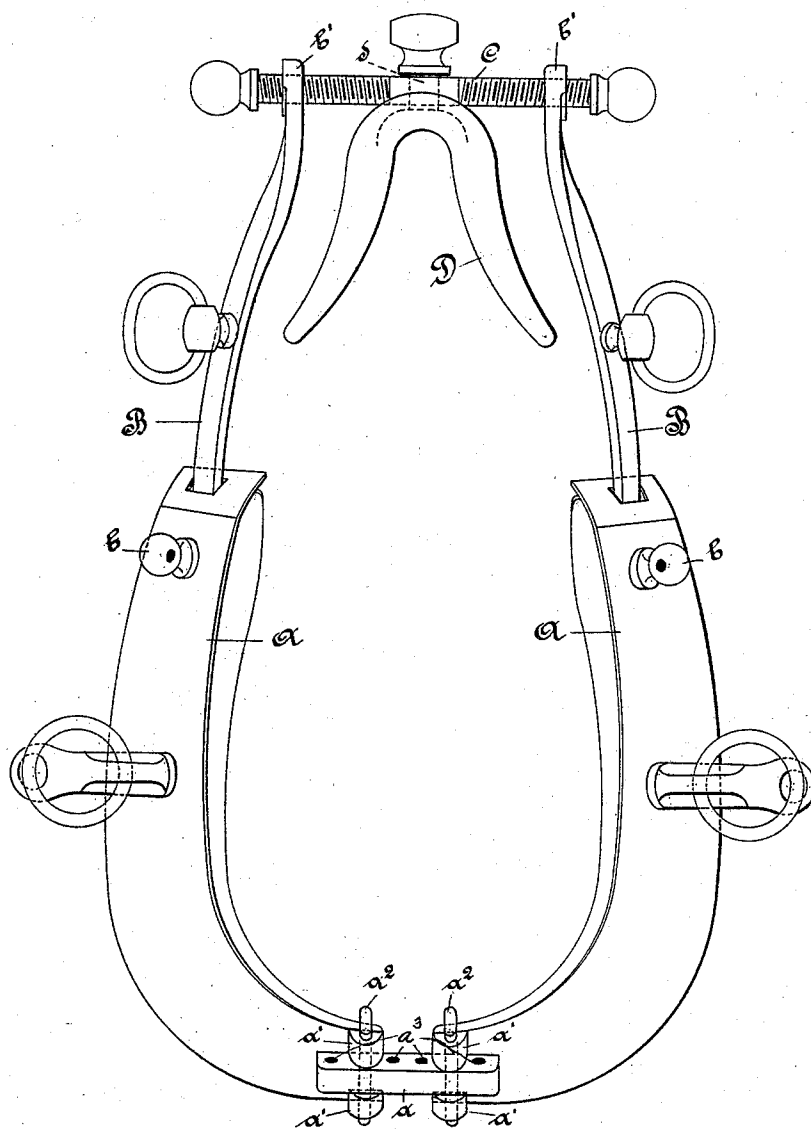
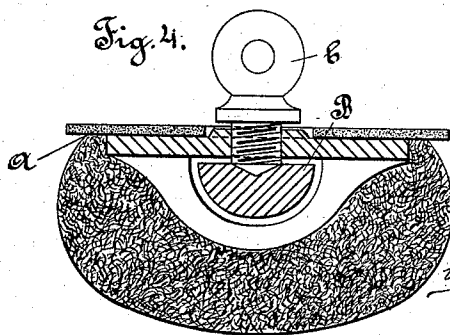


Fig. 4.



Witnesses:

Wm. Toep
Eng. Summer

Inventor:

Carl A. R. Ahl,
by his attorney
Wm. E. Boulter.

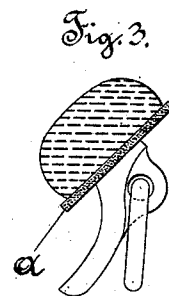
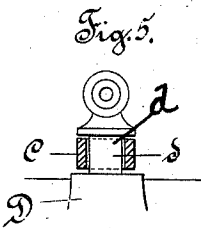
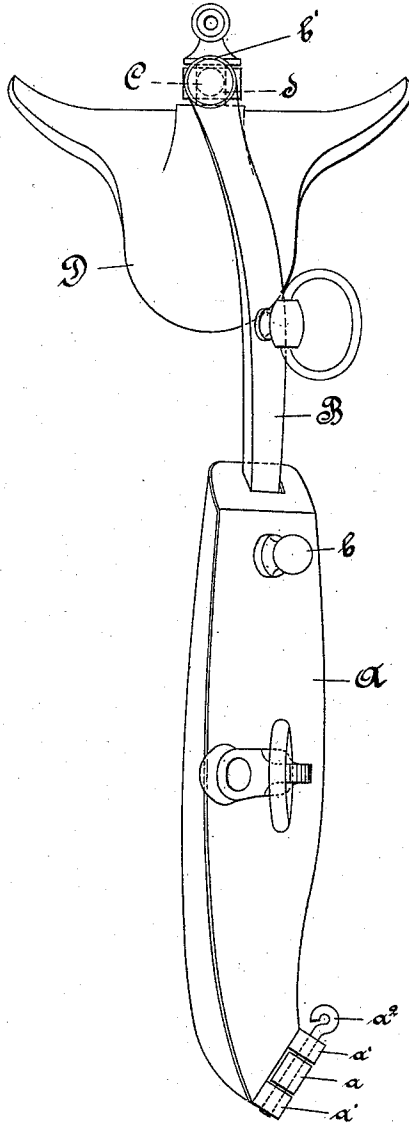
(No Model.)

2 Sheets—Sheet 2.

C. A. R. AHL.
HORSE COLLAR.

No. 535,653.

Fig. 2. Patented Mar. 12, 1895.



Witnesses:

Wm. Koep
Aug. Summer

Inventor:

Carl A. R. Ahl,
by his attorney *Wm. O. Boulter.*

UNITED STATES PATENT OFFICE.

CARL AUGUST RICHARD AHL, OF DRESDEN, ASSIGNOR OF ONE-HALF TO
OTTO FORBRICH, OF CHEMNITZ, GERMANY.

HORSE-COLLAR.

SPECIFICATION forming part of Letters Patent No. 535,653, dated March 12, 1895.

Application filed April 23, 1892. Serial No. 430,291. (No model.) Patented in Germany February 21, 1892, No. 64,823; in Switzerland March 1, 1892, No. 4,728; in England March 3, 1892, No. 4,249; in Belgium March 15, 1892, No. 98,622; in Italy May 10, 1892, XXVI, 31,649, LXII, 254; in France June 10, 1892, No. 219,816; in Norway June 15, 1892, No. 2,596; in Austria-Hungary July 7, 1892, No. 14,096 and No. 32,211; in Russia August 23, 1892, No. 9,349; in Canada October 14, 1892, No. 40,669; in Denmark December 5, 1892, and in Sweden June 1, 1893, No. 4,428.

To all whom it may concern:

Be it known that I, CARL AUGUST RICHARD AHL, a subject of the King of Saxony, residing at Dresden, Saxony, German Empire, have
5 invented certain new and useful Improvements in Horse-Collars, (for which Letters Patent have been obtained in Germany, No. 64,823, dated February 21, 1892; in France,
10 No. 219,816, dated June 10, 1892; in Belgium, No. 98,622, dated March 15, 1892; in Denmark,
15 dated December 5, 1892; in Norway, No. 2,596, dated June 15, 1892; in Sweden, No. 4,428, dated June 1, 1893; in Italy, No. 31,649, Vol. XXVI,
20 and No. 254, Vol. LXII, dated May 10, 1892; in Switzerland, No. 4,728, dated March 1, 1892;
25 in England, No. 4,249, dated March 3, 1892; in Austria-Hungary, No. 14,096 and No. 32,211,
dated July 7, 1892; in Russia, No. 9,349, dated August 23, 1892, and in Canada, No. 40,669,
30 dated October 14, 1892,) of which the following is a specification.

The subject of this invention is an improved horse-collar in which friction against the neck of the animal is prevented by means
35 of a small saddle adapted to be suitably adjusted in relation to the collar. This saddle is to remain stationary on the back of the horse, at the base of the neck, while the collar proper is so pivoted or linked to it (say by
40 means of a ball and socket or equivalent joint) that it freely follows every movement of the animal's neck without sliding in frictional contact with the skin.

The value of this improvement will easily
35 be appreciated when it is remembered how severely horses have hitherto suffered especially in drawing heavy vehicles, such as carts and the like, from the constant mutual displacement of the neck and collar and the consequent friction and pain.

In the accompanying drawings one form of the improved horse-collar is represented and it will be seen that in this arrangement in
45 addition to the advantage just set forth, adjustability in various other directions is provided for. The collar may here vary not only in width as it has done in certain well-known

constructions before, (both at the top and bottom) but also in height, so that it may fit horses' necks of any size.

Figure 1 of the drawings is a front view of the improved collar. Fig. 2 is a side elevation thereof. Fig. 3 is a cross section of one of the side pieces or pads with the device for attaching the traces in elevation. Fig. 4 is a section
55 on an enlarged scale of one of the side pieces with the rod movable or adjustable therein, and Fig. 5 is a detail view of the joint by which the saddle and collar proper are connected.

A are the two side pieces of the collar, connected at their lower parts by means of a link
60 *a* retained in place by means of lugs *a'* through which pass pins or bolts *a*². The link *a* is provided with a series of perforations *a*³ into any of which the bolts *a*² will fit if required,
65 so that the connection, and consequently the width of the collar below, are adjustable at will.

In the side pieces A the bars B are adjustably inserted, set screws *b* being provided for
70 securing them in the desired position as shown in Figs. 1, 2 and 4. The bars B at their upper ends terminate in nuts *b'*. C is a screw spindle upon the right and left screw-threads
75 of which the said nuts *b'* are adapted to move closer together or farther apart, as required. This screw spindle C constitutes the horizontal axis or pivot of the cross-joint connecting the collar to the saddle, upon which the
80 bars or rods B are adapted to swing by means of their nuts *b'*. Spindle C is itself, however, also adapted to swing on the pivot *d* as shown in Fig. 5. This pivot *d* carries the saddle D exactly fitting the horse's neck in shape and
85 suitably padded on the inner side.

When the spindle C has right and left screw-threads, as shown in Fig. 1 it is only
90 necessary to turn round the saddle D in order to cause the rods B at the same time to move toward or away from each other as the case may be. If however the thread of the screw spindle extends in the same direction right through, each of the rods B must be turned about C separately. Each of these arrange-

ments has its own peculiar advantages. In the former the adjustment is more convenient and easy, and in the second a possibility is afforded of so altering the relative position of the side pieces to the saddle D as to accommodate any natural want of symmetry or constitutional defects of the animal's neck. To put on the collar the preferable method is first to remove one of the pins or bolts a^2 , then to place the saddle D upon the neck and when this is securely settled in its place the collar is closed below when it will be seen that while the saddle at all times remains stationary the parts or links of the collar follow all the movements of the animal's neck moving however with it and not against it. The saddle D is of course applicable also to non-adjustable horse collars the described arrangement being however in all cases preferable, for the object of the said saddle is not fully attained unless the collar is adjustable as described. In all adjustable horse collar arrangements hitherto known indeed the main reason why the adjustability was confined to rather narrow limits was that the adjustable pieces were themselves mutually to support each other. Thus the collar could never be widened or contracted beyond certain limits, set by its own shape. Now the employment of a special support or carrier in the present arrangement enables the body of the collar proper to be adjusted in all directions to a practically unlimited extent.

It will indeed be observed that in addition to making the collar adjustable in width I prefer to render it adjustable in height also, and this adjustment of the height of the collar again could not be perfect without the use of

the saddle as unless the collar is tightly and well fitted to the horse's neck at least in one point as it is by means of the saddle it may not in all cases fit the animal if extended in the direction of its length or height.

Instead of the cross joint shown, formed by the parts C and d , a ball and socket or any other suitable joint may be employed to connect the carrying saddle D and the body of the collar.

I claim—

1. In a horse collar, the combination with the side pieces A, of the bars B adapted to telescope within the pieces A, set-screws b , carried by the latter and bearing upon the bars B, threaded nuts b' formed at the upper ends of said bars B, a threaded spindle C working in said nuts, and a saddle D provided with a pivot or stud d , passing through the spindle and upon which pivot the spindle is adapted to swing, in the manner described.

2. In a horse collar, the combination with the side pieces A each provided at its lower end with a pair of lugs a' , arranged one above the other, and provided with openings in alignment with each other, of a link a arranged between the upper and lower lugs of the pieces A and adapted to be adjusted longitudinally, a series of openings a^3 in said link adapted to align with the openings in the lugs, and pins or bolts a^2 passing through the aligned openings of the lugs and link, as described.

CARL AUGUST RICHARD AHL.

Witnesses:

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HUGO DEMMER,

Both of Dresden.