

(No Model.)

J. BLOEDEL.

DRAFT ATTACHMENT FOR HARNESS.

No. 394,051.

Patented Dec. 4, 1888.

Fig. I.

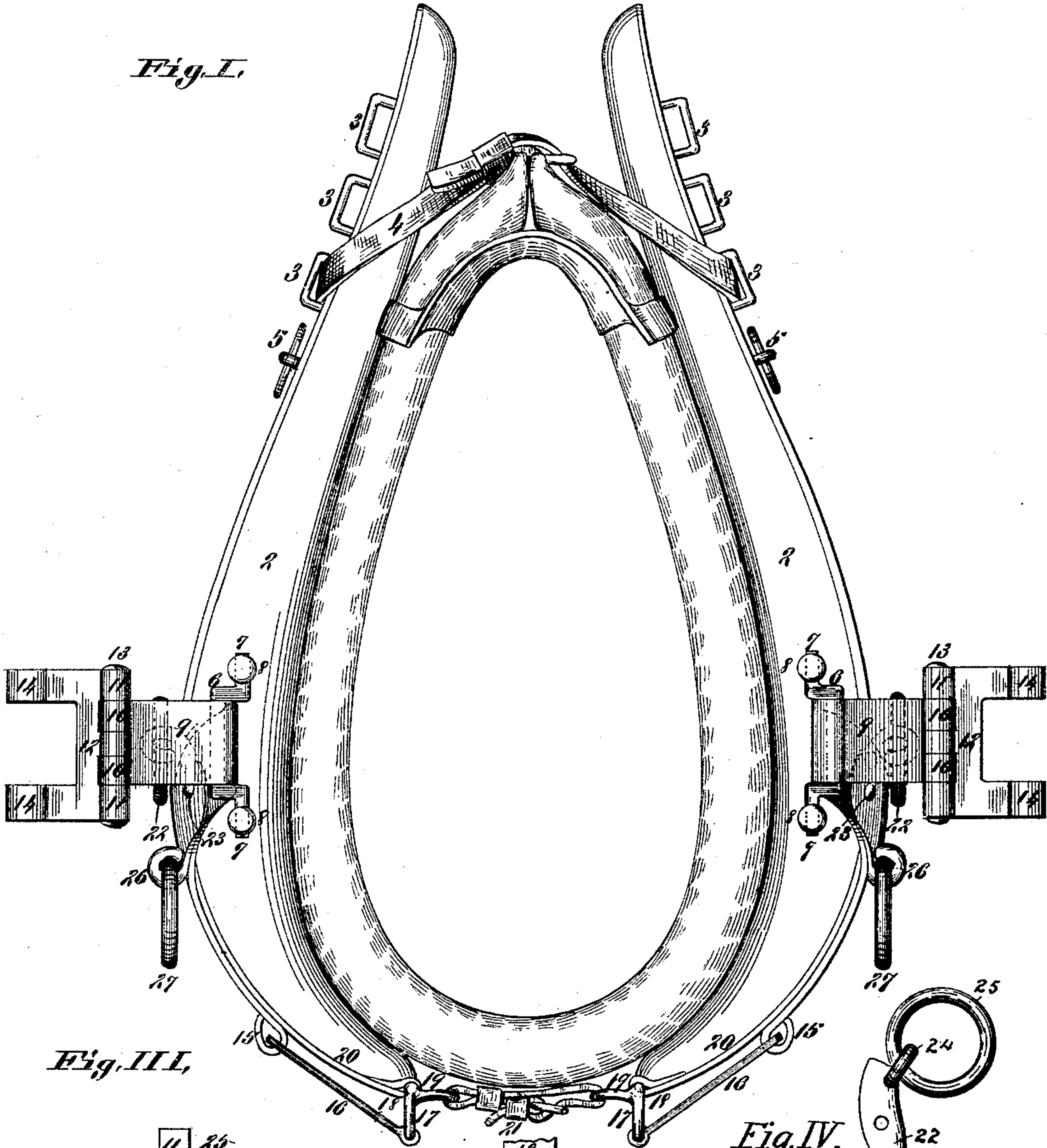
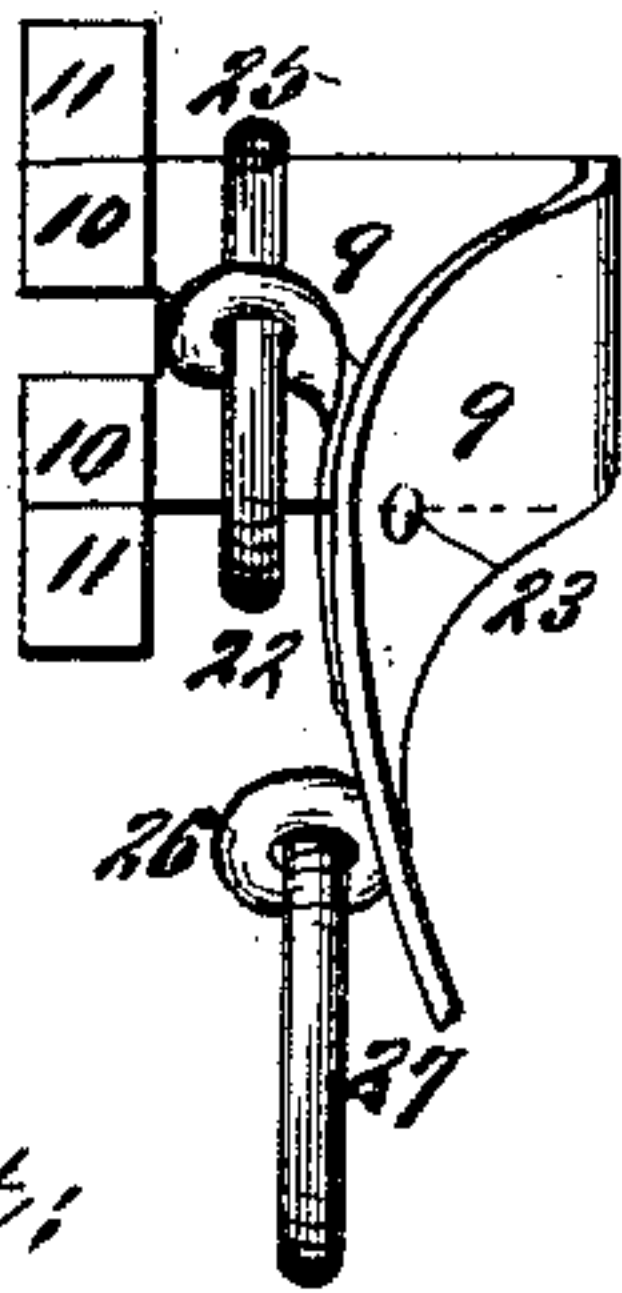


Fig. III,



Attest:
E. Arthur.
Edward Star.

Fig. II,

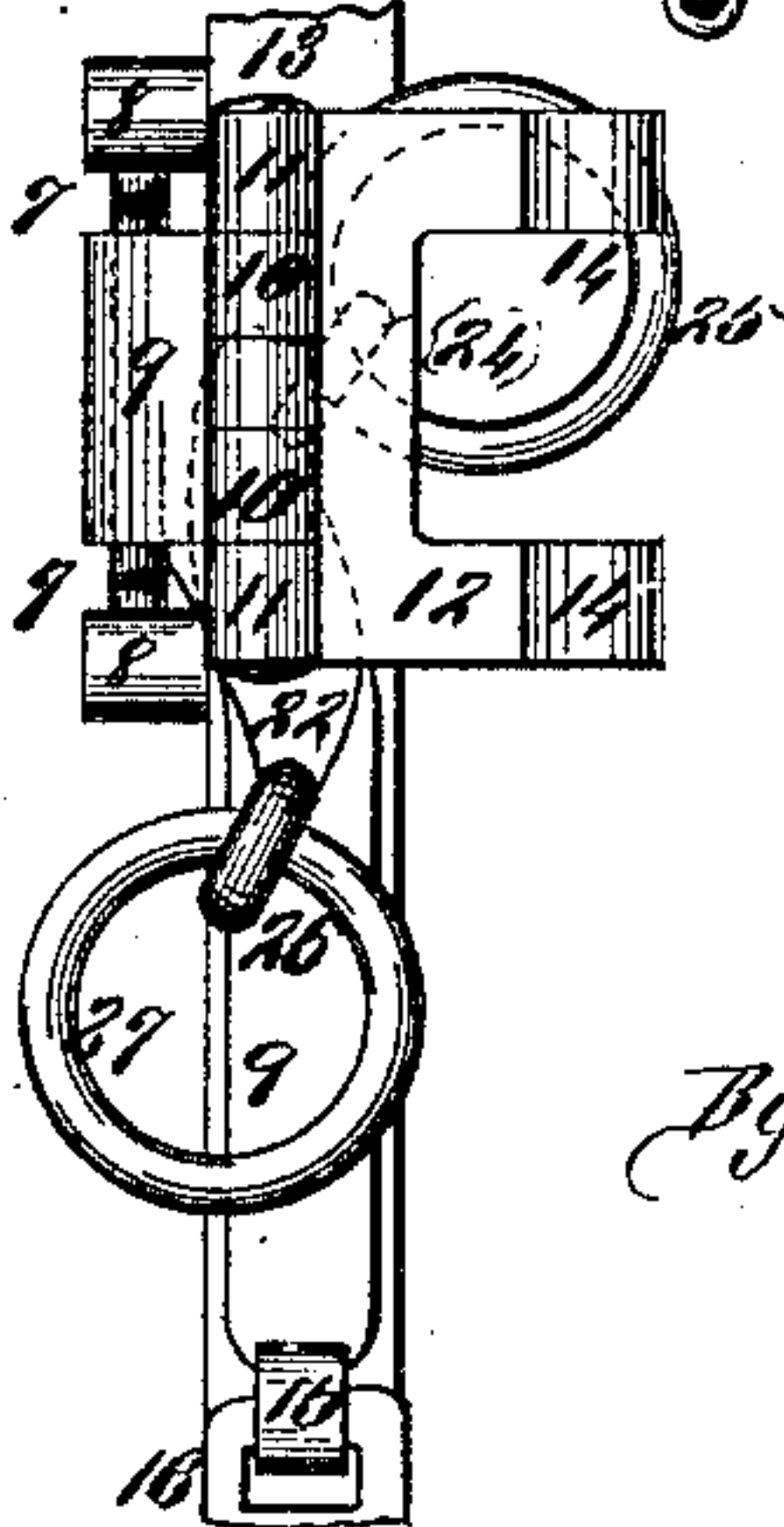
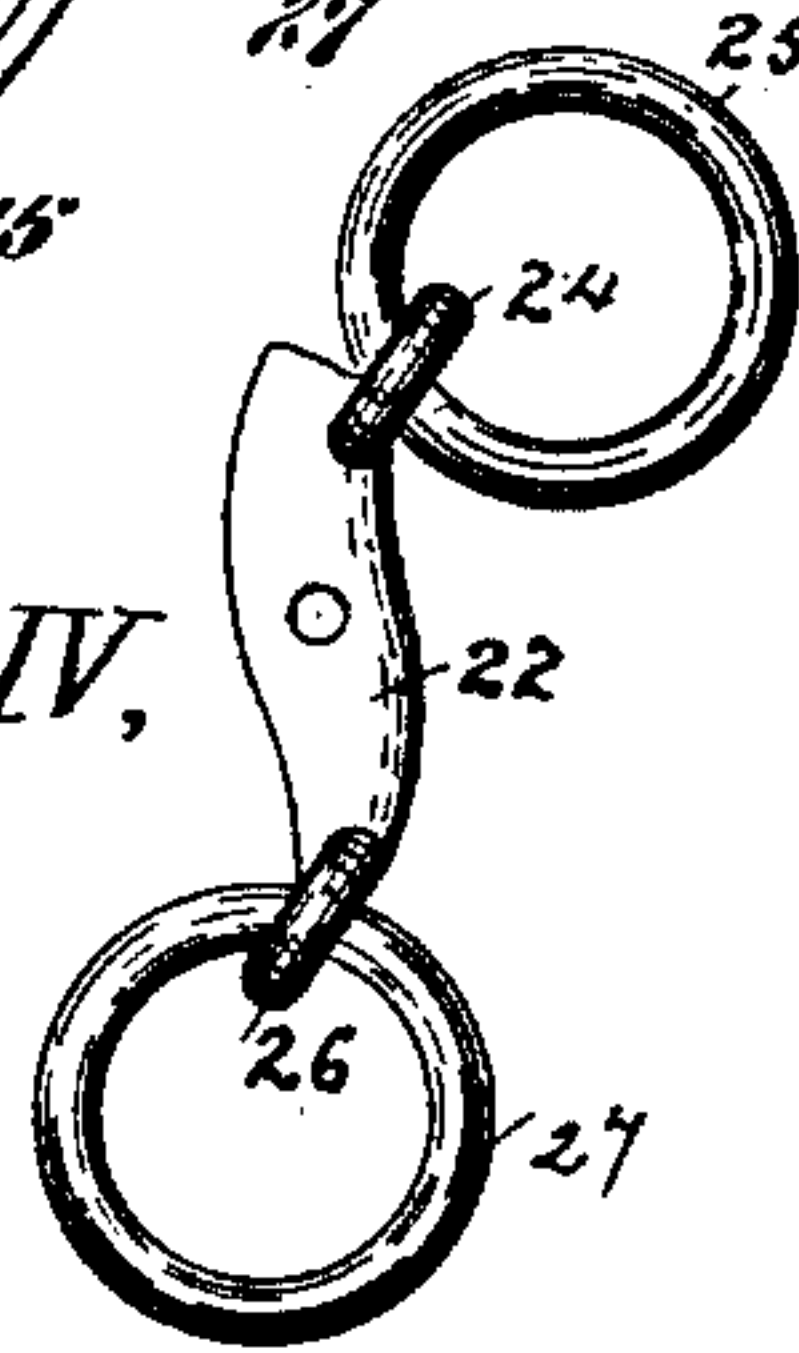


Fig. IV,



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UNITED STATES PATENT OFFICE.

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DRAFT ATTACHMENT FOR HARNESS.

SPECIFICATION forming part of Letters Patent No. 394,051, dated December 4, 1888.

Application filed May 1, 1888. Serial No. 272,470. (No model.)

To all whom it may concern:

Be it known that I, JACOB BLOEDEL, of Kansas City, in the county of Wyandotte and State of Kansas, have invented a certain new
5 and useful Improvement in Draft Attachments for Harness, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in
10 which—

Figure I is an elevation showing my invention. Fig. II is a detail view showing the pivoted draft-bail, the hinged bail that carries the draft-hook, and the looped metal strap
15 that couples said draft-bails together, and connects by a link with the bell-crank loops with which the lower hame-strap engages; and Fig. III is a detail view showing the metal coupling-loop and the pivoted coupling attachment
20 that as the line of draft changes from a draw into a holdback, and vice versa, by continuous adjustment holds the angling back straps and breast-straps in line with each other. Fig. IV is a detail view showing the pivoted
25 straps.

This invention is an improvement on Patent No. 301,331, issued to me July 1, 1884, and relates to draft attachments for harness.

The present improvement consists principally in pivoted metal coupling-straps that
30 adjust the coupling of the breeching angle back strap with the breast-strap, so as to bring them continuously on line with each other when on a holdback draft, and a strap attachment that couples the draft-hook bails
35 with bell-crank loops, which themselves are coupled by the lower hame-strap, so that (when the horse is holding back) it exercises a tightening leverage on the hame-straps and
40 thus enforces the grip of the hames within their recessed seat in the collar.

Among the most fruitful causes of accident and loss in teaming over hilly roads is the very imperfect adjustment of the back draft
45 to the team. No sooner is the struggle in surmounting the hill consummated and the team begins to descend than the breast-straps—on account of the mis-adaptation of the harness and the lack of co-operative action relatively of the breeching, which is
50 the rear holdback, and the breast-straps, which are the forward holdback, there being

no union of action between the two or direct line of communication—fly up with the end of the tongue and frequently unship
55 the lower end of the hames from their seat on the collar, so that they are forced up under the horses' throats and choke them, and, even should the hames retain their hold of the collars, the collars themselves aid to throttle the
60 horses. Now, the necessary relation that the breeching has to the device is apparent, for the angle-strap from the crown of the breeching follows in a direct line therefrom to the upper ring of my pivoted metal loop-strap
65 with the lower ring of which the breast-straps from the tongue-chains or neck-yoke connect. Thus it will be seen that however sudden and violent the change from the forward draft
70 to the back draft, the hames cannot be unshipped from their seat on the collar or they and the collar forced up under the horses' throats to throttle them; but instead of that adverse action my pivoted metal loop-strap
75 that, with the angling back strap, connects direct from the crown of the breeching to the breast or holdback-straps and through them to the point of the tongue, turns just sufficiently on its pivot (according to the steepness of the hill) to keep my holdback de-
80 vices on line with the line of back draft, so as to hold back in a continuous line from the tongue to the breeching.

Referring to the drawings, in which similar figures of reference indicate like parts in all
85 the views, 1 represents a horse-collar, and 2 the hames, to which this self-adjusting draft device is attached. The upper ends of the hames are provided with the usual series of staples, 3, to adjust the working length of the hames
90 to that of the collar and horse on which they are used; also the upper hame-strap, 4, and rein-rings 5.

6 represents the swinging draft-bails, which are of somewhat similar construction to those
95 shown in my aforesaid patent, except that the bails in the present invention have a vertical adjusting movement in their pintle-bearings, in contradistinction to the vertical draft-adjustment in my aforesaid patent, which is ob-
100 tained by the vertical slide of the tug-hook strap on said bail. By my present improved means of effecting the vertical adjustment of these initial draft attachments the friction and

consequent wear on the parts is reduced, and by uniting both the vertical and rotary movement of the bail and its tug connection at the same points (the pintle-bearings of the bail) both movements are readily effected, and the friction parts being box-bearings are easily lubricated, if desired. The pintle ends, 7, of said bails turn freely within the perforated lugs 8, in which they are seated, (under the varied impulse of the draft, whether the horse is drawing forward or holding back.) The shank-pins of said lugs are secured in said hames and riveted thereto at a sufficient distance apart to allow free vertical movement for the pintles of the bails in their bearings under the varied impulse of the changing line of draft.

9 represents curvilinear metal loop-straps that are bent and have their bearings around the draft-bails, and the said loop-straps at their upper or draft ends are provided with loops 10 to form one section of a hinge to couple with the loops 11 of the secondary draft-bails 12, which form the corresponding section of said hinge, and which coupling is pivotally secured by the pins 13, so as to form hinged connections for the last-named bails, whose loops 14 seat the pivot-pins of the tug-hooks to which the draft-traces are attached. The lower ends of the aforesaid loop-straps are provided with small loops 15, that engage in the slotted ends of the link-straps 16, loops on the lower ends of which engage with the operative sections of the bell-crank loops 17, that are secured by pivot-pins 18 in loose bearings in the loops 19 at the lower ends of the metal strap 20, that binds the hames. The forward sections of said bell-crank loops are engaged by the lower hame-strap, 21, that couples that end of the hames together.

22 represents pivotal straps that are connected by the pivot-pins or rivets 23 (on which they have loose bearings) with the loop-straps 6. The upper ends of said pivotal straps are provided with loops 24, in which rings 25 are seated, to which rings are buckled or otherwise secured the angling back-straps, which extend from the upper breeching-ring on the rump of the horse forward and downward to said rings 25. The lower ends of the pivotal strap are also provided with loops 26, that carry rings 27 for the attachment of the breast-strap.

It is to be understood that my present invention, while it is advantageously applicable to all forms of harness, is especially adapted for use with my improved adjusting draft-harness, which latter is not incorporated in this application.

For the better understanding of the especial advantage of the subject-matter of the present application in its especial adaptation to be connected with said harness, I will describe the position of the angling back-straps in said harness and their connection with my pivoted metal coupling-straps of the present invention that are adjustable and when on a back draft bring said back-straps continu-

ously in line with the said breast-strap, with which said pivoted metal straps couple them.

In the use of this harness the common back-band straight across the horse's back is dispensed with, and also the strap that commonly connects the top of the breeching to the upper hame-strap, and their functions in connection with the breeching are performed by the aforesaid angling back-straps, which are secured to a ring that is connected to the top of the breeching in front and angle downward and forward to the upper rings secured to my pivotal coupling-straps, as described, to which they may be buckled or otherwise secured. Now, it will be seen that as the breast-strap is secured to the holdback-rings at the lower ends of the same pivoted metal straps, the angling back-straps and breast-strap are adjustable through my pivoted coupling-strap, so that when the forward draft is changed to a holdback the adjusting coupling-strap turns on its pivot and the angle back-straps are brought into line with the holdback breast-straps, maintaining a direct holdback line from the breeching as direct as was the draft-line with the traces in the forward draft. Thus the horse is not placed at a disadvantage because of any adverse arrangement of his harness, but his strength is applied in a direct line in either case to effect the purpose required. Again, as said pivotal straps turn to their holdback position they draw upward on the pendent limbs of the loop-straps 9, to which they are pivoted, and through their connections with the lever section of the bell-crank loops, in the other section of which the lower hame-strap engages, a forcible leverage is brought to bear on said hame-strap that tightens the grip of the hames in the recess in which they are seated in the collar. It will thus be seen that just in the same increased ratio as the horse has to exert his strength in holding back so also will be increased the tightening operation or leverage of the bell-crank loops on the strap that secures the hames in their seat in the collar, and the danger (so common) is removed in a severe back draft of dislodging the hames from their seat in the collar. And still again, as my said coupling-strap turns on its pivot when changing from a draw-draft to a holdback, thus keeping in line with said holdback, the holdback breast-straps are projected on the fore end of the pivot-strap, instead of, as is the case in common attachments, either unseating the hames and throttling the horse by forcing them under his throat or forcing both them and the collar in the same position and so choking the horse.

Another feature of the improvement is that by thus attaching the holdback-rings to said pivotal straps instead of to the hames direct in backing up or holding back the pressure-weight is distributed over the body of the horse instead of being concentrated on his neck. In the old style of hames, when the pressure of the load in holding back is thrown

on one side of the harness, the hame on that side is forced from its proper position on the collar, which thus allows the collar to spread, and by so doing permits the horse's shoulder-blade to come in adverse contact with the draft-bearing of the collar, and consequently galls his neck and shoulders; also, when the collar spreads below it contracts or transforms its shape at top, which results in a sore neck for the horse.

Another important feature in the present device is that not only does the connection of the bell-crank loop through the curvilinear loop with the draft-hooks and pivotal coupling-strap, as stated, insure the steadfast holding of the hames in their seat during the severest holdback pressure, but also the said loop and link attachment between the draft-hooks and bell-crank hame-loops give said connection a flexible reactionary movement, after the holdback is changed to a forward draft, then, under the joint operation of the pivotal coupling-strap and the lever-section of the bell-crank hame-loop, with their connecting parts, there is a coadjutory influence to return the associate parts to their normal position.

In this device, when the weight is thrown on one of the draft-hooks, the hook slides upon its adjustable attachment to the hame, and in so doing it pulls on the pivoted strap on the lower end of the hame, and through its connections to the opposite hame, which is thereby forced inward, and vice versa, thus accommodating itself to the strain placed upon it.

I claim as my invention—

1. In a draft attachment for harness, the pivoted bell-crank hame-loops and the loop and link connections of said bell-crank hame-loops with the draft-hooks of the hames, substantially as and for the purpose set forth.

2. In a draft attachment for harness, a pivoted adjustable coupling-strap, 22, provided with a ring on its upper end for connecting with angling back straps that connect with the top of the breeching and provided with a ring on its lower end for connecting with the

breast-strap, the said coupling-strap being pivoted to a metal loop-strap, 9, and swinging draft-bail 6, to which are connected the straps 9, said parts being arranged, as the forward draft changes to a holdback, and vice versa, to conform said angling back straps and breast-strap in line with each other, substantially as and for the purpose set forth.

3. In a draft attachment for harness, the combination of the hames, the bell-crank loops pivotally secured to the lower ends of said hames, means, substantially as described, for securing the inner sections of said loops together, and means for connecting the outer sections of the loops to the draft-hooks, substantially as and for the purpose set forth.

4. In a draft attachment for harness, the combination of the hames, the adjustable draft-hooks 15, and the adjustable metal strap, said strap pivoted to the loop-strap attachments 9 of the draft-hooks and provided with rings at its ends to couple the angling back straps and breast-strap and keep them in line in the varied changes of the forward draft and holdback, substantially as and for the purpose set forth.

5. In a draft attachment for harness, the combination of the hames, the swinging draft-bails with elongated pintles, the perforated lugs in which said pintles have their bearings secured in the hames at sufficient distance apart to allow vertical adjustment of said bails in their pintle-bearings in the lugs, the curvilinear metal loops that engage around said bails and carry the draft-hooks, the pendant ends of said metal loops and connecting-links, the bell-crank hame-loops with which they connect, and the adjustable metal straps that are pivoted to said curvilinear draft-attachment loops and couple the angling back straps to the breast-straps, substantially as and for the purpose set forth.

JACOB BLOEDEL.

Witnesses:

JAS. E. KNIGHT,
E. C. KNAUS.