Oct. 23, 1956 C. W. SUMMERS 2,767,997

VERTICALLY ADJUSTABLE WHEEL SUPPORT FOR LIVESTOCK OPERATING TABLE

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FIG. 1

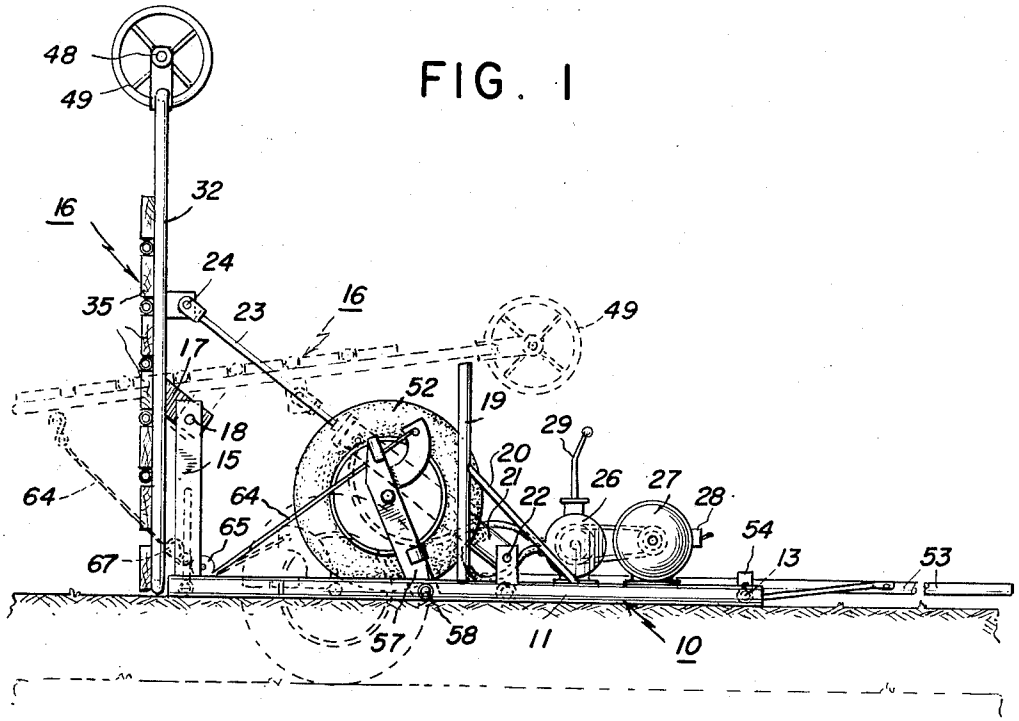
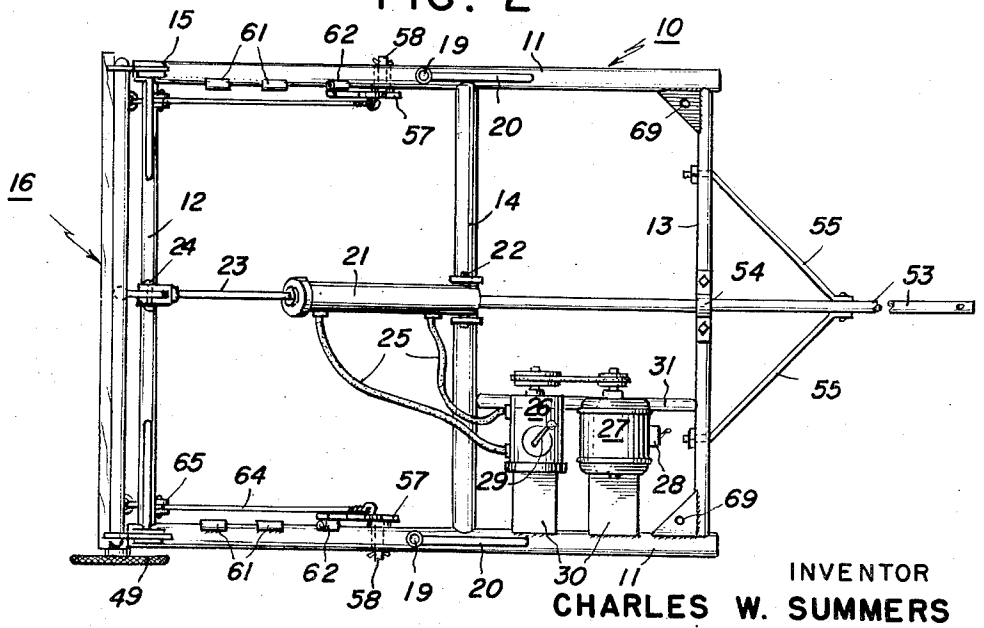


FIG. 2



INVENTOR
CHARLES W. SUMMERS

BY N. B. Williamson & Co.
ATTORNEYS

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FIG. 3

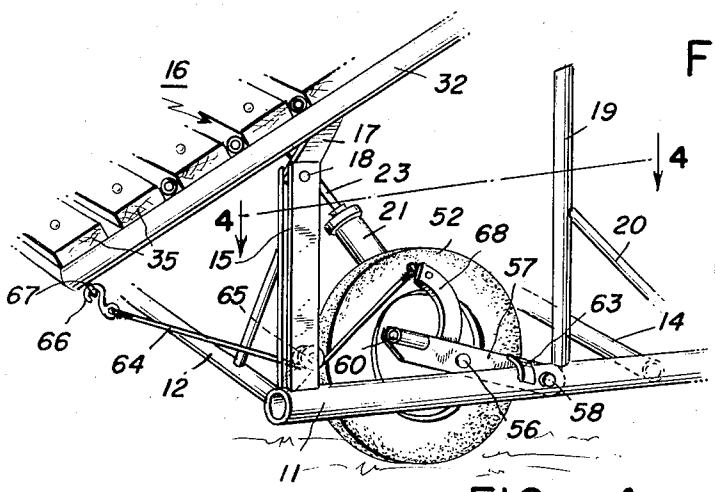


FIG. 4

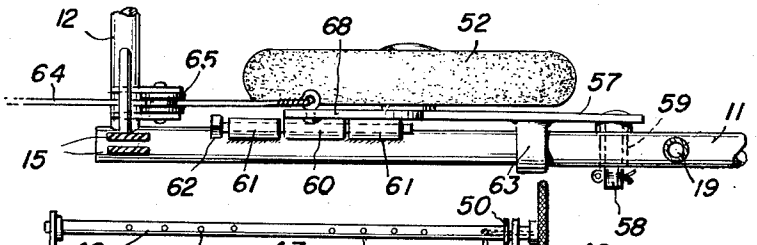


FIG. 5

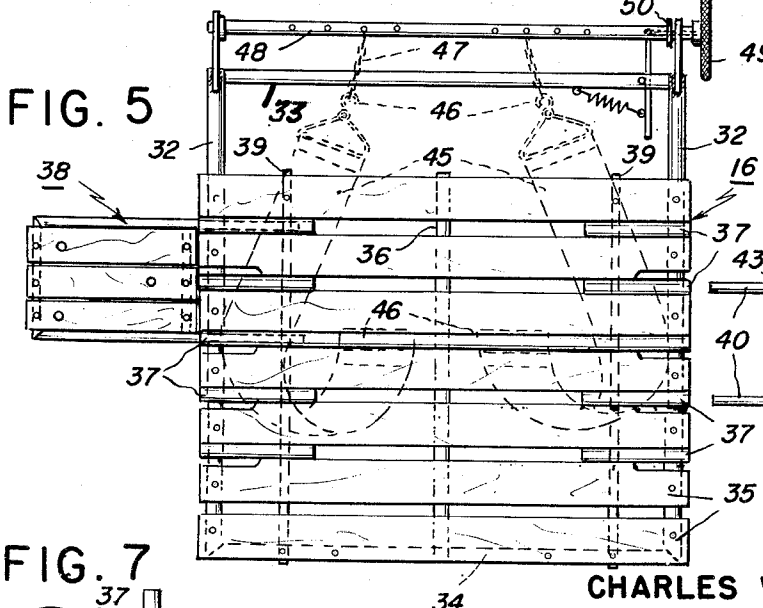


FIG. 6

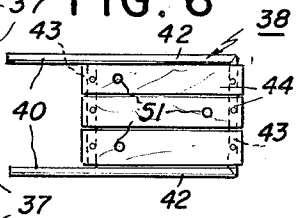
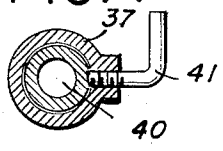


FIG. 7



INVENTOR
CHARLES W. SUMMERS

BY W. B. Williams & G.

ATTORNEYS

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VERTICALLY ADJUSTABLE WHEEL SUPPORT FOR LIVESTOCK OPERATING TABLE

Charles W. Summers, Hutchinson, Kans.

Application February 8, 1954, Serial No. 408,711

5 Claims. (Cl. 280—44)

This invention relates to operating tables to be used by veterinarians and owners of livestock to aid in performing such operations as hoof trimming, castrating, grubbing, foot rot, branding, dehorning, vaccination, etc. on cattle, horses and other livestock.

Stock tables of this character usually comprise a main support or base to which is pivoted a table top movable from a substantially horizontal position to a vertical position in which the animal may be secured to it while in standing position, the table top being then swung to an almost horizontal plane to dispose the animal in a convenient position for the performance of the various operations customarily performed upon livestock. Such tables must be large in size and of heavy construction to support large animals; and it is frequently desirable to transport the table for use at various places. It is therefore an object of the invention to provide a table of compact and sturdy construction which may be transported over highways as a trailer, the table having a pair of supporting wheels which may be retracted to lower the base upon the ground to a stationary position when the table is to be used.

Another object of the invention is to provide a table of this character in which the hydraulic or other mechanical means for swinging the table top may be used to cause the retracted ground wheels to be lowered relative to the base and thus to elevate the base and dispose the parts of the table for transportation.

Another object is to provide such a table with a top of a size for proper road clearance and with an extension headboard to support the head of the animal, the headboard being removably applied on either side edge of the table top and being also adjustable along either side edge according to the height of the animal to be placed on the table. This table top structure is claimed in my divisional application, Serial No. 606,271, filed August 27, 1956.

A further object is to generally improve operating tables of this character so that they may be more conveniently and effectively used without frightening or abuse of the animal.

With the above and other objects and advantages in view, the invention resides in the novel combinations and arrangements of parts and the novel features of construction hereinafter described and claimed, and illustrated in the accompanying drawings which show the present preferred embodiment of the invention.

In the drawings:

Fig. 1 is a side elevation of the improved operating table showing in full lines the table top in its vertical position with the supporting wheels retracted, and showing in dotted lines the table top in its substantially horizontal position with the wheels in lowered position;

Fig. 2 is a fragmentary top plane view to show the hydraulic means for swinging the table top and the cable connections between the latter and the wheel carrying levers, the wheels being omitted;

Fig. 3 is a fragmentary perspective view of one side

of the table showing one of the supporting wheels in a partially lowered position;

Fig. 4 is a detail horizontal sectional view taken substantially on the line 4—4 in Fig. 3;

Fig. 5 is a detail front view of the table top showing the headboard in one of its possible positions;

Fig. 6 is a front view of the headboard; and

Fig. 7 is a detail sectional view showing the manner of fastening one of the arms of the headboard in one of the tubular socket members along the sides of the table top.

Referring more in detail to the drawings, the numeral 10 denotes, as a whole, the main supporting body or base of the machine. It is preferably a rectangular frame made of tubular metal members welded together. The frame or base 10 is adapted to rest upon the ground or floor when the table is in use, and as shown, comprises two heavy side bars or pipes 11 connected by front and rear bars 12 and 13 and an intermediate cross bar 14. Rising from the front ends of the side bars 11 are two suitably braced uprights 15 on which is pivoted a table top 16. Each of the uprights 15 is shown as connected but spaced apart plates which have their lower ends welded to one of the bars 11, their upper ends receiving between them a hinge arm or lug 17 fixed to the rear of the table top adjacent one side edge of the latter. Pivot or hinge pins 18 connect these parts 17 and 15 and serve as pivots about which the table top may swing from its upright full line position to its substantially horizontal dotted line position, as seen in Fig. 1. This swinging movement is preferably stopped when the table top reaches its slightly inclined dotted line position, by its engagement with upright stop posts 19 rising from the side bars 11 and strengthened by braces 20.

While any suitable mechanical means may be provided for swinging the table top, the hydraulic means shown in Fig. 2 is preferably employed. It comprises a piston-contained cylinder 21 pivoted at 22 to the center of the cross bar 14 and a piston rod 23 pivoted at 24 to the center of the rear portion of the table top. Flexible fluid tubes 25 connect the ends of the hydraulic cylinder to a pump 26 which is driven by a suitably connected electric or other motor 27. If an electric motor is used a suitable switch 28 may be used to start and stop it. A suitable lever-operated valve 29 may be associated with the pump to control the flow of fluid through the tubes or pipes 25. The pump and motor may be mounted on supporting plates 30 connected between the adjacent side bar 11 and a bar 31 fastened to the bars 13 and 14.

The tiltable table top 16 is also preferably made of metal tubes and is of rectangular shape as seen in Fig. 5. It comprises side bars 32 connected by top and bottom bars 33 and 34, and also by a plurality of laterally spaced wood cross bars or slats 35. The height of that portion of the table top comprising the wooden slats 35 is sufficient to accommodate a large size animal and the length of the slats 35 is about equal to the length of the body of the animal so that when the animal stands along side of the table top when it is in its upright position, the head of the animal will extend beyond one side edge of the table top. A metal brace bar 36 is fastened across the mid portions of the slats 35 on their rear faces and to it may be secured the pivotal connection 24. In the spaces between the slats at each side of the table top are socket members 37 for the reversible and adjustable mounting of a headboard 38. The members 37 may be short pieces of pipe secured, as by welding or other means, to the side bars 32 and to brace straps or bars 39 fastened across the rear faces of the slats 35, as will be understood on reference to Fig. 5. The tubular members are equally spaced apart along each side edge of the table top and form sockets to receive spaced arms 40 on the headboard.

The arms 40 are spaced so that they may be telescoped into any two of the sockets 37 separated by an intermediate socket and hence the headboard may be applied so as to extend from either side of the table top and may also be disposed on each side at different distances from the bottom of the table top. Thus either side of the animal to be secured may be brought opposite the table top when it is in its upright position and the headboard may be positioned opposite the head of the animal according to the height of the latter. The headboard is preferably fastened in its adjusted position by suitable set screws 41 disposed at the rear of the tubular members or sockets 37 and adapted to bind against the arms 40, as shown in Fig. 7.

The headboard is preferably formed by two side bars of pipes 42 connected by cross bars 43 to which slats or plates 44 are secured, the projecting ends of the bars 42 forming the spaced parallel arms 40.

The animal may be secured to the table top and headboard by any desired means. As shown in dotted lines in Fig. 5, two body or girth bands 45 may be used and they may have their lower ends fastened to a cross pipe 46, the ends of which form two of the sockets 37. The metal spreaders at the upper ends of the bands or belts 45 may carry chains with hooks 46 to be engaged with any of the links of take up chains 47 wound on a winding reel bar or shaft 48 extending across the top of the table top. The reel shaft is rotatable in bearings rising from the upper ends of the side bars 32 and may be turned by a handwheel 49 at one end. A suitable spring projected and manually retracted latch device 50 may be provided to hold the reel after the chains have been wound thereon to tighten the girths. Holes 51 may be formed in the headboard for head or neck straps which hold the animal's head.

An important feature of the invention resides in the novel means for making the machine mobile so that it may be readily transported as a trailer. When it is to be transported the table is supported on two ground wheels 52 and it may be moved over the highway by any towing vehicle connected to a draft pole or tongue 53 which projects from the rear of the base frame 10. The tongue which may carry a suitable attaching clevis or coupling at its free end, extends through a guide 54 at the center of the rear bar 13 and is detachably fastened at its inner end to the center of the bar 14. Suitable braces 55 connect the projecting outer portion of the tongue to the bar 13 as shown in Fig. 2.

The wheels 52 are disposed within the base frame at its opposite sides and are mounted for retraction above the base by journaling them on axles 56 carried by the intermediate portions of two levers 57 which extend lengthwise of the base on the inner sides of the bars 11. These levers or crank arms 57 are heavy flat metal plates which have at one end trunnions 58 projecting through and rotatable in bearing bushings 59 fixed in the side bars 11. Between the free ends of the levers 57 and the adjacent bars 11 are suitable latching or locking devices which hold the levers parallel with the inner faces of the bars 11 when the wheels are in their lowered positions to hold the base 10 off of the ground. While such locking means may take various forms, I have shown a short longitudinally extending tube 60 at the free end of each lever adapted to enter between and become alined with similar spaced tubes 61 on the bar 11 so that a latching or locking bolt 62 may be inserted in the alined tubes, as seen in Fig. 4. To limit the downward movement of the lever a curved finger 63 is welded on the lever to engage the top of the adjacent bar 11 when the tubes are alined for the reception of the bolt.

Since the table is heavy I prefer to use the swinging movement of the power actuated table top to lower the wheels and hence lift the base above the ground. That may be accomplished by connecting cables 64 between the lower corners of the table top and the two levers. The cable on each side of the machine passes over a guide pulley 65 mounted near the corner of the base frame and has at one end a hook 66 to be engaged with an eye 67 at the adjacent corner of the table top. The other end of the cable is suitably fastened to the end of an upwardly and forwardly projecting arm 68 welded on the lever 57. It will thus be seen that when the parts are in full line position in Fig. 1 and the ram or hydraulic means 21 is operated to swing the table top to its inclined dotted line position, the upward movement of the lower portion of the table top will cause the cables 64 to pull the levers 57 downwardly to lower the wheels relative to the base and hence elevate the latter. When the levers are thus lowered and the stops 63 engage the bars 11, the bolts 62 may be slid into the alined tubes 60, 61. The valve 29 may then be manipulated to relieve the tension on the cables so that the hooks 66 may be disengaged from the eyes 67. The cables and the hydraulic means may also be used to gradually lower the table to its full line position shown in Fig. 1. When in that position stakes may be driven into the ground through the apertures 69 in triangular brace plates welded at the junctures of the rear bar 13 with the side bars in order to prevent the table from shifting horizontally while it is being used.

It is believed the manner of using the table will be apparent from the foregoing detailed description of its construction and the operation of its several parts.

From the foregoing, taken in connection with the accompanying drawings, it will be seen that novel and advantageous provision has been made for carrying out the objects of the invention, and while preferences have been disclosed, attention is invited to the possibility of making variations within the scope of the invention as claimed.

I claim:

1. A livestock operating table comprising a base to rest upon the ground table top tiltably mounted at the front of the base and movable from an upright position to an inclined position, power operated means on the base and connected to the table top to tilt the latter, a pair of ground wheels adjacent opposite sides of the base, swingable means on said base mounting said wheels for disposition in either a lowered position in which they support the base above the ground or a raised position in which they are retracted above the bottom of said base, locking means holding said swingable means against movement when said wheels are in lowered position, draft means at the rear of the base attachable to a towing vehicle when the wheels are in lowered position, said swingable means comprising levers pivoted at one end to the base and having said wheels mounted on their intermediate portions, and said means connected between said swingable means and said table top comprising cables passed over guides on the base and each having one end connected to one of said levers and its other end connected to the tiltable table top.

2. In a portable livestock operating table, a base to rest upon the ground when the table is in use, said base including opposed side members, a table top tiltably mounted on the base and movable from an upright position to an inclined position, power operated means on the base and connected to the table top to tilt the latter, a pair of ground wheels, a pair of levers adjacent said opposed side members, means pivotally connecting one end of each lever to the adjacent side members, means on the intermediate portion of each lever for mounting one of said wheels, said levers being movable from raised positions in which said wheels are disposed above the bottom of the base to lowered positions in which said levers are substantially parallel with said side members to dispose the bottoms of the wheels below the base, coacting latch means on the free ends of the levers and on the adjacent side members for fastening the levers in their lowered positions, and cable means on the base and connected between the free ends of said levers and the

table top to cause the upward swinging movement of the table top to lower said levers.

3. The structure of claim 2 in which said coacting latch means includes tubular elements on the levers to be alined with tubular elements on the side members when the levers are in lowered positions and slidable bolt elements to engage the alined tubular elements.

4. The structure of claim 3 together with stop projections on said levers to engage said side members when the coacting tubular elements are alined.

5. In a livestock operating table a rectangular base frame to rest upon the ground when the table is not in use, a table top tiltably mounted above one end of the base frame and movable from an upright position to an inclined position, power operated means on said base frame and connected to the table top to tilt the latter, a pair of ground wheels, a pair of levers disposed at the opposite sides of said base frame, means pivotally connecting said levers at one end to the base frame, means on the intermediate portion of each lever for mounting

one of said wheels, said levers being movable from raised positions in which the wheels are disposed above the bottom of the base frame to lowered positions in which the levers are substantially parallel with the opposite sides of the base frame to dispose the bottoms of the wheels below the base frame, coacting latch means on the free ends of the levers and on the adjacent portions of the base frame for fastening the levers in their lowered positions, and cable means on the base frame and connected between the free ends of the levers and the table top to cause the upward swinging movement of the table top to lower the levers.

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