May 23, 1950 I. L. STEPHENSON 2,508,549

CATTLE BRANDING AND DEHORNING CHUTE

Filed April 23, 1947 7 Sheets-Sheet 1

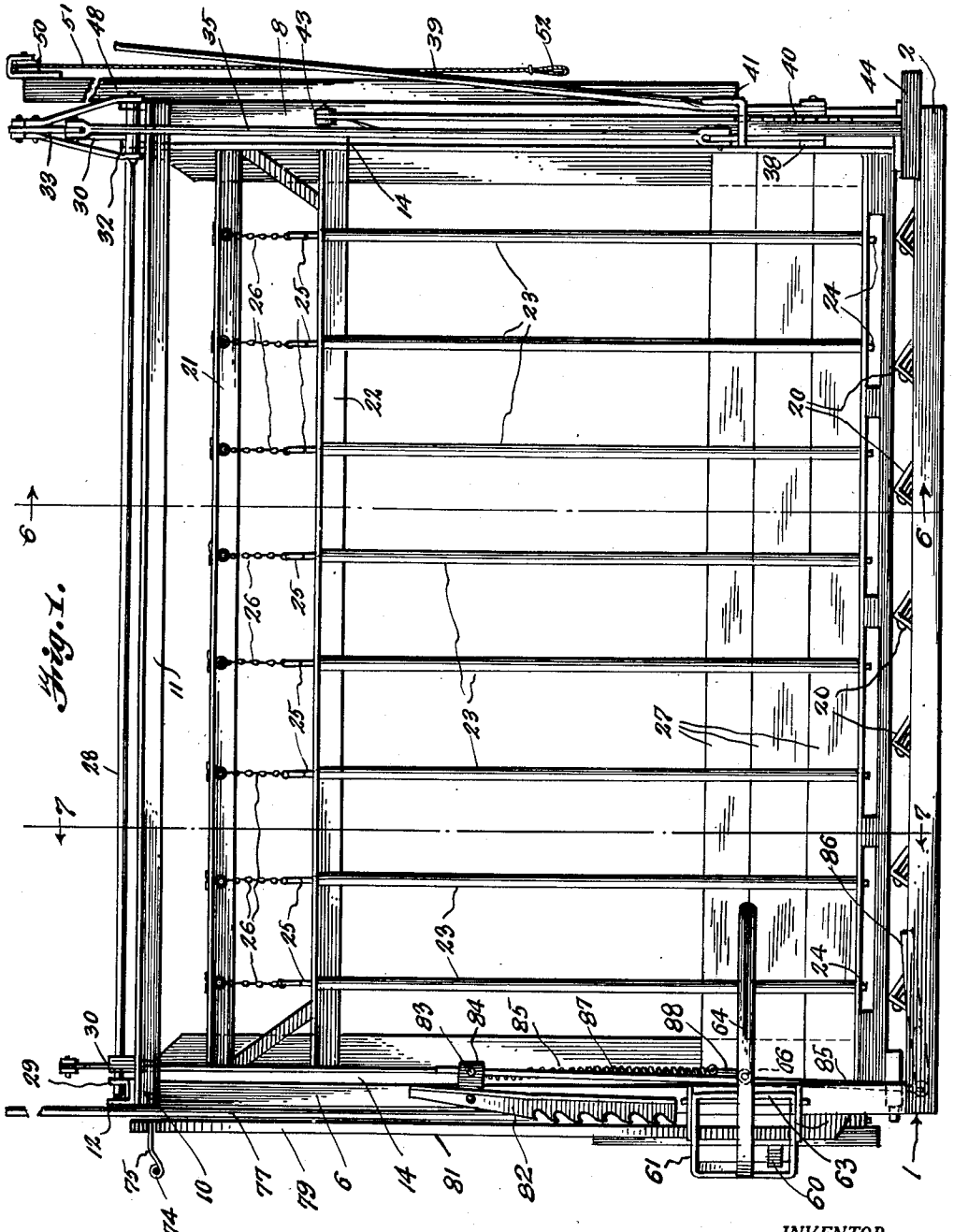


Fig. 1.

INVENTOR.
ISAAC L. STEPHENSON

BY Robert H. Woodward
Atty.

May 23, 1950 I. L. STEPHENSON 2,508,549

CATTLE BRANDING AND DEHORNING CHUTE

Filed April 23, 1947 7 Sheets-Sheet 2

Fig. 11.

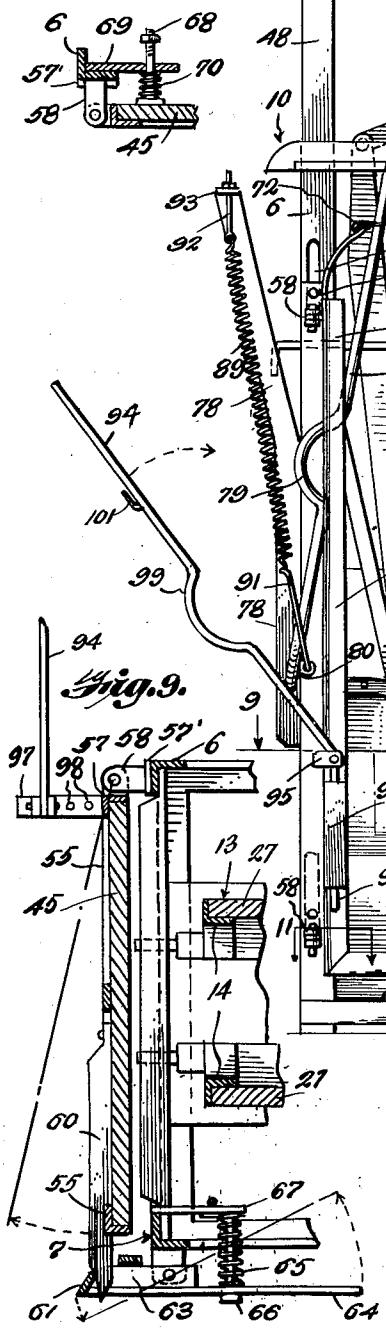


Fig. 9.

Fig. 2.

INVENTOR.
ISAAC L. STEPHENSON

BY

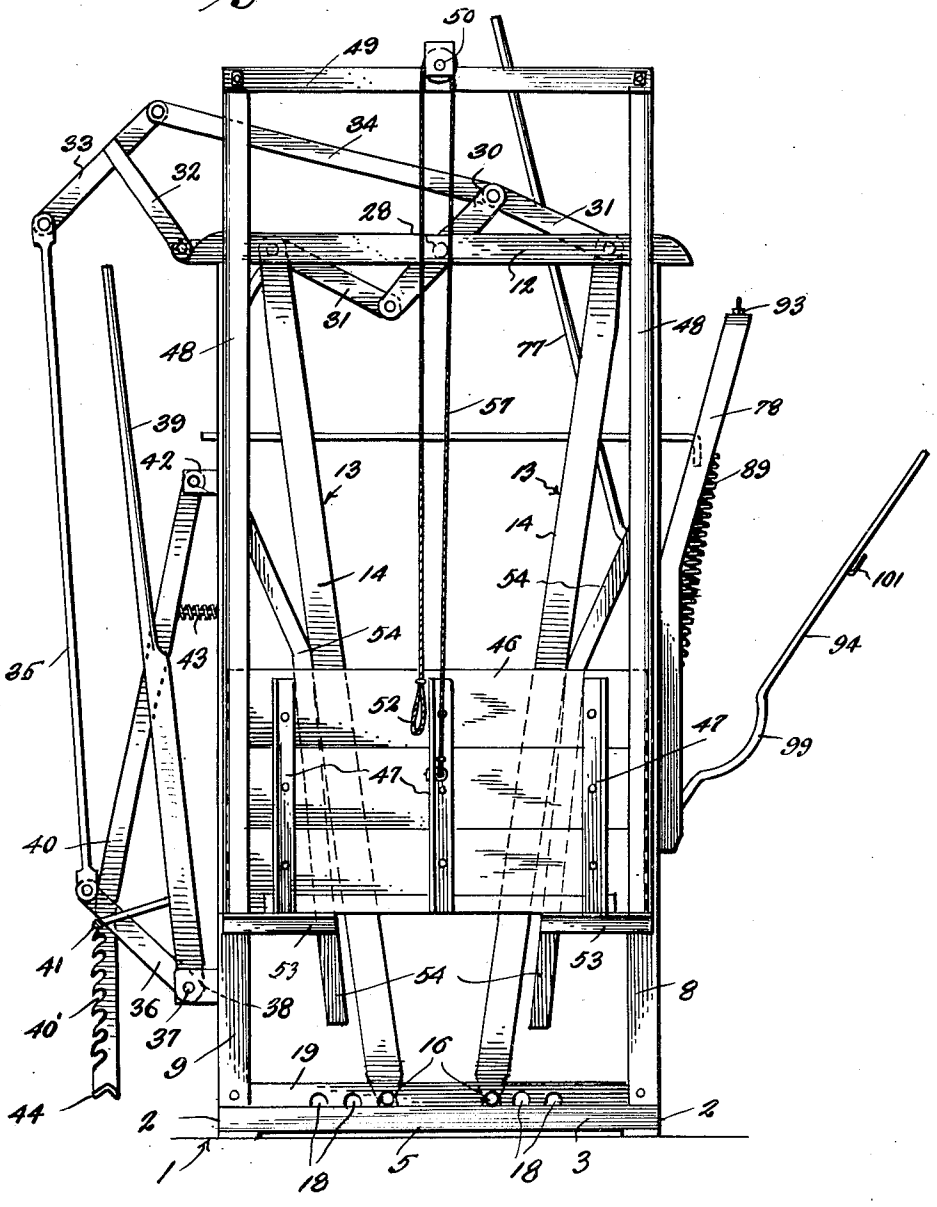
Atty.

May 23, 1950 I. L. STEPHENSON 2,508,549

CATTLE BRANDING AND DEHORNING CHUTE

Filed April 23, 1947 7 Sheets-Sheet 3

Fig. 3.



INVENTOR.
ISAAC L. STEPHENSON

BY Lisle & Woodward
Atty.

May 23, 1950 I. L. STEPHENSON 2,508,549

CATTLE BRANDING AND DEHORNING CHUTE

Filed April 23, 1947 7 Sheets-Sheet 4

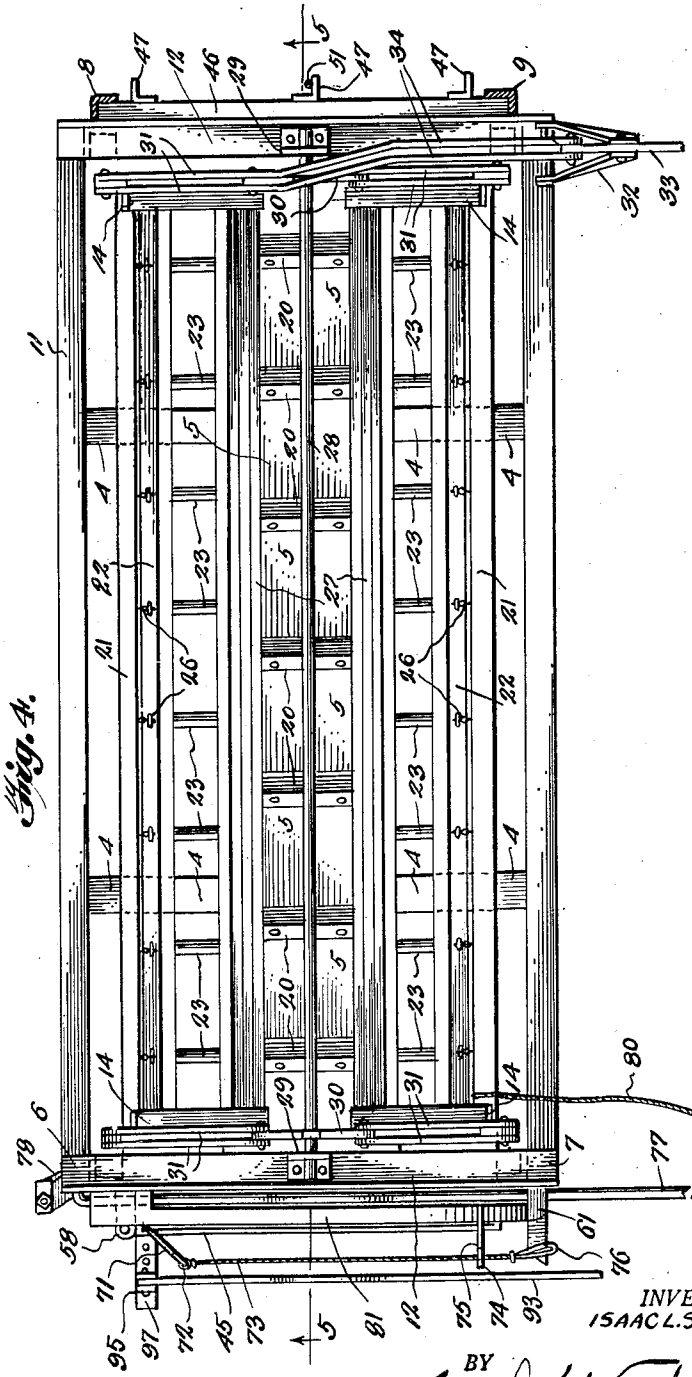


Fig. 4.

INVENTOR.
ISAAC L. STEPHENSON

BY

Atty.

May 23, 1950 I. L. STEPHENSON 2,508,549

CATTLE BRANDING AND DEHORNING CHUTE

Filed April 23, 1947 7 Sheets-Sheet 5

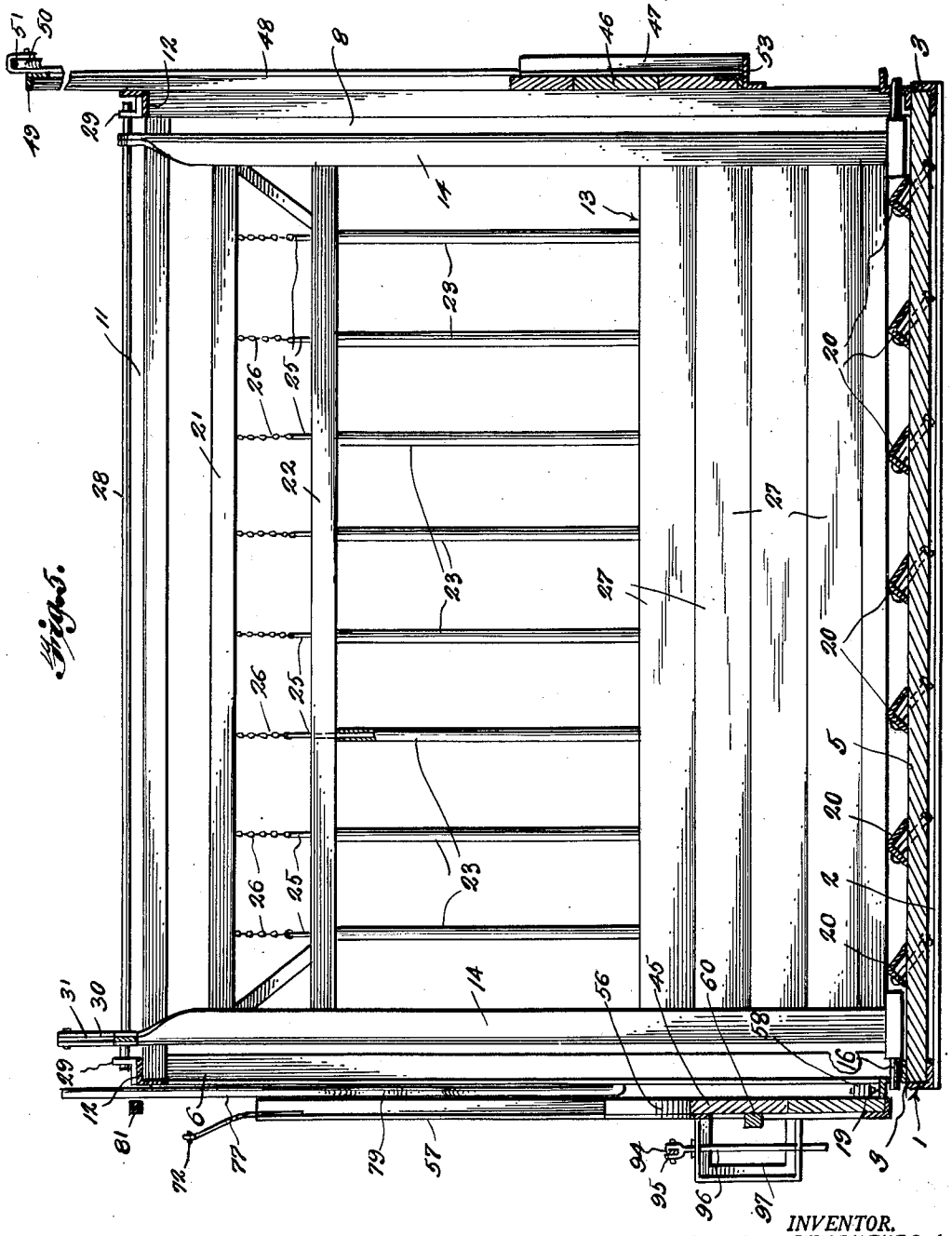


Fig. 5.

INVENTOR.
ISAAC L. STEPHENSON

BY Russell W. Woodward
Atty.

May 23, 1950 I. L. STEPHENSON 2,508,549

CATTLE BRANDING AND DEHORNING CHUTE

Filed April 23, 1947 7 Sheets-Sheet 6

Fig. 6.

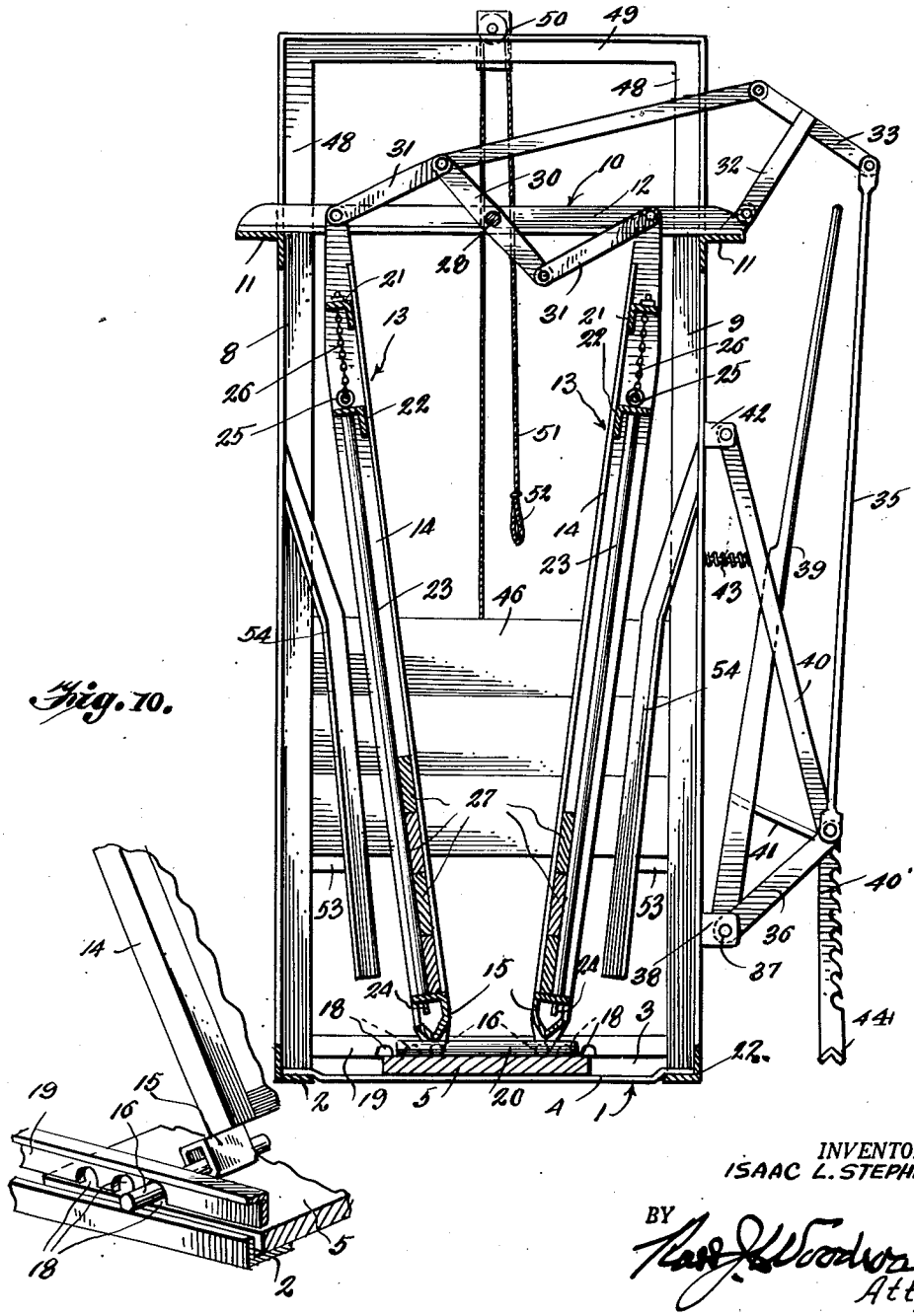


Fig. 10.

INVENTOR.
ISAAC L. STEPHENSON

BY Karl J. Woodward
Atty.

May 23, 1950 I. L. STEPHENSON 2,508,549

CATTLE BRANDING AND DEHORNING CHUTE

Filed April 23, 1947 7 Sheets-Sheet 7

Fig. 8.

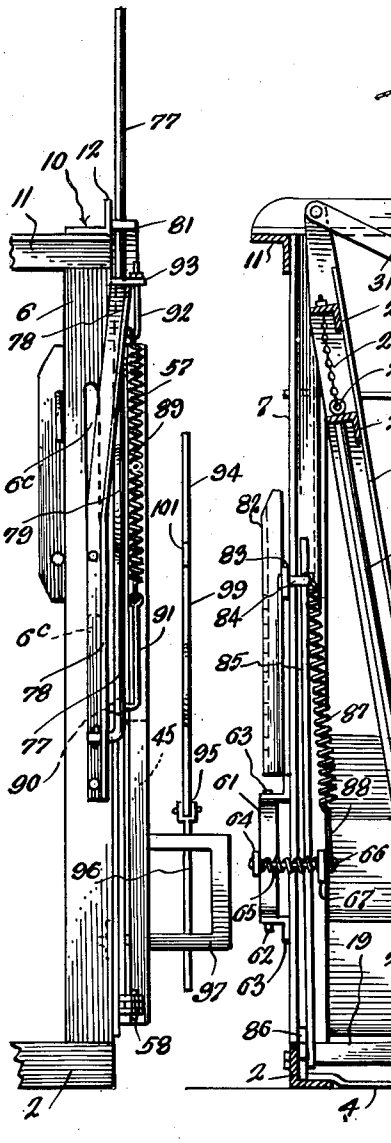
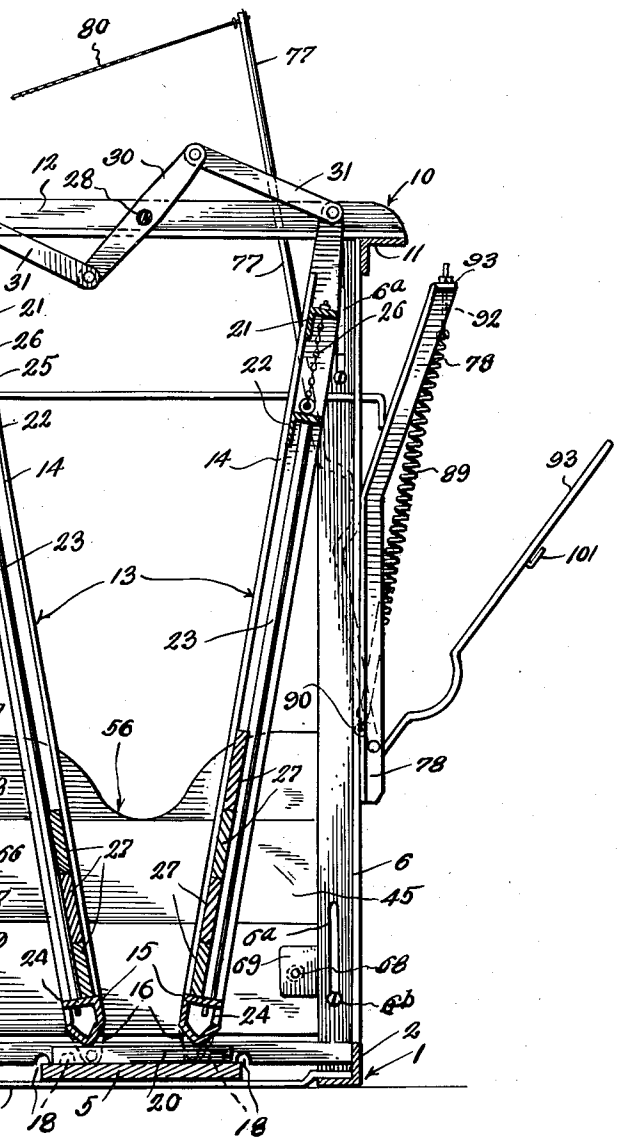


Fig. 7.



INVENTOR.
ISAAC L. STEPHENSON

BY

Atty.

Patented May 23, 1950 2,508,549

UNITED STATES PATENT OFFICE

2,508,549

CATTLE BRANDING AND DEHORNING CHUTE

Isaac L. Stephenson, Darrouzett, Tex.

Application April 23, 1947, Serial No. 743,423

4 Claims. (Cl. 119—99)

1

This invention relates to an improved cattle dehorning and branding chute, it being one object of the invention to provide a device of this character of such construction that cattle and other animals may be driven into the chute through the rear end thereof and confined in the chute while being branded, a gate at the front end of the chute being then opened so that the animal may leave the chute.

Another object of the invention is to provide a chute having means at its front end associated with the front gate and so constructed that the animal's head and nose may be firmly gripped and held while being dehorned.

Another object of the invention is to provide a chute having a front gate adapted to be swung to a closed position by a person standing at a side of the chute and also released by the person at the side of the chute, the yokes for gripping the neck and nose of the animal being also operable by the person standing at the side of the chute. It will thus be seen that if an animal charges out of the front end of the chute after being branded or dehorned or before the gate can be closed the person operating the front gate and the yokes will be out of the way and not liable to be trampled by the animal.

Another object of the invention is to provide the chute with a front gate and a neck yoke which are vertically adjustable in order to accommodate them to large or small animals.

Another object of the invention is to provide a chute having side walls mounted for movement toward and away from each other transversely, thus allowing the walls to serve as clamps for gripping the animal from opposite sides and preventing it from moving while being branded or dehorned.

Another object of the invention is to provide a chute wherein the movable side walls may be adjusted at their points of pivotal mounting and thus be able to accommodate animals of different sizes.

Another object of the invention is to provide a chute having pivoted walls provided with operating means of such construction that the two side walls will be simultaneously move toward and away from each other.

Another object of the invention is to provide a rear gate mounted for vertical movement to raised and lowered positions, downward movement of the rear gate being limited so that after an animal has been secured in the chute the rear portion of the animal will be exposed under the gate for castrating purposes.

Another object of the invention is to provide a chute of this character which is simple in construction, very sturdy and easy to operate.

The invention is illustrated in the accompanying drawings, wherein:

Fig. 1 is a side view of the improved chute.

2

Fig. 2 is a view looking at the front end of the chute.

Fig. 3 is a rear view thereof.

Fig. 4 is a top plan view of the improved chute.

Fig. 5 is a vertical sectional view taken longitudinally through the improved chute along the line 5—5 of Figure 4.

Fig. 6 is a transverse sectional view taken along the line 6—6 of Figure 1, and looking toward the rear end of the chute.

Fig. 7 is a transverse sectional view taken along the line 7—7 of Figure 1 and looking toward the front end of the chute.

Fig. 8 is a fragmentary view showing the front end portion of one side of the chute.

Fig. 9 is a fragmentary sectional view upon an enlarged scale taken along the line 9—9 of Figure 2.

Fig. 10 is a perspective view upon an enlarged scale showing the manner in which side walls are pivotally and adjustably mounted.

Fig. 11 is a fragmentary sectional view upon an enlarged scale taken along the line 11—11 of Figure 2.

This chute is intended for use upon ranches, stock farms, and other places where large numbers of cattle, horses and other animals are raised and is used while branding, dehorning, or otherwise operating upon the animals. The chute has a base frame 1 which is of greater length than width and has side bars 2 and end bars 3 formed of angle metal. Cross strips 4 are carried by the side bars 2 in spaced relation to each other longitudinally of the base and upon these strips is mounted a flooring 5 formed of thick boards and extending the full length of the base. Front and rear corner posts 6, 7, 8, and 9 rise from corners of the base frame and have their upper ends secured at corners of an upper frame 10 having side bars 11 and end bars 12 formed of angle metal.

Side walls 13 are provided for the chute and each has front and rear end bars 14 formed of angle metal and having their lower ends secured to ends of a lower longitudinally extending bar or shoe 15. The shoes are hollow and at their ends carry stub shafts or pins 16 for engaging in selected ones of the recesses or sockets 18 formed in cross bars 19 extending transversely of end portions of the chute and secured at their ends to the corner posts or standards. The shoes or lower bars rest upon bolsters or strips 20 mounted upon the flooring and extending transversely thereof, these cross strips being transversely tapered in cross section, as shown in Figures 1 and 5 so that the side walls may be slid along them toward or away from each other and the pins or stub shafts disposed in position to enter selected ones of the sockets 18. By this arrangement the side walls may be adjusted transversely of the chute and thus pro-

vide room for animals of various sizes to stand upon the flooring between the side walls. Upper and lower bars 21 and 22 which are formed of angle metal extend between upper portions of the end bars 14. Between the lower bars or shoes 15 and the bars 22 are disposed vertically extending bars 23 formed of metal pipes or tubes. These bars 23 are provided at their lower ends with pins 24 which are removably passed through openings formed in upper walls of the hollow shoes 15. Upper ends of the bars 23 register with openings formed through horizontal flanges of the bars 22 so that securing pins 25 may be passed downwardly through the bars 22 and into upper ends of the bars 23 to removably hold the bars 23 in place. Chains 26 connect the pins 25 with the upper bars 21 and prevent loss of these pins. When the pins 25 are withdrawn the bars 23 are freed at their upper ends and can be tilted outwardly and lifted out of engagement with the bars or shoes 15. Boards 27 extend longitudinally of the side walls and are set one upon another with their ends engaging the end bars 14 and intermediate portions resting against inner surfaces of the tubular bars 23. By providing these bars animals confined in the chute will be prevented from getting their legs caught between the tubular bars if they kick and broken legs will thus be avoided.

When an animal is in the chute the side walls are to be moved toward each other in order to clamp the animal from opposite sides and prevent the animal from moving while being branded. In order to move the side walls toward and away from each other there has been provided adjusting mechanism including a rocker shaft 28 rotatably mounted through bearings 29 carried by the end bars 12 extending between upper ends of the corner posts. Rocker arms 30 are carried by the rocker shaft near its ends and these rocker arms have their ends connected with upper ends of the end bars 14 by links 31. A bracket 32 is pivotally mounted at one end of the cross bar 12 at the rear end of the chute and at the upper end of this bracket is a cross arm 33 which extends transversely of the chute and has its inner end connected with the upper end of the rear rocker arm 30 and its outer end pivoted to a vertically extending rod or link 35. The lower end of the rod 35 is pivoted to an arm 36 carried by a shaft 37 which is rotatably mounted by a bearing bracket 38 and the shaft 37 carries a lever 39 by means of which the shaft is turned to shift the rod 35 vertically and impart rocking movement to the rocker shaft 28 and the rocker arms 30 carried thereby. As the rocker arms move the links 31 will be shifted longitudinally and the two side walls 13 moved toward or away from each other into and out of a clamping position. A rod having its lower end portion bent to extend horizontally is secured at its upper end to the lever 39 near the lower end thereof and its horizontally extending lower portion extends across the toothed lower end portion 40' of a locking bar 40 and forms a latch 41 for engaging the teeth of the locking bar and preventing accidental movement of the side walls out of a clamping position. The locking bar has its upper end pivoted to a bracket 42 carried by the companion corner post 9 and this locking bar is urged away from the corner post by a spring 43 so that as the lever is swung downwardly the latch will move from one tooth of the locking bar to another and firmly hold the side walls in clamping engagement with opposite sides of an animal in the chute. A cross bar or pedal 44 is provided at the lower end of the rack bar so that when an animal is to be released an attendant may place his foot upon this pedal and apply pressure to swing the locking bar inwardly out of engagement with the latch and then manipulate the lever 39 to swing the side walls away from each other.

Front and rear doors 45 and 46 are provided for the chute. The rear door is formed of boards braced by strips of angle metal 47, and this door is slidably mounted for vertical movement in tracks formed by guide strips 48. These track bars or strips are formed of angle metal and have their upper portions projecting above the corner posts 8 and 9 and connected at their upper ends by a cross bar 49 midway the length of which is mounted a pulley 50. A rope 51 has one end secured to the center bracing strip 47 and is trained about the pulley with a free end portion extending downwardly therefrom with its free end formed with a hand hold or loop 52 by means of which the rope may be readily grasped and pull exerted to draw the gate 46 to a raised or opened position and allow an animal to enter the chute. After the animal has entered the chute the gate is allowed to move downwardly to its closed position where it comes to rest upon stops or abutment bars 53 which extend horizontally with their outer ends secured to the corner posts 8 and 9 and their other ends secured to bracing bars or strips 54 which extend vertically and have their upper ends secured to said corner posts. Since the abutments 53 are spaced upwardly from lower ends of the corner posts the lower edge of the rear door will be spaced upwardly from the floor of the chute when closed and a castrating operation may be performed by an attendant at the rear end of the chute.

The front gate 45 is held closed when an animal is driven into the chute and during the time the animal is to be confined therein, but when the animal is to leave the chute the front door or gate is opened and the animal leaves through the front end of the chute. This front door or gate is formed of boards resting upon one another in a metal frame 55 which reinforces margins of the gate, and upon referring to Figure 2 it will be seen that the upper edge portion of the gate is formed with a recess 56 to receive the neck of an animal occupying the chute. The strip of angle metal from which the vertically extending inner side bar of the reinforcing frame is formed is extended upwardly to form an elongated hinge bar 57 and this hinge bar is pivotally mounted by companion ears 58 carried by the hinge bar 57 and by a mounting strip or bar 57' extending vertically along the corner post 6. Therefore the front gate will be mounted for swinging movement to closed and opened positions. A bracing bar 59 which extends diagonally along the outer face of the front gate and projects upwardly therefrom with its upper end secured to the hinge bar prevents sagging of the gate. It should also be noted that the post 6 is formed with vertically extending slots 6a to receive bolts 6b by means of which the bar 57' is secured against the post. This allows the bar to be shifted vertically to adjusted positions and the gate accommodated to large or small animals.

A latch bar 60 mounted transversely of the gate projects from the free side of the gate and when the gate is closed the bevelled outer end of this latch moves into engagement with a keeper 61,

This keeper is pivoted by a pin 62 for swinging movement between bearing brackets 63 and carries an operating handle or lever arm 64 which projects rearwardly from the keeper and is engaged by a spring 65 so that the keeper will be yieldably held in position to overlap the free end of the latch bar and hold the door or gate closed. A pin 66 which passes through the spring and also through the handle and through a bracket 67 carried by the corner post 7 limits movement of the handle outwardly from the post and prevents the spring from becoming displaced. When the keeper is swung to a releasing position a plunger 68 which slidably passes through a bracket 69 carried by the post 6 and is urged outwardly by a spring 70 which imparts outwardly swinging movement to the gate and moves it to an opened position. A rod 71 extends upwardly from the hinge bar 57 of the gate and is curved so that it projects toward the free side of the gate at a forward incline, an eye 72 being formed at the upper end of this rod so that a rope or chain 73 may be secured to the rod. This rope extends transversely of the chute and is passed through the eye 74 of a guide bracket 75 with its free end portion extending downwardly and terminating in a loop 76 constituting a handhold by means of which the rope may be readily grasped and pull exerted to swing the gate to a closed position.

After an animal has been driven into the chute and clamped between the side walls 13 it faces the front end of the chute with its head and neck projecting forwardly through the recess 56 in the front gate. The head of the animal must be held against movement while horns are being removed and in order to do so there has been provided a clamping bar or yoke 77 pivoted at its lower end to a strip 78 extending vertically along the corner post 6, and secured by bolts passed through vertically extending slots 6c formed in the post so that the strip 78 may be shifted to position the yoke in cooperating relation to the vertically adjusted front gate. The clamping bar is bent intermediate its length to form a yoke or neck-engaging portion 79 disposed over the recess 56 of the front gate when the clamping bar is swung downwardly to a clamping position and since this U-shaped portion or yoke straddles the animal's neck the animal will be prevented from raising its head and neck. A rope 80 is secured at one end to the free end of the clamping bar so that a person standing at one side of the front end of the chute may grasp this rope and exert pull thereon to swing the clamping bar downwardly to a clamping position and the other end of the rope may be tied to a side wall of the chute or at any other convenient point so that it will be held in such position that it may be conveniently grasped by the attendant. When the clamping bar or yoke is swung downwardly it moves between the front end of the chute and a guide bar 81 which extends vertically in front of the corner post 7 and has its upper portion bent to extend horizontally in front of the forward cross bar 12 and secured at one end to this cross bar. This guide bar directs swinging movement of the clamping bar and causes it to have movement into engagement with teeth of a locking bar 82 which extends vertically along the outer side of the post 7 and is pivoted at its upper end to this post. An ear 83 projects rearwardly from the pivoted upper end of the locking bar 82 and carries a fastener 84 by means of which the upper end of a rod 85 is connected with the ear. The rod 85 extends vertically along the post 7 and has its lower end pivoted to the front end of a treadle 86 which extends longitudinally of the base and is pivoted to a side bar 2 thereof. A spring 87 which extends vertically and has its upper end engaged about the rod 85 over the fastener 84 and has its lower end anchored to the bracket 67 or the pin 66 by a hook 88 exerts downward pull upon the ear 83 to tilt the locking bar 82 forwardly and yieldably hold it in an operative position for engagement by the clamping bar to hold the clamping bar in the lowered position. As long as the locking bar is in its normal position it will hold the clamping bar in a clamping position but when an attendant steps upon the rear end of the treadle 86 and exerts upward thrust upon the rod 85 the locking bar will be swung rearwardly about its pivot and moved into position to release the clamping bar. When the clamping bar is released a spring 89, which extends longitudinally of the post 6 and has its lower end connected with an ear 90 close to the pivoted lower end of the clamping bar by a link 91 and its upper end connected with a hook 92 mounted through an ear 93 projecting from the upper end of the diagonally extending upper portion of the strip 78, exerts upward pull upon the ear 90 and swings the clamping bar to a raised position to release the neck of the animal. Since the lever 76 is located about the treadle 86 an operator standing at a side of the chute may place his knee against the lever and apply pressure to release the front gate while operating the treadle to release the yoke and then the animal will be free to walk out of the front end of the chute.

It is also desired to prevent the animal from biting attendants during a dehorning operation or moving its head from side to side and in order to do so there has been provided a second clamping bar 94 having its lower end pivoted in the slotted head or bearing 95 at the upper end of a pin 96 which extends vertically and is rotatably mounted through upper and lower arms of a bracket 97 carried by and projecting forwardly from the hinged side of the front gate. A plurality of openings 98 are formed through the upper and lower arms of the bracket 97 so that by passing the pin 96 through selected ones of these openings the clamping bar 94 may be adjusted toward and away from the front gate and thus disposed in such position that when it is swung downwardly the yoke 99 formed intermediate its length will straddle the nose portion of the animal and very effectively prevent the animal from biting and also prevent the animal from moving its head transversely while its horns are being removed. A chain 100 carried by the gate 101 releasably holds the clamping bar 94 in its clamping position.

After the horns have been removed and the animal branded the two clamping bars are released for movement out of a clamping position and the front gate is then released for movement to an opened position. Since the attendants stand at sides of the chute when the front gate is released the animal may leave the chute through the open front end thereof. The side walls of the chute will be swung away from each other out of gripping engagement with sides of the animal either before or after the clamping bars are released and prior to opening of the front gate and when the front gate is opened the animal will be free to walk out of the chute. If the animal should become stubborn or balky and lie down in the chute when released instead of walking out through the open front end of the chute,

the pins 25 may be withdrawn from upper ends of the tubular bars 23, thus allowing these tubular bars and the boards 27 to be removed and the animal rolled out of the chute through one side thereof. The tubular bars and the boards will then be replaced and the chute will again be ready for use.

Having thus described the invention, what is claimed is:

1. An animal holding chute comprising a base, front and rear corner posts rising from the base, an upper frame secured to the corner posts, vertical side walls extending longitudinally of the chute and pivoted at ends of their lower edges for swinging movement toward and away from each other into and out of position for gripping an animal between the side walls, a rocker shaft extending longitudinally of the chute and rotatably carried by the upper frame, rocker arms carried by said rocker shaft, links connecting ends of the rocker arms with upper portions of the side walls, a bracket extending outwardly from one end of the rear cross bar and pivotally mounted for vertical swinging movement, a cross head at the outer end of said bracket, a link connecting the inner end of said cross head with an end of one rocker arm, a lever pivoted for vertical swinging movement adjacent the lower end of one rear corner post, an arm moving with said lever and extending outwardly therefrom, a rod connecting the outer end of the cross head with the outer end of the last mentioned arm, a vertical locking bar pivoted at its upper end to the last mentioned rear corner post and having its lower position passing between the lever and the last mentioned arm and formed with teeth, and a rod carried by the lever and the last mentioned arm and having a portion extending across the toothed portion of the locking bar and constituting a latch for engaging the teeth and releasably holding the lever in position for retaining the side walls in a gripping position, said locking bar being urged outwardly into position for engagement with the latch and when moved inwardly releasably the latch to permit movement of the side walls away from each other.

2. An animal holding chute comprising a base, front and rear corner posts rising from the base, an upper frame carried by said posts and having side bars and front and rear end bars, side walls for the chute, a rear gate movable to opened and closed positions, a front gate for the chute hinged at one side to one front corner post, means for releasably securing the front gate closed, an ear projecting from the said front corner post, a plunger slidable through said ear, and shifted rearwardly by the front gate when the said gate is closed, a spring urging the plunger outwardly, the spring being compressed when the plunger is shifted rearwardly and serving to swing the front gate to its opened position when the front gate is released, and means for securing the neck and head of an animal in position projecting outwardly across the front gate.

3. An animal holding chute comprising a base, front and rear corner posts rising from the base, an upper frame carried by the corner posts and having side bars and front and rear end bars, side walls for the chute, a rear gate for the chute movable to closed and opened positions, a front gate for the chute hinged at one

side to one of the front corner posts, means for releasably securing the front gate closed, the front gate having a recess in its upper edge for receiving the neck of an animal thrust outwardly across the front gate, a clamping bar pivoted to the said front corner post for vertical swinging movement from a raised position to a lowered position across the front end of the chute and provided intermediate its length with a yoke for straddling the neck of an animal and holding the animal's neck in the recess of the front gate, a rack bar extending vertically and pivoted at its upper end of the second front corner post, an ear extending rearwardly from the upper end portion of said rack bar, a fastener carried by said ear, a spring extending vertically and anchored at its lower end, the upper end of the spring being engaged with the fastener and exerting downward pull to yieldably hold the rack bar in position for engagement with the clamping bar to hold the clamping bar in a lowered position, a treadle pivoted at a side of said base, and a rod connecting the treadle with the ear and moving the rack bar to a releasing position when pressure is applied to the treadle to shift the rod upwardly.

4. An animal holding chute comprising a base, front and rear corner posts rising from the base, an upper frame carried by the corner posts and having side bars and front and rear end bars, side walls for the chute, a rear gate for the chute movable to closed and opened positions, a front gate for the chute hinged at one side to one of the front corner posts, means for releasably securing the front gate closed, the front gate having a recess in its upper edge for receiving the neck of an animal thrust outwardly across the front gate, a clamping bar pivoted to the said front corner post for vertical swinging movement from a raised position to a lowered position across the front end of the chute and provided intermediate its length with a yoke for straddling the neck of an animal and holding the animal's neck in the recess in the front gate, a locking bar carried by the other front corner post and having teeth for engagement by the clamping bar to releasably hold the clamping bar in its lowered position, means for moving the locking bar to a releasing position, an ear extending from the pivoted end of the clamping bar, and a spring extending vertically along the first front corner post and having its lower end connected with the ear for exerting upward pull and swinging the clamping bar upwardly when the locking bar is moved into position to release the clamping bar.

ISAAC L. STEPHENSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
733,874	Reck et al.	July 14, 1903
1,560,888	Watt	Nov. 10, 1925
1,805,405	Kuhns	May 12, 1931
2,136,008	Gregory	Nov. 8, 1933
2,308,213	Shearer	Jan. 12, 1943
2,214,969	McNett	Sept. 17, 1944
2,396,928	Parsons	Mar. 19, 1946
2,438,322	McDonough	Mar. 23, 1948