Feb. 14, 1967 R. P. SEUNTJENS 3,303,613

FARM GATE

Filed Feb. 4, 1965

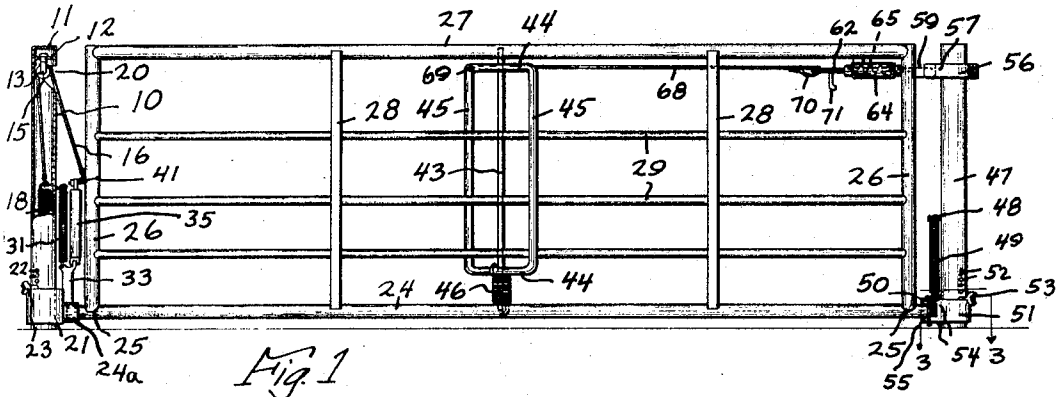


Fig. 1

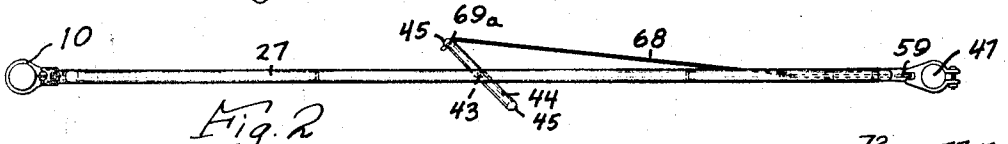


Fig. 2

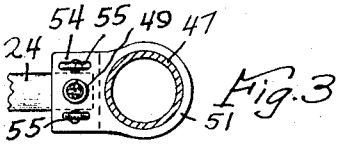


Fig. 3

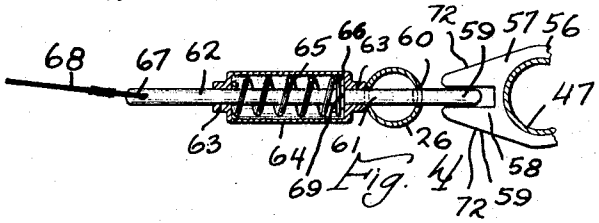


Fig. 4

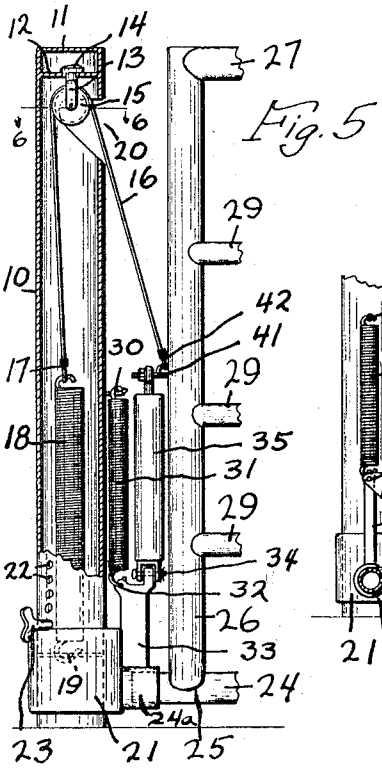


Fig. 5

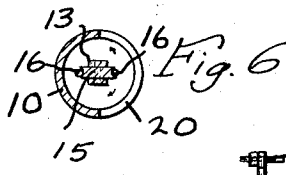


Fig. 6

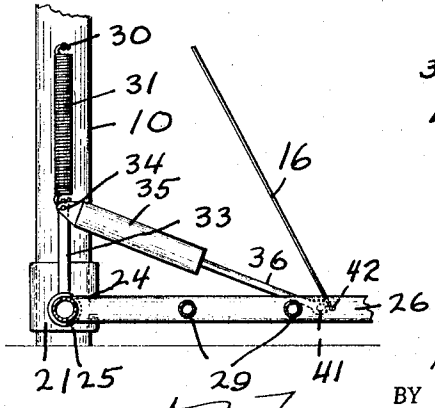


Fig. 7

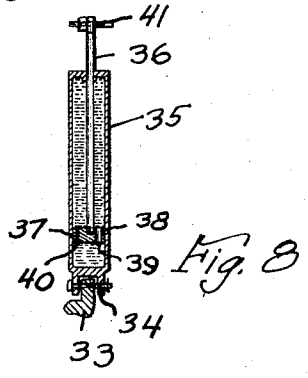


Fig. 8

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FARM GATE

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My invention relates to a farm gate.

An object of my invention is to provide a farm gate which can be readily opened by a vehicle of any type which approaches the gate and whereby the gate will then be forced directly to a horizontal position by means of the vehicle, and whereby the gate will then slowly travel back to its normal vertical position.

A further object of my invention is to provide an automatic latching and unlatching arrangement, and to further provide an arrangement which can be pivoted about a vertical axis as in normal practice.

A further object of my invention is to provide a gate which can be readily operated from either side.

With these and other objects in view, my invention consists in the construction, arrangement, and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which:

FIGURE 1 is a forward elevation of the gate,

FIGURE 2 is a plan view of FIGURE 1,

FIGURE 3 is an enlarged sectional view taken along the lines 3—3 of FIGURE 1,

FIGURE 4 is a sectional view taken through a portion of the latch mechanism,

FIGURE 5 is an enlarged detail view of one end of the gate,

FIGURE 6 is an enlarged sectional view taken along the lines 6—6 of FIGURE 5,

FIGURE 7 is a detail showing a portion of the gate in its horizontal position, and

FIGURE 8 is a sectional detail of the dash-pot arrangement.

My invention contemplates the provision of a farm gate or other type gate which will pivot about a lower horizontal axis when a car or vehicle is driven against the same and whereby it will not then be necessary to open the gate by getting out of the vehicle, and my invention further contemplates a provision of the gate being readily operable in this way and yet being normally safe against this opening action occasioned by stock animals.

In describing my invention I have used the character **10** to designate a vertically positioned hollow pipe or tube which can be closed over as at **11**, the character **12** indicating a partition wall which rotatably receives a pulley member **13** having the expanded portion **14**, and in which is journalled the pulley **15**.

Passing over the pulley **15** is the cable **16** which is attached at **17** to a strong helical spring **18** which can be attached as at **19** at the lower end of the pipe or tube **10**.

The character **20** indicates a portion cut out of the pipe **10**, and receiving the pipe **10** is a collar **21** having the threaded openings **22** adapted to threadably receive the wing nut **23**.

Attached to the collar **21** is the horizontally positioned tube **24***a* in which is received the end of the tube **24**, and attached to the tube **24** and **25** are the tubes **26**. Attached across the top of the members **26** is a transverse pipe or tube **27**, and attached between the members **24** and **27** are the channel members **28**. The character **29** indicates further transverse tubes or pipes passing through the channels **28**, and being attached to the members **26**. Attached to the pipe **10** at **30** is a helical spring **31** which is attached at **32** to the bracket

33 which is secured to the members **21** and **24**, and pivotally attached at **34** to the member **33** is dash-pot member including the hydraulic cylinder **35**, the piston rod **36**, and the piston **37**, the piston **37** including an enlarged opening at **38** communicating with the flap valve **39**, the piston **37** also including the small opening **40**. The piston rod **36** is pivotally attached as at **41** to the gate member **26** and the cable **16** is secured at **42** to the member **26** also.

Pivotally mounted in the various members **27**, **29**, and **24** is a vertical rod **43** to which are secured the horizontal bars **44** which extend into the vertical bars **45**, the character **46** indicating a torsion spring adapted to normally maintain the bars **45** in the position shown in FIGURE 2.

The character **47** indicates a further hollow pipe to which is attached at **48** the further spring **49** which is attached at **50** to the member **51**, the character **52** indicating further threaded openings with which the wing nut **53** is engaged, and the character **54** indicates a pair of vertically spaced flanges attached to the member **51**, and passing through the flanges **54** are the horizontally spaced bolts **55**.

Attached to the post **47** is the upper collar or bracket **56** which includes the extending portion **57** which includes the indented opening at **58** for the reception of the latch member **59** which passes within the slot **60** in the other member **26**, the member **59** being secured as at **61** to the rod **62** which is adapted to reciprocate as at **63** within the member **64**, and the character **65** indicates a helical compression spring which receives the rod **62**, the character **66** indicating a washer secured as at **69** to the rod **62**, and attached at **67** to the rod **62** is a cable **68**, which is secured as at **69***a* to the upper bar **44**.

The cable **68** includes an open slot portion at **70**, the character **71** indicating a manually operated rod which is attached to the bar **62**.

The gate operates in the following manner.

The driver of the vehicle will drive directly at the bar **45**, and from either side when approaching the gate. This will cause the rod **43** to pivot which will draw the cable **68** and will cause the latch member **59** to be pulled out of the member **57**, and as the driver continues the gate will be forced to the horizontal position as shown in FIGURE 7, it being understood that the gate can be made of any type of rigid construction to withstand the pressure or weight of the vehicle. During the downward travel of the gate, the cable **16** will pull on the spring **18**, and as soon as the vehicle leaves the gate, the tendency will be for this spring to return the gate to its normal vertical position. However it is essential that the gate return slowly so as not to cause a rapid and possibly harmful action, and in this case the oil within the cylinder **35** will be forced through the small opening **40** thereby providing a dash-pot principle, and the slow emission of the oil will cause the gate to travel backwardly to its vertical position at a relatively slow rate, and the latch **59** will travel over either sloping surface **72** until it is re-engaged within the slot **58** and thereby again held in fixed position.

It will be noted that the bars **45** will operate the rod **43** from either side, and it will be further noted that the cable **16** can operate from either side, it being noted from FIGURE 6 that the pulley **15** will swing or rotate with the cut out portion at **20** permitting the action at either side.

The springs **31** and **49** provide an important function in that they keep the lower member **24** off of the ground surface and in a slightly suspended relation whereby this lower member will be protected from mud, ice, etc., and the wing nuts **23** can be placed in any of the openings **22** to adjustably fix the lower end of the arrangement as de-

sired. In referring again to the dash-pot it will be noted that the flap valve **39** will freely open during the downward swing of the gate, the larger opening **38** permitting a rapid action.

In the event that it is desired to swing the gate about the post **10** in the ordinary fashion, the member **71** is pushed manually toward the left which disengages the latch member **59** and the gate can then be opened by hand. When the gate is swung in this manner around the pipe **10**, either one of the bolts **55** can be removed to allow the gate to swing in either direction.

The slot at **70** allows a stronger spring **46** to be used for the proper action, and yet allows the manual operation at **71** without requiring undue pressure or strength against the spring **46**.

The cable **68** could be replaced by a rod if desired and it should be specifically understood that other modifications could be made without departing from the essential spirit of my invention, and it will now be noted that I have provided the advantages mentioned in the objects of my invention with further advantages being apparent.

Some changes may be made in the construction and arrangement of the parts of my invention without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claim any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim as my invention:

A farm gate comprising a pair of laterally spaced posts, a gate member secured between said posts, said gate member being adapted to rotate about a lower horizontal axis, spring means for returning said gate to vertical position after being rotated on said axis, a latch member secured to said gate, a latch socket attached to one of said posts, means for releasing said latch member from said socket incidental upon movement of a vehicle against said gate, said means including a framework, means for pivoting said framework to said gate member on a normally vertical axis, means attached between said framework and said latch member for operating said latch member, said spring means including a spring received in and having one end secured to one of said posts, a pulley attached to said post, a cable passing over said pulley and being attached to said spring and said gate member, said pulley being rotatable about a vertical axis whereby said spring will operate to close said gate to vertical position, from either side thereof, brackets receiving said posts upon which said gate member is mounted, said brackets being slidably secured to said posts between an upper and a lower position, further springs attached between said posts and said brackets for resiliently holding said brackets in said upper position, a dash-pot member pivotally attached to one of said brackets and to said gate member to provide a slow return of said gate to vertical position, one of said brackets being rotatable about the vertical axis of the post upon which it is mounted so as to provide swinging of said gate about said post, and means for releasing the lower end of said gate from the other of said brackets.

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