Oct. 13, 1931. J. W. STREET 1,827,173

GATE

Filed Jan. 28, 1930 2 Sheets-Sheet 1

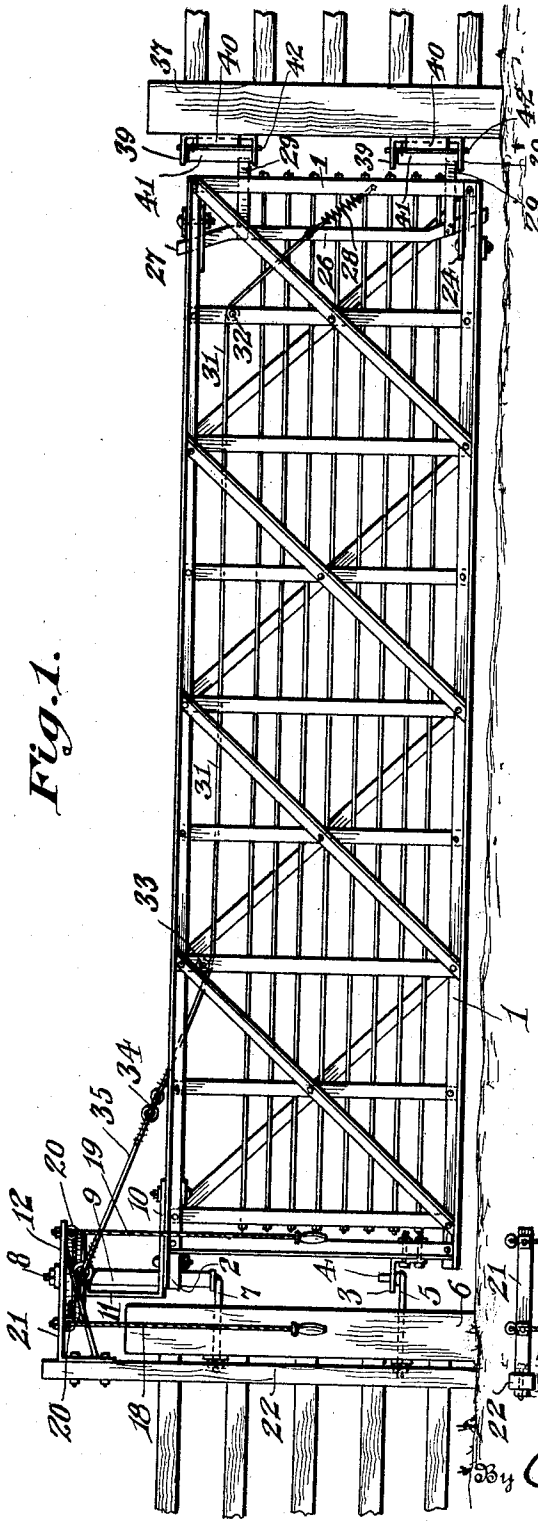


Fig. 1.

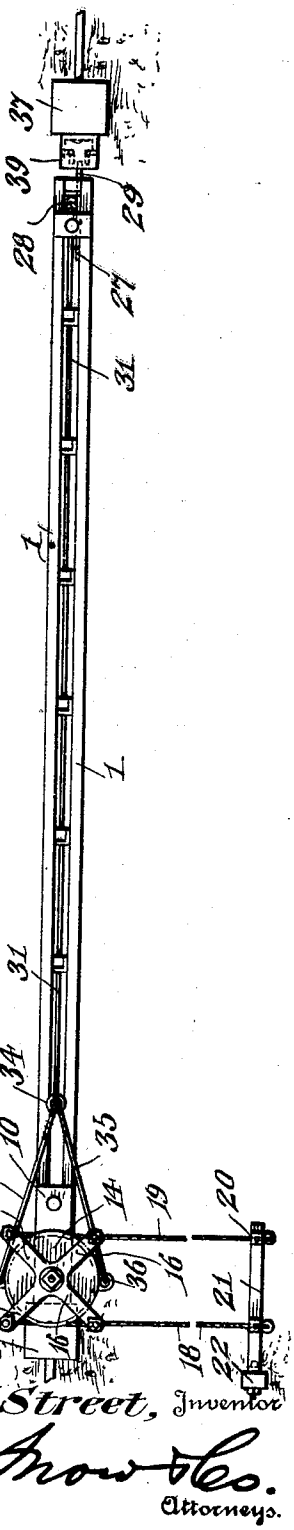


Fig. 2.

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GATE

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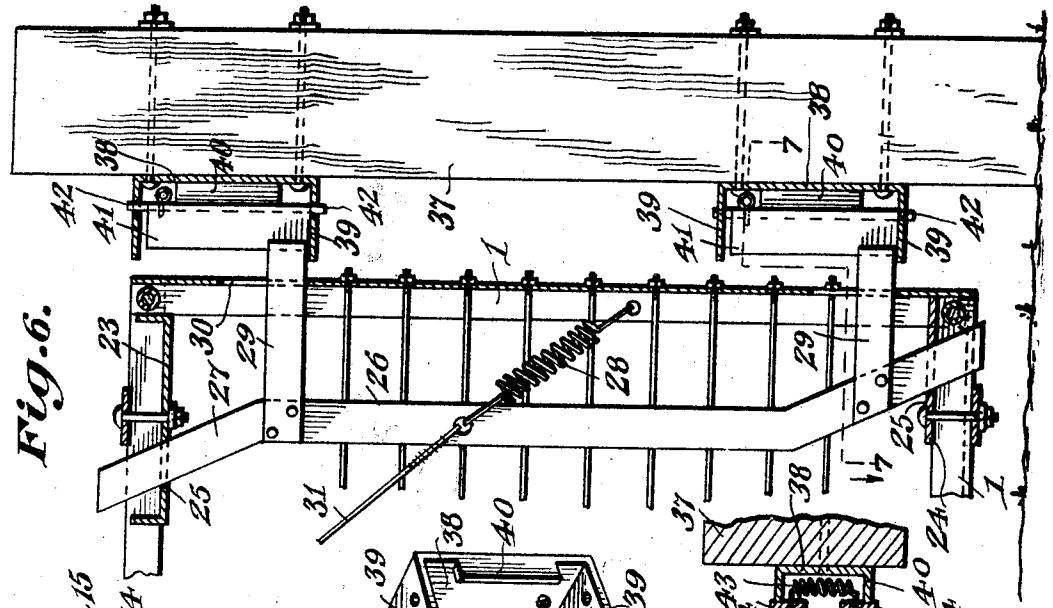


Fig. 6.

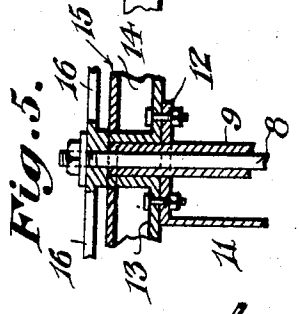


Fig. 5.

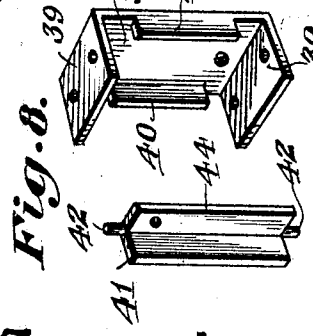


Fig. 8.

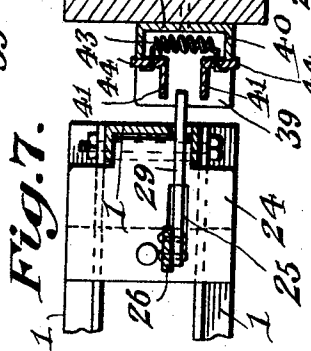


Fig. 7.

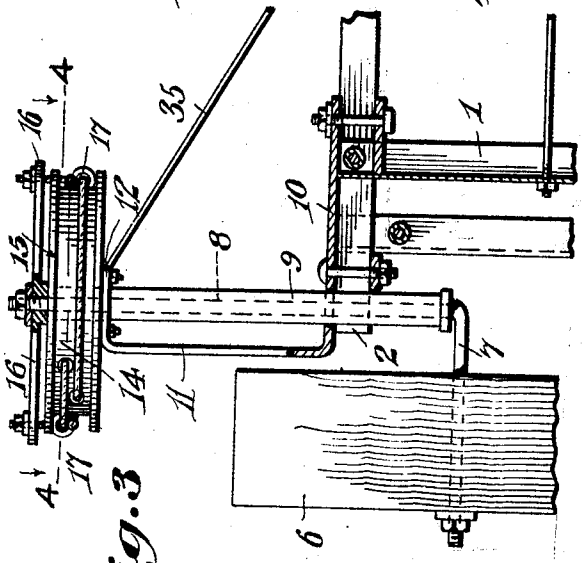


Fig. 3

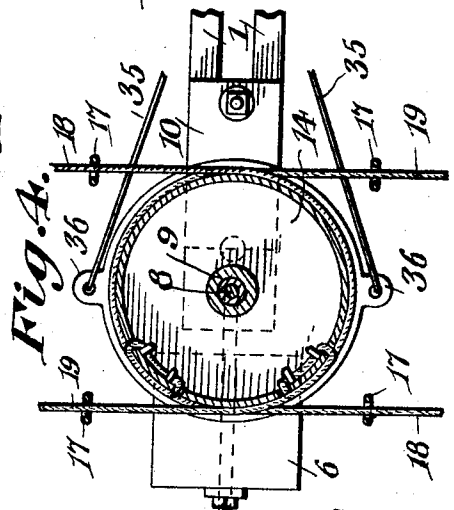


Fig. 4.

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Patented Oct. 13, 1931 1,827,173

UNITED STATES PATENT OFFICE

JOHN W. STREET, OF LITCHFIELD, ILLINOIS, ASSIGNOR TO STREET GATE CO., OF LITCHFIELD, ILLINOIS

GATE

Application filed January 28, 1930. Serial No. 424,004.

This invention relates to a gate. One of its objects is to provide simple and efficient means whereby the gate can be unlocked and swung open in either direction by a person approaching it from either side in a vehicle.

Another object is to provide the gate with a latch which cannot be lifted by live stock and which will operate with equal efficiency whether the gate be closed from one side or the other.

A further object is to provide operating mechanism formed of few parts, which will not easily get out of order, and will operate efficiently under all conditions.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings,

Figure 1 is a front elevation of the gate in its closed position.

Figure 2 is a top plan view thereof.

Figure 3 is an enlarged view partly in elevation and partly in section showing the upper portion of the hinge end of the gate and the parts associated therewith.

Figure 4 is a section on line 4—4, Figure 3.

Figure 5 is a vertical section through the central portion of the gate actuating mechanism supported above the hinge end of the gate.

Figure 6 is a vertical section through the latch end of the gate and the keepers cooperating therewith.

Figure 7 is a section on line 7—7, Figure 6.

Figure 8 is a perspective view of the members of one of the keepers, the same being shown separated.

Referring to the figures by characters of reference, 1 designates a gate of any preferred rigid construction provided at one end with an extension 2 at the top thereof and a lower bracket 3. The bracket is adapted to fit on a pintle 4 extending upwardly from an arm 5 which is secured to and extends from a post 6.

Another arm 7 is extended from the upper portion of the post and merges into an elongated pintle 8 on which a sleeve 9 is mounted. This sleeve is extended through a plate 10 which is secured on the extension 2, there being an upwardly extending arm 11 on the plate which merges into an upper plate 12 through which the sleeve 9 extends.

To the plate 12 is bolted a disk 13 on which is rotatably mounted a drum 14 which, as shown, has an annular groove or depression 15. Radial arms 16 are fixedly secured to the upper end of the pintle 8 and each arm has a guide 17, preferably in the form of an eye, depending therefrom.

Secured to the grooved periphery of the drum are pairs of actuating ropes 18 and 19. The ropes of one pair are extended through the guides 17 and thence through suitable guides 20 arranged in pairs. These guides 20 are carried by arms 21 extending laterally from post 22 located beyond opposite sides of the post 6. As each rope 18 is wrapped about drum 14 in a direction opposite to the rope 19 paired therewith, it will be apparent that by pulling on rope 18 at one side of the gate the gate will be rotated away from the operator, while by pulling on the rope 19 the gate will be swung toward the operator. This action is due to the fact that drum 14 to which the ropes are attached is fixedly connected to plate 12 which, in turn, is fixedly attached to the gate.

Secured to the latch end of the gate at the top and bottom thereof are guide plates 23 and 24 each of which has a slot 25. A latch bar 26 is extended upwardly within the gate close to the latch end thereof and has its upper and lower ends inclined in opposite directions as indicated at 27 so as to slide within the respective slots 25.

A spring 28 connects the bar 26 to the adjacent end of the gate and constantly exerts a downward pull on the bar which, by reason of the inclined end 27 engaging in the slot 25, will cause the bar to move downward-

ly toward the end of the gate. Tongues 29 are secured to the upper and lower portions of the bar and extend through slots 30 formed in the end of the gate. These slots serve to guide the tongues which are free to move upwardly and downwardly and inwardly and outwardly relative to the gate.

An actuating cable 31 is attached to the bar 26 and is inclined upwardly therefrom to a guide sheave 32 or the like carried by the gate and thence rearwardly within the gate to another guide sheave 33 from which it is extended upwardly to a point 34 where it is connected to upwardly diverging flexible members 35. These are attached to ears 36 extending in opposite directions from the lower portion of the drum at diametrically opposed points as shown particularly in Figure 4.

Each of the tongues 29 is provided with a keeper of novel construction. These keepers are adapted to be mounted on a latch post 37. Each keeper includes a base plate 38 having upper and lower extensions 39 and side flanges 40.

Pivotally mounted between the extensions 39 at the respective sides of the keeper base 38 are movable keeper members 41 each of which is angular in cross section and has pintles 42 extending from the ends of the angle portions and journaled in the extensions 39. Spring 43 is interposed between the flanges 40 and has its ends attached to the outwardly extending flanges 44 of the movable keeper members so as to hold them normally pressed yieldingly against the stop flanges 40 as shown in Figure 7. Thus the movable keeper members are held normally extended in the path of the adjacent tongue 29 so that when the tongue is extended between members 41 as shown in Figure 7 it will be held against the free movement necessary to permit the gate to swing open.

As heretofore pointed out when either of the ropes 18 is pulled the drum 14 will be caused to rotate so as to swing the gate toward the operator. Before the swinging action begins, however, the drum will be rotated a short distance on the pintle 8, this movement being sufficient to pull through one of the connections 35 upon the cable 31 so as thereby to pull upwardly and backwardly on bar 26 and cause the tongues 29 to be withdrawn from between the movable keeper members. Immediately following the withdrawal of these tongues the gate will begin to swing open. When it is desired to close the gate the operator pulls on either of the ropes 19 whereupon the gate will be swung in the opposite direction. After the gate starts to move with sufficient momentum to carry it to closed position, the rope is released and spring 28 will move the tongues 39 to their normal or extended positions so that they will strike against the near members 41 and cause them to swing backwardly to allow the tongues to pass. The tongues will thus come against the opposed or far members 41 and be stopped. By that time the moved members will have been returned by spring 38 to their normal positions so that the tongues will be held between the movable keeper members and the gate secured in closed position.

What is claimed is:

The combination with a gate having an extension, of a pintle, a sleeve on the pintle, fixedly connected superposed plates secured on the extension, said pintle and sleeve being positioned within the extension and plates, a disk mounted on the sleeve and secured fixedly to the upper plate, a drum mounted for rotation on the disk, flexible latch operating connections between diametrically opposed portions of the drum and the gate, a fixed structure mounted on the pintle and clamped against the sleeve, guides carried by said structure, and flexible operating devices extending through the respective guides and partly around and secured to the drum, said latch operating connections constituting means for transmitting motion from the drum to the gate.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

JOHN W. STREET.