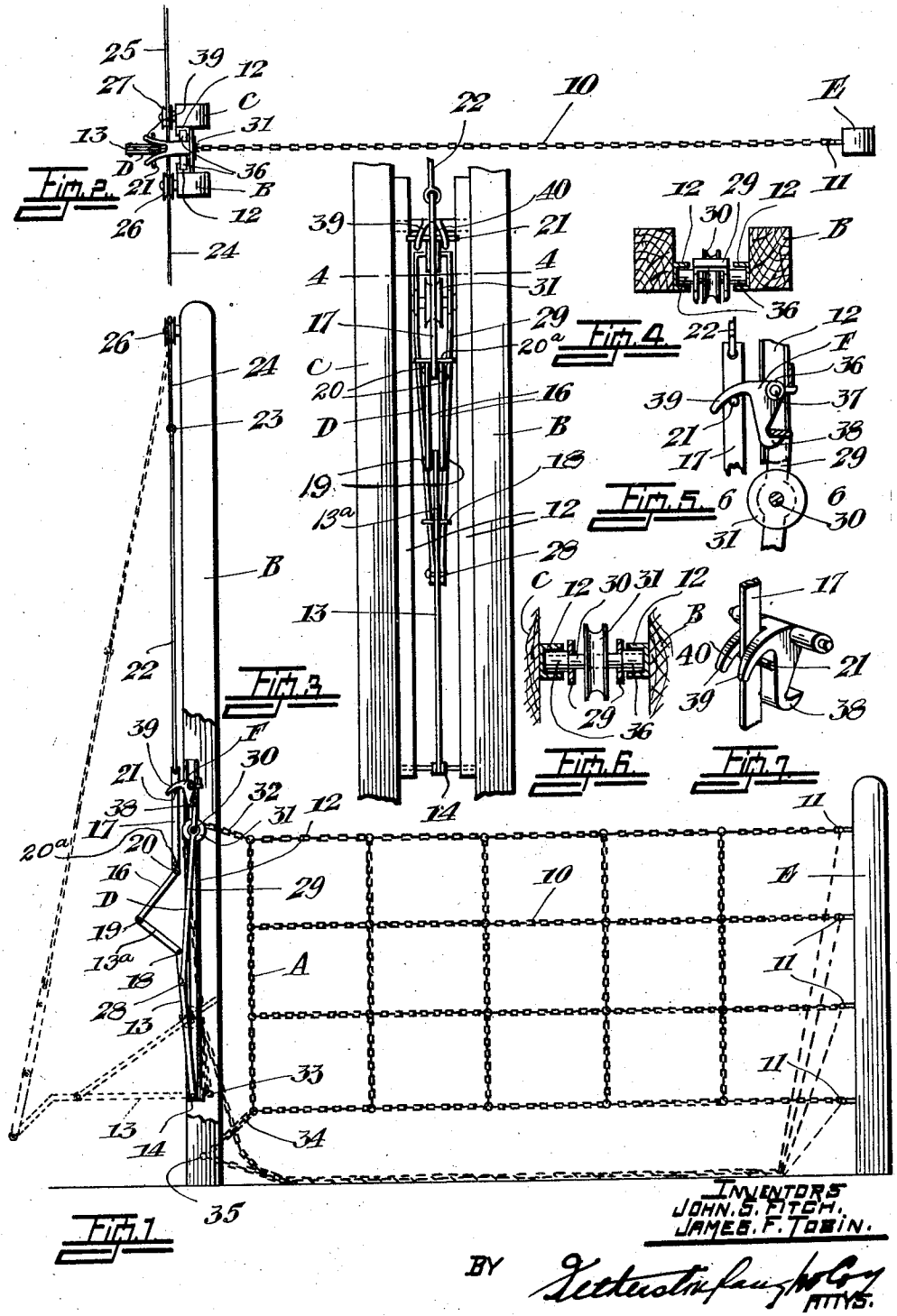
Sept. 20, 1927. 1,642,875

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GATE

Filed June 15, 1925



Patented Sept. 20, 1927. 1,642,875

UNITED STATES PATENT OFFICE.

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GATE.

Application filed June 15, 1925, Serial No. 37,282, and in Canada June 8, 1925.

This invention relates to improvements in gates, particularly collapsible gates, which may be operated from the seat of a vehicle avoiding the necessity of dismounting therefrom.

Further objects are to provide a gate of simple and durable construction and easily operable.

With this and other objects in view, the invention consists essentially of the combination and arrangement of parts hereinafter more fully described in the accompanying specification and drawings, in which:

Figure 1 is a side elevation of my improved gate, the dotted lines indicating the gate in the collapsed position;

Figure 2 is a plan view of Figure 1;

Figure 3 is an end elevation looking from the outside of the gate-operating mechanism;

Figure 4 is a section on the line 4—4 of Figure 3;

Figure 5 is a fragmentary elevation partly in section showing the sheave, trip and lock mechanism;

Figure 6 is a section on the line 6—6 of Figure 5, and

Figure 7 is a perspective view of the trip and lock mechanism.

Referring now to the drawings, A indicates the gate as a whole and comprises principally posts B and C adjacent one another with the gate-operating mechanism D mounted therebetween. E indicates a single post placed at a suitable distance from the posts B and C and connected thereto by the gate-forming chain 10, the ends 11 of which are connected in any well-known manner to the post E. Mounted on the inside of the posts B and C are U-shaped guideways or channel members 12 in which the gate-operating mechanism D is adapted to travel. This mechanism comprises an arm 13 pivotally mounted at 14. Secured to and extending from the upper extremity of the member 13 are the links 16 and 17 pivotally mounted at 19 and 20 respectively, the link 17 being provided with a latch-operating pin or the like 21 and is connected to a rod 22 to which in turn is connected at 23 cables 24 and 25. The cables 24 and 25 are adapted to extend over the pulleys 26 and 27 suitably mounted adjacent the top of the posts B and C and extend from the posts a suitable distance, where they may be conveniently operated. The member 13 is suitably bent at 13^a and is provided with a pin 18, another pin 20^a being provided on the link 17, both pins being designed to limit the closing movement of the members 13 and 17.

Pivotally mounted on the arm 13 at 28 is an inverted U-shaped member 29 in which is supported by the shaft 30 a sheave or grooved roller 31. The upper or lead chain 32, here shown as an extension of the gate 10, may be separate therefrom and secured thereto in any suitable manner. This lead chain is designed to travel over the grooved pulley 31 and to be suitably anchored at its loose end to the gate post B as at 33. It will also be noted that the pulley for the lead chain is arranged adjacent thereto and preferably thereabove so that the lead chain will be at an angle to the top of the gate. This construction, comprising the lead chain for the top of the gate adapted to travel over a movable pulley adjacent to and above the gate and to be anchored securely at its loose end, is an essential and important feature of our invention. The shaft 30 of the sheave 31 is provided with rollers 36 adapted on the operation of the gate mechanism to travel up and down in the guideways 12.

Directly above the roller 31, as particularly illustrated in Figure 5, is mounted between the posts B and C the shaft 37. On this shaft is the trip and lock mechanism F. The lock member F is provided with a lip or extension 38 which is designed to engage with the upper extremity of the inverted U-shaped member 29. Extending rearwardly and sloping downwardly from the body portion of the lock are the engaging hooks 39. As illustrated in Figure 1, these are adapted to form a substantially V-shaped slot 40 which permits the upward or downward operation of the member 17 therebetween.

In operation, by a pull on either cable 24 or 25 the pin 21 engaging the hook members 39 will cause the lip 38 to become disengaged from the member 29. The cable is then released and the gate 10 will by its own weight drop to the ground, as indicated by dotted lines in Figure 1, the sheave 31 travelling downwardly in the guideways 12 permitting the chain gate 10 to assume that position. After a vehicle has passed over the gate on the ground, the other cable is then pulled causing the gate-operating mechanism D to be raised, the lip 38 engaging the U-shaped member 29 and retaining it in that position. It should be noted here that as the mechanism for operating the gate is

being raised, the pin 21 does not engage the hook members 39. After the lock F has engaged the member 29 and the pull has been released on the cable, the link 17 which has in the operative pull been allowed to pass freely over these engaging members, will drop into normal releasing position as indicated in Figures 1 and 5; the gate is then closed and in a position to be operated further.

As many changes could be made in the above construction and many apparently widely different embodiments of our invention, within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted as illustrative and not in a limiting sense.

What we claim as our invention is:—

1. The combination with a gate and flexible means for anchoring said gate, of means for operating the gate, comprising posts formed with guideways, an arm pivotally supported between said posts, an operating rod, a pivotally mounted link provided with engaging means and pivotally connecting the operating rod with said arm, an inverted U-shaped member pivotally mounted on the arm, a sheave in said member and rollers carried by the member adapted to engage with the aforementioned guideways, a pivotally mounted combined trip and locking member adapted at one end to engage with the U-shaped member and adapted at the opposite end to engage and disengage with the engaging means on said link whereby, on the operating rod being moved the combined trip and locking member is disengaged to permit the gate to open.

2. In a device of the character described, the combination with a collapsible gate and flexible means for anchoring the gate, of standards, a pivotally mounted arm carried by said standards, an operating rod provided with engaging means and connected to said arm, a pulley carrying member adapted to engage with the gate and swingingly mounted on said arm, a combined trip and locking member pivotally mounted adjacent the pulley carrying member and adapted to engage with the operating rod and with said member to retain the pulley carrying member in locked position and whereby on the operating rod being pulled the trip member is disengaged from the pulley carrying member to swing outwardly and downwardly to slacken the tension on the gate and whereby, on the operating rod being again pulled to close the gate, the trip member automatically reengages with the pulley carrying member to retain the gate in closed position.

3. In a device of the character described, a combined trip and locking member comprising in combination with supports, a trip member pivotally mounted on said supports formed with a lip at one end and engaging means at the other end, a vertically extending operating rod provided with a pin to engage with the trip member, a swingingly mounted pulley carrying member adapted to detachably engage with the trip member whereby, on the operating rod being pulled, the pulley carrying member is automatically disengaged and whereby, on the operating rod being again pulled, the pulley carrying member automatically engages with the trip and the locking member.

4. In a device of the character described, the combination, with a gate of collapsible material, of means for causing the gate to assume a built up position and a collapsed position, respectively, comprising supporting posts, a cable-operated lever pivotally connected to said posts, collapsible link members pivotally connected to one another and pivotally connecting the cable with said lever and means pivotally carried by said lever adapted to operatively engage with said gate and means for locking said gate engaging means in a raised position and means for unlocking the gate engaging means.

5. In a gate of flexible material, a lead member of flexible material secured at one end to the top of the gate and anchored at the other end contiguous to the bottom of the gate, a movable pulley intermediate of the gate top and the anchoring point of the lead member for the latter to travel over.

6. In a gate of flexible material, a lead member of flexible material secured at one end to the top of the gate and anchored at the other end contiguous to the bottom of the gate, a movable pulley intermediate of the gate top and the anchoring point of the lead member for the latter to travel over, and mechanism operable from a distance for moving the pulley to close the gate and to open the gate by permitting it to collapse.

7. In a device of the character described, a gate of flexible material, and means for opening and closing the gate comprising a pulley, a lead member of flexible material connected to the top of the gate and adapted to travel over said pulley, said lead being anchored adjacent the bottom of the gate, and mechanism for moving the pulley whereby, on the mechanism being operated, the lead is tensioned to close the gate and whereby, on the mechanism being released, the lead is automatically slackened to open the gate.

8. In a collapsible gate of the character described, the combination with a movable pulley, of a flexible lead connected at one end to the gate and suitably anchored at the other end and adapted intermediate its ends to travel over said pulley.

9. In a device of the character described,

the combination with a gate having a lead of flexible material attached thereto and adapted to be anchored at its loose end and a pulley intermediate of both ends for the flexible member to travel over, and lever mechanism supporting the pulley and adapted to be operated to move the pulley to tighten and automatically slacken the flexible member whereby the gate is closed or opened.

In witness whereof we have hereunto set our hands.

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