

No. 686,242.

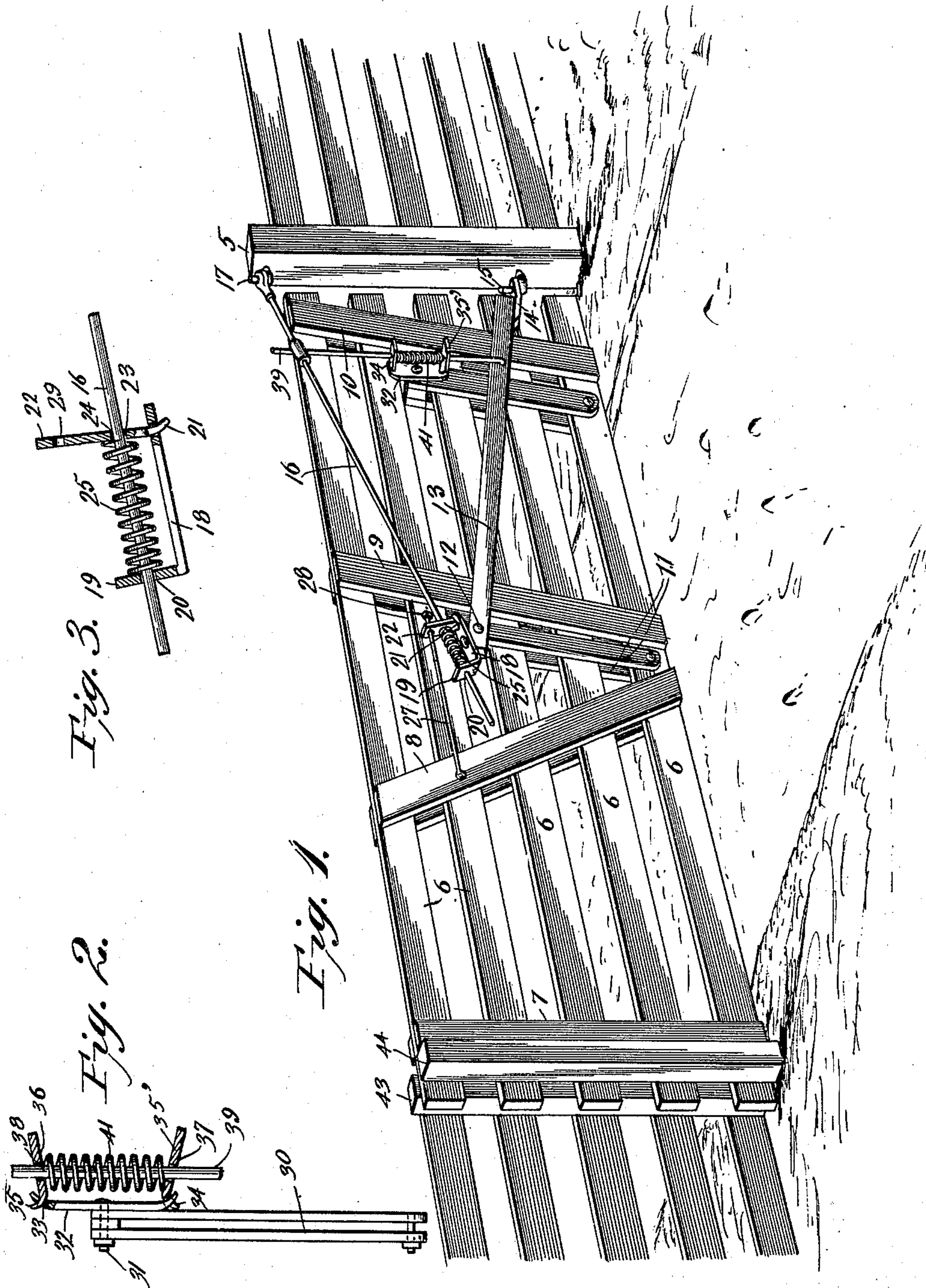
Patented Nov. 12, 1901.

T. J. ALSOP.

GATE.

(Application filed Nov. 26, 1900.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS J. ALSOP, OF BROOKLYN, WISCONSIN.

GATE.

SPECIFICATION forming part of Letters Patent No. 686,242, dated November 12, 1901.

Application filed November 26, 1900. Serial No. 37,831. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. ALSOP, a citizen of the United States, residing at Brooklyn, in the county of Green and State of Wisconsin, have invented a new and useful Gate, of which the following is a specification.

This invention relates to gates in general, and more particularly to farm-gates; and the object of the invention is to provide a device of this nature wherein the gate may be raised bodily and supported at different elevations to permit it to swing over such obstructions as snow and ice and may be then lowered to its normal position after the obstruction has been removed, a further object being to provide means for tilting the gate to compensate for sagging, further objects and advantages of the invention being evident from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view showing the complete gate in closed position. Fig. 2 is an elevation showing one of the clutches for holding the gate in adjusted position. Fig. 3 is a view, partly in section and partly in elevation, showing the second clutch for holding the gate at different elevations.

Referring now to the drawings, 5 represents a gate-post from which the gate is swung. The gate comprises rails 6, which are connected near their forward ends by uprights 7 and are further connected by uprights 8, 9, and 10, disposed in pairs, the elements of each pair lying on opposite sides of the gate.

Pivoted at their lower ends to the lower rail of the gate and lying on opposite sides thereof between the pairs of uprights 8 and 9 are suspending-links 11, which are mutually connected near their upper ends by a pivot-bolt 12, passed between two of the rails of the gate, and with this pivot-bolt is connected the upper end of a supporting-arm 13, which slants downwardly and rearwardly and has a hinge-plate 14 connected to its rear end and engaged with a pintle 15 upon the gate-post. This hinge connection of the arm with the post permits of both lateral and vertical swinging movement of the arm. This arm 13 is held from downward swinging movement at its outer or free end by means of a tie-rod

16, the upper rear end of which is pivotally engaged with a pintle 17 near the upper end of the gate-post, while its lower forward end is slidably engaged with a clutch mounted on the forward end of the arm 13. The clutch in question consists of a plate 18, which is directly connected with the end of the supporting-arm and the end of which in the direction of the free end of the gate is turned upwardly, as shown at 19, and is perforated, as shown at 20. A perforation is formed at the opposite end of the plate 18, and in this perforation is engaged the hook 21 at the lower end of a clutch-plate 22, having also a perforation which aligns with the perforation 20, and through these aligning perforations is passed the tie-rod 16. The perforation 23 through the plate 22 is formed at a right angle to the surface of the plate and results in the formation of a biting edge 24, which acts to engage the tie-rod when the clutch-plate is in position to diverge from the upturned end of plate 18. When the plate 22 is moved in the direction of said upturned end, the rod may slide freely through its perforation. To hold the clutch-plate yieldably in engaging position, a helical spring 25 is disposed upon the tie-rod and rests with its ends against the clutch-plate and the upturned end of the plate 18, as shown in Fig. 1 of the drawings. This clutch mechanism by engaging the tie-rod prevents downward swinging movement of the supporting-arm, and hence prevents downward swinging movement of the gate. By moving the upper end of the clutch-plate against the tendency of spring 25 the tie-rod is released and the gate may be lowered; but when the gate is to be raised it is only necessary to lift it and the clutch-plate will slide up the tie-rod. When the gate is then released, the spring moves the clutch-plate into operative position, and the weight of the gate causes it to grip the rod.

To provide for releasing the clutch when the gate is to be lowered, a rod 27, having a head 28, is passed through a perforation 29 in the upper end of the plate 22, and the opposite end of the rod is connected to an upright 8. The gate is suspended from the links 11, which permit the gate to be swung forwardly, and if this forward swinging move-

ment be given to the gate the head of the rod 27 will strike against the upper end of the plate 22 and will move it in a direction to release the tie-rod, and the gate will then drop 5
bodily by the downward swinging movement of the outer end of the supporting-arm.

To hold the gate against pivotal movement on its connection with links 11, which would cause it to tilt, a second pair of links 30 are 10
pivoted to opposite sides of the bottom rail of the gate and between the uprights 9 and 10 and on opposite sides of the gate, the upper ends of the links 30 being connected by means of a bolt 31, passed between two of the rails 15
of the gate, and on which bolt is pivoted a plate 32, having perforations 33 in its ends. In the perforations 33 are engaged the hooks 34 and 35 at the ends of two clutch-plates 35' and 36, which plates have alining perfora- 20
tions 37 and 38, through which is passed a rod 39, pivoted at its lower end to the supporting-arm of the gate and slidably mounted at its upper end in a block 40, which is slidably mounted on the tie-rod. The perforations 37 25
and 38 are held to lie normally at an angle to each other by means of a helical spring 41, disposed upon the rod 39 and bearing with its ends against plates 35' and 36, in which positions their edges bite the rod 39 and prevent 30
either upward or downward movement of the rear end of the gate pivotally. When the rear end of the gate is to be adjusted vertically, the free ends of plates 35' and 36 are grasped and moved toward each other to aline their 35
perforations, when the rod 39 is movable freely therethrough.

The operation of the gate is as follows: The gate being closed, it lies with the forward ends of its rails between the two latch-posts 43 and 40
44. The gate is then swung in the direction of the hinge-post upon its suspending-links, which draws the rails from the latch-posts, after which the arm may be swung upwardly, and therewith the forward end of the gate 45
may be raised and the clutch on the supporting-arm will slide up the tie-rod, and when the gate is released said clutch will engage the rod to prevent the gate from swinging downwardly. The gate may be then swung 50
open, or, if required, the plates 35' and 36 may be grasped and moved with their free ends toward each other, disengaging them from the rod 39, and the rear end of the gate may be then raised to move the gate pivotally, so that it will be horizontal, so that the 55
gate is supported bodily in a higher plane than formerly and may be swung open over obstructions. When the gate is to be closed, it is returned to the plane of the posts and is 60
swung longitudinally in the direction of the latch-posts, at which time the head of the releasing-rod 27 engages plate 22 and releases it from the tie-rod, permitting the gate to drop bodily, after which the back clutch may be 65
operated to permit the rear end of the gate to move pivotally downwardly.

It will be understood that in practice vari-

ous modifications of the specific construction shown may be made and that any suitable materials and proportions may be used for 70
the various parts without departing from the spirit of the invention.

What is claimed is—

1. The combination with a hinge-post of an arm hinged thereto for vertical and lateral 75
swinging movement, a gate supported at two points by the arm for movement therewith, and a tie-rod hinged to the post and connected with the arm adjustably to hold the arm and therewith the gate at different points of their 80
vertical movement.

2. The combination with a post or support, of an arm hinged to the post or support and capable of swinging vertically and horizontally, a gate pivotally connected with the free 85
end of the arm and capable of a vertical swinging movement to raise or lower either end, a tie-rod pivoted to the post or support, and a clutch mounted on the arm and engaging the tie-rod, substantially as and for the 90
purpose described.

3. The combination with a gate-post, of a supporting-arm pivoted thereto for lateral and vertical swinging movement, a gate pivotally connected with the free end of the arm 95
and supported by the same, said gate being movable upon the arm during both its vertical and lateral swinging movements, means for holding the arm and gate at different points of their vertical swinging movement, and separate 100
means for holding the gate at different points of its pivotal movement upon the arm.

4. The combination with a gate-post, of a supporting-arm pivoted thereto for vertical and lateral swinging movement, a gate con- 105
nected with the free end of the arm, said gate being movable with the arm in both the vertical and lateral swinging movements of the arm, a tie-rod connected with the post, a clutch carried by the arm for engagement 110
with the tie-rod to hold the arm and therewith the gate at different points of its vertical swinging movement, a rod carried by the arm, and a clutch carried by the gate for engagement with the rod to hold the gate at 115
different angles.

5. The combination with a pivoted supporting-arm adapted for vertical and lateral swinging movement, of a gate connected at the free end of the arm for swinging there- 120
with in a vertical plane, means for holding the arm at different elevations, and means operable by a swinging movement of the gate for releasing the holding means to permit the arm and therewith the gate to be lowered. 125

6. The combination with a pivoted supporting-arm mounted for vertical and lateral swinging movement, of a gate connected with the free end of the arm for movement there- 130
with, means for holding the gate at different angles with the arm, means for holding the arm with the gate at various points of its vertical swinging movement, and means operable by movement of the gate for releasing

the arm-holding means to permit the gate to be lowered.

7. The combination with a pivoted supporting-arm, of a gate movably connected with the arm, means for holding the arm and gate at various inclinations, and means operable by the movement of the gate with respect to the arm, for releasing the arm-holding means to permit the gate to be lowered.
8. The combination with a pivoted supporting-arm, of a gate connected with the free end thereof for swinging movement, a tie-rod, a post with which the arm and rod are pivotally connected, a clutch mounted upon the arm and including spaced plates pivotally mounted and having alining openings through which the rod is passed, and a helical spring disposed upon the rod and against the adjacent faces of the plates to bind one of them against the rod, and a second rod connected with the gate and slidably

engaged with the clutch-plate of the clutch and having a head for contact with said plate to move it to release the tie-rod when the gate is swung in one direction.

9. The combination of a post or support, an arm hinged thereto and capable of swinging vertically and horizontally, a tie-rod extending from the post or support to the arm and hinged to the former and adjustably connected to the latter, a gate, and means for pivotally suspending the gate from the arm and for adjustably connecting the rear portion of the gate with the same, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS J. ALSOP.

Witnesses:

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C. F. O'BRIEN.