

E. H. KOTILA.
 GATE OPERATING MEANS.
 APPLICATION FILED APR. 8, 1915.

Patented Sept. 28, 1915.
 2 SHEETS—SHEET 1.

1,154,782.

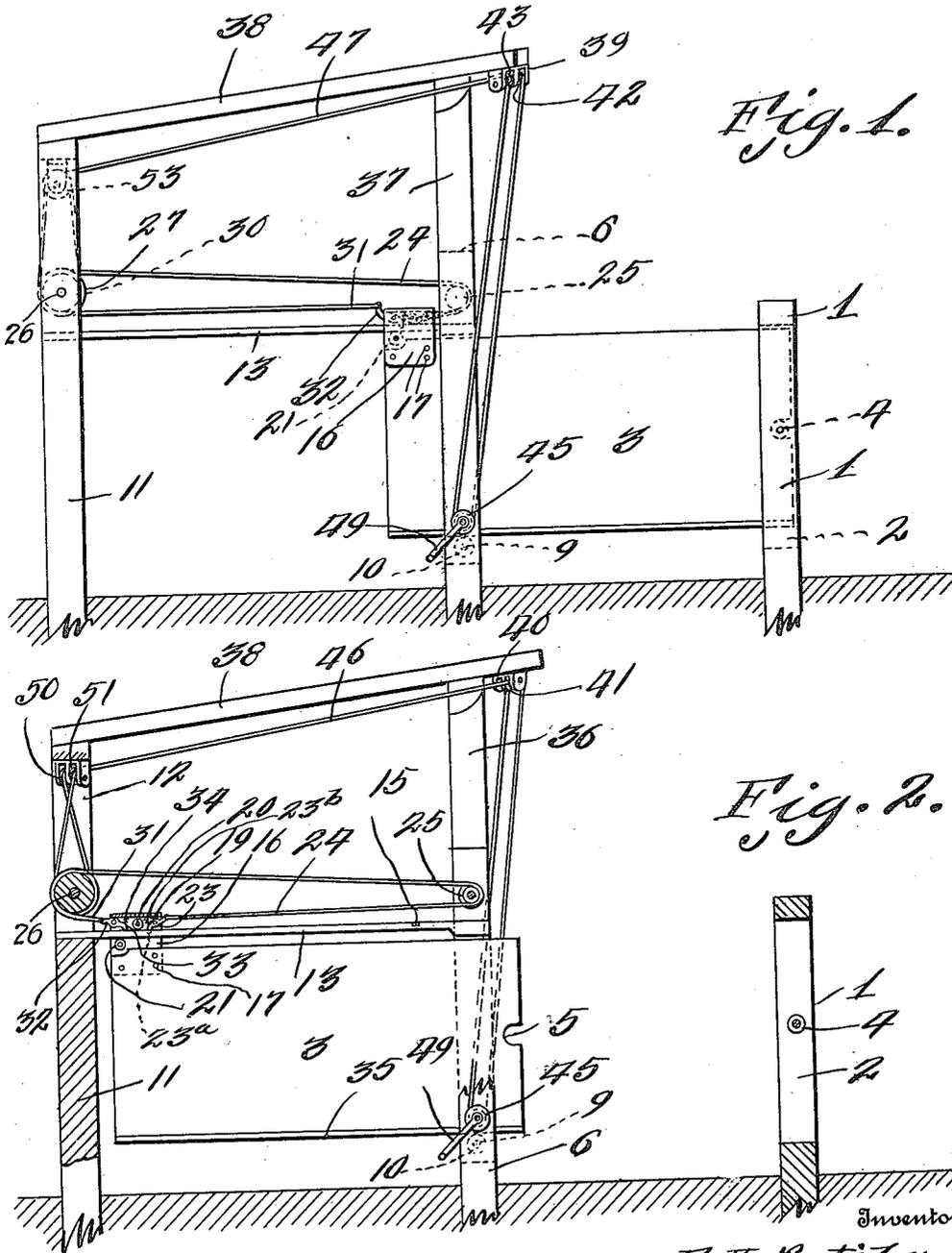


Fig. 1.

Fig. 2.

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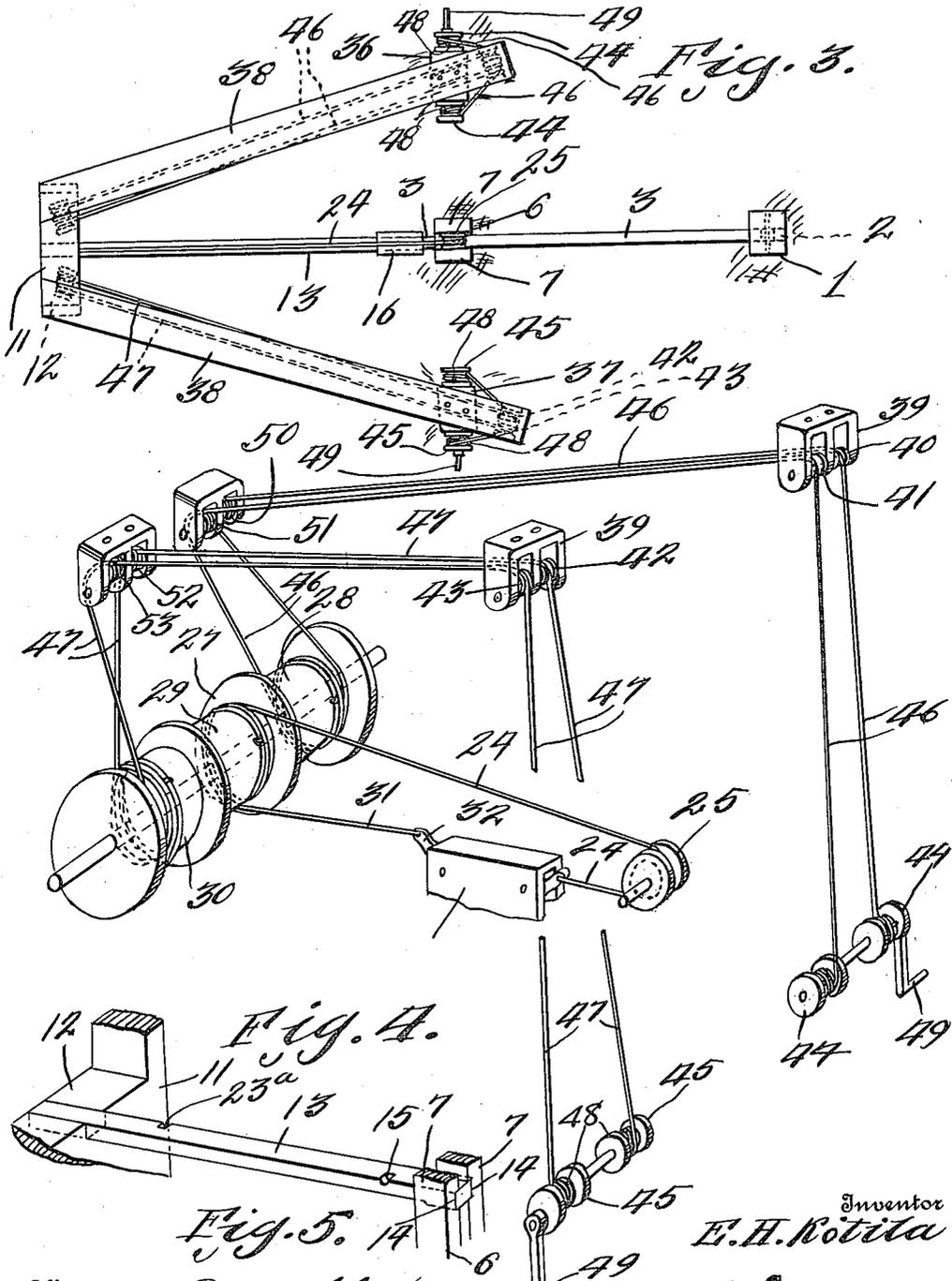
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UNITED STATES PATENT OFFICE.

EDWARD H. KOTILA, OF FREDERICK, SOUTH DAKOTA.

GATE-OPERATING MEANS.

1,154,782.

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To all whom it may concern:

Be it known that I, EDWARD H. KOTILA, a citizen of the United States, residing at Frederick, in the county of Brown and State of South Dakota, have invented a new and useful Gate-Operating Means; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a new and useful farm gate, and an object of the invention is to provide simple, efficient, practical and desirable means including improved features of construction for operating the gate to and from a closed position.

In practical fields the details of construction may necessitate alterations, falling within the scope of what is claimed.

The invention comprises further features and combination of parts, as hereinafter set forth, shown in the drawings and claimed.

In the drawings:—Figure 1 is a view in side elevation, showing the gate closed. Fig. 2 is a view in side elevation and partly in section showing the gate opened. Fig. 3 is a plan view partly in section showing the gate closed. Fig. 4 is a view in skeleton perspective. Fig. 5 is a perspective view of the guide rail connected to its support.

Referring more particularly to the drawings, 1 designates a post having an elongated slot 2, to receive the end of the gate 3, when it is closed, there being a roller 4 mounted in the slot 2 to be engaged by the recess 5 of the gate when closed. Another post 6 having opposite side portions 7 is spaced apart from the post 1, and journaled on a pin 9 of the lower portion of the post 6 between its opposite side portions is a roller 10, on which the gate has bearings, when being opened or closed. A standard 11 is provided and its upper end portion is formed with an enlarged opening 12, and secured in the lower portion of the opening 12 is one end of a guide bar or rail 13, the other end of which is secured in recesses 14 in the side portions 7 of the post 6. The guide rail 13 adjacent the post 6 is provided with a notch 15, the purpose of which will appear later. The gate 3 is of the usual construction, but at one end, a metal housing 16 has its opposite side walls secured at 17 to opposite sides of the gate, and has its upper portion arching over the guide rail or

bar 13. In one end 19 of the arched portion of the housing an antifrictional roller 20 is journaled, to engage the guide rail 13 on its upper surface, and in the other end portion of the arch part of the housing is a roller 21 to engage the under surface of the rail 13, so that the gate will slide easily. Adjacent the end portion 19 of the arch of the housing a spring held dog 23 is pivoted, to which one end of the cable or rope 24 is connected. This rope or cable 24 passes about a grooved pulley 25, journaled between the side portions 7 of the post 6.

Journaled on a pin 26 and in the enlarged opening 12 of the standard 11 is a drum 27 having three grooves 28, 29, and 30, and the cable 24 passes several times about the drum 27 in the groove 29, and is connected to the drum in said groove, in order to prevent slipping of the cable or rope. The other end 31 of the cable or rope 24 is connected to a latch dog 32, which is pivotally mounted in one end of the arched part of said housing, and when the gate is closed, the nose 33 of the dog is forced into the notch 15, by virtue of the spring 34, so as to hold the gate locked when closed.

When the gate is opened as shown in Fig. 2 the dog 23 engages a notch 23^a to hold the gate open, said dog being held in said notch by the action of its spring 23^b. The pulling of the cable 24 in one direction when opening the gate will disconnect the dog 32 from the notch 15, and the pulling of the cable in the opposite direction to close the gate will disconnect the dog 23 from the notch 23^a. The lower edge of the gate is provided with a rail 35 to ride upon the roller 10.

Arranged on opposite sides of the gate and alined with the post 6 are standards 36 and 37, the upper ends of which are connected by the bars 38 to the upper end of the standard 11, thereby forming a rigid structure. The extended ends of the bars 38 have downwardly depending hangers 39, in which pulleys 40 and 41, and 42 and 43 are journaled. The lower portions of the standards 36 and 37 are provided upon their opposite faces with drums 44 and 45, several times about which the opposite end portions of the cables 46 and 47 are wound, and are connected at 48 to the drums. These drums 44 of the standard 36 rotate together, while the drums 45 also rotate together, there being a crank 49 for each set of drums 44 and 45. The cables 46 and 47 pass over the pul-

leys 40 and 41, and 42 and 43, and then over the pulleys 50 and 51, and 52 and 53, which are suspended from the upper portion of the enlarged openings 12 of the standard 11.

5 The cables 46 and 47 are in turn wound about the grooves 28 and 30 in opposite directions, and connected to the drum 27 in said grooves, so that when one set of drums 44 or 45 is rotated in one direction or the

10 other by its crank, the cables 46 and 47 (which are wound about the drums 44 and 45 in opposite directions) will operate or revolve the drum 27, and owing to the cable 24 being also connected to and wound about

15 said drum 27 in the groove 28, the gate will be opened or closed. Therefore, it will be noted that the gate may be opened or closed, either from one side or the other, by rotating either set of drums 44 and 45. Not

20 only is the gate opened and closed by the operation of the drum 27, but the latch dog is operated to disengage from the notch 15, when opening the gate.

The invention having been set forth, what is claimed as new and useful is:—

1. In combination with a sliding gate, a hanger post in which the gate slides, a standard spaced apart from the hanger post and provided with a winding drum and a

30 plurality of pulleys above the drum, a guide rail connecting the standard and the hanger post on which the gate is mounted, a pulley journaled in the hanger post, a cable having its opposite ends connected to the gate,

35 and one portion of the cable passing over the pulley of the hanger post, and the major portion of the cable wound about and

connected to the drum, and means operated from either side of the gate and cooperating with the pulleys on the standard for rotating the drum in one direction or the other, for opening or closing the gate. 40

2. In combination with a sliding gate, a hanger post in which the gate slides, a standard spaced apart from the hanger post and provided with a winding drum and a

45 plurality of pulleys above the drum, a guide rail connecting the standard and the hanger post on which the gate is mounted, a pulley journaled in the hanger post, one end of the

50 gate having a metallic housing having an arch portion adjacent the upper portion of the gate, a loop connected to the arched portion of the housing at one end, a latch dog spring held and being mounted in the other

55 end of the arch of the housing, the guide rail having a notch to receive the latch dog, a cable having one end connected to the loop of the housing and passing over the pulley of the hanger post and having its major

60 portion wound about and connected to the drum, and its other end connected to the latch dog, and means operated from either side of the gate and cooperating with the pulleys of the standard for rotating the

65 drum to thereby first release the latch and then open the gate.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD H. KOTILA.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."