Dec. 19, 1939. J. S. BRETZ 2,184,207

HIGHWAY AND STOCK GATE FOR RAILROADS

Original Filed Dec. 5, 1935 3 Sheets-Sheet 1

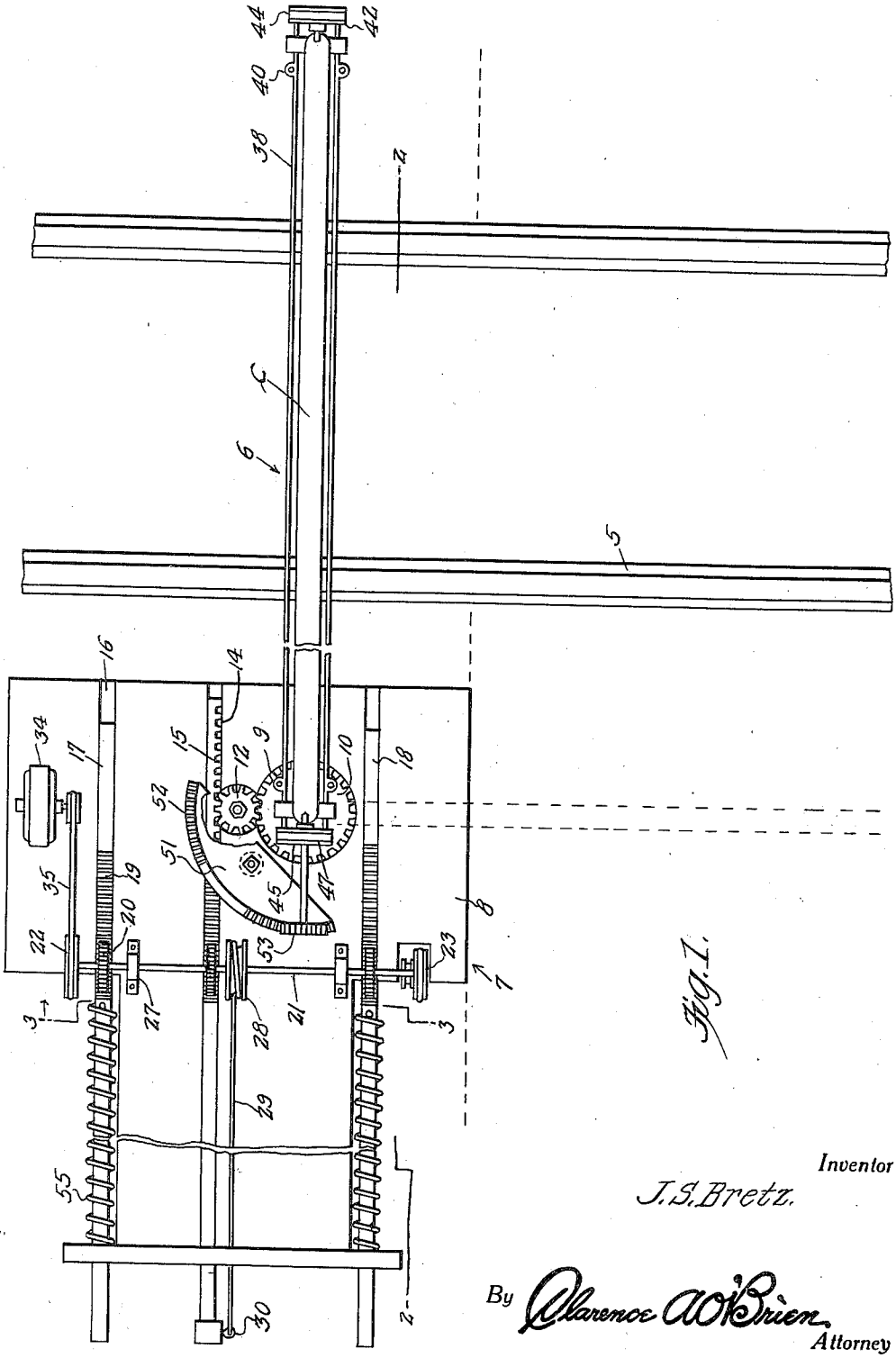

Fig. 1.

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Original Filed Dec. 5, 1935 3 Sheets-Sheet 2

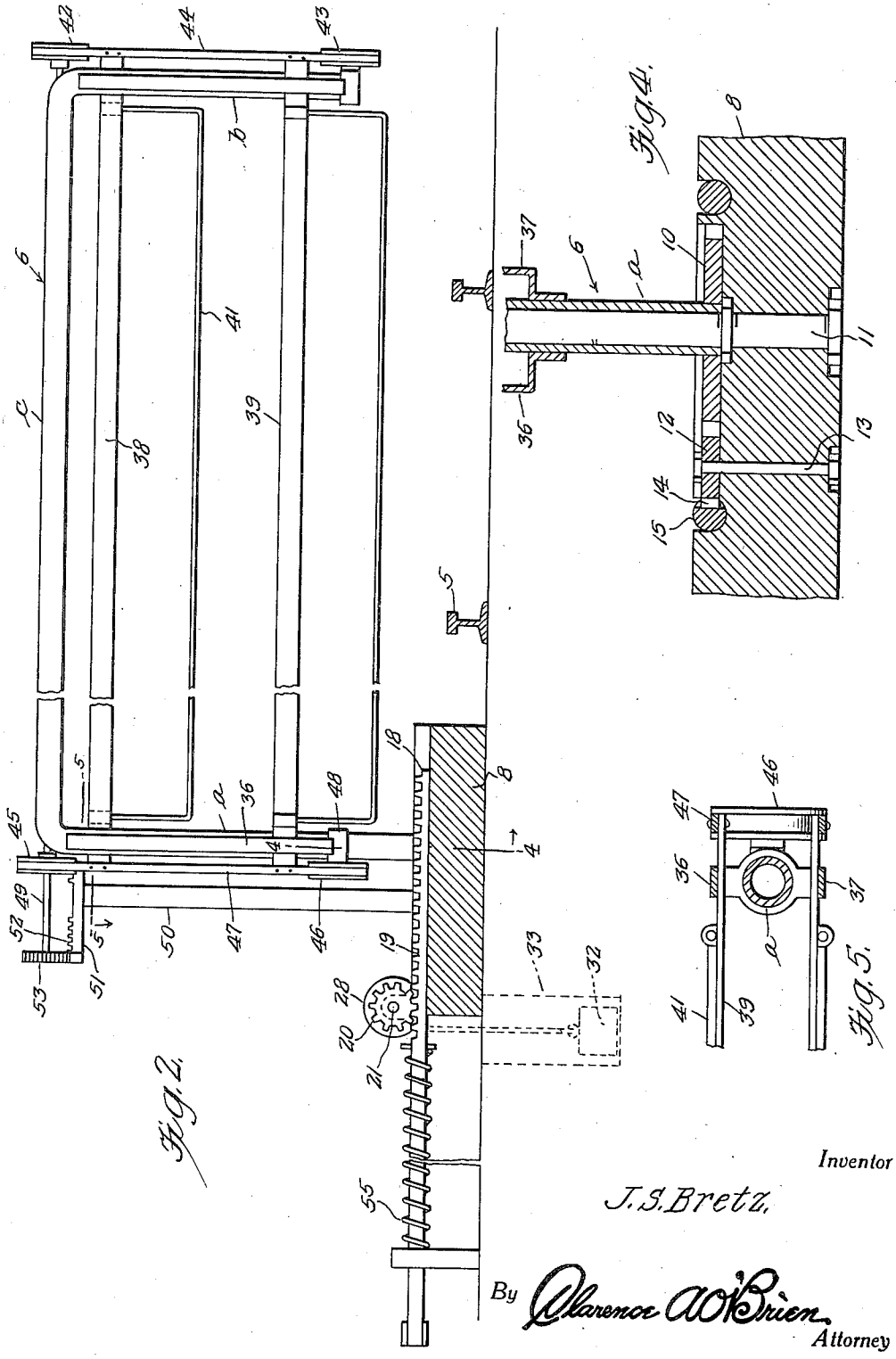

Fig. 2.

Fig. 4.

Fig. 5.

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Original Filed Dec. 5, 1935 3 Sheets-Sheet 3

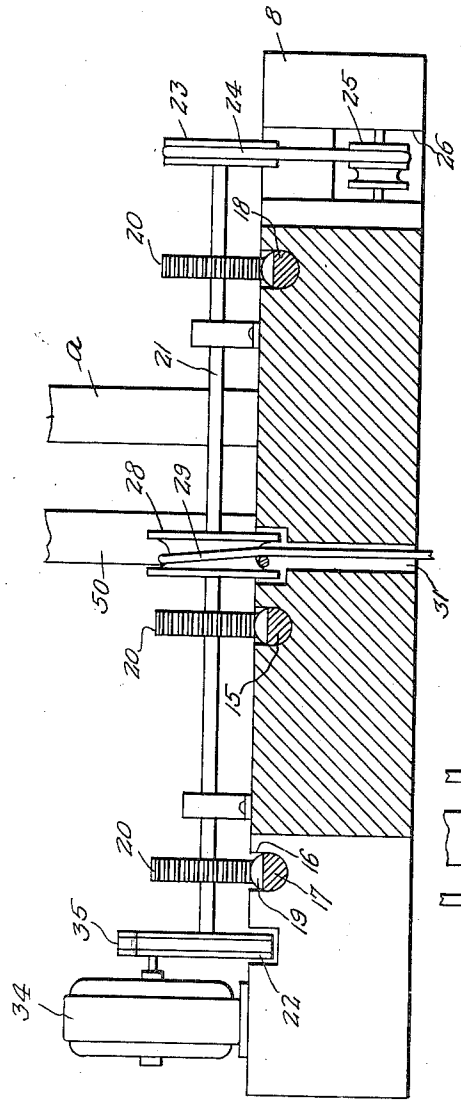

Fig. 3.

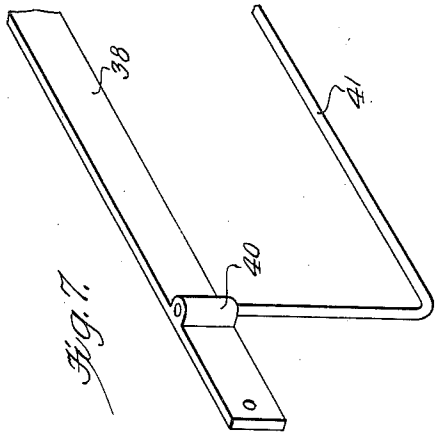

Fig. 7.

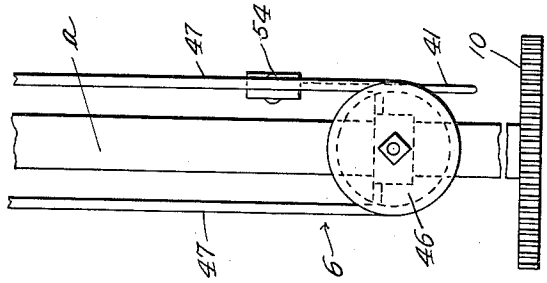

Fig. 6.

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Patented Dec. 19, 1939

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UNITED STATES PATENT OFFICE

2,184,207

HIGHWAY AND STOCK GATE FOR RAILROADS

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Refile of abandoned application Serial No. 53,077, December 5, 1935. This application March 13, 1939, Serial No. 261,585

4 Claims. (Cl. 39—7)

The present application comprises a re-filing of my abandoned application Ser. No. 53,077, filed Dec. 5, 1935.

This invention relates to new and useful improvements in railroad gates and more particularly to a gate having the combined function of a highway gate and a stock gate.

The principal object of the present invention is to provide a railroad gate for location at a highway crossing which when not disposed across a highway will assume a position across the tracks so that cattle cannot trespass along the tracks and embodying means carried by the gate for breaking snow through which the gate can move.

Another important object of the invention is to provide a gate structure of the character stated which will be automatic in operation and not susceptible to the development of ready defects.

These and numerous other important objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings:

Figure 1 represents a top plan view of the gate structure in association with a railroad.

Figure 2 is a vertical sectional view taken substantially on line 2—2 of Figure 1.

Figure 3 is a transverse sectional view taken substantially on the line 3—3 of Figure 1.

Figure 4 is a fragmentary vertical sectional view taken substantially on line 4—4 of Figure 2.

Figure 5 is a fragmentary horizontal sectional view taken substantially on line 5—5 of Figure 2.

Figure 6 is a fragmentary side elevational view of the pivotal end of the gate.

Figure 7 is a fragmentary perspective view of one of the slats.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5—5 represents the rails of a track of a railroad, while numeral 6 generally refers to the gate and numeral 7 generally to the mechanism for operating the gate.

Numeral 8 represents the base of the assembly generally referred to by numeral 7, which is provided with a circular depression 9 in the top surface thereof for receiving the gear wheel 10. A spindle 11 extends upwardly through the base 8 and into the end post *a* of the gate 6, this gate being of inverted U-shape and involving the other end post *b*, these posts being connected by the rail *c*.

The aforementioned gear 10 is keyed to the post *a* as shown in Figure 4 and this gear 10 meshes with the pinion 12 on the small shaft 13 and this pinion 12 in turn meshes with the teeth 14 of the rack bar 15.

Slidable in transverse grooves 16 of the base 8 are the rack bars 17—18 in addition to the aforementioned rack bar 15. The rack bars 17—18 are provided with teeth 19 and the part 15 is also provided wtih teeth 19 and with these teeth 19 engage the three gear wheels 20 on the shaft 21, which shaft at one end is provided with a pulley 22 and at its opposite end with the pulley 23 which is provided with a belt 24 trained over the smaller pulley 25 located in the pocket 26 of the base 8. The shaft 21 is journalled through the bearing 27 and has the pulley 28 thereon around which the cable 29 is wound. One end of this cable connects to the anchor 30 on the outer end of the rack bar 15 while the other end of the cable extends downwardly through the vertical opening 31 in the base 8 to connect to a weight 32 located in the pit 33 on the end of the base 8. The pulley 22 and shaft 21 is driven by the electric motor 34 on the base 8 which is connected to the pulley 22 by the belt 35.

Each of the posts *a*, *b* is provided with a pair of guide members 36 extending vertically thereon to provide guideways 37 within which the end portions of the slats 38—39 are disposed, each of these slats being provided with a transversely extending barrel or socket 40 adjacent each end thereof for receiving the free ends of the U-shaped guard rails 41.

Rotatably mounted on the upper and lower ends of the rail *b* are the pulleys 42—43 respectively over which the belt 44 is trained, while at the upper and lower ends of the post *a* are the pulleys 45 and 46 respectively over which the belt 47 is trained. The lower pulleys 43—46 are rotatably mounted on the corresponding posts as at 48, while the upper pulleys 42 and 45 are keyed to the shaft 49 which for the major portion of its length extends through the connecting rail *c* of the gate 6.

An upright 50 on the base 8 supports eccentrically a semi-circular plate 51 having upstanding teeth 52 at its edge portion with which the gear 53 on the adjacent end of the shaft 49 meshes.

As can be seen in Figure 2, the ends of the slats 38—39 connect to the flights of the belts 44 and 47, as at 54 (see Figure 6).

It can now be seen, that with the motor 34 connected with a track circuit, when a train comes into the block, the motor 34 is energized and this rotates the shaft 21. As the shaft 21 is rotated, the rack bars 17, 15 and 18 are moved

toward the left in Figure 1, the rack bars 17—18 compressing the springs 55 thereon, while the rack bar 15 with its teeth 14 meshing with the gear pinion 12 causes rotation of the gear 10 and consequently the gate 6 which is swung from the position shown in Figure 1 to the dotted line position shown in Figure 1. As the gate swings in this manner, the gear 53 traveling on the teeth of the plate 51 causes rotation of the shaft 49 and actuates the belts 44—47 which in carrying the slats 38 and 39 cause these slats to move, one from an elevated position to a midway position, and the other from a lowered position to a midway position so that the gate can readily pass over snow.

When the train passes out of the block and the motor 34 becomes deenergized, the spring 55 with the assistance of the weight 32 will return the gate to the position shown in Figure 1 preventing cattle from getting off of the highway and onto the track.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit or scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is:

1. A gate of the character described mounted for horizontal swinging movement, a vertically movable belt carried by the gate and horizontal gate bars secured to the belt for movement therewith to avoid obstructions over which the gate must move.

2. A gate mounted for horizontal swinging movement, a vertically movable member carried by the gate for passing over obstructions in the path of the gate, and means operable by the swinging movement of the gate for actuating said vertically movable member.

3. A gate of the character described mounted for horizontal swinging movement and vertically movable members on the gate for passing over obstructions in the path of the gate, said vertically movable members consisting of horizontally disposed slats, vertically spaced pulleys on the ends of the gate, vertically disposed members trained over the pulleys and to which the ends of the slats are connected and means for rotating the pulleys.

4. A gate of the character described mounted for horizontal swinging movement and a pair of horizontal gate bars carried by the gate, a belt at each end of the bars to which the bars are attached and means operable by the swinging movement of the gate for alternately raising and lowering the bars into upper and lower positions for passing over obstructions in the path of the gate.

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