

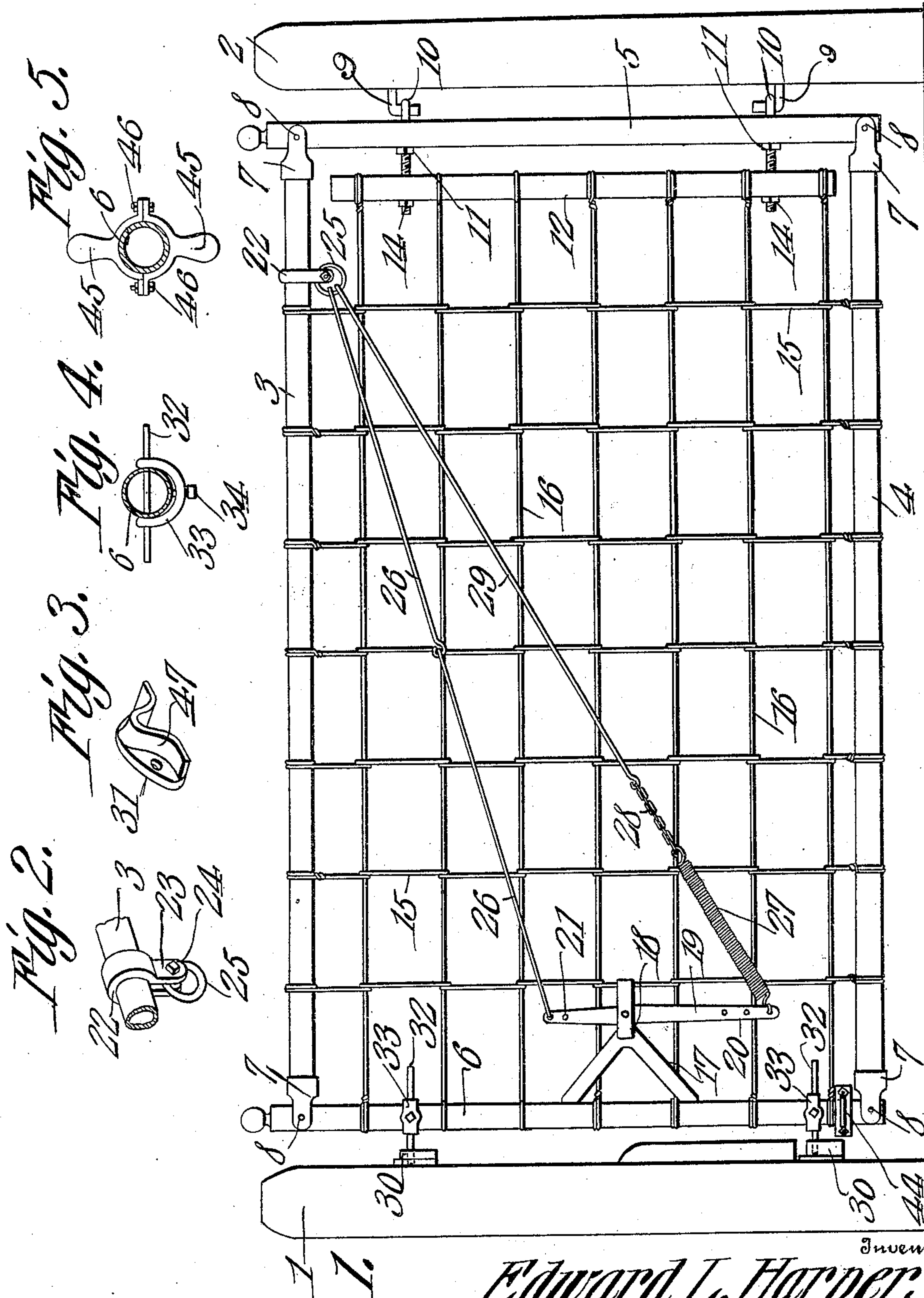
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GATE.

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934,523.

Patented Sept. 21, 1909.



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Witnesses

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# UNITED STATES PATENT OFFICE.

EDWARD L. HARPER, OF MELVERN, KANSAS.

GATE.

934,523.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed March 8, 1909. Serial No. 482,114.

*To all whom it may concern:*

Be it known that I, EDWARD L. HARPER, a citizen of the United States, residing at Melvern, in the county of Osage and State of Kansas, have invented a new and useful Gate, of which the following is a specification.

The objects of the invention are, generally, the provision, in a merchantable form, of a device of the class above specified which shall be inexpensive to manufacture, facile in operation and devoid of complicated parts; specifically, the provision of a gate of novel and improved construction; of novel means for lifting the gate; of novel means for adjusting the lifting means; other and further objects being made manifest hereinafter as the description of the invention progresses.

The invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the accompanying drawings, and particularly pointed out in that portion of this instrument wherein patentable novelty is claimed for certain distinctive features of the device, it being understood that, within the scope of what hereinafter is thus claimed, divers changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings, Figure 1 shows my invention in front elevation; Fig. 2 is a detail perspective of the adjustable sleeve; Fig. 3 is a detail perspective of the striking plate; Fig. 4 is a top plan of the latch-pin and the means whereby it is assembled with the gate; Fig. 5 is a top plan of the foot plate.

In the accompanying drawings the numerals 1 and 2 denote the posts upon which the gate is mounted. The gate proper comprises a top member 3 and a bottom member 4, together with end members 5 and 6. These several members 3, 4, 5, and 6, may be fashioned from sections of metal tubing. The top member 3 and the bottom member 4 carry at their ends caps 7 which are bifurcated to embrace the end members 5 and 6, suitable pivot bolts 8 being inserted through

the caps 7, so that the several members of which the gate is composed unite to form a yieldable frame. The post 2 is provided with angle hooks 9, designed to receive gudgeons 10, the shanks of which are threaded and extend through the end member 5 of the gate. A stretching bar 12 is shown and is provided with apertures designed to receive the threaded shanks of the gudgeons 10. The shanks of the gudgeons 10 carry nuts 11 whereby the gudgeons are assembled with the end member 5. Other nuts 14 are mounted upon the extremities of the threaded shanks of the gudgeons to engage the stretching bar 12. Horizontal wires 16 extend from the end member 6 of the gate to the stretching bar 12 and vertical wires 15 unite the top member 3 with the bottom member 4. The wires 15 and 16 at their points of crossing may if desired be twined about each other, as shown in Fig. 1.

Mounted upon the end member 6 of the gate is a bracket 17, which may be described generally as being of Y shape. The shank of the bracket is over-bent upon itself as denoted by the numeral 18, and between this over-bent portion and the shank proper is pivoted, intermediate its ends, a lever 19, provided at its upper extremity with a plurality of apertures 21, and at its lower extremity with a plurality of apertures 20. Slidably mounted upon the top member 3 of the gate, near the point of union between the said top member and the end member 5, is a sleeve 22. As shown in Fig. 2, this sleeve 22 embraces the top member 3, the extremities of the sleeve being bent into parallel relation to form arms 23. These arms 23 are provided with aligned apertures in which is mounted a bolt 24, whereby the sleeve may be clamped upon the top member 3. If desired, a ring 25 is interposed between the arms 23 and supported by the bolt 24. The upper extremity of the lever 19 is connected with the ring 25 by means of a flexible element, which, in the present instance, comprises a pair of rods 26, pivotally united, as shown in Fig. 1. The remote extremities of these sections 26 are bent to form hooks, one of which is adapted to engage the ring, 25, and the other to engage successively the apertures 21 in the upper end of the lever 19. The lower terminal of the lever 19 is connected with the ring 25 by a resilient connection, which, in the present instance, comprises a coil spring



27, one end of which is hooked to engage successively the apertures 20 in the lower end of the lever 19, the other end of the said spring 27 being hooked to engage successively the links of a chain 28. The rod 29 is hooked at its terminals, and one of these hooked terminals is mounted in the ring 25, the other terminal being adapted to engage successively the links of the chain 28.

The post 1 carries a striking plate 30, shown in detail in Fig. 3, and it will be seen that this striking plate 30 comprises a base member 31 having suitable apertures to receive support-engaging means. The base portion 31 of the striking plate is provided with an integral outwardly projecting flange 47, which is up-bent intermediate its ends to form a seat to receive the latch-pin, which will be hereinafter described.

Referring now to Figs. 1 and 4, a U-shaped clamp 33 is shown, arranged to include between its arms the end member 6 of the gate. This clamping member 33 is provided in the extremities of its arms with aligned apertures. The end member 6 of the gate is apertured, and through this aperture in the end member of the gate and through the apertures in the arms of the clamp, is passed a latch-pin 32. Intermediate its ends the clamp 33 is provided with a set screw 34, arranged to bear against the end member 6 of the gate frame. It is to be understood that the latch-pin 32 is slidably mounted in the members which support it, and, by rotating the set screw 34, the latch-pin may be held firmly in any desired position.

Mounted upon the end member 6 of the gate near its lower end is a foot-plate 44, comprising, as shown in Fig. 5, a pair of sections 45, arranged to inclose the said member 6, and terminally outbent to form flanges. Through the flanges of these foot-plate sections may be passed clamping bolts 46, whereby the foot-plate may be secured in any desired position upon the end member 6.

In practical operation, the resilient element 27 will tend, normally, to tilt the gate upward. The gate may be depressed manually, or by means of the pressure of the foot upon the foot-plate 44, to bring the latch-pin 32 below the extremities of the flange 47 of the striking plate. When this downward pressure is removed from the gate, the frame pivoted at its corners will move upward under the impulse of the resilient element 27, the latch-pin 32 registering in the seat formed in the flange 47 of the striking plate. The gate may be swung open by depressing the frame in either of the methods above pointed out.

Provision is made for the adjustment of the means whereby the gate is tilted or lifted upward. When it is desired to adjust simultaneously the position of the lever 19

and the tension of the resilient element 27, the bolt 24 in the sleeve 22 is loosened and the said sleeve slid upon the member 3 of the gate to the desired position, whereupon the bolt 24 may be tightened. When it is desired to adjust the tension of the resilient element 27 without disturbing the position of the lever, the chain 28 may be lengthened or shortened between the resilient element 27 and the rod 29. When it is desired to adjust the position of the lever 19 without changing the tension of the resilient element 27, the sleeve 22 is slid upon the member 3 of the gate frame, to bring the lever into the desired position, whereupon the chain 28 may be lengthened or shortened between the resilient element 27 and the rod 29 until the original spring tension is restored. By mounting the terminal of one of the elements 26 successively in the apertures 21 in the lever, and by mounting the hooked portion of the resilient element 27 successively in the apertures 20 of the lever, the length of the arms of the lever may be changed.

In the foregoing explanation, I have used, at various places, the phrase "position of the lever", meaning thereby the position which the lever will assume when the gate is in the locked position shown in Fig. 1.

It will be seen that by rotating the nuts 14 upon the shanks of the gudgeons 10, the position of the stretching bar 12 upon the shanks may be changed, whereby an adjustment in the tension of the longitudinal wires 16 may be effected.

It will be seen that the hereinbefore described mechanism, though simple in construction and facile in operation, results in a means whereby the gate may readily be lifted to cause it to engage the striking plate and to stand, when swung open, in a position free from the ground; and it will further be seen that ample means have been provided for adjusting this mechanism whereby the gate is lifted.

Having thus described my invention, what I claim as new, and desire to protect, by Letters Patent, is:—

1. In a swinging lift gate, a yieldable frame; a lever fulcrumed intermediate its ends upon one end of the frame; a flexible element having one of its ends attached to one end of the lever; and a resilient element having one of its ends attached to the other end of the lever; the opposite terminals of the resilient and the flexible elements being attached to the frame at a point remote from the lever.

2. In a swinging lift gate, a spring lifting device consisting of a lever pivoted on the gate frame; an adjustable sleeve clamped on the gate frame and slidable thereon; a flexible element uniting the upper end of the lever with the sleeve; and a tension spring



connecting the lower end of the lever with the sleeve.

3. In a swinging lift gate, a spring lifting device consisting of a lever pivoted on the gate frame; an adjustable sleeve clamped on the gate frame and slidable thereon; a flexible element connecting the upper end of the lever with the sleeve; a tension spring uniting the lower end of the lever with the sleeve; and means for adjusting the position of the lever.

4. In a swinging lift gate, a spring lifting device consisting of a lever pivoted on the gate frame; an adjustable sleeve clamped on the gate frame and slidable thereon; a flexible element connecting the upper end of the lever with the sleeve; a tension spring connecting the lower end of the lever with the sleeve; and means for adjusting the tension of the spring.

5. In a swinging lift gate, a yieldable frame; a lever fulcrumed intermediate its ends upon one end of the frame; a flexible element having one of its ends attached to one end of the lever; a resilient element having one of its ends attached to the other end of the lever; the opposite terminals of the resilient and the flexible elements being attached to the frame at a point remote from the lever; and means for simultaneously adjusting the position of the lever and the tension of the resilient element.

6. In a swinging lift gate, a yieldable

frame; a lever fulcrumed intermediate its ends upon one end of the frame and being provided with a plurality of apertures in its ends; a flexible element having one of its ends arranged for successive mounting in the apertures in one end of the lever; a resilient element having one of its terminals arranged for successive mounting in the apertures in the other end of the lever; the opposite terminals of the resilient and the flexible elements being attached to the frame at a point remote from the lever.

7. In a swinging lift gate, a yieldable frame; a lever fulcrumed intermediate its ends upon one end of the frame; a flexible element having one of its terminals attached to one end of the lever; a resilient element having one of its terminals attached to the other end of the lever; an adjustable connection having one of its ends attached to the other end of the said resilient element; the opposite terminals of the flexible element and of the adjustable connection being attached to the frame at a point remote from the lever.

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

EDWARD L. HARPER.

Witnesses:

F. U. JUDD,

W. D. STEPHENS.