No. 617,580. Patented Jan. 10, 1899.

C. M. KORTNER.

AUTOMATIC GATE.

(Application filed June 18, 1897.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

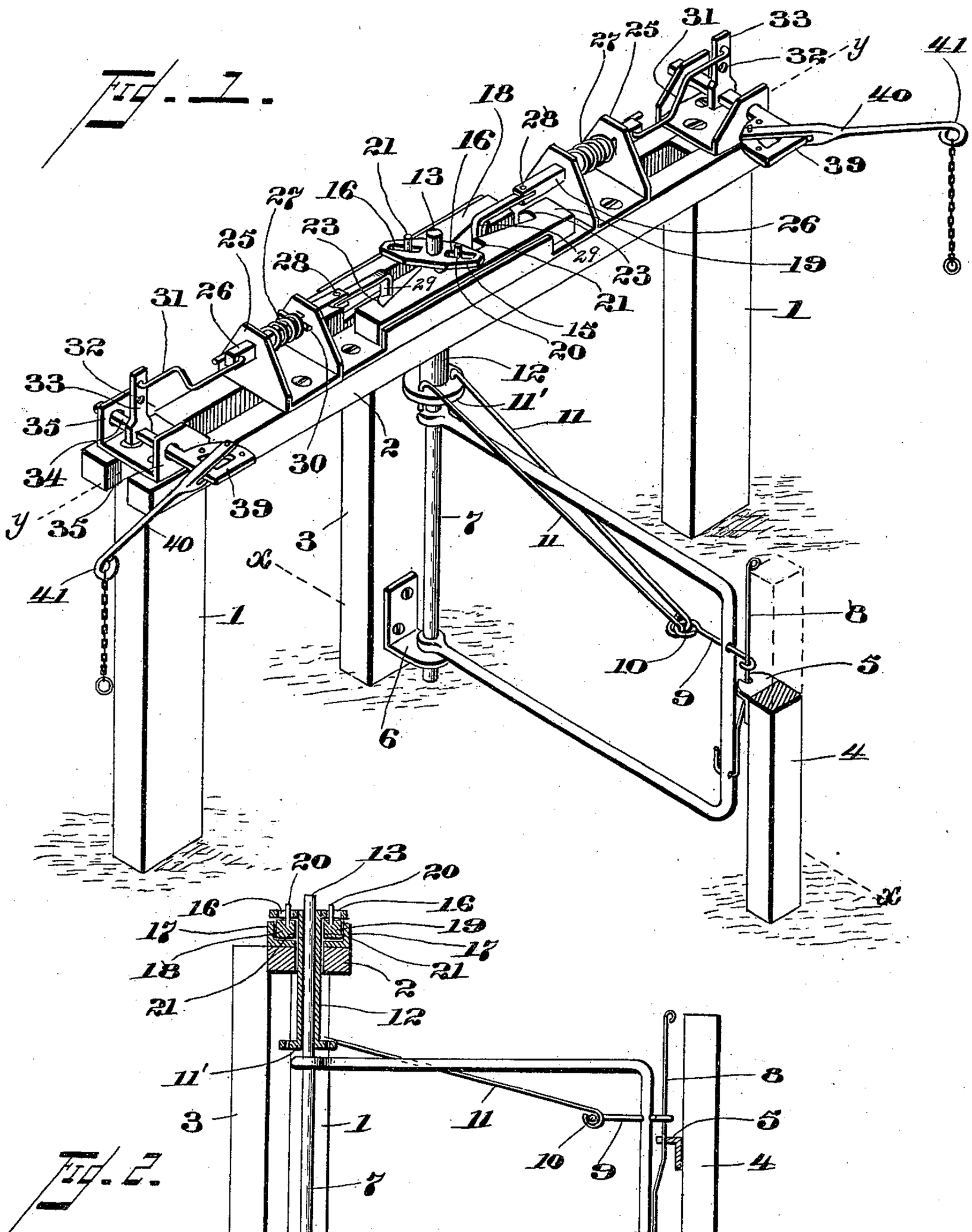

FIG. 2.

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FIG. 3.

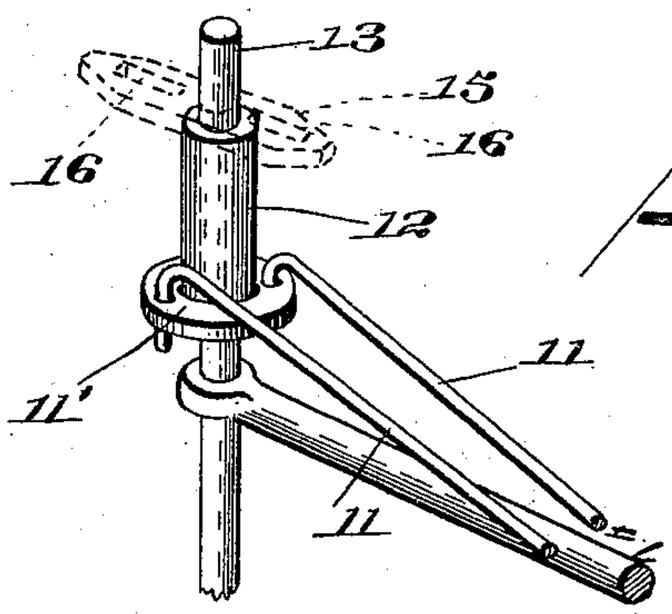


FIG. 4.

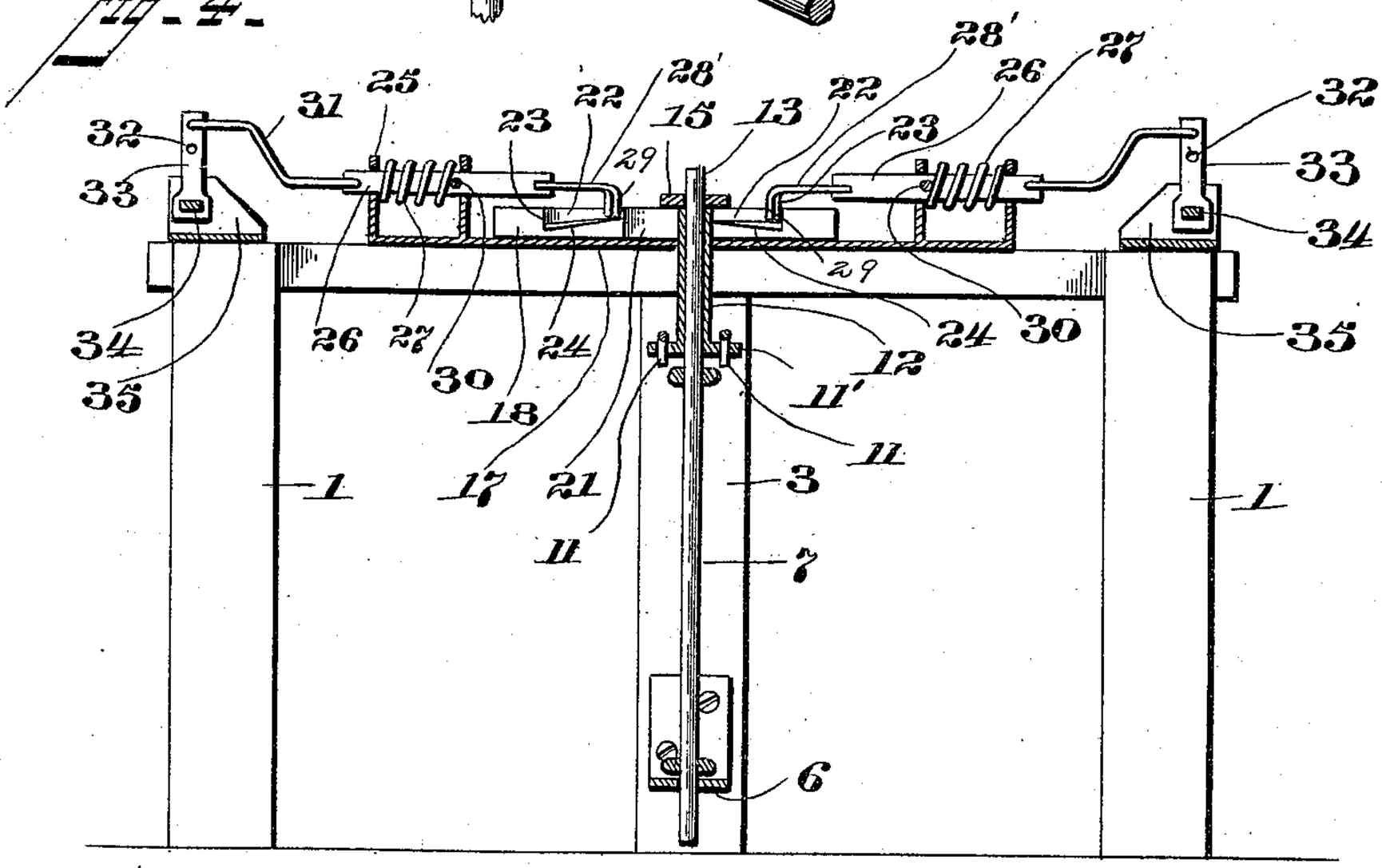
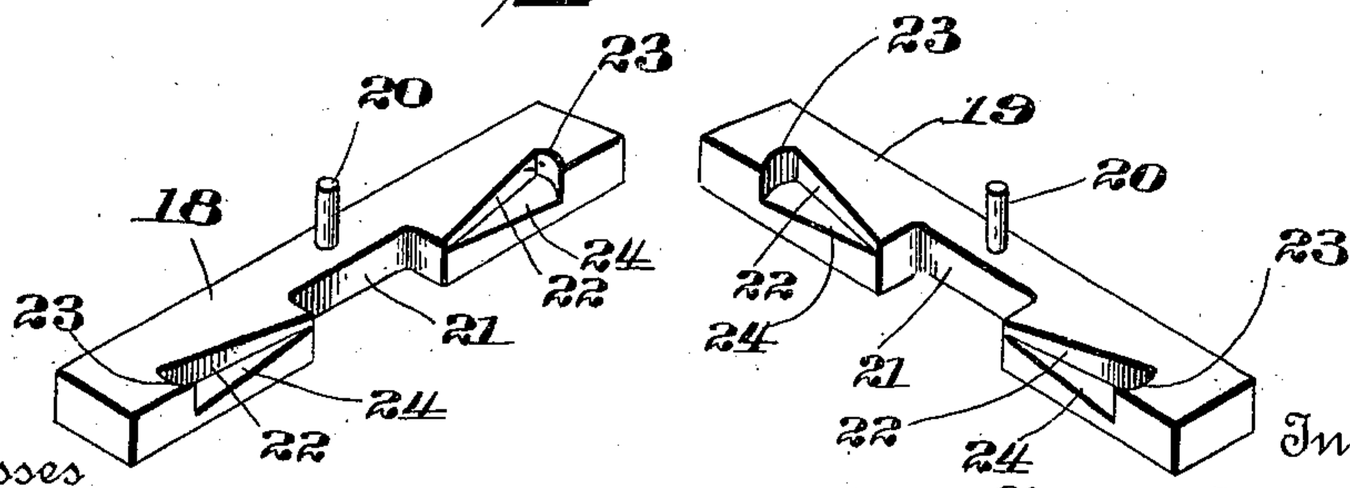


FIG. 5.



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UNITED STATES PATENT OFFICE.

CONRAD M. KORTNER, OF PEARL CITY, ILLINOIS.

AUTOMATIC GATE.

SPECIFICATION forming part of Letters Patent No. 617,580, dated January 10, 1899.

Application filed June 18, 1897. Serial No. 641,232. (No model.)

To all whom it may concern:

Be it known that I, CONRAD M. KORTNER, of Pearl City, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Automatic Gates; 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 gates; and it consists, essentially, of automatically-operating devices primarily actuated from either side of a gate to open and close the latter and in the opening operation simultaneously to release a catch for holding the gate closed.

The invention further consists of the details of construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

The object of the invention is to facilitate the opening of gates at a distance therefrom without requiring the driver of a team to dismount and perform the said operation, the parts being simple and effective in their construction and arrangement, strong and durable, easily and readily operated, and quickly set up in connection with a gate.

In the accompanying drawings, Figure 1 is a perspective view of a gate embodying the invention. Fig. 2 is a sectional elevation in the direction of line $x\,x$, Fig. 1. Fig. 3 is a detail perspective view of part of the gate-operating mechanism. Fig. 4 is a longitudinal section on the line $y\,y$, Fig. 1. Fig. 5 is a detail perspective view of the operating-slides used in connection with the device.

Referring to the drawings, wherein similar numerals of reference are employed to indicate corresponding parts in the several views, the numeral 1 designates uprights having supporting-bars 2 mounted thereon, and at the center of the said bars is located a gate-post 3, placed in alinement with a front gate-post 4, provided with a notched striker-plate 5 on the inner side. The rear gate-post 3 has a lower bracket 6, in which the lower end of the rear stile 7 of the gate is pivotally mounted.

The gate used in connection with the device may be of any preferred form of construction and may be either of wood or metal; but the best form is that shown and comprises a frame of heavy round metal carrying a spring-latch 8 at the outer end thereof which is engaged by a hooked rod 9, extending through the outer vertical member of the gate and having an inner loop 10, to which are attached operating-rods 11, extending upwardly at an incline and mounted in an apertured disk 11′, carried at the lower end of a sleeve 12, mounted on the upper extended end 13 of the stile 7. The extended end of the said stile projects centrally upward between the supporting-bars 2, and the sleeve 12 also extends between them and has secured to the upper end thereof a cross-head 15, with slots 16 in opposite sides thereof. The said cross-head 15 is elongated in form, and the slots 16 are arranged longitudinally thereof on opposite sides of the center, through which an opening is formed for the passage of the upper part of the projection 13 of the stile 7. On the supporting-bars 2, at the center, is mounted a suitable guide 17, and therein are slides 18 and 19, each of which has a pin or stud 20 projecting above the same and passing through one of the slots 16 in the cross-head 15. The slides 18 and 19 are recessed at their centers, as at 21, the said recesses being of such length as to permit the slides to work or reciprocate in the guides without striking the sleeve 12. In the upper portion of the inner face of each of the slides and adjacent to opposite ends thereof substantially angular concavities 22 are formed and have outer rounded walls 23 and inclined bases 24, the deepest portions of each of the concavities being near the outer ends of the slides. Adjacent to each of the ends of the slides is a guide-bracket 25, having upwardly-projecting seats in which a square sliding bolt 26 is mounted and encircled by a coiled spring 27, located between the said seats. The inner end of each of the bolts 26 is horizontally bifurcated, and through the bifurcated portions vertical pivot-pin openings 28 are formed, and in the bifurcated part of each bolt is movably mounted an actuating-arm 28′, having an angular projection 29 engaging the outer rounded wall of one of the angular concavities 22 and operating to move the slides in accordance with the bolt 26 to actuate the sleeve 12 by means of the cross-head 15 and, through the medium of the disk

11', move either one or the other of the arms 11 and release the latch on the gate from the striker-plate 5 and simultaneously throw the gate open or closed. The bolts 26 are limited in their movements by a cross-pin 30, mounted in each, and to the rear ends of the said bolts are movably attached crank-links 31, adjustably connected at their outer ends by one of a series of apertures 32 to the free end of a crank-arm 33, removably held by a flattened rock-bar 34, mounted in bearing-plates 35. The rock-bar 34 is provided with a quadrant-shaped extension or terminus 39, to which is attached an operating lever or arm 40, provided with a loop 41, to which a pull cord or chain is applied for operating the lever and through it the rock-bar 34, the crank-arm 33, and links 31 for releasing and opening the gate at a distance therefrom. The arms 40 may be changed in their positions relatively to the rock-bars 34, and through the medium of the spring 27 on each of the bolts the said rock-bars are returned to their normal positions when pressure on the arms 40 is removed. In coming through the gate from the right the adjacent arm 40 is depressed, thereby sliding the bolt 26 outwardly through the connecting devices set forth and operating the slide 18 by drawing it in the direction of movement of the said bolt 26. This movement of the slide 18 simultaneously forces the slide 19 in the opposite direction through the medium of the cross-head 15 and pins or studs 20 and also opens the gate to permit a team or pedestrian to pass through. After passing through the gate the opposite arm 40 on the left is likewise depressed and the slides 18 and 19 restored to their normal positions and the gate simultaneously closed and latched.

The device as set forth is simple in its operation, and any suitable form of pull devices may be employed in connection with the arms 40 and the operating mechanism be placed at different distances from the gate controlled thereby.

It is obviously apparent that many minor changes in the details of construction of the several parts might be made and substituted for those shown and described without in the least departing from the nature or spirit of the invention.

Having thus described the invention, what is claimed as new is—

1. In a gate, the combination with a gate proper having a latch, of a rod attached to the latch, operating-rods connected to the aforesaid rod, a disk carried by a sleeve mounted on the rear portion of the gate to which the rear ends of said operating-rods are secured, slides connected to the said disk and sleeve, spring-actuated bolts for operating the said slides, and means for actuating the said bolts, substantially as and for the purposes specified.

2. In a device of the character set forth, the combination of a gate, slides coacting therewith, connections between the said slides and gate, spring-actuated bolts for operating the slides, and means for moving the said bolts, substantially as and for the purposes specified.

3. In a device of the character set forth, the combination with a gate, of a sleeve having a disk engaging a portion of the said gate, a latch on the gate connected to the disk on the sleeve, a cross-head on the upper end of the sleeve having slots therein, slides with upwardly-projecting pins engaging the said cross-head, and spring-actuated bolts for engaging the said slides, substantially as and for the purposes specified.

4. In a device of the character set forth, the combination of a gate, slides connected thereto having cavities therein, and spring-actuated sliding bolts coacting with the said cavities in the slides, substantially as and for the purposes specified.

5. In a gate, the combination of oppositely-moving slides, spring-actuated bolts connected to the said slides, an intermediate connection between the gate and slides, and devices for operating the said bolts, substantially as and for the purposes specified.

6. In a gate, the combination of slides, intermediate connecting devices between the slides and gate, spring-actuated bolts for operating the said slides, crank-links attached to the said bolts, a rocking bar having cranks projecting therefrom to which the said crank-links are adjustably attached, and operating-arms attached to the said rocking bars, substantially as and for the purposes specified.

7. In a gate, the combination of oppositely-moving slides, intermediate connections between the said slides and the gate, spring-actuated bolts connected to the said slides, crank-links having their inner ends attached to the bolts, rocking bars provided with cranks to which the rear ends of the said crank-links are adjustably connected, and arms attached to the rocking bars, substantially as and for the purposes specified.

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

CONRAD M. KORTNER.

Witnesses:
J. F. MISHLER,
D. J. BEHRINGER.