A. LICHTFUSS.

AUTOMATIC DRAWBRIDGE GATE.

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931,439

Patented Aug. 17, 1909.

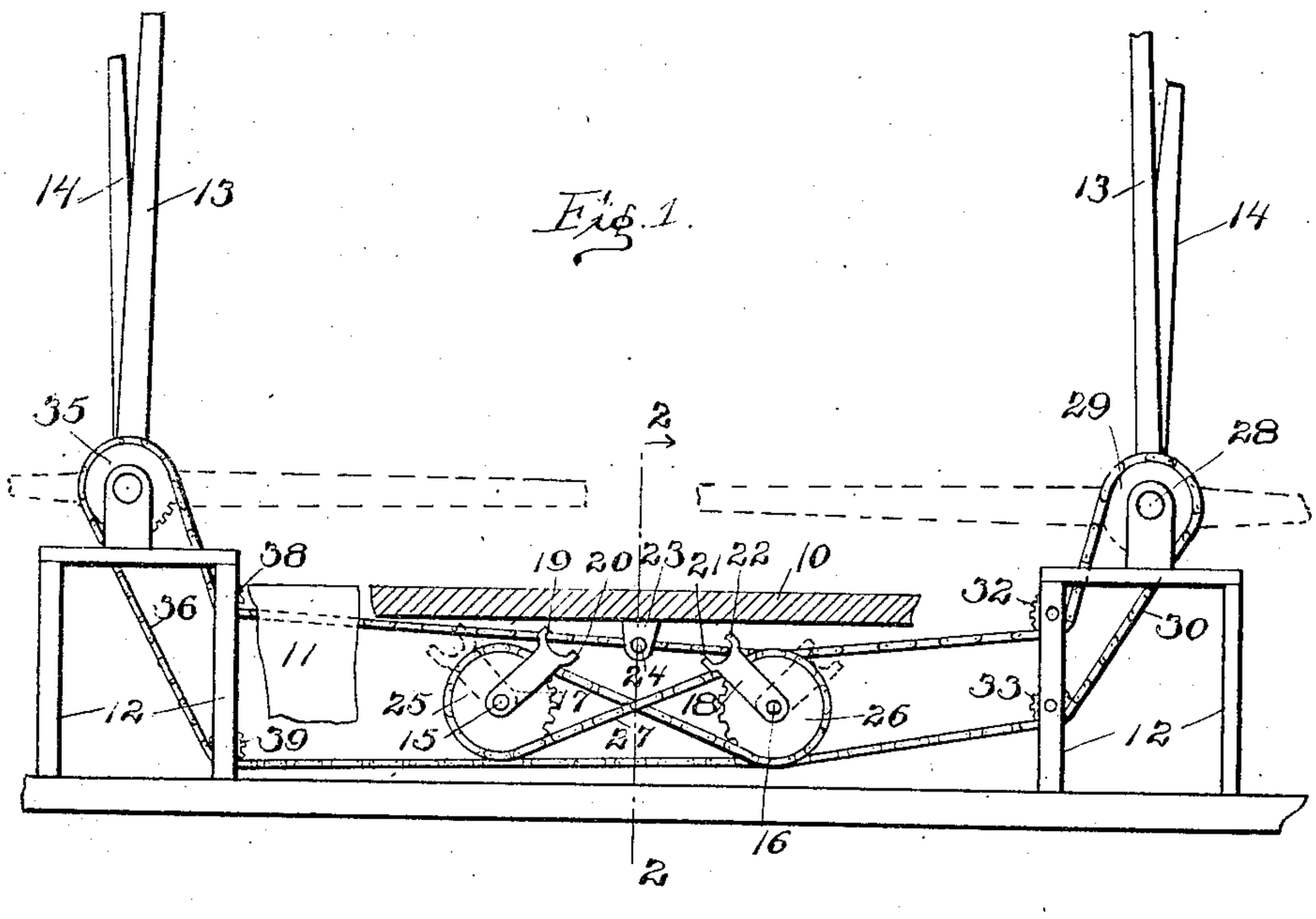

Fig. 1.

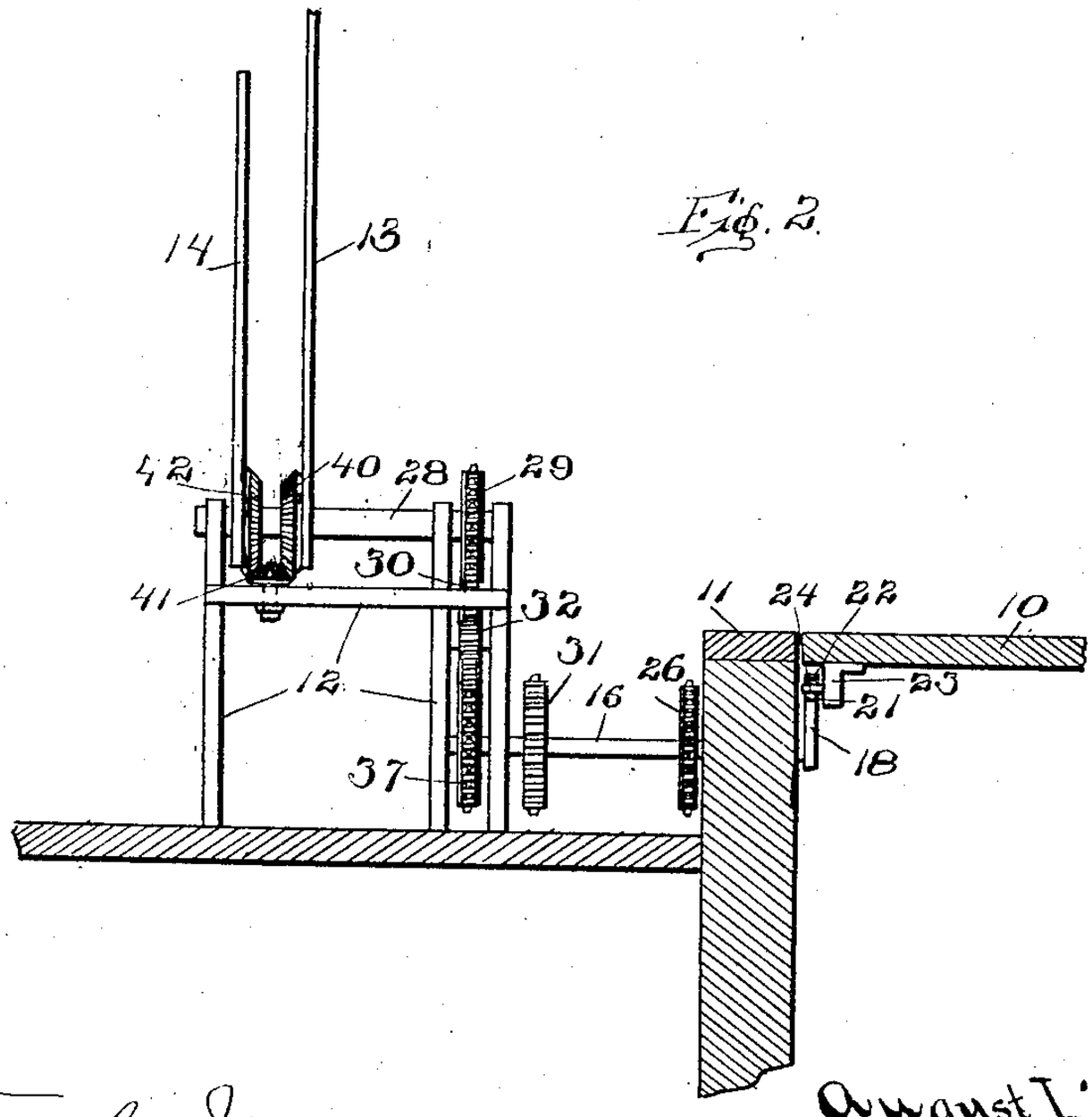

Fig. 2.

Witnesses

J. W. Fowler Jr

L. L. Morrill.

Inventor,

August Lichtfuss

By Mason Fenwick & Lawrence,

Attorneys

UNITED STATES PATENT OFFICE.

AUGUST LICHTFUSS, OF OSHKOSH, WISCONSIN.

AUTOMATIC DRAWBRIDGE-GATE.

No. 931,439. Specification of Letters Patent. Patented Aug. 17, 1909.

Application filed October 24, 1908. Serial No. 459,432.

To all whom it may concern:

Be it known that I, AUGUST LICHTFUSS, citizen of the United States, residing at Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Automatic Drawbridge-Gates, of which the following is a specification.

This invention relates to gate or closures associated with draw bridges and adapted to close the road-way automatically when the bridge is open.

An object of the present invention is to provide improved mechanism adapted to be operated by a horizontally swinging drawbridge to be automatically closed as the bridge opens and automatically opened as the bridge closes.

A further object of the invention is to provide in a device of the class improved means permitting the swinging of the bridge in either direction and adapted to similarly close the gates as the bridge opens or open the gates as the bridge closes, irrespective of the direction of swing of the gate.

With these and other objects in view, the invention comprises certain novel constructions, combinations and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings:—Figure 1 is a view somewhat diagrammatic showing the mechanism in end elevation with a conventional showing of the bridge and abutment. Fig. 2 is a vertical, sectional view taken on line 2—2 of Fig. 1 also showing the bridge and abutment in section.

Like characters of reference designate corresponding parts throughout the several views.

The gates disclosed in the accompanying drawing are adapted for operation with draw bridges of the swinging type, such a bridge being shown conventionally at 10 with the abutment also shown conventionally at 11. A frame-work 12 is erected at each side of the drive-way approach of such bridge upon which are mounted gates 13 proportioned to close toward each other to obstruct the drive-way as shown in dotted lines in Fig. 1, and also gates 14 adapted to close away from each other to close the side-walk passage as also shown in dotted lines in Fig. 1. Substantially midway between the frame 12 two shafts 15 and 16 are journaled respectively provided with levers 17 and 18, such levers being upon the side of the abutment adjacent the bridge and opposite the frame 12. The lever 17 is provided with spaced horns 19 and 20 and the lever 18 provided with similar spaced horns 21 and 22. Upon the under side of the bridge 10 a bracket 23 is mounted provided with a pin 24 positioned, when moved in either direction, with the bridge, to engage between the horns of the levers 17 or 18 as will be more fully explained in the description of the operation hereinafter.

Upon the shafts 15 and 16 are mounted sprockets 25 and 26 respectively over which is passed a sprocket chain 27 crossed as shown in Fig. 1 so that both of the sprockets 25 and 26 and the shafts 15 and 16, upon which such sprockets are mounted, are simultaneously rotated.

Upon one of the frames 12 is journaled a shaft 28 carrying rigidly therewith the gates 13 and also a sprocket 29 over which passes a sprocket chain 30 passing also over a sprocket 31 upon the shaft 16, proper idlers as 32 and 33 being provided for properly directing the course of the chain. Upon the opposite frame 12 is erected a shaft 34 similar to the shaft 28 carrying the gate 13 upon that side and also the sprocket 35. Over the sprocket 35 a chain 36 passes, also passing over a sprocket 37 upon the shaft 16, proper idlers 38 and 39 also being employed for guiding the course of such sprocket 37. Upon the shaft 34 is also mounted a beveled gear 40 carried rigid with such shaft and a beveled gear 41 is journaled upon a convenient frame piece and intergeared with the gear 40. A gear 42 is also mounted upon the shaft 34 and rotatable thereon and carrying rigidly the gate 14.

While upon the shaft 28 gears similar to 40, 41 and 42 are mounted and associated it is not thought necessary to show them specifically in the drawings as they are similar in all respects to the gears shown in Fig. 2, mounted upon the shaft 34.

In operation as the bridge 10 swings in either direction as, for instance, in the direction indicated by the position arrow in Fig. 1, the pin 24 will engage with the horn 19 and turn the lever 17 to the dotted position, turning also at the same time the shaft 15 and sprocket 25, which, in turn, also turns the sprocket 26 and shaft 16. With the shaft 16 the lever 18 also turns to dotted position as well as the sprocket 31, and 37. The

turning of the sprockets 31 and 37, respectively, moves the chains 30 and 36 to rotate the gears 29 and 35 and the shafts 28 and 30 to throw the gates 13 down into dotted position. Through the medium of the gears 41 and 42 the gates 14 are also thrown in opposite directions to dotted positions.

It will be seen that with the levers 17 and 18 in the position shown in dotted lines it is immaterial from which direction the bridge closes, where as a return movement, or as a complete circle, as upon its return the pin 24 will engage the horn 20 or the horn 21 as the case may be, and turn both levers 17 and 18 to full line positions and return the gates to full line positions as shown in Fig. 1.

What I claim is:—

1. The combination with a draw bridge, of gates movable in opposite directions in a vertical plane, mechanism adjacent the bridge adapted to move one gate, an intergearing gear adapted to move the other gate, levers positioned for actuating the gate operating means, and means carried by the bridge adapted to engage the levers to move both levers in opposite directions both upon opening and closing the bridge.

2. The combination with a draw bridge rotating upon a vertical pivot, of an abutment, gates located upon the abutment and adapted to normally assume a vertical position and when the gate is opened to assume diametrically opposite horizontal positions, gears adapted to actuate the gates, sprockets located within the abutment and connected by sprocket chains, chains carried by the sprockets and adapted to actuate the gate gears, levers carried by the sprockets, and means carried by the draw bridge adapted to contact with the levers when the bridge is moved in either direction.

In testimony whereof I affix my signature, in presence of two witnesses.

AUGUST LICHTFUSS.

Witnesses:
FRED ENGLE,
A. R. WATERHOUSE.