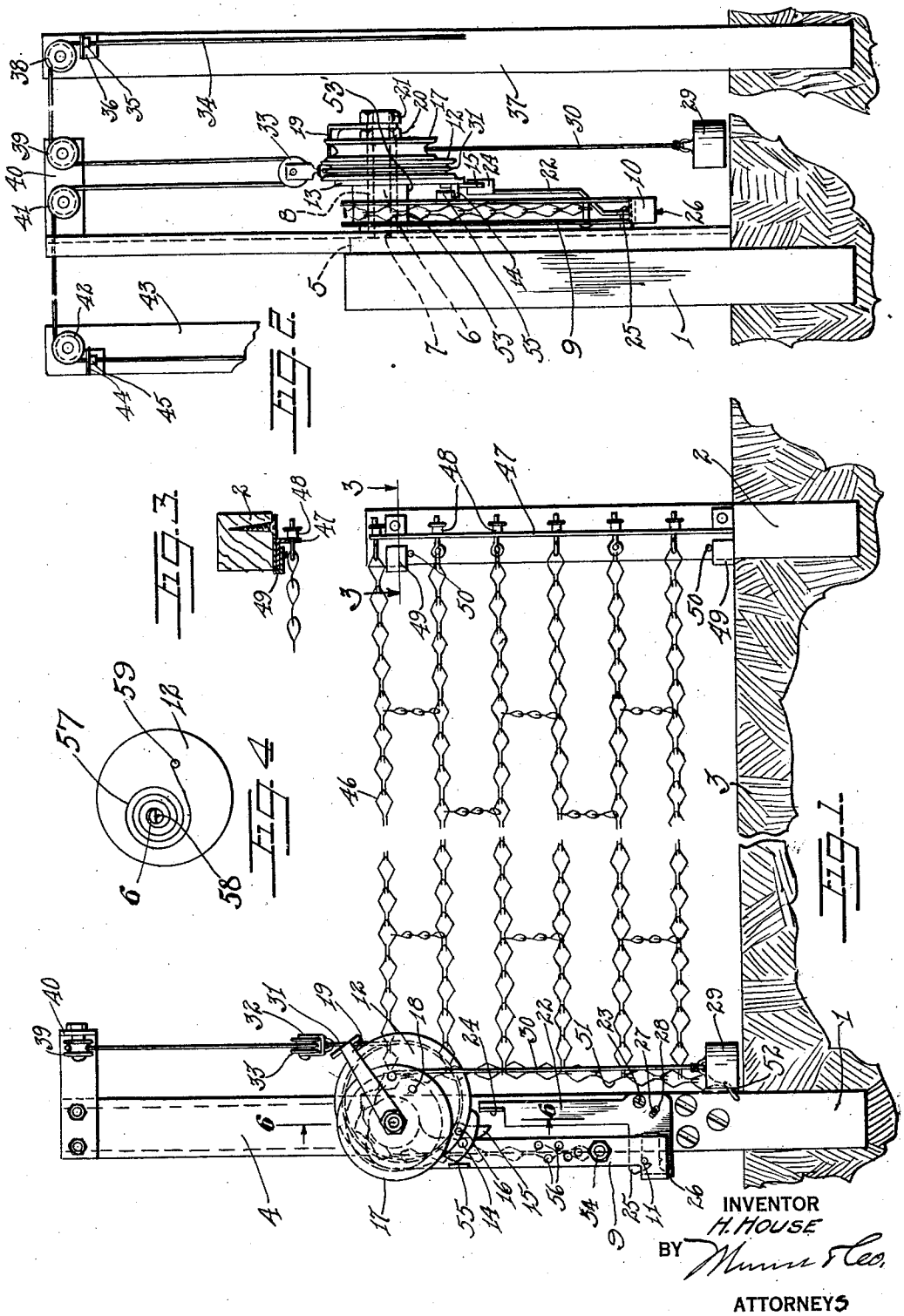
Jan. 27, 1931. H. HOUSE 1,790,304

GATE CONSTRUCTION

Filed May 27, 1929 2 Sheets-Sheet 1



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Fig. 5.

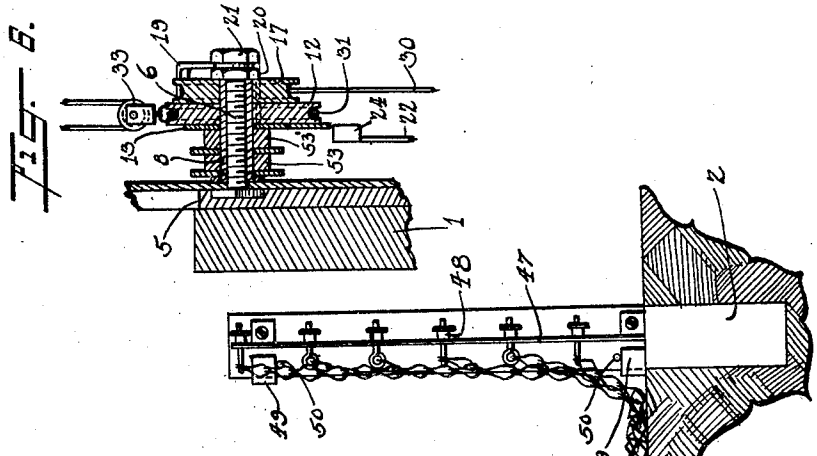
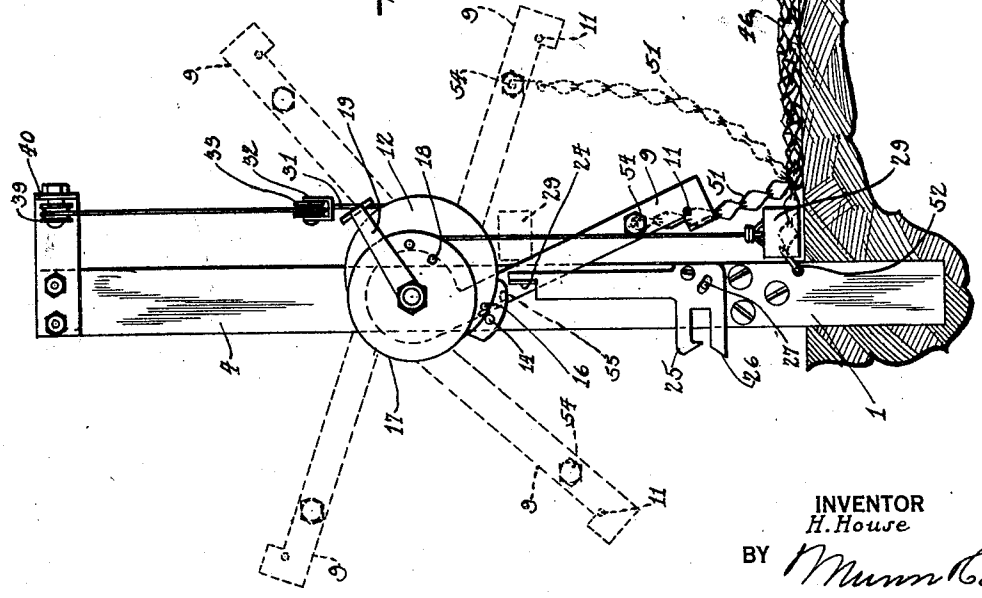


Fig. 5.



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GATE CONSTRUCTION

Application filed May 27, 1929. Serial No. 366,326.

My invention relates to improvements in gate constructions, and it consists in the combinations, constructions, and arrangements herein described and claimed.

An object of my invention is to provide a gate construction the body portion of which is flexible and arranged to be disposed upon the ground so that persons, vehicles, or stock may pass thereover.

A further object of my invention is to provide a device of the type described which has novel means whereby the gate may be readily lowered from a vehicle some distance from the gate.

A further object of my invention is to provide a device of the type described which has novel means whereby the body portion of the gate may be lowered instantaneously from either side of the gate.

A further object of my invention is to provide a device of the type described which has novel means for readily moving the body portion of the gate into an upright position from either side thereof.

A further object of my invention is to provide a device of the type described which employs means whereby the body portion of the gate may be moved to one side so that heavy iron tired or wider vehicles or spiked harrows may pass without passing over the body portion.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, forming part of this application, in which

Figure 1 is a front elevation of the gate,

Figure 2 is an end elevation of the gate,

Figure 3 is a section along the line 3—3 of Figure 1,

Figure 4 is a diagrammatic illustration of a modified form of the eccentric moving means,

Figure 5 is a front elevation of the gate in lowered position, and

Figure 6 is a section taken along the line 6—6 of Figure 1.

In carrying out my invention I provide gate posts 1 and 2 which are disposed in the ground 3 as indicated in Figure 1. A channel frame or supporting member 4 is rigidly secured to the post 1 and has a reinforcing block 5 disposed therein adjacent the post 1, see Figure 2. A bolt 6, which is threaded for its entire length, extends through a threaded opening 7 in the supporting member 4 and through a bushing 8 which has one end disposed adjacent the supporting member 4. An actuating double lever 9 is pivotally mounted upon the bushing 8 and has a connecting portion 10 at the outer end thereof. A latch pin 11 is carried by the lever 9 at the lower end thereof and extends between the two side members of the lever.

An eccentric pulley 12 is mounted upon the bushing 8 and has an arm 13 carried thereby. The arm 13 is provided with an actuating pin 14 which extends outwardly at right angles therefrom, and also a pawl 15 which is pivotally mounted at 16 and is held against movement in one direction by means of the pin 14. The pivotal member 16 also secures the arm to the eccentric pulley. A weight pulley 17 is pivotally mounted upon the bushing 8 and is rigidly secured to the eccentric pulley by means of a pin 18.

A guide arm 19 is mounted upon the bolt 6 and is rigidly held in place by the lock nuts 20 and 21 which are mounted upon the bolt 6. A retaining lever 22 is pivotally mounted at 23 upon the support 4 and has its upper end 24 disposed in the path of the pawl 15, as hereinafter described. The lever 22 is provided with a catch portion 25 which is arranged to engage with the pin 11. A bevelled arm 26 is integral with the lever 22 and is arranged to be engaged by the connecting portion 10. The lever 22 is limited in its movement by means of a pin 27 which is disposed in an elongated slot 28.

A weight 29 is suspended from the weight pulley 17 by means of a cable 30 or the like. A cable 31 is passed around the eccentric pulley 12 and has one end secured thereto. The other end of the cable 31 is secured to a pulley frame 32 which carries a pulley 33. An actuating cable 34 is provided with a block member 35 and extends through a

stop member 36 which is carried by a post 37. The actuating cable 34 extends over a pulley 38 which is carried by the post 37 and extends over a pulley 39 which is carried by a pulley support 40 mounted upon the supporting member 4. The actuating cable 34 then extends downwardly to and around the pulley 33 and upwardly and over a pulley 41 which is also mounted upon the pulley support 40. The cable 34 then extends over a pulley 42 which is mounted upon a post 43 spaced some distance from the post 2. The cable 34 then extends through the stop member 44 and is provided with a block member 45.

A flexible body portion 46, formed of chain or the like has one end adjustably connected to an angle member 47 by means of adjusting eyelet bolts 48. The angle member 47 is removably secured to the post 2 by means of substantially U-shaped clamps 49. The angle member 47 is held against vertical displacement by means of pins 50 which engage with the members 49. The other end of the flexible body portion 46 is secured to a flexible end member 51, one end of which is secured to the support 4 at 52 and the other end extending over a collar 53, to a point indicated at 54 where it is adjustably secured to the lever 9. The collar 53 is disposed between the side members of the lever 9 and is rotatably mounted on the bushing 8. A spacing collar 53′ is mounted on the bushing 8 for properly spacing the pulley 12 and the lever 9.

The purpose of having the pulley 12 eccentrically mounted is to provide greater leverage at one time than another. Considerable leverage is needed for raising the arm 9 from its solid line position shown in Figure 4, as at this time the combined load of the lever 9, the weight 29, and the body portion 46 has to be lifted. As the lever reaches the peak of its upward movement and then starts downwardly, less leverage is required for moving the lever, at which time the cable 31 is tangent to the short radii of the eccentric pulley.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. By drawing upon either end of the actuating cable 34 the pulleys 12 and 17 will be moved about their pivots thus moving the pawl 15 into registration with the lever 22 and causing the portion 25 to be moved free from the pin 11. When this has been accomplished the lever 9 will be freed and the weight of the flexible body portion 46 will swing the lever about its pivot for almost one revolution allowing the flexible body portion to rest upon the ground 3. The body portion 46 may be moved into its uppermost or closed position by again pulling upon either end of the cable 34 sufficiently to rotate the pulleys 12 and 17 for almost a complete revolution. During this movement of the pulleys 12 and 17 the pin 14 will engage with a lug 55 disposed on the lever 9 thus swinging the lever 9 about its pivot and taking with it the end of the flexible member 51 until the pin 11 has been moved beneath the member 25.

As the connecting portion 10 of the lever 9 moves into engagement with the tapered arm 26 the lever 22 will be swung about its pivot so as to positively move the catch member 25 into engagement with the pin 11. By releasing the cable 34 the weight 29, which has been moved upwardly due to the rotation of the pulley 17, will rotate the pulleys 17 and 12 back to their normal positions. The cable 31 is guided in its movement by the arm 19 through which the cable extends so that the cable will be held upon the pulley 12.

If the operator wishes to pass a heavy or wide load between the posts the end adjacent the post 1 may be released and the end adjacent the post 2 may then be removed from this post and swung out of the way. This is accomplished by removing the angle member 47 from the U-shaped clamps 49 or by removing the other end when attached by hooks. The flexible portion 46 may be adjusted by means of the members 48. The flexible portion 46 may also be adjusted by moving the other end due to the openings 56 provided in the lever 9.

In Figure 4 I have shown a diagrammatic illustration of the eccentric pulley 12 having a helical spring 57 disposed adjacent thereto and having one of its ends held by the bolt 6, as at 58, while the other end is held by a pin 59 which is mounted upon the eccentric.

I claim:

1. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, and means connected with the eccentric pulley and the arm whereby the gate may be raised.

2. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, means connected with the eccentric pulley and the arm whereby the gate may be raised, and an auxiliary

pulley mounted on said last-named upright and connected with the eccentric pulley, said auxiliary pulley being provided with a suspended weight for normally positioning the eccentric pulley.

3. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, means connected with the eccentric pulley and the arm whereby the gate may be raised, and catch means mounted on said last-named upright for engaging the arm whereby the gate may be held in raised position.

4. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, means connected with the eccentric pulley and the arm whereby the gate may be raised, an auxiliary pulley mounted on said last-named upright and connected with the eccentric pulley, said auxiliary pulley being provided with a suspended weight for normally positioning the eccentric pulley, and catch means mounted on said last-named upright for engaging the arm whereby the gate may be held in raised position.

5. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, means connected with the eccentric pulley and the arm whereby the gate may be raised, and catch means mounted on said last-named upright for engaging the arm whereby the gate may be held in raised position, said eccentric pulley being provided with means for tripping said catch means whereby the gate may be lowered.

6. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, means connected with the eccentric pulley and the arm whereby the gate may be raised, an auxiliary pulley mounted on said last-named upright and connected with the eccentric pulley, said auxiliary pulley being provided with a suspended weight for normally positioning the eccentric pulley, and catch means mounted on said last-named upright for engaging the arm whereby the gate may be held in raised position, said eccentric pulley being provided with means for tripping said catch means whereby the gate may be lowered.

7. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, a pulley and cable means for actuating said eccentric pulley, and means connected with the eccentric pulley and the arm whereby the gate may be raised.

8. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, a pulley and cable means for actuating said eccentric pulley, means connected with the eccentric pulley and the arm whereby the gate may be raised, and catch means mounted on said last-named upright for engaging the arm whereby the gate may be held in raised position.

9. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, a pulley and cable means for actuating said eccentric pulley, means connected with the eccentric pulley and the arm whereby the gate may be raised, and catch means mounted on said last-named upright for engaging the arm whereby the gate may be held in raised position, said eccentric pulley being provided with means for tripping said catch means whereby the gate may be lowered.

10. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, a pulley and cable means

for actuating said eccentric pulley, means connected with the eccentric pulley and the arm whereby the gate may be raised, and an auxiliary pulley mounted on said last-named upright and connected with the eccentric pulley, said auxiliary pulley being provided with a suspended weight for conversely rotating said eccentric pulley.

11. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, a pulley and cable means for actuating said eccentric pulley, means connected with the eccentric pulley and the arm whereby the gate may be raised, an auxiliary pulley mounted on said last-named upright and connected with the eccentric pulley, said auxiliary pulley being provided with a suspended weight for conversely rotating said eccentric pulley, and catch means mounted on said last-named upright for engaging the arm whereby the gate may be held in in raised position.

12. A device of the type described comprising a pair of spaced-apart uprights, a collapsible gate disposed between the uprights and having one end connected with one of the uprights, an arm rotatably mounted on the other of said uprights and having the opposite end of the gate connected therewith, an eccentric pulley rotatably mounted on said last-named upright, a pulley and cable means for actuating said eccentric pulley, means connected with the eccentric pulley and the arm whereby the gate may be raised, an auxiliary pulley mounted on said last-named upright and connected with the eccentric pulley, said auxiliary pulley being provided with a suspended weight for conversely rotating said eccentric pulley, and catch means mounted on said last-named upright for engaging the arm whereby the gate may be held in raised position, said eccentric pulley being provided with means for tripping said catch means whereby the gate may be lowered.

Signed at Chicago, in the county of Cook and State of Illinois this 22d day of May, A. D. 1929.

HERMAN HOUSE.