

No. 658,196.

Patented Sept. 18, 1900.

G. E. WHITNEY.

ENDLESS SCREEN FOR GATE HOUSES.

(Application filed June 6, 1900.)

(No Model.)

Fig. 1.

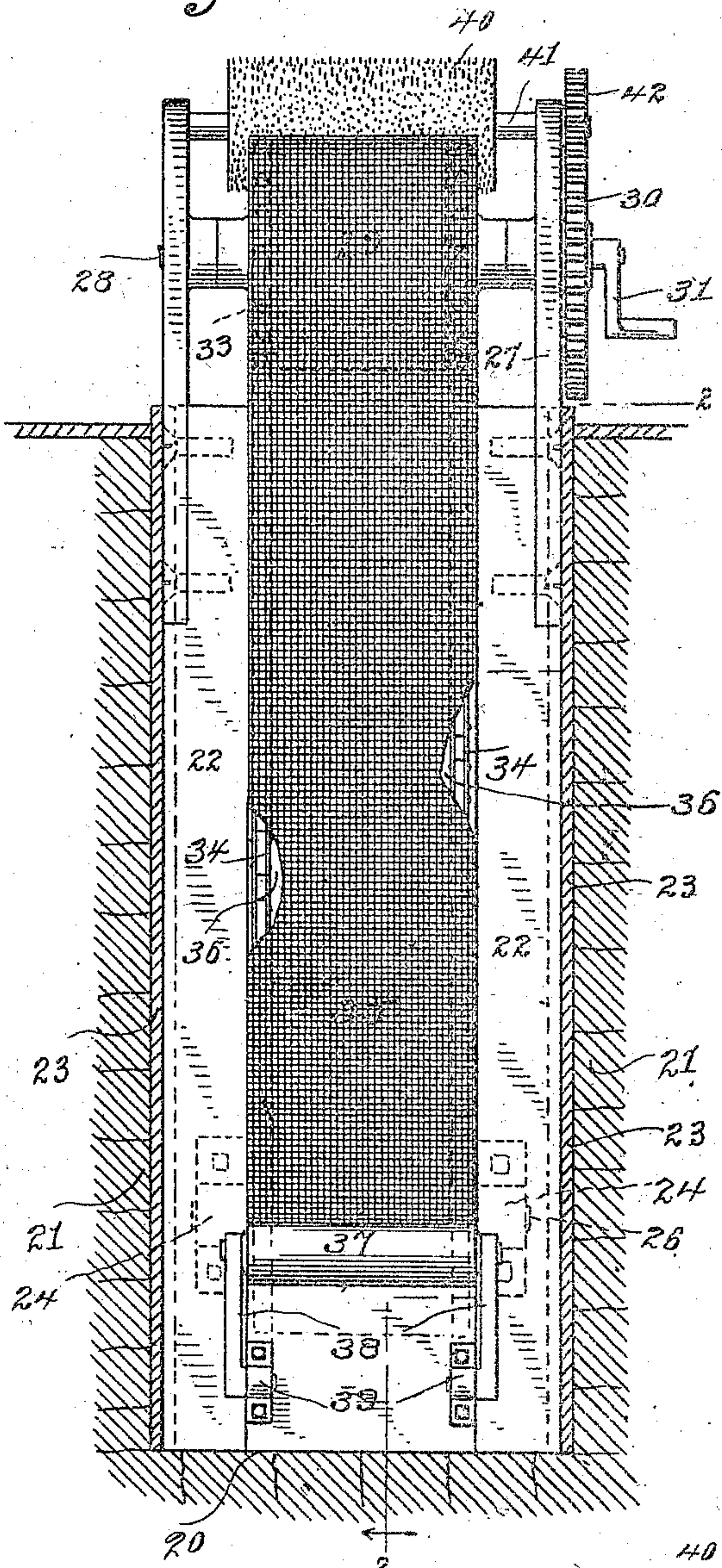


Fig. 2.

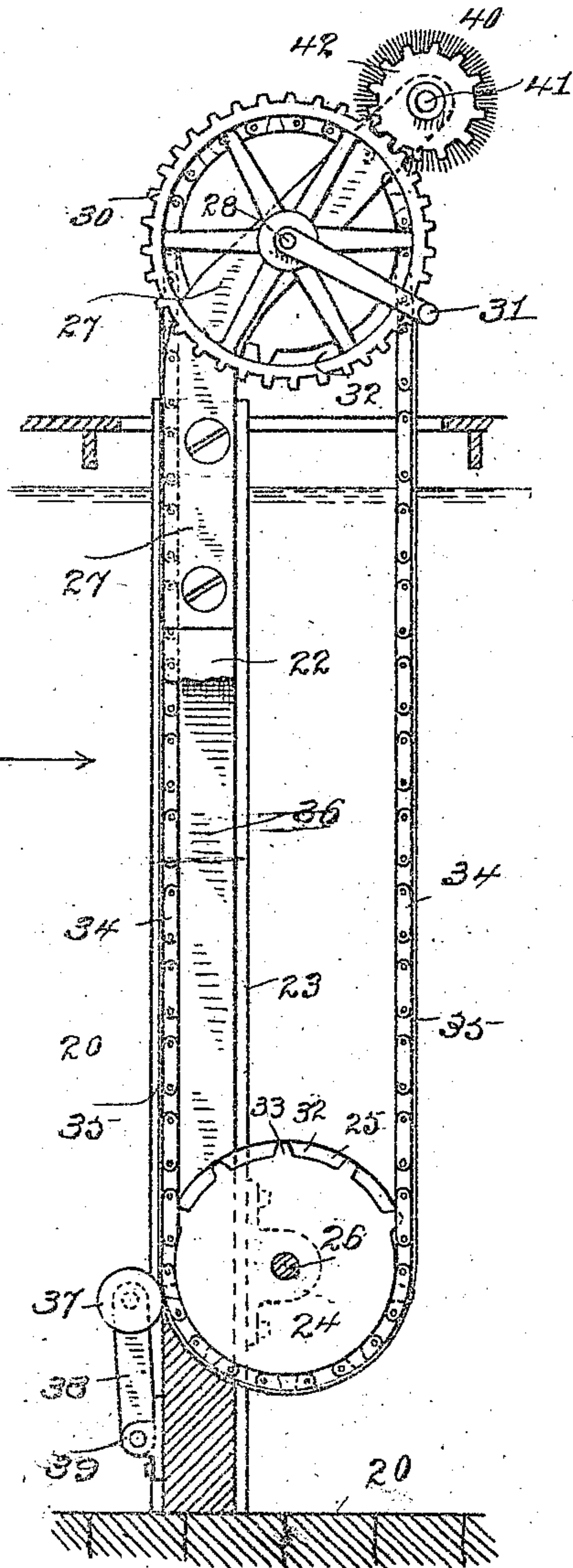
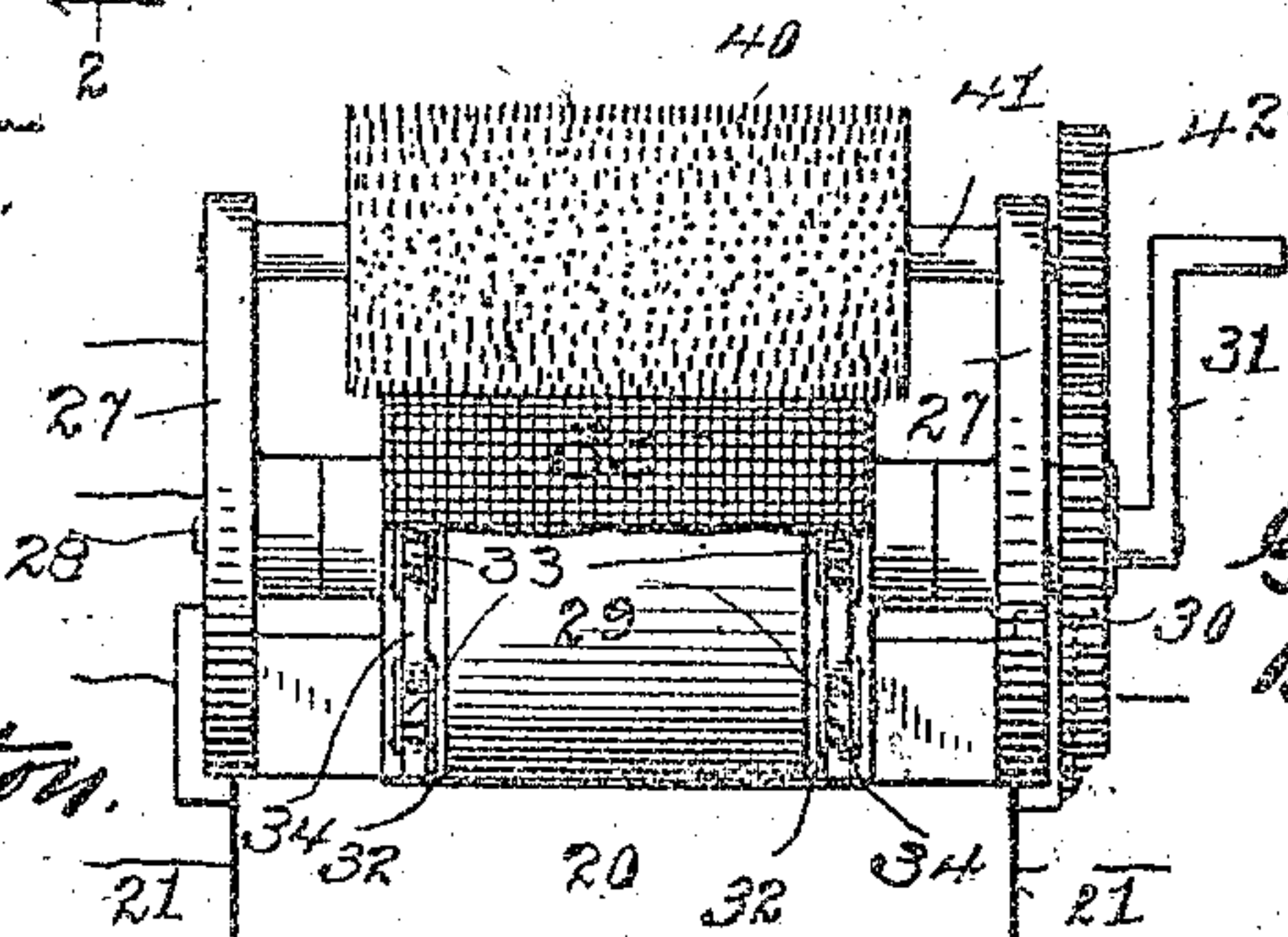


Fig. 3.



WITNESSES

H. F. Lamb

S. H. Atherton

INVENTOR

George E. Whitney

By A. M. Wooster

Atty.

UNITED STATES PATENT OFFICE.

GEORGE E. WHITNEY, OF STAMFORD, CONNECTICUT.

ENDLESS SCREEN FOR GATE-HOUSES.

SPECIFICATION forming part of Letters Patent No. 658,196, dated September 18, 1900.

Application filed June 6, 1900. Serial No. 19,304. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. WHITNEY, a citizen of the United States, residing at Stamford, county of Fairfield, State of Connecticut, have invented a new and useful Endless Screen for Gate-Houses, of which the following is a specification.

My invention is applicable to the gate-houses of waterworks systems and to races, sluices, and waterways generally, in which it may be required to screen the water—i. e., to check vegetable and other matter that may be floating on the surface or carried along by the current beneath the surface, but without filtering the water. In waterworks systems, for example, it has been common to provide removable screens, which in many instances required lifting up a number of times a day for the purpose of cleaning, after which the screens had to be let down to place again, the operation of lifting and replacing the screens requiring quite a little time and the use of considerable power, either manual or mechanical, depending, of course, upon the size of the waterway and the construction of the screen. This practice requires, furthermore, either that the water be shut off when the screen is lifted or else that unscreened water be allowed to pass freely while the screen is lifted for the purpose of being cleaned. In order to overcome these difficulties, I have devised a novel endless screen that may be shifted as often as may be desired by a single person using but little manual power, so that a fresh portion of the screen may be placed in use, and have, furthermore, provided means whereby the portion of the screen last in use will be cleaned by the operation of shifting it, no stoppage of the water or removal of the screen being necessary during the life of the parts.

In the accompanying drawings, forming part of this specification, similar reference characters are used in the several views to designate the parts.

Figure 1 is an elevation of my novel screen in operative position; Fig. 2, a view, partly in end elevation and partly in section, on the line 2 2 in Fig. 1; and Fig. 3 is a plan view, the screen being partly broken away to show the upper drum by which it is carried.

20 denotes a waterway, 21 the walls thereof, and 22 denotes a frame adapted to slide vertically in ways 23, rigidly secured to the walls.

24 (see dotted lines in Figs. 1 and 2) denotes brackets rigidly secured to the frame near the lower end thereof, and 25 denotes a lower drum, whose shaft 26 is journaled in said brackets.

27 denotes brackets rigidly secured to the upper end of the frame and extending upward therefrom, and 28 denotes a shaft journaled in said brackets and which carries an upper drum 29, a gear-wheel 30 outside of one of the brackets, and a crank 31 for convenience in operation. The drums are both provided at both edges with recesses 32 and with sprocket-teeth 33, which rise from the bases of the recesses and extend to approximately the height of the bodies of the drums.

34 denotes sprocket-chains which extend from drum to drum, passing over the sprocket-teeth on the respective drums, the recesses receiving the chains, which lie approximately flush with the surface of the drums.

35 denotes an endless screen, ordinarily made of wire-netting of any required degree of fineness, which is secured to the sprocket-chains in such a manner as to be carried along thereby. This screen wholly closes the opening 36 through the frame, except at the bottom, where there is of course left sufficient space between the lower drum and the bottom of the opening in the frame to insure that the screen will pass freely and without contact with the frame. This small portion of opening 36 I preferably close entirely by a roller 37, carried by arms 38, pivoted in brackets 39 on the outer side of the frame near the bottom. This roller lies in contact with the screen and is carried thereby when the latter is moved, the current of water passing through the waterway acting to hold the roller closely against the frame and the screen, so that it will wholly close the opening between them.

40 denotes a rotary brush carried by a shaft 41, journaled at the upper ends of brackets 27. Shaft 41 also carries a gear-wheel 42, which meshes with gear-wheel 30 on shaft 28, so that when gear-wheel 30 is rotated, as in shifting the screen, the brush will be rotated also and will effectually clean the screen as

it passes under it. I preferably, as shown in the drawings, make the gear-wheel 42 upon the brush-shaft smaller than the gear-wheel 30, so that the brush will move much faster than the screen.

The operation of my novel screen is so obvious as to hardly require description. It is simply necessary in use to move the screen sufficiently to place a clean portion thereof over the opening through the frame as often as may be required, that being a matter depending entirely upon the conditions of use, more especially the condition of the water that is passing through the waterway. As the screen is carried over by the upper drum it is cleaned by the brush ready for use again, the operation of shifting the screen and cleaning the portion last in use requiring but a moment's time and being performed easily by one person.

Having thus described my invention, I claim—

1. The combination with the walls of a waterway and a frame adapted to slide vertically in said waterway and having an opening through it, of drums journaled upon said frame and an endless screen carried by the drums and covering the opening.

2. The combination with the walls of a waterway and a frame adapted to slide vertically in said waterway and having an opening through it, of drums journaled upon said frame, an endless screen carried by said drums and a rotary brush actuated from one of the

drums and acting to clean the screen when the drums are rotated.

3. The combination with a frame having an opening through it, of drums journaled upon said frame, an endless screen carried by said drums and a swinging roller which engages both the screen and the frame at the lower end of the opening.

4. The combination with a frame having an opening through it and drums journaled upon said frame, said drums having recesses at their edges and sprocket-teeth, of sprocket-chains lying in the recesses and engaging the sprocket-teeth and an endless screen carried by the sprocket-chains.

5. The combination with a frame having an opening through it and drums journaled upon said frame, said drums being provided with recesses at their edges and sprocket-teeth in said recesses and one of said drums carrying a gear-wheel, of sprocket-chains lying in the recesses and engaging the sprocket-teeth, an endless screen carried by the sprocket-chains and a rotary brush having a gear-wheel engaging the gear-wheel upon one of the drums, whereby as the chain is moved by rotation of the drums the brush will also be rotated and will clean the screen.

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

GEORGE E. WHITNEY.

Witnesses:

ROBERT A. ROSS,
WM. A. EARDELEY