

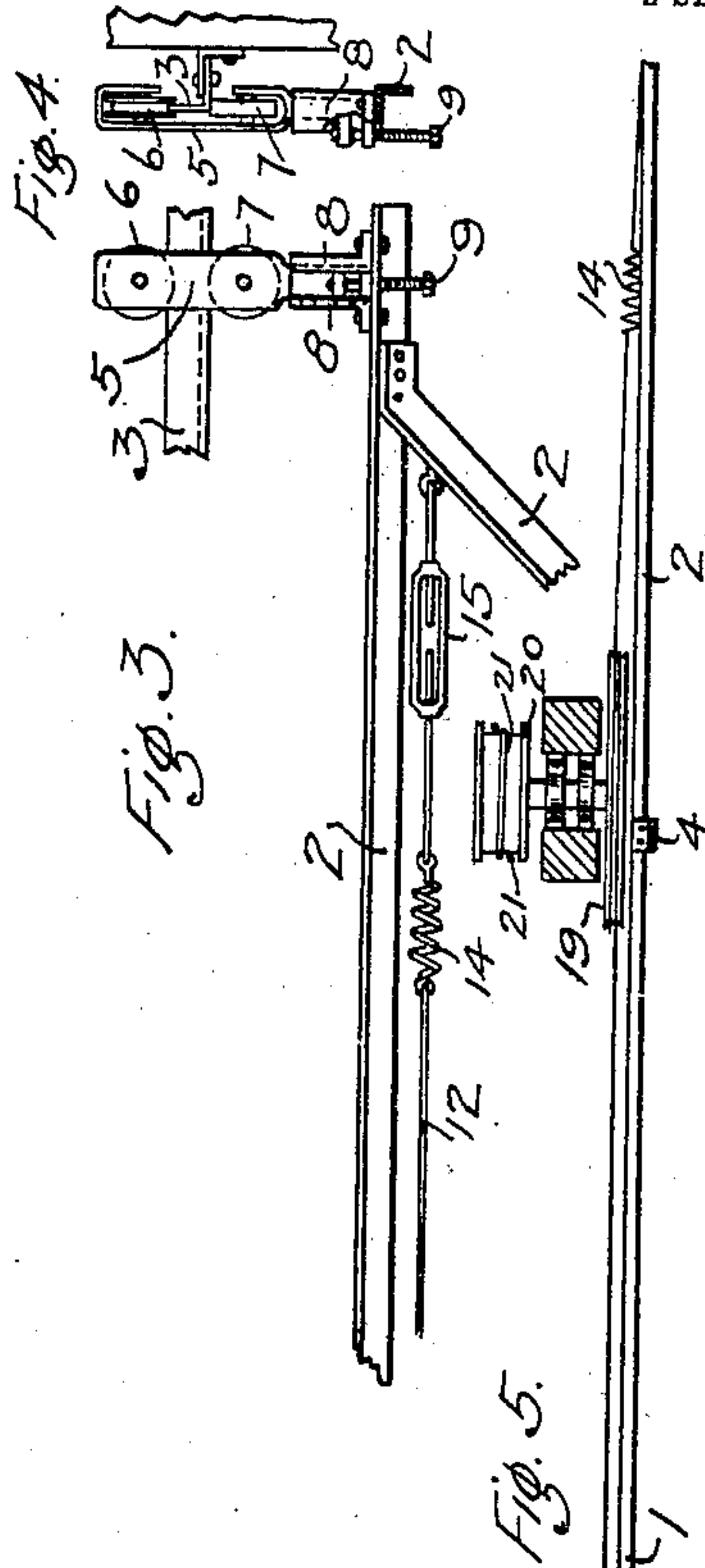
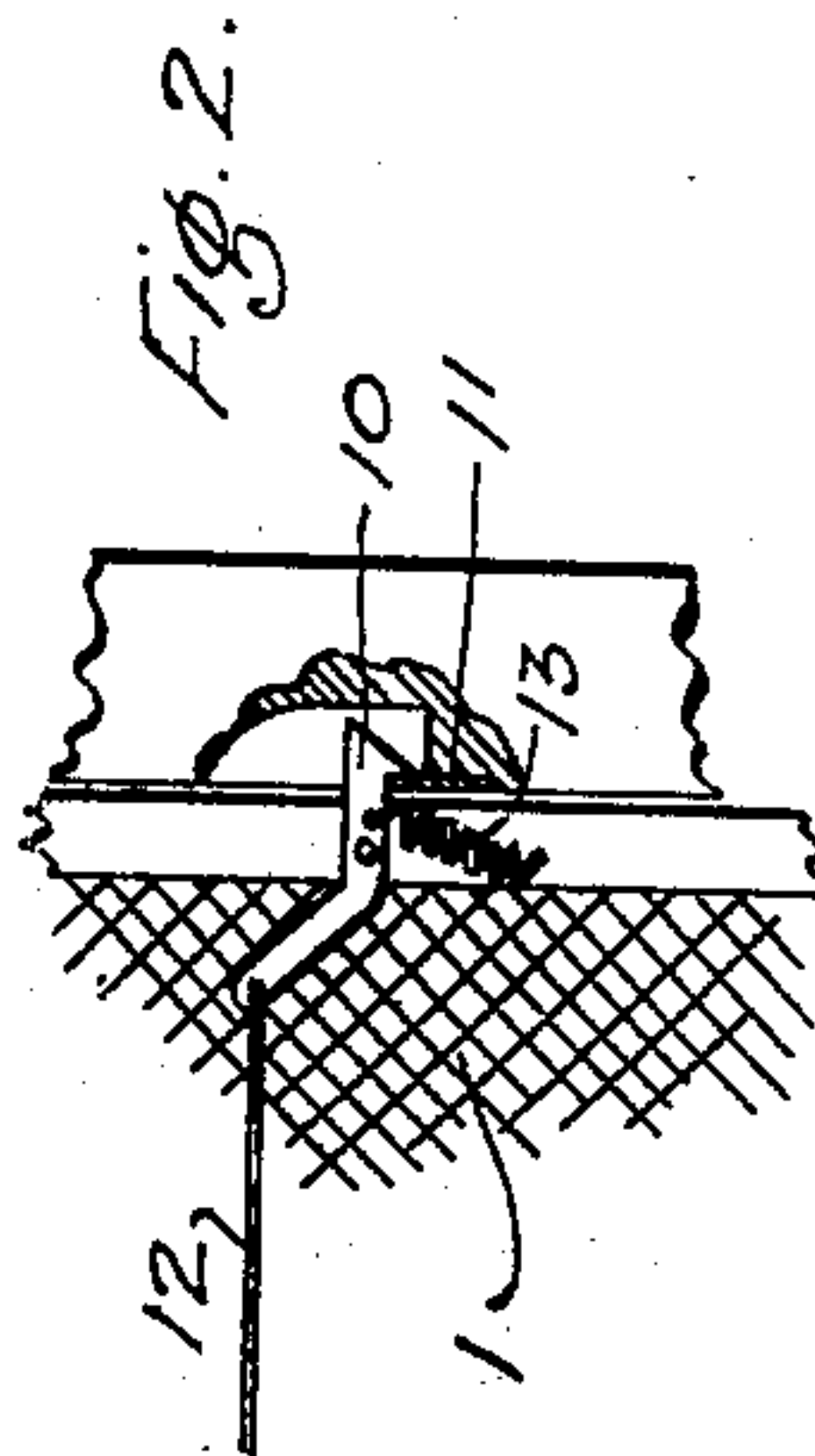
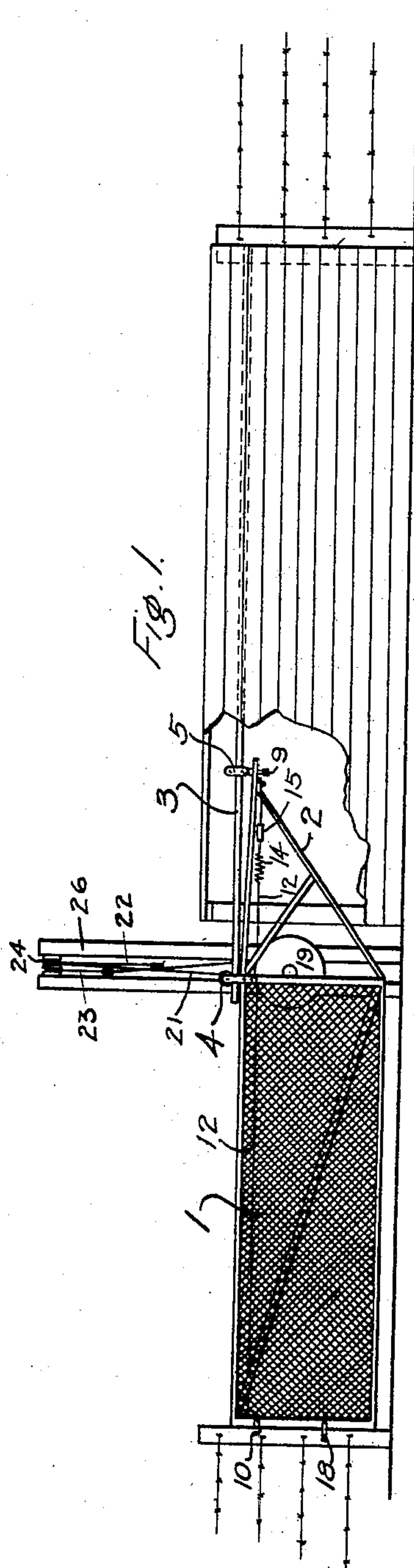
No. 863,471.

PATENTED AUG. 13, 1907.

R. M. THOMPSON.  
GATE.

APPLICATION FILED DEC. 28, 1905.

2 SHEETS—SHEET 1.



Witnesses  
M. A. Van House  
Paul V. Tuttle

Inventor  
Robert M. Thompson  
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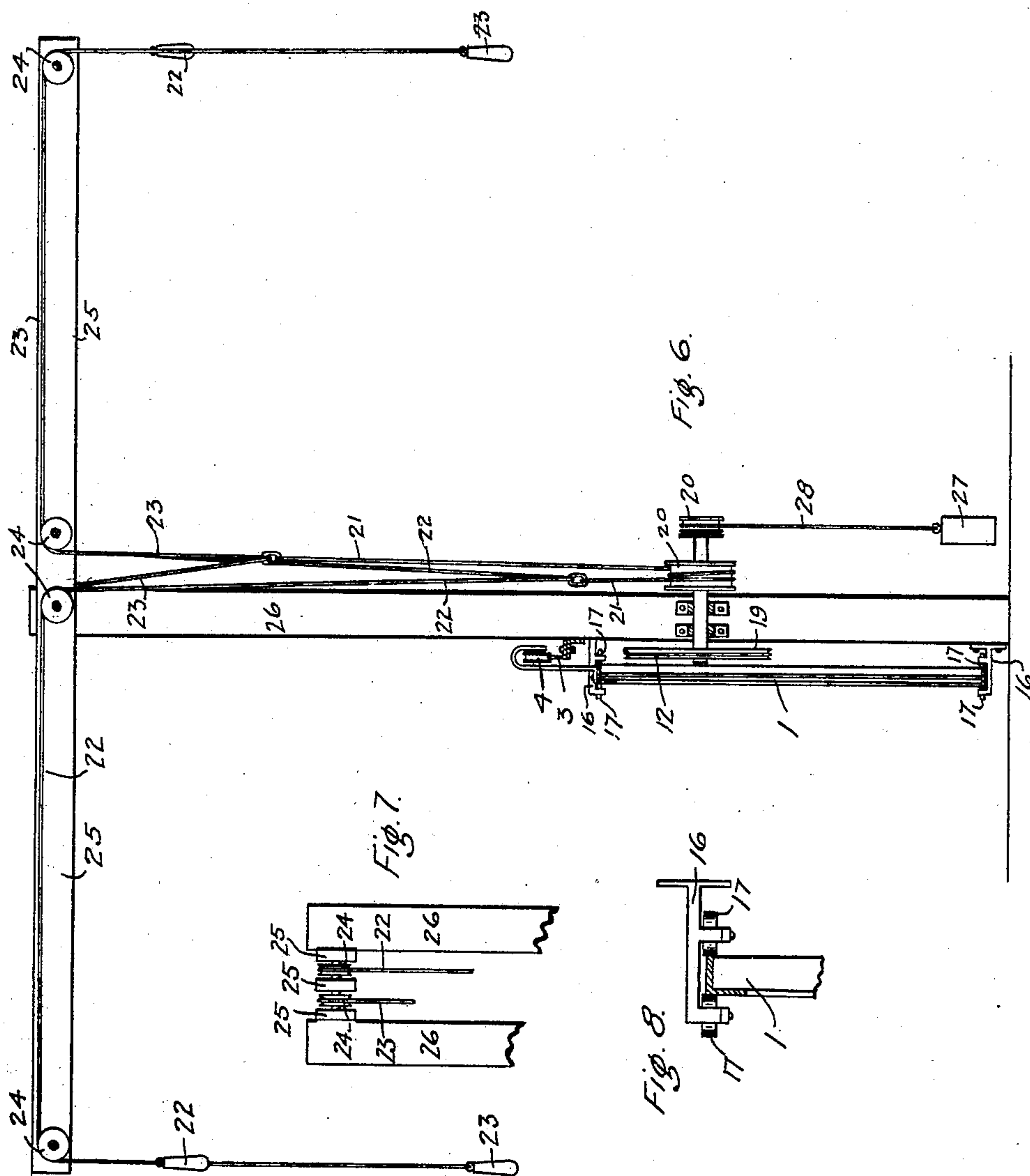
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# UNITED STATES PATENT OFFICE.

ROBERT M. THOMPSON, OF TACOMA, WASHINGTON.

## GATE.

No. 863,471.

Specification of Letters Patent.

Patented Aug. 13, 1907.

Application filed December 28, 1905. Serial No. 293,609.

*To all whom it may concern:*

Be it known that I, ROBERT M. THOMPSON, a citizen of the United States of America, residing at Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Gates, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to gates and is more particularly an improvement in the gate patented by A. Noe on July 18, 1905, No. 795162, and has for its objects to produce a sliding gate which will be simple in construction and adjustably hung.

Further objects are to improve means of operating the gate; to extend the adaptability of the gate operating mechanism to a large variety of circumstances; and to improve the automatic gate latching mechanism.

I attain these objects by the devices illustrated in the accompanying drawings in which

Figure 1 is a front view of the gate. Fig. 2 is a detail of the latch. Figs. 3 and 4 are respectively front and end views of the adjustable hanger. Fig. 5 is a plan of a portion of the gate. Fig. 6 is a vertical cross-section of the gate at the operating post. Fig. 7 is an end view of the upper portion of the operating post. Fig. 8 is a view of the gate guide.

Similar numerals of reference refer to similar parts throughout the several views.

Referring to the drawings, it will be seen that my gate "1" is hung from the rear, by means of the cantaliver extension "2" from the fixed rail "3" supported by suitable posts at the side of the gateway. The gate is hung from this rail "3" by means of the front hanger roller "4" which is grooved and is secured to the gate at its rear end, and by the double hanger "5" adjustably secured to the rear end of the cantaliver "2". In constructing the fixed rail "3" I prefer to use a light angle iron as shown in Figs. 4 and 6 supporting it at various points from the posts installed for that purpose. I also find that in some portions of the country it is advisable to house in the track "3" as shown in Fig. 1 so as to allow the gate "1" to enter freely into the housing, thus protecting it from being blocked by snow or by sand or any other shifting obstruction and allowing it to be opened in spite of any extraordinary occurrence and, since the gate is normally kept closed and is open only for a few moments, it will itself keep the gateway clear so that it can be closed when once opened. The above mentioned double hanger "5" consists of a strap of iron supporting the upper and lower rollers or wheels "6" and "7" which ride respectively on the edge of the angle and on the corner thereof as shown in Fig. 4. The upper wheel "6" is preferably grooved so that it will retain its position on the bar or rail "3", but the lower wheel has a straight surface. The hanger "5" does not completely envelop the wheels "6" and "7"

but a space is left on one side through which the rail "3" projects so as to come between the wheels. The hanger "5" is provided with a lower extension which engages between two guides "8", secured to the rear end of the cantaliver extension "2", and is adjustably held therein by the screw "9" which screws through a lug formed on said guides "8" and which engages the lower end of the hanger "5" so that when the screw "9" is turned it will move the guides "8" relatively to the hanger "5" and hence will adjust the gate vertically.

My improved gate is preferably latched by means of the vertically pivoted hook "10", secured to the end bar of the gate, and adapted to hook over a suitable bar "11" properly mounted on the end gate post. The latch is automatically operated since it is connected to the gate operating wire "12" which is secured at the forward, or latch, end of the gate to the latch hook "10" and at the rear end to the end of the cantaliver extension "2". The wire "12" is secured to an extension of the latch hook "10" out of line with the pivot thereof so that by pulling the wire "12" the hook "10" is raised and released from engagement with the bar "11" on the gate post. A spring "13" pulls the latch hook "10" downwards and is made stronger than a spring "14" which is secured to the other end of the wire "12" between said wire and the end of the cantaliver extension "2". A suitable adjustable turnbuckle "15" may also be introduced between said spring "14" and the extension "2". The wire "12" is therefore hung between two springs "13" and "14" and operates the gate by pulling on one or the other thereof.

In Figs. 6 and 8 are shown the lateral guides which keep the gate from swinging sidewise. These consist of brackets "16" secured to a post or other suitable support and each having two guide wheels "17" mounted thereon on vertical axes, the said wheels bearing on both sides of the upper and lower gate frame bars. The forward end of the gate "1" may also enter between suitably arranged guide lugs which are secured to the gate post and which are indicated in the drawings by the numerals "18."

The wire "12" is actuated by the wheel "19", around which it is wound intermediate the springs "13" and "14", which wheel may be rotated in one direction or the other as hereinafter described. The wheel "19" is mounted on a suitable horizontal axle suitably supported in close proximity to the gate "1", and two other wheels or drums "20" are also mounted thereon, said drums "20" being of any desired diameter in comparison with the wheel "19" according to the ratios of leverage desired as hereinafter explained.

Referring to Fig. 6 it will be observed that a flexible cord or rope "21" is wound several times around one of the drums "20", which cord "21" is secured to said drum so as not to allow any slipping thereon. In the



drawing the cord "21" is shown as having its ends pass upwards, and to one end thereof are secured the two ropes "22" and "29" while to the other end are secured the two ropes "23" and "30"; said ropes "22" and "23" pass to one operating point while the ropes "29" and "30" pass to another operating point, and since the ends of the rope "21" are complementary to each other, the ends of the ropes "22" and "29" are complementary to the ends of the ropes "23" and "30." In ordinary practice these ropes will be led over suitable pulleys "24" mounted on cross arms "25" secured to the vertical post "26" and extending out for several feet on each side of the gateway; the ends of the ropes "22" and "23" hanging therefrom on one side while the ends of the ropes "29" and "30" hang on the other side and all said ends being preferably provided with suitable gripping handles. Other arrangements of these operating ropes "22" and "23" may be had as will be indicated. It is evident that if the ends of the ropes "22" and "29" are up, and these of the ropes "23" and "30" are down, as shown in Fig. 6, and if the gate is closed when said rope ends are in such positions, that by pulling firmly on either of the ropes "22" the drum "20" and the axle and wheel "19" will be rotated, thus pulling the wire "12", against the spring "13", lifting the latch hook "10" away from the bar "11", and pulling the gate "1" open. As the ends of the ropes "22" or "29" are pulled down, the ends of the ropes "23" and "30" rise until the gate is opened and then the said ends are in positions the reverse of those which they occupied when the gate was closed.

It is evident, as above inferred, that a great variety of arrangements of the ropes "22" "29", "30" and "23" may be had to suit special circumstances, any or all of which may be installed. In Fig. 6 I have also shown one method of closing the gate without the necessity of pulling the cord "23". This is done by a weight "27" hung from a cord "28" which is wound around one of the drums "20" in such direction as to close the gate when the cord "22" is released. When this device is used the cord "22" may be retained in the hand while the vehicle is passing through the gate, thus holding the gate open until the cord is released, when the weight "27" will close the gate.

Having described my invention, what I claim is:

1. The combination with a longitudinally sliding gate, of a cantaliver extension formed on the rear of said gate, a supporting rail removed from the gateway, a hanger secured to the rear of said gate and engaging the upper side of said rail, and a hanger adjustably secured to the end of

said cantaliver extension and engaging the lower side of said rail.

2. The combination with a longitudinally sliding gate, of a cantaliver extension formed on the rear of said gate, a supporting rail removed from the gateway and having a narrow edge, a grooved hanger wheel secured to the rear of said gate and engaging the upper side of said rail in said groove, and a hanger provided with a grooved wheel and adjustably secured to the end of said cantaliver extension and engaging the lower side of said rail in said groove.

3. The combination with a longitudinally sliding gate, of a cantaliver extension formed on said gate, a supporting rail having a narrow upper edge, a grooved hanger wheel secured to said gate and engaging said rail in said groove, and a hanger provided with a pair of wheels engaging between them the upper and lower surface of said rail, said hanger being adjustably secured to the end of said cantaliver extension.

4. The combination with a longitudinally sliding gate supported from the rear from a fixed rail, a spring latch secured to the forward end of said gate and adapted to hook to the gate post, a flexible wire secured at one end to said latch and acting against the spring thereof and secured at its other end through a spring to the other end of said gate, a rotating wheel adjacent to said gate around which said flexible wire is wound intermediate of its ends, a drum secured to said wheel, a flexible rope wound on said drum, and pairs of operating ropes, one in each pair being secured to each end of said flexible rope.

5. The combination with a longitudinally sliding gate supported from the rear from a fixed rail, a flexible wire secured at its ends to the ends of said gate, a rotating wheel adjacent to said gate around which said flexible wire is wound intermediate of its ends, a drum secured to said wheel, a flexible rope wound on said drum, and a plurality of pairs of operating ropes, each pair leading to a separate point, one rope in each pair being secured to each end of said flexible rope whereby said gate may be independently operated in either direction from any of the points.

6. The combination with a longitudinally sliding gate supported from the rear from a fixed rail, a spring latch secured to the forward end of said gate and adapted to hook to the gate post, a turnbuckle secured to the other end of the gate, a spring secured to the other end of the turnbuckle, a flexible wire secured to the latch and to the spring and acting against the said springs, a rotating wheel adjacent to said gate around which said flexible wire is wound intermediate of its ends whereby said gate is operated, a drum secured to said wheel, a flexible rope wound on said drum, and a plurality of pairs of operating ropes, each pair leading to a separate point, one rope in each pair being secured to each end of said flexible rope whereby said gate may be independently operated in either direction from any of the points.

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

ROBERT M. THOMPSON.

Witnesses:

M. H. COREY,

M. A. VAN HOUSE.