

No. 744,439.

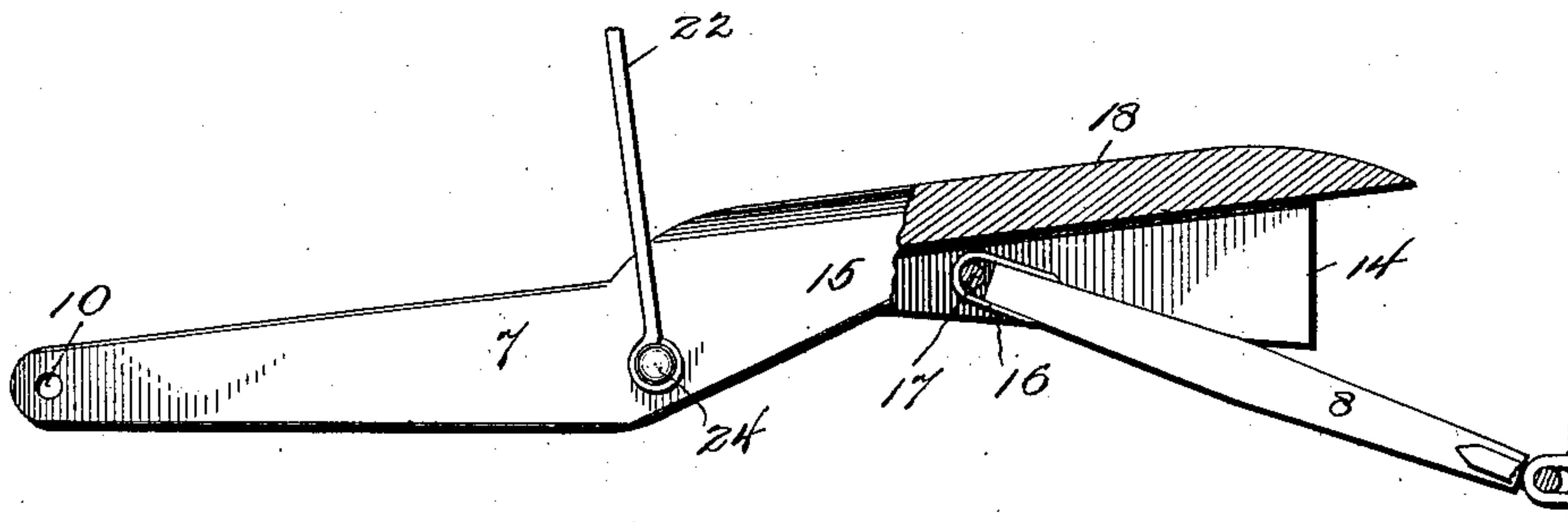
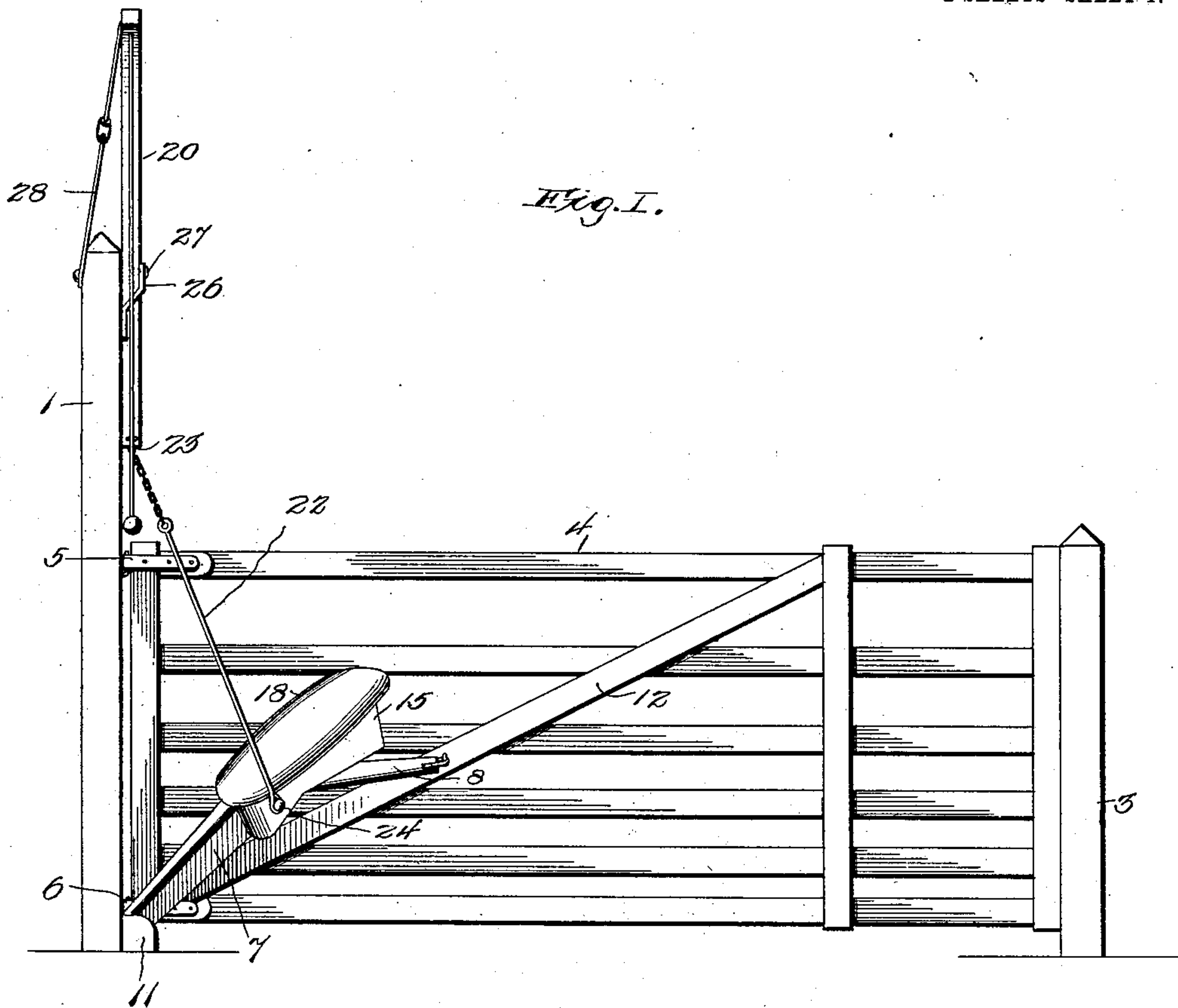
PATENTED NOV. 17, 1903.

A. L. TRUMBO.
GATE.

APPLICATION FILED JAN. 2, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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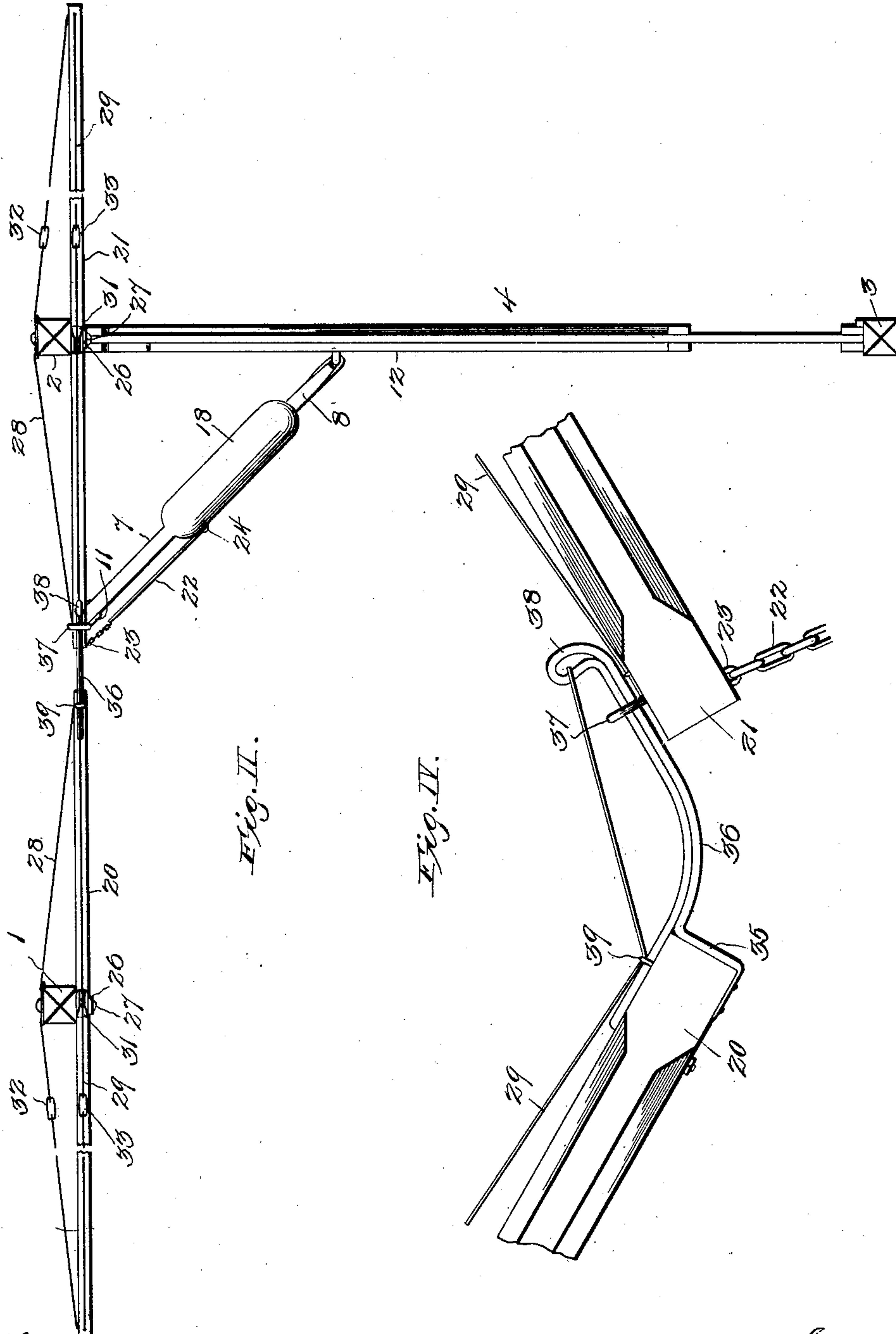
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NO MODEL.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ADAM L. TRUMBO, OF JASPER, KENTUCKY.

GATE.

SPECIFICATION forming part of Letters Patent No. 744,439, dated November 17, 1903.

Application filed January 2, 1903. Serial No. 137,382. (No model.)

To all whom it may concern:

Be it known that I, ADAM L. TRUMBO, of Jasper, in the county of Clark, State of Kentucky, have invented certain new and useful
5 Improvements in Gates, of which the following is a complete specification, reference being had to the accompanying drawings.

My invention relates to that class of gates sometimes called "farm-gates" on account of
10 their extensive applicability to rural use, in which provision is made for operating the gate from either side through the manipulation of one of a pair of levers disposed so as to be within easy reach of the occupant of a ve-
15 hicle or a horseback-rider.

The object of my invention is to produce a gate of the class described in which are combined simplicity of structure and installation, economy in the first cost, as well as in such
20 usual repairs as may occur in practice, efficiency and directness of operation, and protection against freezing, snow, or rain, which tend often to defeat the operativeness of gates of this description.

25 In the accompanying drawings, Figure I is a side elevation of a preferred form of embodiment of my invention complete, showing the drop-lever slightly raised, as in the initial movement for opening or the final position before complete closing of the gate. Fig.
30 II is a top plan view of the subject-matter of Fig. I, but showing the gate closed entirely. Fig. III is a side elevation, partly in section, of the drop-lever detached; and Fig. IV is a
35 side elevation of the connecting mechanism that operatively unites the adjacent ends of the opening and closing levers, portions of each of which are shown.

Referring to the numerals on the drawings,
40 1 and 2 indicate two posts which, being preferably of substantially equal dimensions, are designed to be located upon one side of and parallel to a roadway which passes between the post 2 and a third post 3.

45 The three posts above designated are clearly shown in Fig. II and are substantially shown in Fig. I, except that in the latter figure the post 1 obscures its counterpart 2. The posts 1 and 2 project above ground to nearly twice
50 the height of the post 3, the actual dimensions varying, of course, under varying con-

ditions as to dimensions and weight of the gate.

4 indicates a gate of any preferred construction and design hung as upon ordinary
55 hinges 5 and 6 from the post 2, swinging from which it is adapted to close or open the space between the posts 2 and 3.

The posts 2 and 3 and the intermediate gate 4 being, as I have described them, of any or-
60 dinary or preferred construction and design, I employ in connection therewith a member which is essentially a toggle-joint, but which on account of the weight of material used in it to compel it to perform its function I design-
65 nate a "drop-lever." This drop-lever comprehends two levers 7 and 8, pivotally united, respectively, to the ground and to the gate, as well as to each other. To this end the lever
70 7 is provided near one end (see Fig. III) with a bolt-hole 10, adapted to be secured, as by an ordinary bolt, (not shown,) to a bifurcated stud 11, fixed in the ground between the posts 1 and 2. In order to insure freedom
75 of movement of the lever 7 against freezing or failure to operate for other reasons due to atmospheric changes, the means of pivotal connection between the lever and the ground should not only be simple, but should also
80 provide for the rise and fall of the lever 7 uniformly in the same plane. For this reason the lever 8 is loosely pivoted both to the lever 7 and to the gate. I illustrate simple piv-
85 otal connections, such as I have described. The lever 8 is connected directly to a diagonal brace 12 on the gate 4, as by interlinked staples secured, respectively, to the brace and
90 to one end of the lever 8. The other end of the lever 8 works between two sides 14 and 15, which define upon the lever 7 a bifurcated end, and is provided with a loop 16, that
95 loosely engages a rod 17, extending across the space between the lever sides 14 and 15 and secured to said sides. In consequence of the arrangement I have just described, through
100 a twisting movement of the lever 8 the toggle-joint of which it is a part is permitted to perform its function, notwithstanding the uniformity of movement in the same plane of the lever 7. In the performance of its required function the toggle-joint is caused to assume position in a straight line between its termi-

nal pivotal points when the gate is closed and while in that position to keep the gate closed. The force relied upon to bring the toggle-joint to the gate-closing position is gravity, and for that reason, the weight of the lever 7 being chiefly relied upon for the purpose, that lever is made of heavy material and is extended considerably beyond the pivot-rod 17. It is, moreover, provided above its bifurcated end with a cover 18, which, forming with the side pieces 14 and 15 a longitudinally-extended hood in and out of which the lever 8 works, performs the threefold function of increasing the weight of the lever 7, of protecting the pivotal connection between the levers 7 and 8 from injurious effects of atmospheric changes, and of holding the parts of the toggle-joint properly aligned when the gate is closed.

For breaking the alinement of the parts of the toggle-joint—that is to say, in other words, for opening the gate—I employ a pair of opening and closing levers, (indicated, respectively, by the reference-numerals 20 and 21,) which, being pivotally mounted, respectively, upon the posts 1 and 2, are operatively connected through their respective shorter arms, which are adjacent to each other. In like manner they are mutually connected to the toggle-joint, as by a direct connection 22, between the short arm of the lever 21, for example, as indicated at 23, and the lever 7 at a point indicated at 24. The point 24 is located at a point between the pivotal connections 10 and 17 of the lever 7, determinable in practice and under necessarily diverse conditions by the exercise of ordinary mechanical skill. In the main the levers 20 and 21 are of the same construction, and each is pivoted to its respective post, as by a bracket 26 and a bolt 27, which, passing entirely through the bracket, the lever, and its post, forms also a bearing for the brace-rod 28, that extends from one end to the other of the lever.

29 indicates a brace-rod corresponding in function to the brace-rod 22, but located in a plane at right angles thereto. The brace-rod 29 passes over a tension-block 31, secured to the lever, and extends substantially from one end to the other of the lever. Each of the rods 28 and 29 is preferably provided with a turnbuckle 32 33, by which the tension upon the respective rods may be varied. By this means provision is made through the brace-rods not only for lending strength and rigidity to the levers, but also for keeping them straight and true. The long arm of each of the levers is provided with a handle of the kind usually employed for operating gates of this description.

It was stated previously that the short arms of the levers 20 and 21 are operatively connected. The condition of their operation be-

ing such that they operate as a unit to exert tension or a pull upon the lever 7, through the connection 22, I prefer to provide upon one lever—20, for example—a bracket 35, which carries a curved neck 36, that works through a staple or eyelet 37, carried by the lever 21. 38 indicates a terminal upturned eyelet which is adapted to engage the eyelet 37, and thereby to limit the movement in one direction of the levers 20 and 21. I prefer that the brace-rod 29 of the lever 20 should engage not only with a staple 39, located near the end of said lever, but should extend underneath the same and attach to the terminal eyelet 38.

What I claim is—

1. The combination with a gate and its pair of posts, of a toggle-joint operatively connecting the gate and a fixed point adjacent thereto, one lever of said joint being hooded and restricted to movement in the same plane and the other lever being loosely pivoted to the gate and to the first-named lever under its hooded part, respectively, and means for operating the toggle-joint.

2. The combination with a gate and its pair of posts, of a toggle-joint operatively connecting the gate and a fixed point adjacent thereto, one lever of said joint being bifurcated, hooded and restricted to movement in the same plane and the other lever being loosely pivoted to the gate and to the first-named lever under its hooded part, respectively, and means for operating the toggle-joint.

3. The combination with a gate, its posts, and a lever operatively connected with the gate and carried on one of the posts, of brace-rods located substantially in planes at right angles to each other and connected respectively to the opposite extremities, approximately, of said lever.

4. The combination with a gate, its posts, and a lever operatively connected with the gate and carried on one of the posts, of brace-rods located substantially in planes at right angles to each other and connected respectively to the opposite extremities, approximately, of said lever, and means for varying the tension upon the respective rods.

5. The combination with a gate, its posts, and a pair of levers upon two of the posts operatively connected with the gate and with each other, of the means of connecting the levers, consisting of a member having a curved neck upon one lever, and an eyelet for the reception of the curved neck, upon the other lever.

In testimony of all which I have hereunto subscribed my name.

ADAM L. TRUMBO.

Witnesses:

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WALTER BROWN.