

No. 871,905.

PATENTED NOV. 26, 1907.

A. D. ACERS.
GATE.

APPLICATION FILED SEPT. 15, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

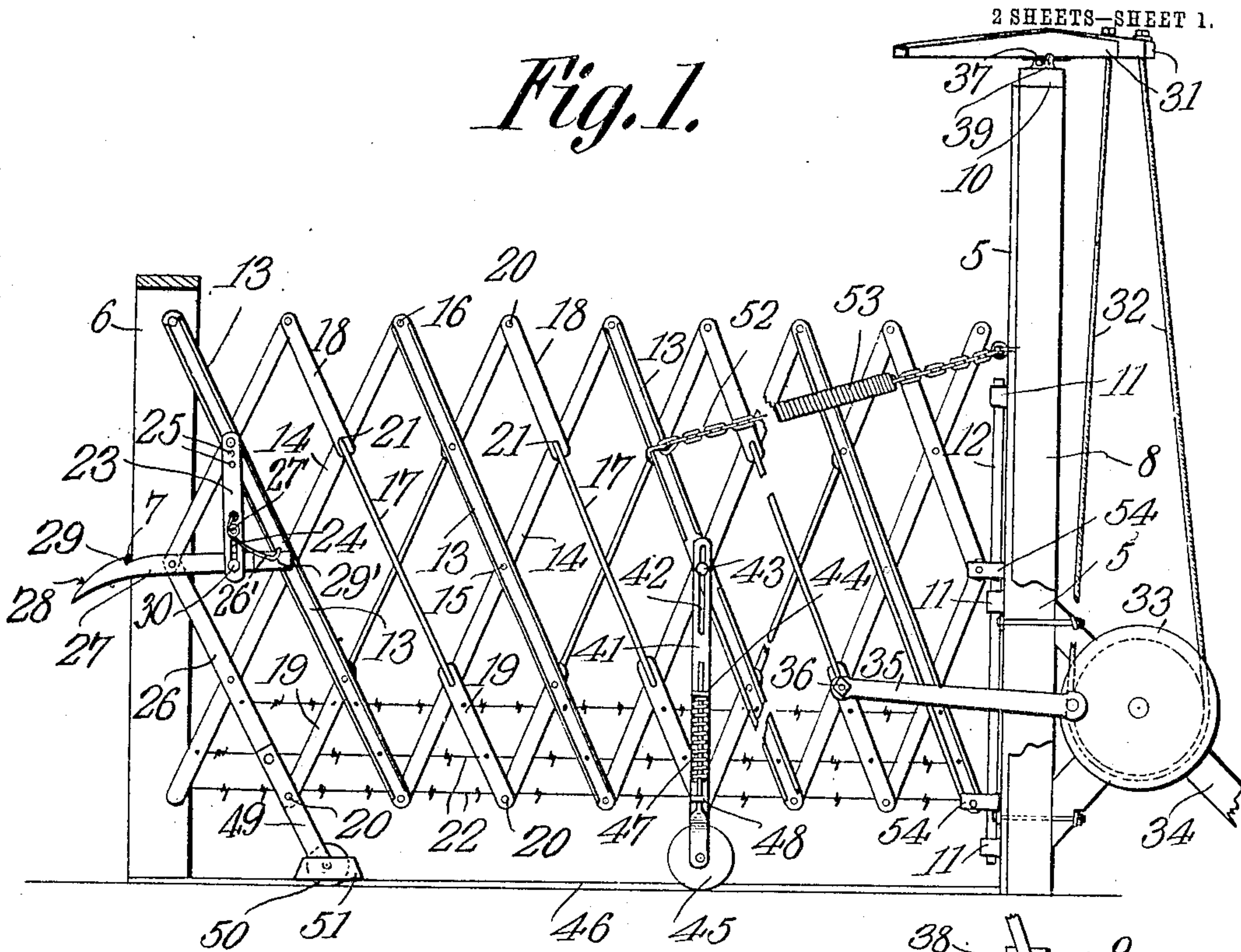


Fig. 2.

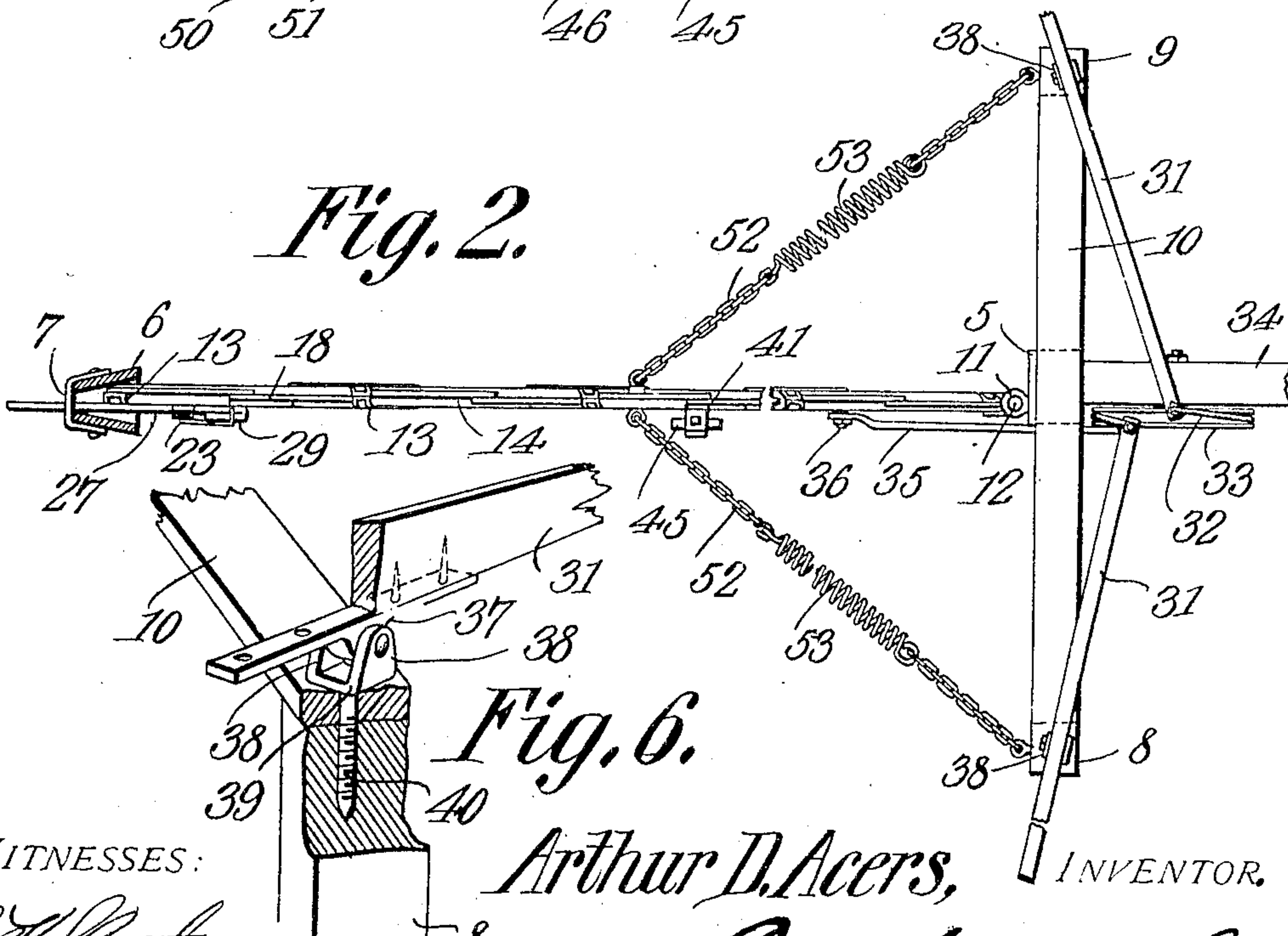


Fig. 6.

WITNESSES:

E. H. Stewart
J. D. Acers

Arthur D. Acers,

By *C. A. Snow & Co.*
ATTORNEYS

INVENTOR.

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2 SHEETS—SHEET 2.

Fig. 3.

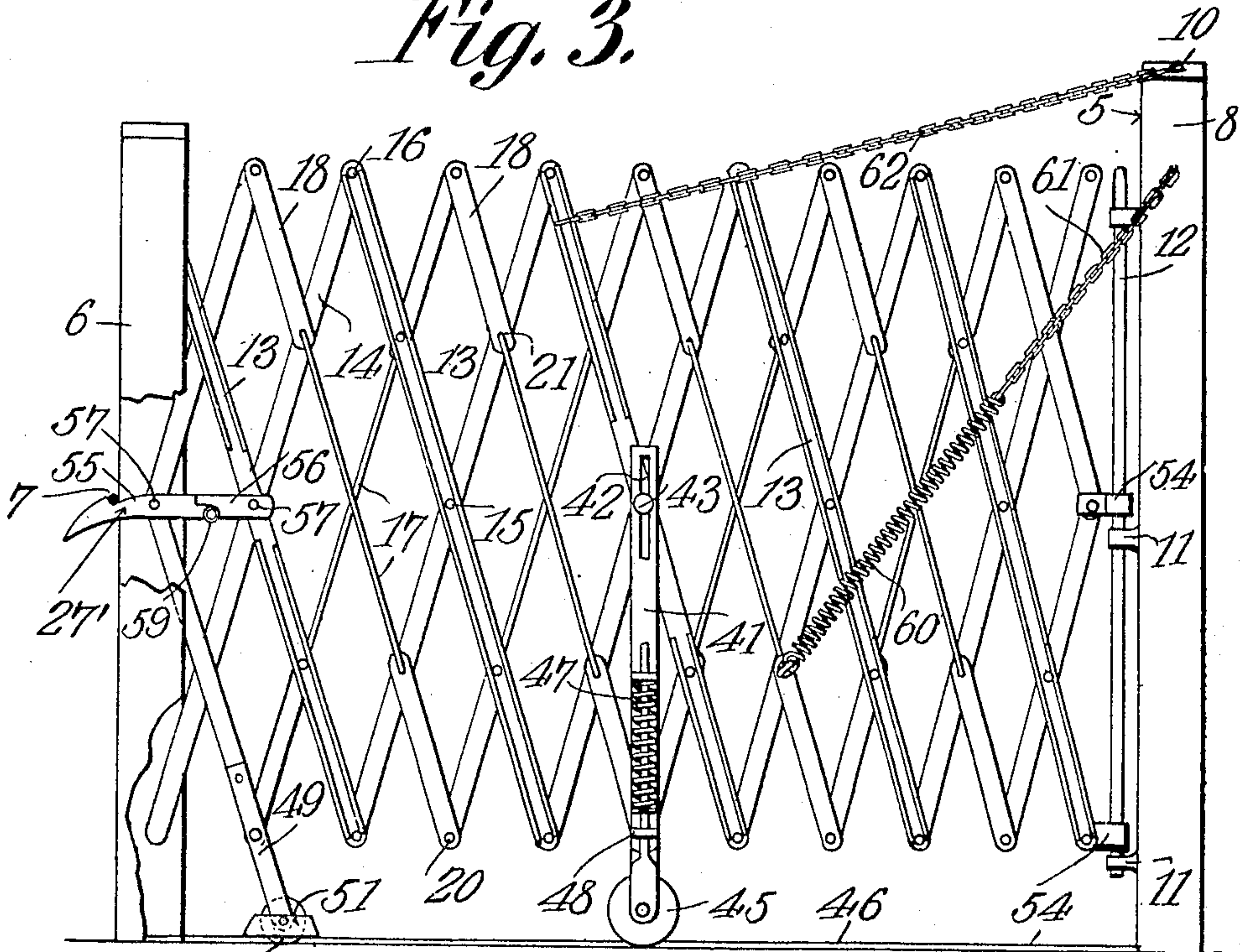


Fig. 4.

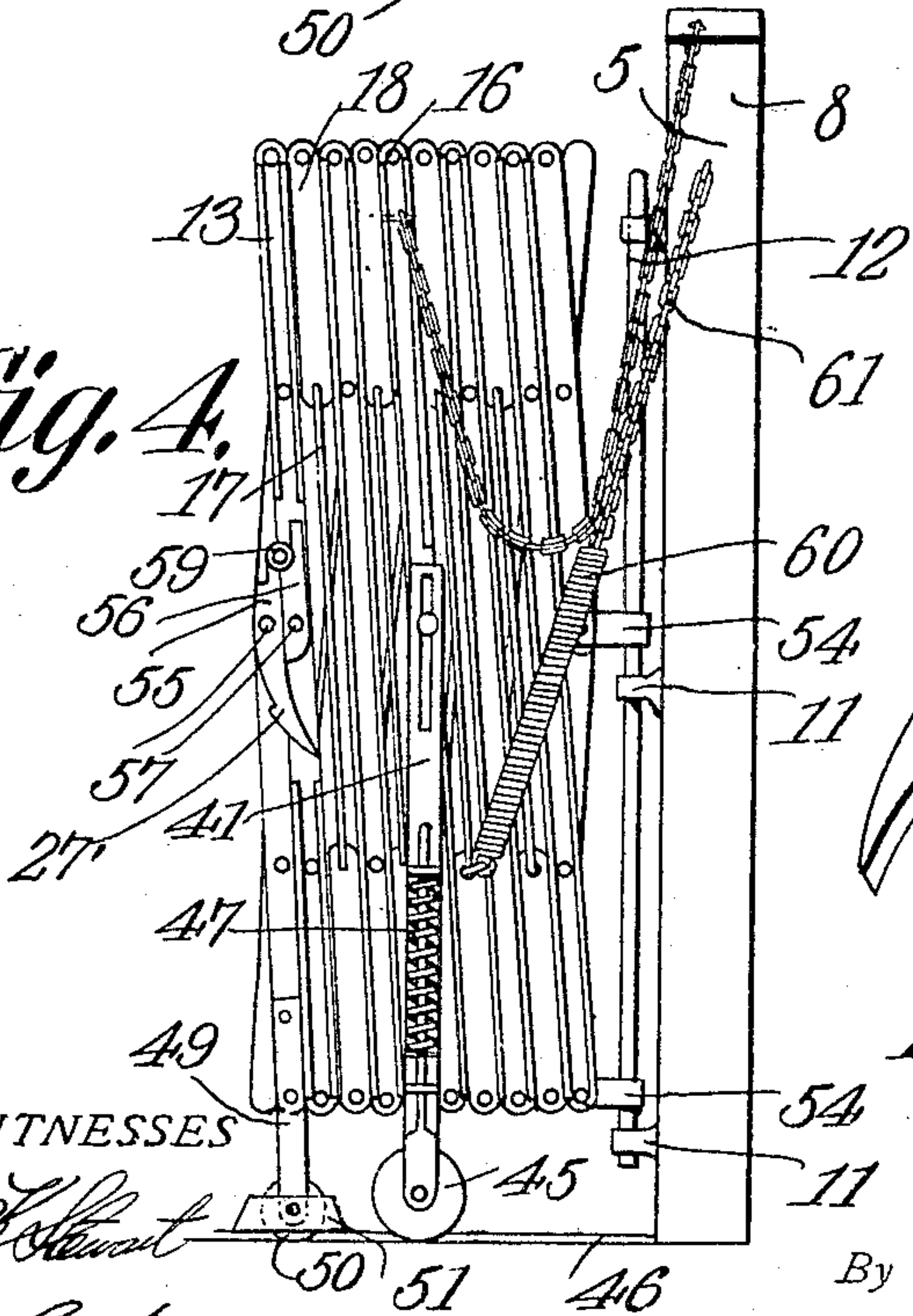
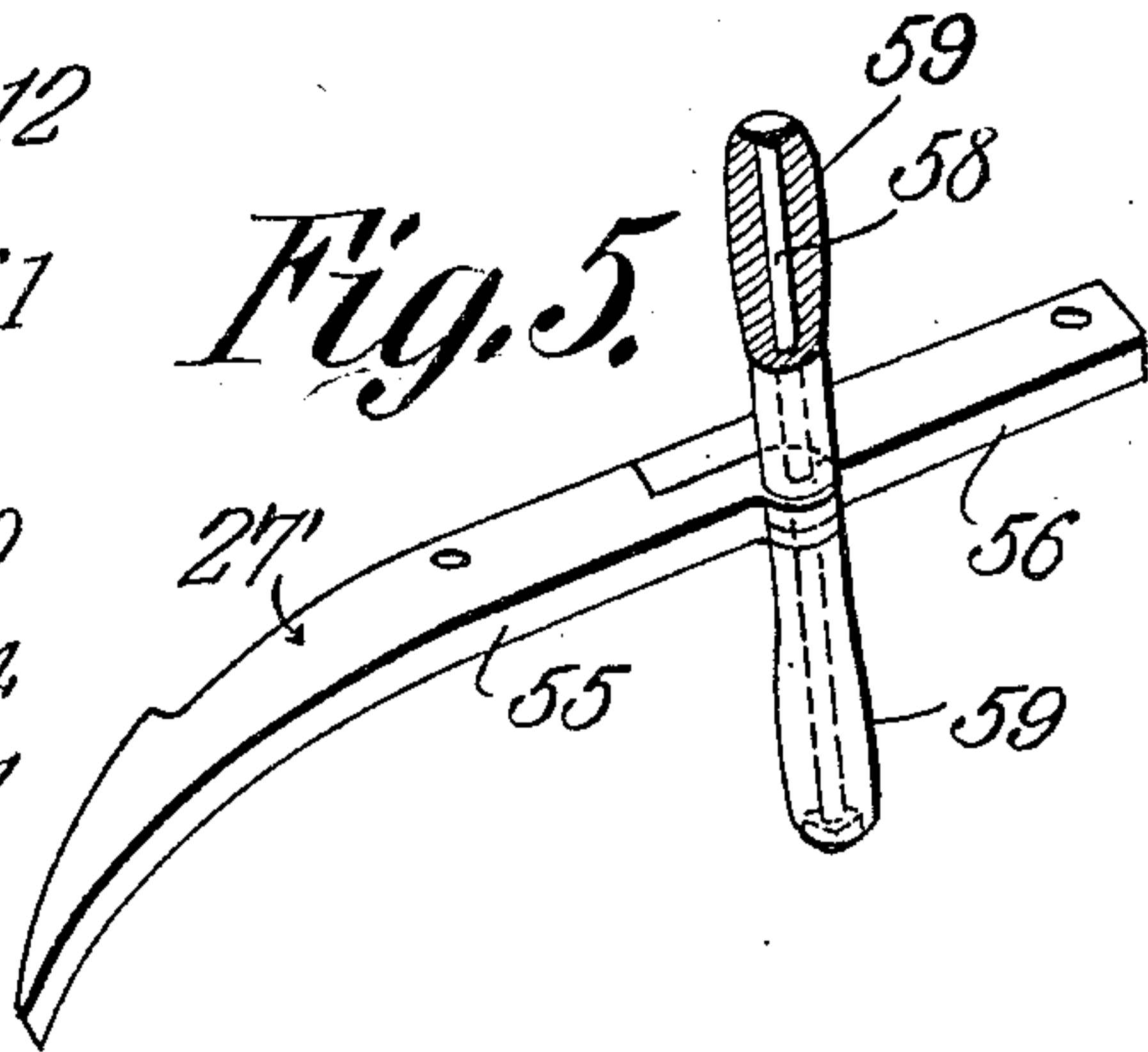


Fig. 5.



WITNESSES

E. J. Hunt
L. J. Vicker

Arthur D. Acers,

INVENTOR.

By

C. A. Snow & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

ARTHUR DAVID ACERS, OF NORMAN, OKLAHOMA TERRITORY.

GATE.

No. 871,905.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed September 15, 1906. Serial No. 334,712.

To all whom it may concern:

Be it known that I, ARTHUR DAVID ACERS, a citizen of the United States, residing at Norman, in the county of Cleveland and Territory of Oklahoma, have invented a new and useful Gate, of which the following is a specification.

This invention relates to gates of that general class shown and described in United States Letters Patent issued to me on the 13th day of December, 1904, under No. 777236.

The object of the invention is to generally improve and simplify the construction of the gate, and to provide improved means for automatically locking the gate when the latter is moved to closed position and means for releasing the locking means when the gate is opened.

A further object of the invention is to provide spring pressed guide rollers adapted to engage the track, and further to provide a scraper for removing dirt and other foreign matter deposited on the track in the path of movement of the rollers.

A further object is to provide flexible braces for preventing lateral movement of the gate, said braces being provided with coiled springs to assist in folding the gate when the latter is moved to closed position.

A still further object of the invention is to provide a novel form of hinged connection between the gate and gate-post thereby to allow vertical play of the gate when folding the latter and also to permit the gate to be swung laterally against the gate post.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, and illustrated in the accompanying drawings, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a side elevation of an automatic lever operated gate constructed in accordance with my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation of a hand-operated gate. Fig. 4 is a similar view showing the gate in folded position. Fig. 5 is a perspective view of the latch shown in Fig. 3

detached. Fig. 6 is a perspective view of the lever-supporting clips.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

In carrying out the present invention a pair of posts 5 and 6 are mounted on opposite sides of the road-way, the post 6 being formed of spaced vertical bars disposed at an angle to each other and connected by a strap 7 constituting a keeper. Mounted on opposite sides of the post 5 are lever-posts 8 and 9 connected with each other and with the post 5 by a horizontally disposed bar 10.

Secured to the post 5 and spaced from the front edge thereof are suitable clips 11 in which is seated a vertically disposed rod 12 carrying the collapsible gate, as shown.

The collapsible gate is of lazy-tong construction and consists of pairs of angle or channel bars 13 and 14 which are crossed intermediate their ends and pivotally connected at their points of juncture as indicated at 15 with their extremities pivotally connected at 16 to the corresponding extremities of the opposite members of the adjacent pairs of members. Alternate with the bar members are rod or wire members 17 which are connected to the inner ends of upper and lower flat links 18 and 19, the adjacent links converging outwardly and pivotally connected as at 20. Each of these links crosses the adjacent bar and is pivotally connected thereto by a pivot 21 which is formed by bending the adjacent end of the rod or wire 17 transversely and passing the same through the link and bar, thereby forming a connection between the link and the wire and also a pivotal connection between the link and the adjacent bar.

A series of substantially parallel chains or cables 22 are stretched from end to end of the gate at the lower portion thereof so as to obstruct the open spaces between said bar members when the gate is extended or closed, thereby to prevent poultry and small stock from passing through the gate.

Secured to the pivot pin of the forward bar 13 of the gate is a hanger 23 having its free end formed with an elongated slot 24 and its fixed end provided with a plurality of openings 25 whereby the bar may be adjusted vertically of the gate.

Pivoted to the forward bar 14 of the gate

at its juncture with the lower diagonal bar 26 is a latch 27 the outer end of which is inclined or beveled as indicated at 28 and provided with a notch 29 adapted to engage the keeper 7 when the gate is moved to closed position. The inner end of the latch 27 is provided with a weight 29' and extending laterally from the latch in advance of the weight is a pin or stud 30 which engages the walls of the slot or recess 24, as shown. A spring 26' is coiled around a pin or stud 27' on the hanger 23 with one end thereof engaging an opening in said hanger and with its opposite end bearing against the weighted end of the latch to assist in returning said latch to horizontal or normal position. It will thus be seen that when the gate is moved to closed position the inclined end 28 of the latch will engage the keeper 7 and thus elevate the weighted end 29 of the latch until the notch 29 is in vertical alinement with said keeper when the weight 29' will automatically depress the inner end of the latch and thus cause the notch to engage the keeper and lock the gate in closed position. It will also be observed that the initial opening movement of the gate will expand the several links comprising the latter thus causing the hanger 23 to exert an upward pull on the weighted end of the latch, thereby releasing the notched end of said latch and permitting the gate to be readily moved to open position without the employment of levers, cords and other auxiliary operating devices.

As a means for opening and closing the gate there is provided a pair of hand-operated levers 31 the inner ends of which are attached to a cord or cable 32 which passes over a drum or pulley 33 mounted for rotation on a suitable supporting frame 34, there being a link or pitman 35 eccentrically mounted on the pulley 33 and detachably secured to the gate, as indicated at 36. The levers 31 are provided with depending brackets 37 and are pivotally mounted for tilting movement between the spaced ears 38 of supporting clips 39, the latter being provided with depending screws 40 which engage posts 8 and 9 and thereby permit lateral and tilting movement of the hand-levers 31.

Depending from the gate is a bar 41 having an elongated slot 42 formed therein for the reception of a clamping bolt 43, and mounted for vertical movement in an apertured lug 44 on said bar is a roller 45 which engages a track 46, there being a coiled spring 47 interposed between the lug 44 and a corresponding lug 48 on said bar, for yieldably supporting said roller in engagement with the track.

Secured to the forward cross bar 26 at the lower end thereof is a bar 49 having a roller 50 journaled in the free end thereof which

also engages the track 46, there being a scraper 51 pivotally mounted on the axle of the roller and adapted to remove any dirt or other foreign matter deposited on the track in the path of said rollers.

As a means for preventing lateral movement of the gate there are provided oppositely disposed braces 52 preferably formed of chain or other flexible media, one end of each brace being secured to the adjacent lever post while the opposite end thereof is detachably secured to the opposite sides of the gate.

Interposed between the links of the chain comprising the braces 52 are coiled springs 53 which yieldably support the gate in alinement with the fence posts 5 and 6 and also serve to assist in closing the gate when the collapsible frame comprising the gate is folded.

The inner end of the gate is pivotally mounted on the rod 12 by means of loops or links 54 whereby when the pitman 35 and braces 52 are detached the gate may be swung laterally against the latch-posts thereby to present an unobstructed opening or way for the passage of wagons and other vehicles. The pivotal connection between the gate and the rod 12 also permits vertical movement of said gate when the latter is moved to open and closed position. It will thus be seen that by tilting one of the hand-levers 31 the pulley 33 will be rotated through the medium of the cable 32 thus exerting a longitudinal pull on the pitman 35 and causing the latter to move the gate to open position, the springs 53 serving to assist in opening the gate. The initial rearward movement of the gate will cause the hanger 23 to elevate the weighted end of the latch and thus release the active end thereof from engagement with the keeper 7, as before stated. When the opposite hand-lever 31 is tilted the pulley 33 will be rotated to project the pitman 35 and thus close the gate, the inclined end 28 of the latch automatically engaging the keeper and thus locking the gate in closed position.

In Figs. 3 to 5 inclusive there is illustrated a hand-operated gate in which the latch 27' is formed in two sections 55 and 56 having their inner ends pivotally united and adapted to fold upwardly. The sections 55 and 56 are pivotally connected to the bars 13 and 14 as indicated at 57, the pivots 57 being arranged above the pivotal connection between the sections whereby when said sections are folded downwardly the latch will be rigid. Extending laterally through the inner ends of the latch sections at the pivotal connection between the same is a rod or bolt 58 the opposite ends of which are provided with handles 59 by means of which the latch sections 55 and 56 may be forced upwardly

thereby to release the free end of the latch from the keeper and permit the opening movement of the gate. In this form of the device a spring 60 is secured to one of the bars comprising the gate at the lower end thereof and is extended upwardly and rearwardly and connected to a chain 61 the free end of which is secured to the adjacent gate post thereby to assist in opening the gate. Suitable chains 62 are also secured to the opposite sides of the gate with their opposite ends attached to a cross beam on the gate post, said chains serving to assist in preventing lateral movement of the gate when moved to closed position.

In opening and closing the hand-gate the operator grips one of the handles 59 and forces the same upwardly thereby tilting the free end of the latch and causing the same to release the keeper after which a rearward pressure is exerted on the handle which collapses the gate, and causes the several bars comprising the gate to assume the position shown in Fig. 4 of the drawings, the spring 60 serving to assist in folding the gate in the manner before stated. By releasing the chains 61 and 62 the gate may be swung laterally on the rod 12 in the same manner as the lever operated gate.

From the foregoing description it is thought that the construction and operation of the device will be readily understood by those skilled in the art and further description thereof is deemed unnecessary.

Having thus described the invention what is claimed is:

1. The combination with spaced gate posts, of a collapsible gate secured to one of the gate posts and including a lazy-tong structure, a keeper secured to the opposite gate post, a latch pivotally mounted on the gate and having one end thereof weighted and its opposite end inclined or beveled for engagement with the keeper, and a hanger for supporting the weighted end of the latch.

2. The combination with spaced gate posts, of a collapsible gate secured to one of the gate posts and including a lazy-tong structure, a keeper secured to the opposite post, a weighted latch having an intermediate portion thereof pivotally mounted on the gate and one end thereof inclined and provided with a notch for engagement with the keeper, and a hanger pivoted to the gate and connected with the weighted end of the latch.

3. In a gate, spaced gate posts, a collapsible gate secured to one of the gate posts and including a lazy tong frame structure, a keeper secured to the opposite gate post, a latch pivoted on the gate and having one end thereof inclined and adapted to engage the keeper at its opposite end provided with a weight, a pin extending laterally from the

latch and a hanger adjustably secured to the gate and having a slot formed in its free end for the reception of the pin.

4. In a gate, spaced gate posts, a collapsible gate pivotally secured to one of the gate posts and including a lazy-tong frame structure, a track, a spring pressed roller carried by the gate and bearing against the track, an auxiliary roller, and a scraper mounted on the pivotal axis of the roller and movable over the surface of the track when the gate is moved to open and closed position.

5. In a gate, spaced gate posts, a gate pivotally secured to one of the posts and including a lazy-tong frame structure, a keeper secured to the opposite gate post, a latch having an intermediate portion thereof pivotally mounted on the gate and its terminals free to swing in opposite directions, one of said terminals being adapted to engage the keeper for locking the gate in closed position, a track, a roller depending from the bottom of the gate, and a scraper mounted on the pivotal axis of the roller and movable over the surface of the track when the gate is moved to open and closed position.

6. The combination with spaced gate posts, of a collapsible gate secured to one of the gate posts, and including a lazy-tong frame structure, a keeper secured to the opposite gate post, a latch pivotally mounted on the gate and adapted to engage the keeper, auxiliary posts disposed one on each side of the gate supporting post, and braces extending laterally between the opposite sides of the gate and the auxiliary posts and forming a yieldable connection between the two.

7. In a gate, spaced gate posts, a collapsible gate secured to one of the gate posts and including a lazy-tong frame structure, a keeper secured to the opposite gate post, a latch pivotally mounted on the gate and adapted to engage the keeper, auxiliary posts disposed one on each side of the gate supporting post, braces forming a yieldable connection between the opposite sides of the gate and the auxiliary posts, a pulley, a pitman eccentrically mounted on the pulley and operatively connected with the gate, hand-levers mounted on the auxiliary posts, and a cable secured to the hand-levers and passing around the pulley.

8. In a gate, spaced gate posts, a vertical rod secured to one of the posts, a collapsible gate pivotally mounted on the rod and including a lazy-tong frame structure, a keeper secured to the opposite gate post, a latch pivotally mounted on the gate and adapted to engage the keeper for locking the gate in closed position, a track, a roller depending from the bottom of the gate and engaging the track, a scraper pivotally mounted on

the roller and movable over the surface of
the track, a spring pressed roller carried by
the intermediate portion of the gate and
bearing against the track, auxiliary posts
5 disposed one on each side of the gate sup-
porting post, yieldable braces secured to the
opposite sides of the gate and connected
with auxiliary posts, levers carried by the
auxiliary posts, a pulley, a pitman eccen-
10 trically mounted on the pulley and opera-

tively connected with the gate, and a cable
passing around the pulley and connected
to the adjacent ends of the levers.

In testimony that I claim the foregoing as
my own, I have hereto affixed my signature 15
in the presence of two witnesses.

ARTHUR DAVID ACERS.

Witnesses:

J. R. SLOGNER,

J. R. ROWNTREE