(No Model.)

2 Sheets—Sheet 1.

G. W. SMITH.

GATE.

No. 449,091. Patented Mar. 24, 1891.

FIG_1_

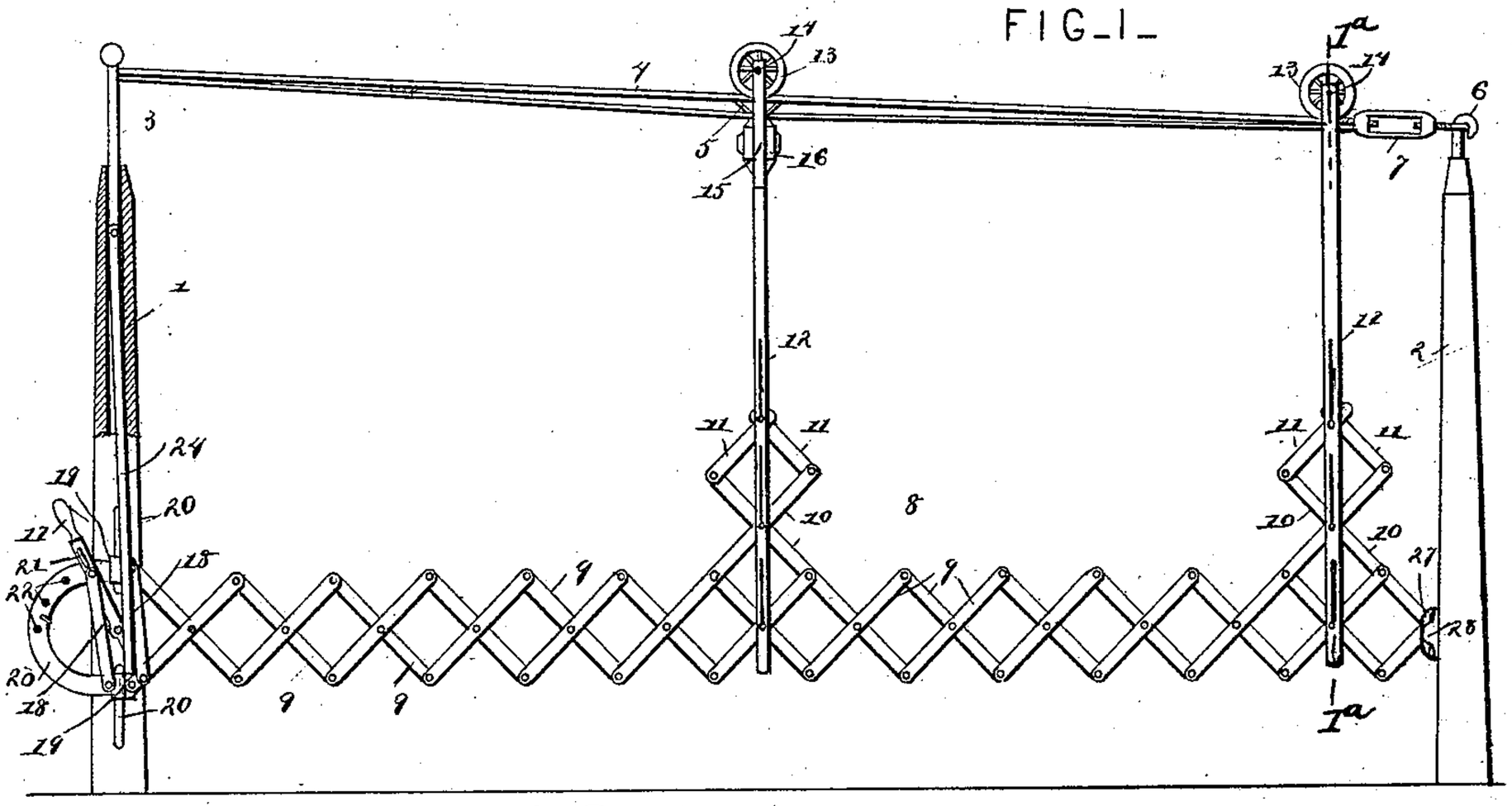


FIG_2_

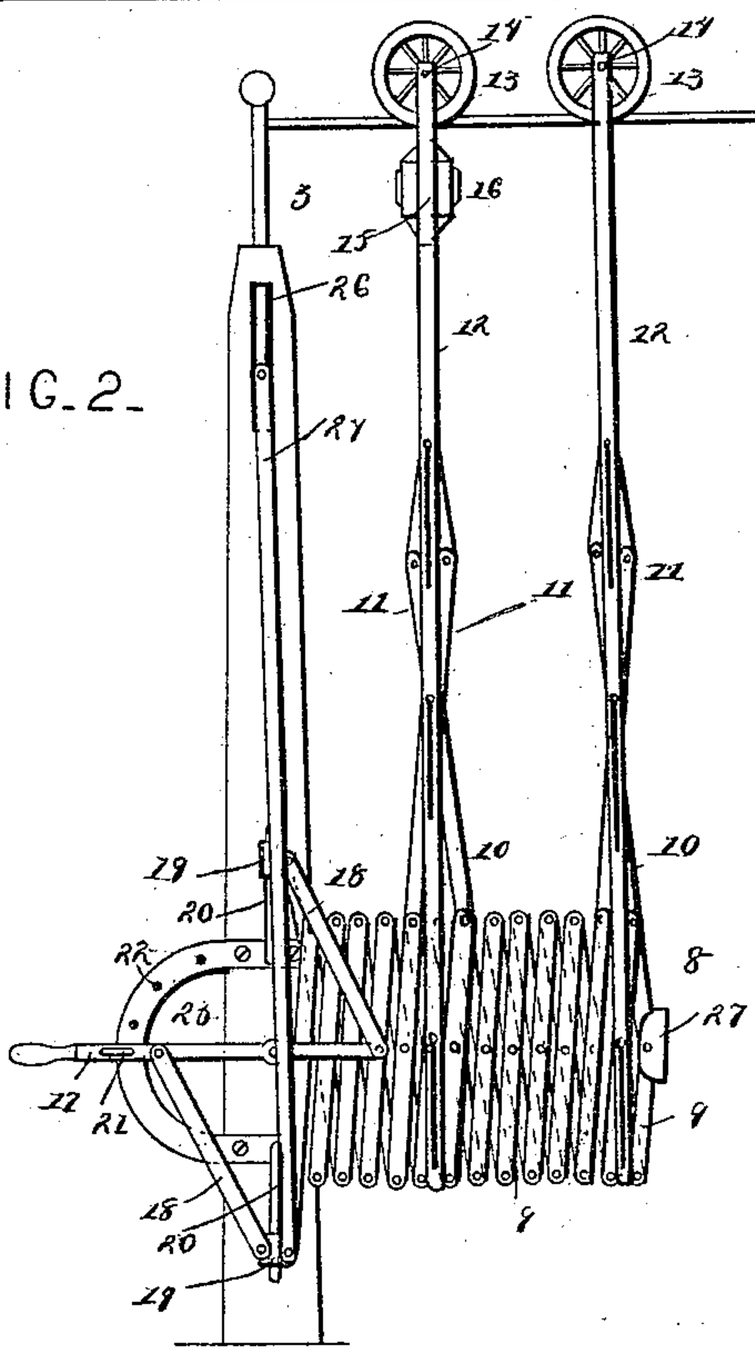


FIG_4_

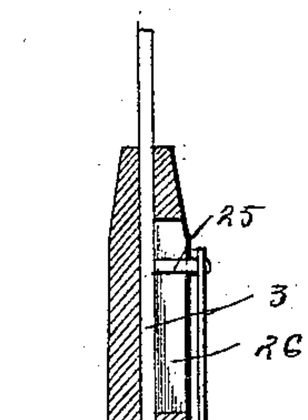
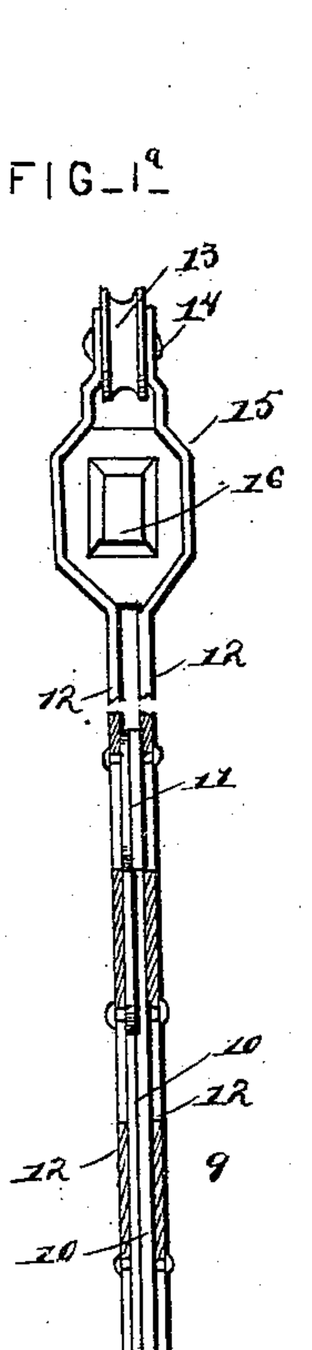


FIG_3_



Witnesses
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Wm. Bagger

Inventor
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By his Attorneys,
C. A. Snow & Co.

(No Model.) 2 Sheets—Sheet 2.

G. W. SMITH.

GATE.

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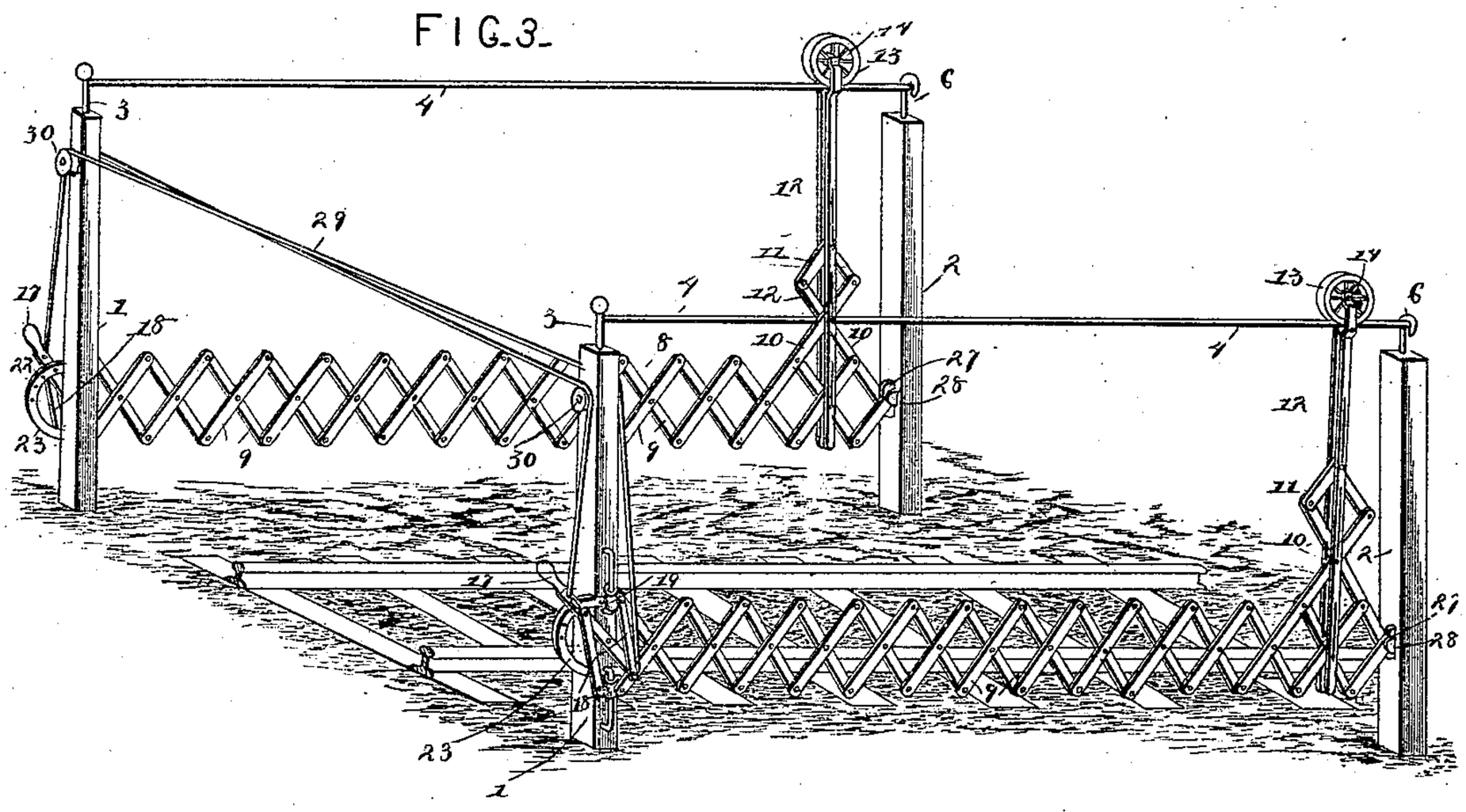
FIG. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE WELLS SMITH, OF UNION CITY, INDIANA.

GATE.

SPECIFICATION forming part of Letters Patent No. 449,091, dated March 24, 1891.

Application filed October 3, 1890. Serial No. 366,940. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WELLS SMITH, a citizen of the United States, residing at Union City, in the county of Randolph and State of Indiana, have invented a new and useful Gate, of which the following is a specification.

This invention relates to gates, and it has for its object to construct a gate which shall be suitable for railroad-crossings, farms, or for any purpose to which gates are ordinarily applied.

The invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a side elevation, partly in section, of a gate embodying my improvements, showing the same closed. Fig. 1ª is a sectional view taken on the line 1ª 1ª in Fig. 1. Fig. 2 is a side elevation of the same, showing the gate open. Fig. 3 is a perspective view showing my invention applied to gates at a railroad-crossing and showing connections whereby the two gates may be simultaneously operated. Fig. 4 is a vertical sectional view taken through the main post of the gate shown in Figs. 1 and 2.

Like numerals of reference indicate like parts in all the figures.

1 and 2 designate posts or uprights which are suitably mounted or secured in the ground and braced so as to maintain a vertical position. The post or upright 1 has a vertical opening or recess in which is mounted a vertically-sliding rod 3, to the upper end of which is secured one end of a track 4, which may be constructed of metal rods suitably connected at the ends and spaced by intermediate braces 5, so as to form a truss of sufficient strength to support the weight of the gate. The other end of the said track is attached to a hook 6 at the upper end of the post or upright 2, a turn-buckle 7 being preferably interposed in order that the said track may be kept stretched and taut.

The gate, which is indicated by 8, is composed of a series of rods 9, connected together pivotally after the manner of lazy-tongs. Several of said pivoted rods are extended above the others, as shown at 10, and connected pivotally with each other and with links 11, which in turn are pivotally connected with each other and with the hangers or supports 12, the upper ends of which are provided with wheels or rollers 13, riding upon the track. The hangers 12 are each composed of two separate rods, which are connected at their upper ends by the pins or bolts 14, upon which the rollers 13 are journaled. The lower ends of said rods are connected by the rivets or pins, by which they are connected to the links 11 and to the rods 9 composing the gate. The upper ends of the rods composing the hangers 12 are spread apart below the track 4, forming yokes 15, in which, when desired, signal-lights 16 may be mounted. Of the hangers 12 any desired number may be employed, according to the length of the gate.

To the post 1 is pivoted a hand-lever 17, to which on opposite sides of its fulcrum are pivoted links 18, the ends of which are in turn pivotally connected with sleeves 19, mounted to slide vertically upon guide rods or brackets 20, attached to the post 1. The sleeves 19 are connected pivotally with the rods or lazy-tongs 9 at one end of the gate. It will be seen that by manipulating the lever 17 the sleeves will be moved upwardly or downwardly in opposite directions, thus extending or folding the gate, as the case may be. The lever 17 is to be provided with a pin or spring-catch 21, adapted to engage openings 22 in a segmental bar 23, attached to the post 1, for the purpose of holding the gate open, closed, or partially closed, as may be desired.

The lower sleeve 19 is connected by a pivoted rod 24 with the vertically-sliding rod 3 by means of a hook or bent portion 25 at the upper end of the rod 24, which extends through an opening or mortise 26 near the upper end of the post 1. It will thus be seen that when the lever 17 is operated to close the gate it will at the same time operate to move the sliding rod 3 in an upward direction, tilting or inclining the track 4 downwardly from the post 1 to the post 2, and thus greatly facilitating the operation, inasmuch as the hangers having the rollers will readily travel in a downward direction upon the inclined track. When the operation of

the lever 17 is reversed in the act of opening the gate, the rod 3 is lowered and the track will be tilted or inclined in the opposite direction.

The outer end of the gate is provided with a block 27, which when the gate is closed is adapted to fit between flanges 28 upon the gate-post 2, thus forming a locking device, by means of which the gate is held stationary and prevented from vibrating.

In Fig. 3 of the drawings I have shown my invention applied to two separate gates on opposite sides of a railroad-crossing. The levers 17, by which the gates are operated, are connected by means of ropes, wire cables, or chains 29, passing over suitably-arranged guide-pulleys 30, in such a manner that motion shall be transmitted from the one to the other. It follows that by this arrangement both the gates may be operated simultaneously by one attendant stationed on either side of the crossing.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of my invention will be readily understood. The construction of my improved gate is simple and inexpensive, and it is durable and efficient in operation.

I desire it to be understood that I do not limit myself to the precise form or details of construction herein described; but reserve the right to any changes or modifications which may be resorted to without departing from the spirit of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a gate of the class described, the combination of the main post, the vertically-sliding rod in the latter, the track connecting the upper end of said rod with the upper end of a supplemental post, the guides, the vertically-sliding sleeves mounted thereon, the lazy-tongs gate connected with said sleeves, an operating-lever, links connecting the latter with the ends of the lazy-tongs, hangers connected with the gate and having rollers traveling upon a track, and a rod connecting one of the sliding sleeves with the vertically-sliding rod, substantially as set forth.

2. The combination, with a lazy-tongs gate, of the track and the hangers, each composed of two rods connected at their upper ends by a pin, upon which a supporting-roller is journaled and spread apart below the supporting-track to receive a signal-lantern, substantially as set forth.

3. The combination of two lazy-tongs gates, arranged on opposite sides of a railroad-crossing, each being provided with hangers traveling upon tracks, the posts supporting the said tracks at one end, the rods arranged to slide vertically in the main posts and having the other ends of the tracks attached thereto, the operating-levers, the links connecting said operating-levers with vertically-sliding sleeves, the rods connecting said sleeves with the vertically-sliding rods supporting the ends of the tracks, and ropes or chains passing over suitable guide-pulleys and connecting said operating-levers to transmit motion between them, substantially as set forth.

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

GEO. WELLS SMITH.

Witnesses:

OLIVER C. GORDON,

JNO. A. SHOCKNEY.