(No Model.)

W. HANLEY.

SAFETY GATE.

No. 345,587. Patented July 13, 1886.

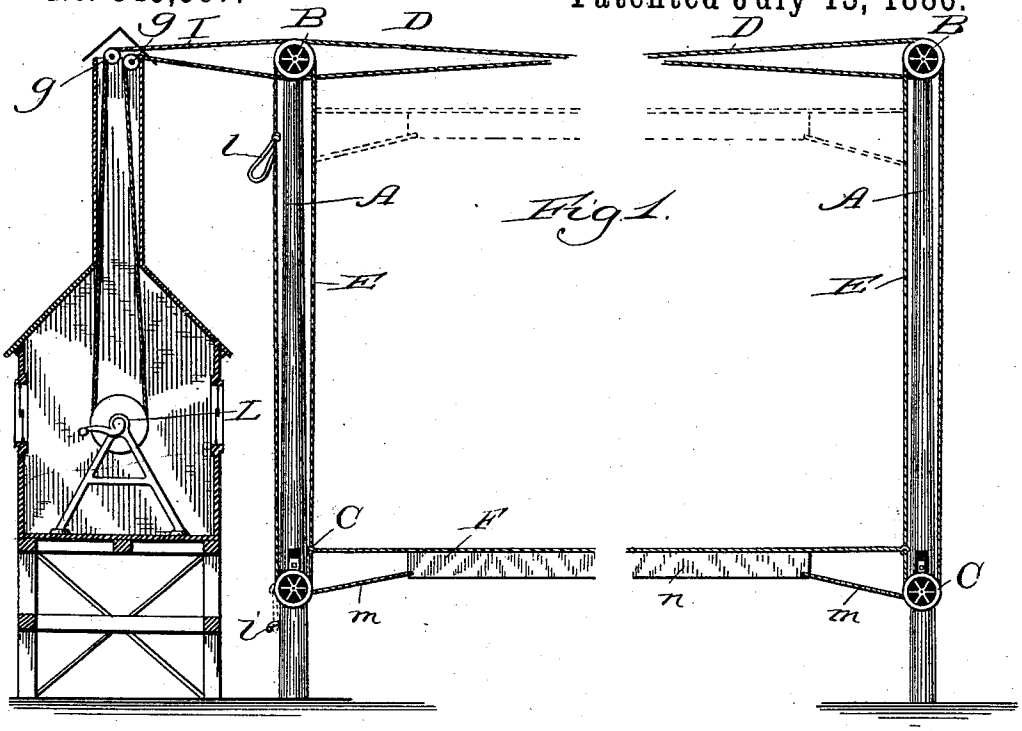


Fig. 1.

Fig. 2.

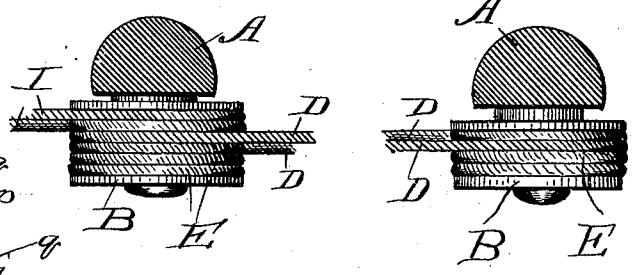
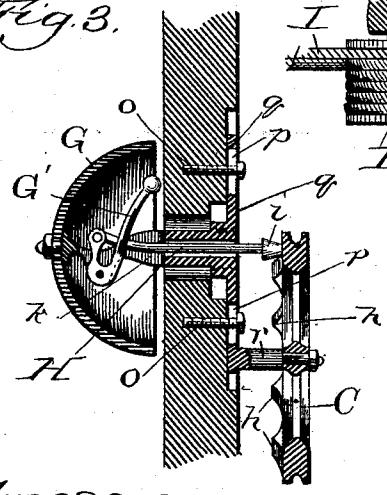


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SAFETY-GATE.

SPECIFICATION forming part of Letters Patent No. 345,587, dated July 13, 1886.

Application filed November 3, 1885. Serial No. 181,738. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HANLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Safety-Gates; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device for the foregoing purpose, in which the barrier is formed of a continuous cable extending from one post to the other on the same side of a railroad-track, and capable of being raised in a vertical direction to remove the barrier.

It is my object to provide a simple and effective mechanism for raising and lowering the cable barrier; and to this end my invention consists in the general construction of the mechanism I have provided for the purpose.

My invention further consists in certain details of construction and combinations of parts, all as hereinafter more fully set forth.

Referring to the drawings, Figure 1 represents my improved gate in elevation, showing also means for actuating the cable barrier; Fig. 2, a broken plan view of the gate portion of the device, showing the manner of arranging the various ropes or cables on the upper pulleys or drums; and Fig. 3, a sectional view through a portion of one post, showing the construction of the gong mechanism and of the means for actuating the same automatically.

A A are the posts, to be located on opposite sides of a railroad-crossing in line with the track, and of a height at least to permit the cable barrier, hereinafter described, to be raised the distance required by municipal regulation. Toward the upper extremity of each post a pulley, B, or, more accurately stated, a drum is journaled, having a diameter of sufficient extent to provide great leverage, and to afford a circumference which will permit the cable barrier to be raised to its full height with but few revolutions.

C C are pulleys unlike the pulleys B, inasmuch as they are not drums, but simple pulleys journaled below the latter on the posts at the distance above the ground at which it is desired to provide the barrier; and the pulleys C are vertically adjustable by having their journal-bearings *r* (see Fig. 3) secured upon plates *q*, provided with slots *p*, and secured to the posts by means of set-screws *o*, inserted through the slots.

The pulleys B are connected together by means of a rope or cable, D, wound around each at least twice, as represented in Fig. 2, to prevent slipping, and crossed. An endless cable or rope, E, is wound around each pulley B, also at least twice, and connects the latter with the pulley C directly below it by being passed around the same; and any slack in the cables E is taken up by adjusting the pulleys C accordingly, it being important that the endless cables shall always be maintained taut. A cable, F, in the form of a rope or single wire, is attached at its opposite ends to the inner strands of the endless cables E at points equidistant and the desired height above the ground, and affords, when occupying such position, the barrier, a suitable signal for the day-time being provided in the form of fabric, *n*, or other suitable material of a desired color, attached to the barrier, as shown, and stretched, to prevent its being wrapped or wound around the same by the wind or by other causes, by means of strings *m*, secured to its free corners and to the endless cables E.

To operate my device to raise or lower the barrier it is only necessary to pull on one or the other strand of an endless cable E; and when the barrier has been raised in this manner it may be fastened to prevent its unintentional descent by slipping a loop, *l*, provided for the purpose, over a hook or projection, *l'*, on a post. On one of the posts A (or on both, if desired, though the provision on one is thought sufficient) a gong, G, is secured by passing its hollow rod *k* through the post and screwing it into an opening provided in the plate *q*, and the hammer G' is bent, as shown, and fulcrumed to the stem, and pivotally connected at one end to a rod, H, extending through the hollow stem *k*, and provided with with a knob, *i*, affording a bearing to be struck by cams *h* on the pulley C, which operate in the rotation of the pulley at a right angle to the rod H, to force the latter inward and sound the gong once for each cam.

Ordinarily the barrier will be operated at a post A in the manner described; but when it is desired or necessary to operate it from a distance, this may be done by means of a rope

or a cable, I, passed around a pulley, B, a number of times sufficient to prevent its slipping, and extending over pulleys *g*, properly supported, to the point of operation—within a cabin, K, if desired—and a windlass, L, may be provided to effect the operation.

Two gates, like the one hereinbefore described, are generally provided for a railroad-crossing; but no particular mechanism is shown in the present connection for operating them simultaneously or separately, for the reason that the purpose will suggest suitable means to any mechanic, a pulley-connection with cable affording an appropriate contrivance.

What I claim as new, and desire to secure by Letters Patent, is—

1. A safety-gate having posts A on opposite sides of a crossing, and carrying pulleys B and C toward their opposite extremities, endless cables E, connecting the pulleys B and C on each post, a cable, D, crossed, and connecting pulleys B on opposite posts, and a cable, F, secured at opposite ends to the inner strands of the endless cables E, and affording a barrier when lowered, the parts being combined substantially as described.

2. A safety-gate having posts A on opposite sides of a crossing, and carrying pulleys B and pulleys C toward their opposite extremities, endless cables E, connecting the pulleys B and C on each post, a loop, *l*, on an endless cable E, to engage with a projection, *l'*, on the adjacent post, a cable, D, crossed, and connecting pulleys B on opposite posts, and a cable, F, secured at opposite ends to the inner strands of the endless cables E, and affording a barrier when lowered, the parts being combined substantially as described.

3. A safety-gate having posts A on opposite sides of a crossing, and carrying pulleys B and pulleys C toward their opposite extremities, endless cables E, connecting the pulleys B and C on each post, a loop, *l*, on an endless cable E, to engage with a projection, *l'*, on the adjacent post, a cable, D, crossed and connecting pulleys B on opposite posts, and a cable, F, secured at opposite ends to the inner strands of the endless cables E, and provided with a signal, *n*, secured at its opposite ends to the endless cables E, the parts being combined substantially as described.

4. A safety-gate having posts A on opposite sides of a crossing, and carrying toward their opposite extremities pulleys B and adjustable pulleys C, cams *h* on the pulley C, endless cables E, connecting the pulleys B and C on each post, a cable, D, crossed, and connecting pulleys B on opposite posts, a cable, F, secured at opposite ends to the inner strands of the endless cable E, and affording a barrier when lowered, and an adjustable gong, G, upon one post, having its hammer vibrated by the cams on the adjacent pulley C in its rotation, the parts being combined and arranged to operate substantially as described.

WILLIAM HANLEY.

In presence of—
WM. SADLER,
MASON BROSS.