

(No Model.)

T. H. FENNELL.

RAILWAY GATE.

No. 364,166.

Patented May 31, 1887.

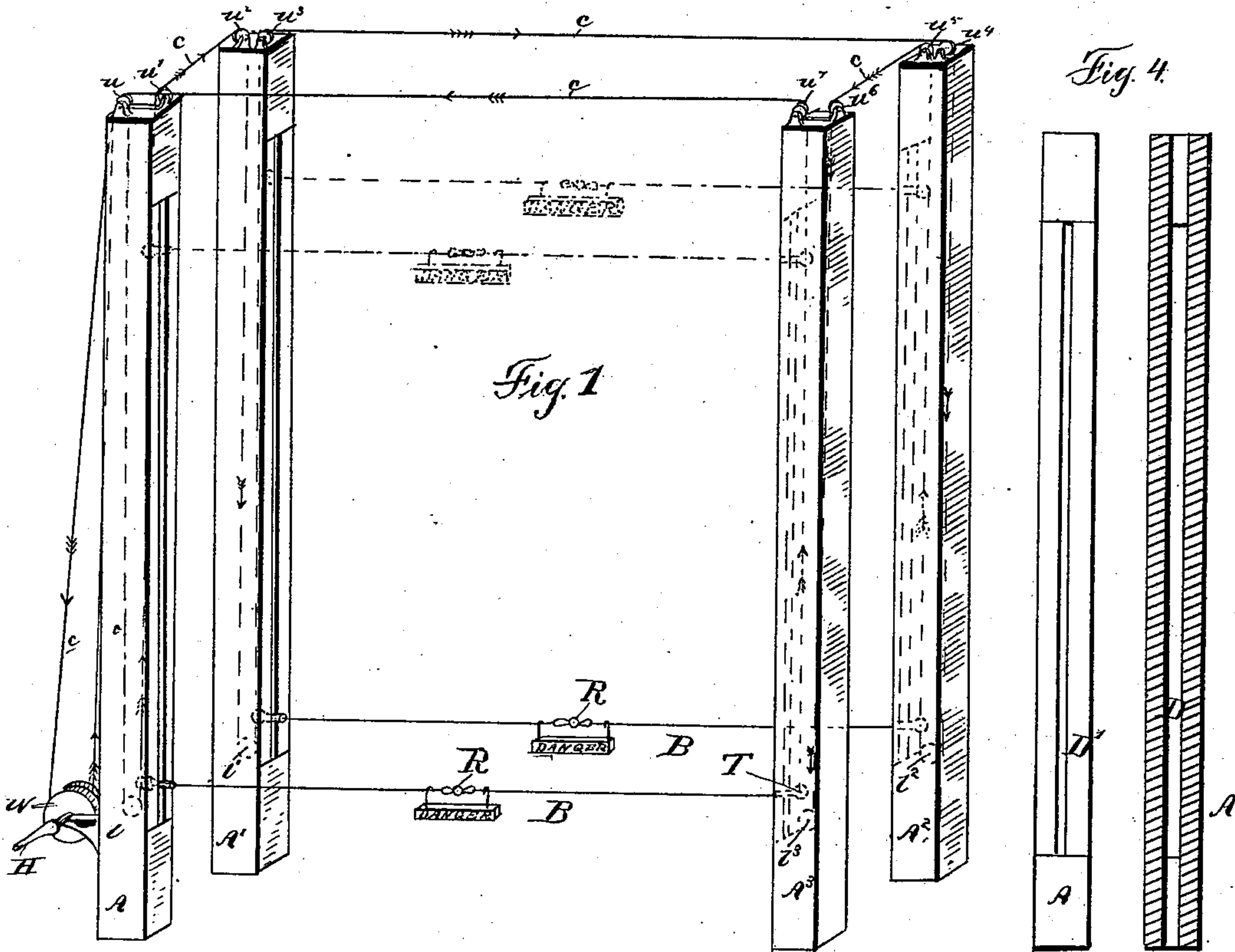


Fig. 4.

Fig. 2.

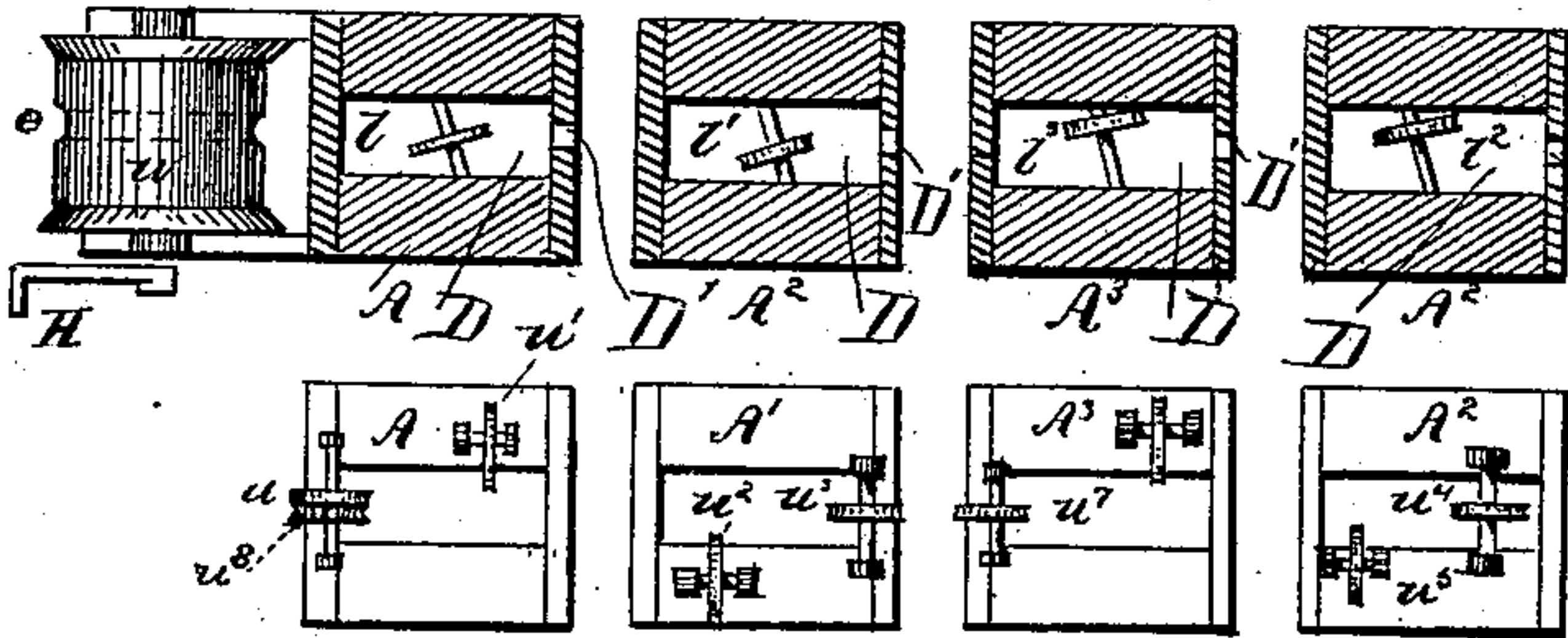


Fig. 3.

Fig. 5.

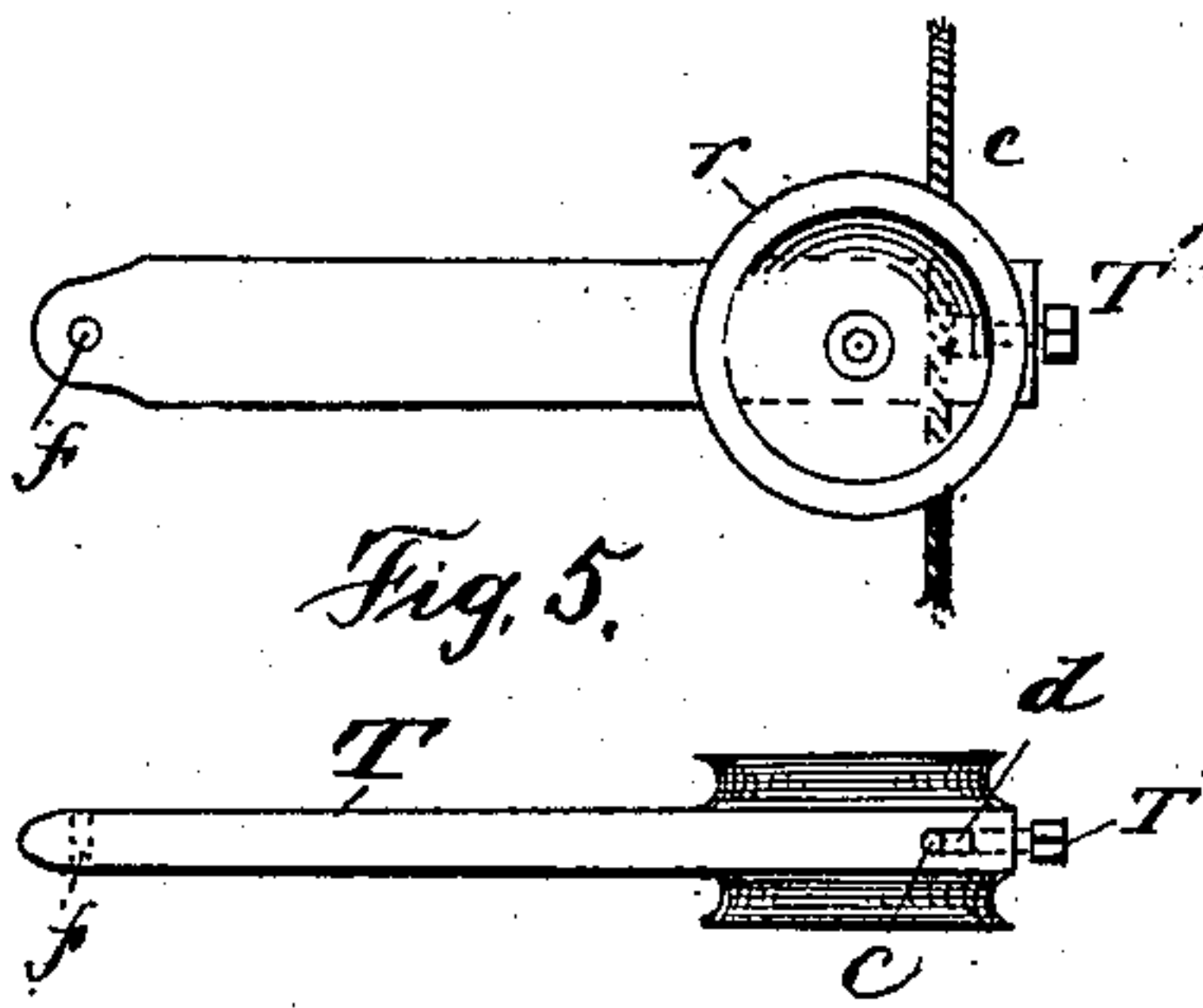
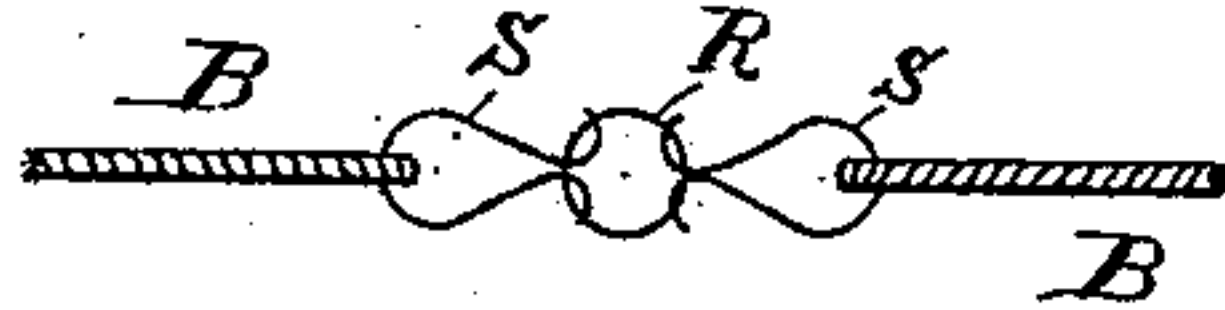


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

TIMOTHY H. FENNEL, OF APULIA, ASSIGNOR OF ONE-HALF TO ADOLPH H. SCHWARZ, OF SYRACUSE, NEW YORK.

RAILWAY-GATE.

SPECIFICATION forming part of Letters Patent No. 364,166, dated May 31, 1887.

Application filed August 11, 1886. Serial No. 210,616. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY H. FENNEL, of Apulia, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Railway-Gates, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in railway cross gates, whereby there is produced a simple, durable, and economical gate which may be operated by means of a windlass to which is connected a continuously-rove cable running from the drum of said windlass over a system of sheaves on the four posts and connected to the barriers by means of travelers, which are adjustably connected to said cable, so that the raising or lowering of the barriers may be always under control of the operator by means of the windlass, and thus prevent any sudden rise or fall, as frequently happens where weights are used to accomplish the raising and lowering of said barriers.

It consists, furthermore, in making the barrier detachable, so that if the barrier is caught by a wagon or other obstruction the parts of said barrier will pull apart without breaking any part thereof, all as fully described hereinafter, and pointed out in the claims.

In specifying my invention reference is had to the accompanying drawings, in which—

Figure 1 is a perspective view showing the general construction and arrangement of the parts. Fig. 2 is a transverse section of the posts, showing the location of the hoisting-drum and the pulleys near the feet of the posts. Fig. 3 is a top plan of the posts, showing the location and arrangement of the upper pulleys secured on top of the posts. Fig. 4 is an edge and a sectional view of the grooved posts in which the travelers ride. Fig. 5 shows enlarged detached side and plan views, respectively, of the traveler; and Fig. 6 shows an enlarged detail illustrating the method and means for connecting the detachable barrier.

A A' A² A³ are the posts of my improved double gate, said posts being slotted, as shown at Fig. 4, the inner portion, D, of the slots being larger than the outer portion, D', for the purpose hereinafter pointed out. On the said posts I secure a system of sheaves, of which *u*

u' are the upper sheaves of the first post; *l*, the lower sheave secured near the foot thereof.

W is the windlass or hoisting-drum, secured to the post A in any suitable manner. The arrangement of the sheaves on the other posts will be readily understood by referring to Figs. 2 and 3 of the drawings.

The hoisting-drum W has a hole, *e*, through it, and the standing part of the cable *c*, which may be of any suitable material, is passed through the hole *e* or otherwise secured to the windlass, and is passed over the sheave *u* at the top of the post A; thence down and around sheave *l*, secured near the foot of A; thence up and over sheave *u'* on post A; thence across and over sheave *u'*² on A'; thence down over *l'* near the foot of A'; thence up over *u'*³ of A'; thence over sheave *u'*⁴ at top of post A²; thence down and around *l'*² in A²; thence up and over *u'*⁵ in A²; thence across and over sheave *u'*⁶ in top of post A³; thence down and around sheave *l'*³ near the foot of A³; thence up and over sheave *u'*⁷ in top of A³; thence across and over sheave *u'*⁸ in post A down to the hoisting-drum, where it is made fast to the standing end at the starting-point or in the drum.

It will be observed that the reeving of the cable from the windlass to and over the sheaves in the several posts is continuous, and that as the drum is rotated by turning the handle H the cables move in the direction of the arrows in Fig. 1.

To utilize the movement of the cables for the purposes of a railway-gate, I provide cross-pieces or barriers B B, made preferably of wire rope or cable, secured to the running cable *c*, as shown in Fig. 1, and attach to the cross-pieces the ordinary danger-signal, as represented in Fig. 1. The barriers B B are secured to the shank of a traveler, T, at *f*. The said traveler T runs in the grooves D D', Fig. 4. The traveler T is provided with a friction-roller, *r*, which runs in the larger groove, D, and the shank projecting through the smaller groove, D'. Through the frame of the said traveler T a hole, C, is provided, into which fits a clamp-piece, *d*, and a set-screw, T', as shown in Fig. 5, clamps *d* against the cable *c*, which is rove through the said traveler, as best shown in said Fig. 5.

The barriers B B are made detachable, in

order to prevent the gate from being torn by vehicles or other obstructions catching against the same when the danger-signal is down, and to this end I provide spring-snaps S S and a ring, R, making the barrier B in two pieces, securing one end thereof to the shank of the traveler at *f*, and the ends provided with snaps snapping into the ring R.

When caught by a vehicle or other obstruction a strong pull on the barrier B will pull the snap S out of the ring R without breaking or damaging the gate.

The advantage of employing the adjustable traveler T in connection with the cross-piece or barrier B accrues from the fact that the said barrier B can be adjusted up or down in case the cable *c* contracts or slackens by the influence of the weather.

It will be observed that my gate is operated by power applied to the windlass, no weights being necessary, since the raising and lowering of the danger-signal is effected entirely by turning the windlass; hence the descent of the barrier can be regulated perfectly without any sudden fall, as in case of the weighted devices now in use in railway-gates.

It will be observed that when the adjustable traveler is employed in reeving the cable the running part *c*, Figs. 1 and 5, is passed through the traveler, as shown at Fig. 5.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is--

1. In a railway-gate, the combination of four posts arranged opposite each other on opposite sides of the crossing, sheaves arranged, respectively, at the top and near the feet of the posts, a hoisting-drum secured to one of the posts, and a single cable secured to the hoisting-drum and rove continuously over and through the sheaves on the posts back to the drum, and a cross-piece or barrier secured to the hoisting-cable, substantially as and for the purpose specified.

2. In a railway-gate, the combination of four posts arranged on opposite sides of the crossing, said posts being provided with grooves D D' and having sheaves for the hoisting-cable, the hoisting-cable *c*, traveler T, and the detachable safety-barrier B, all substantially as and for the purpose set forth.

3. The detachable safety-barrier B, made in two parts, said parts being provided with spring-snaps S, taking in ring R, and their opposite ends being secured to the hoisting-cable of the railway-gate, substantially as and for the purpose specified.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 7th day of August, 1886.

TIMOTHY H. FENNELL. [L. S.]

Witnesses:

FREDERICK H. GIBBS,
E. C. CANNON.