

(No Model.)

W. N. DAWSON.

RAILWAY SIGNALING APPARATUS.

No. 294,206.

Patented Feb. 26, 1884.

Fig. 3

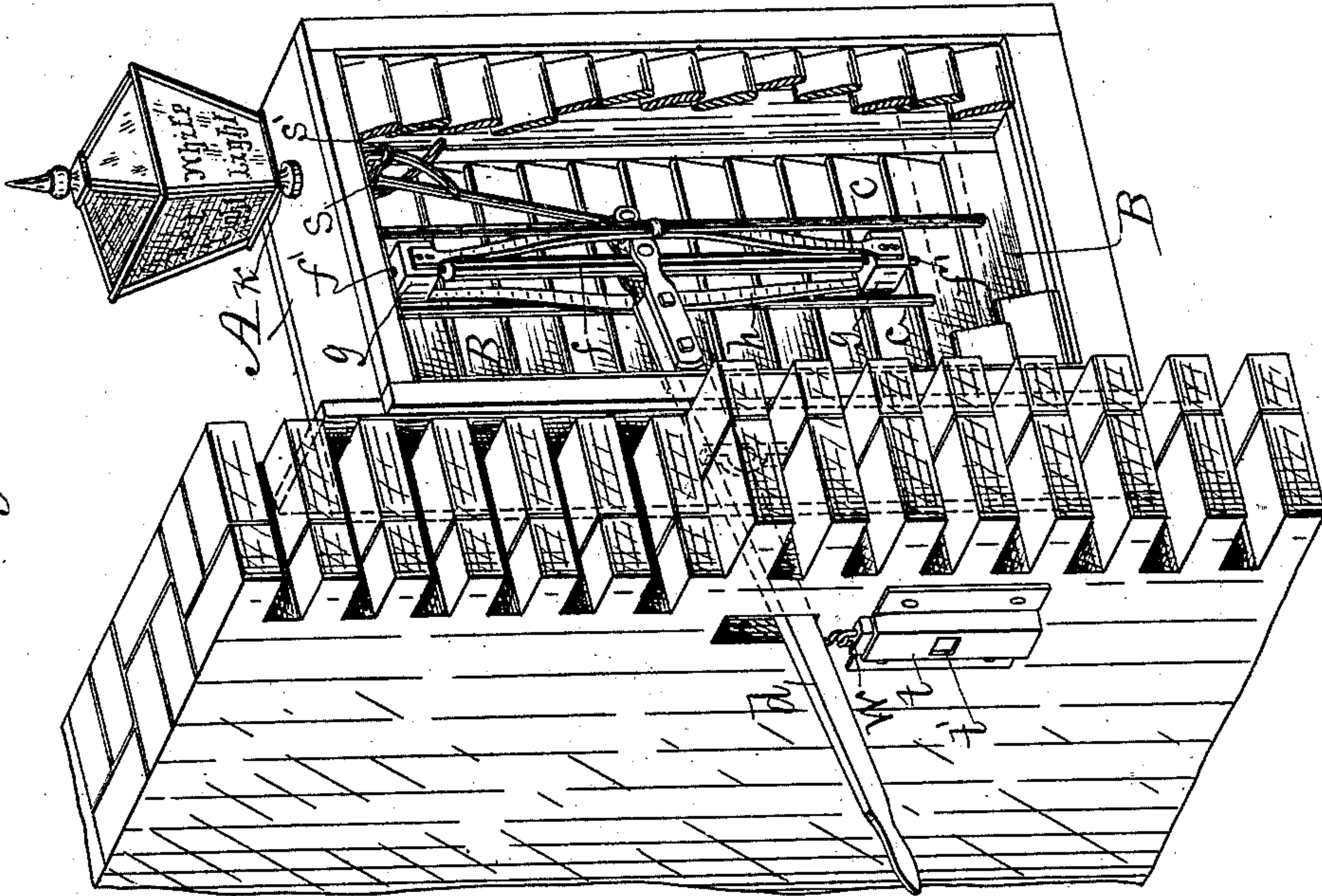


Fig. 2

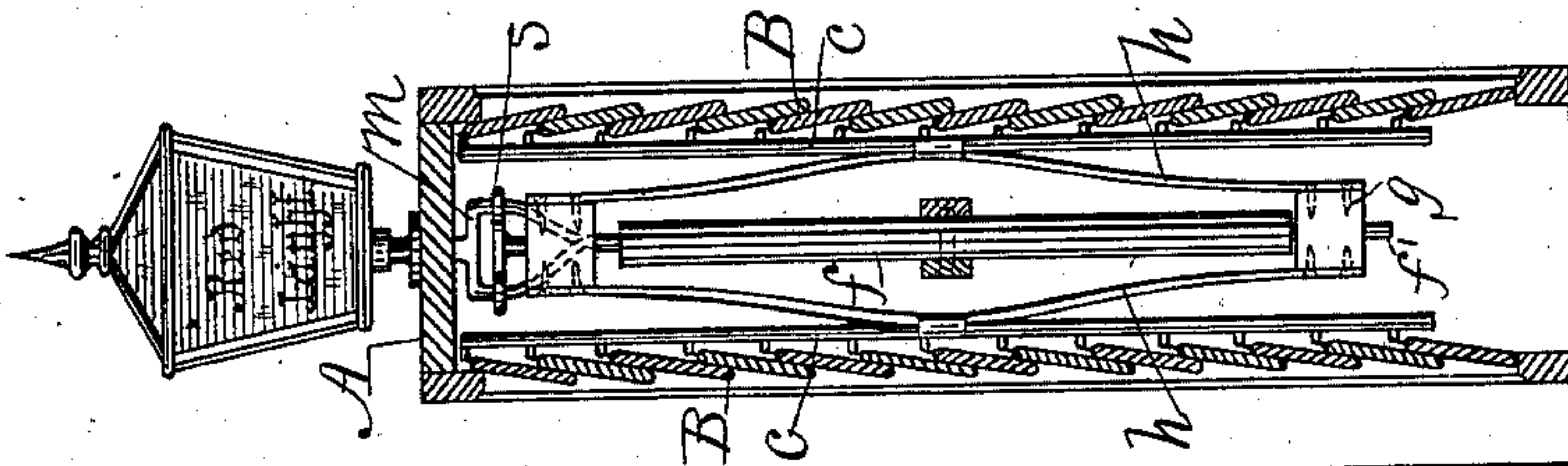
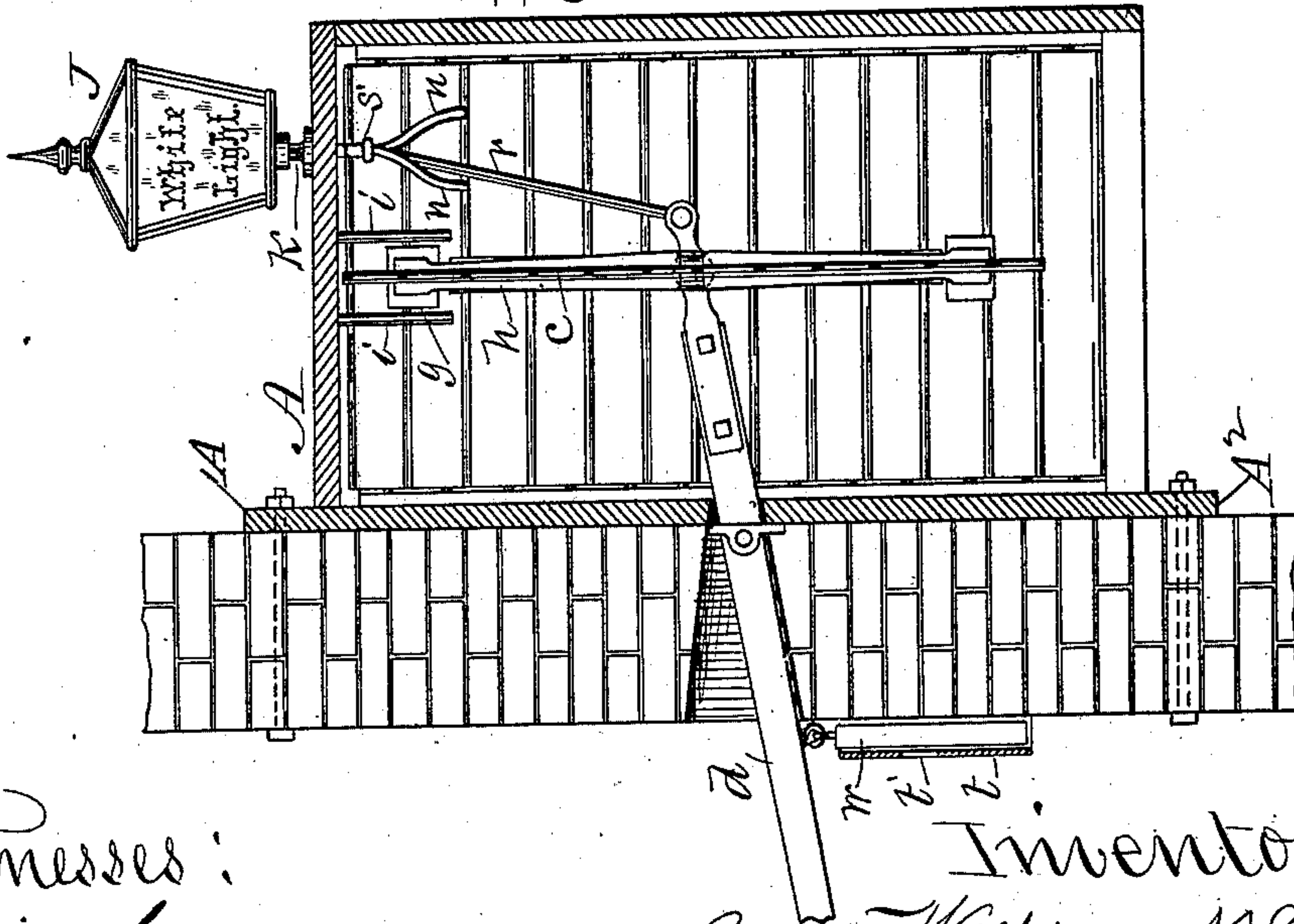


Fig. 1



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UNITED STATES PATENT OFFICE.

WILLIAM N. DAWSON, OF ADEL, IOWA.

RAILWAY-SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 294,206, dated February 26, 1884.

Application filed June 14, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM NELSON DAWSON, of Adel, in the county of Dallas and State of Iowa, have invented a Railway-Train-Signaling Apparatus, of which the following is a specification.

My object is to prevent the maiming and killing of persons and the damages to railroad companies incident to trains passing a station before a danger-signal can be exhibited to caution the engineer and give warning in time to stop the train, and thereby avoid danger and accident. There are numerous instances in which the time required for a person to go from the inside of a station-building to the outside, to signal an approaching train, would prove fatal to the train, for information about danger ahead may be received by telegraph or otherwise within a few seconds from the time the train will pass the station, unless a danger-signal or stop-signal is given to the engineer during such brief interval.

My invention consists in constructing and locating an apparatus, as hereinafter fully set forth, in such a manner that the station-agent, train-dispatcher, or telegraph-operator, at their desks inside of the building, can instantly display a signal, by day or night, outside of the building and plainly visible from opposite directions, by simply pulling a lever that extends inside of the building.

Figure 1 of my accompanying drawings is a vertical section of my signaling device fixed against the outside of a building. Fig. 2 is a transverse section of the same device. Fig. 3 is a perspective view, showing my apparatus combined with a section of a wall, and parts broken away to expose the operative mechanism.

Jointly considered, these figures clearly illustrate the construction, application, operation, and utility of my complete invention.

A represents a frame that resembles in form and construction a common window-frame. It may vary in size and shape as desired. It has extensions A^2 at the top and bottom of one of its sides, by means of which it is fixed to a wall.

B B are my reversible day-signals, composed of a series of blind-slats, made of wood or iron, and pivoted in the sides of the frame in the manner in which window-blinds are pivoted in

a window-shutter. One side of each slat is painted white and the other red, or in two different colors of any shade desired.

$c c$ are rods flexibly connected with the edges of the slats by means of staples, or in any suitable way.

d is a lever of the first order, pivoted upon a fulcrum fixed in the side of the frame in such a manner that its short arm will extend into the frame and its long arm into the building through an aperture in the wall.

f is a rod pivoted to the end of the short arm of the lever to extend vertically between the signals B. It has pins f' at its ends, upon which are placed sliding blocks g .

$h h$ are leaf-springs fixed at their ends to the opposite sides of the blocks g , and to the rods c at their centers, by means of rivets or in any suitable way.

$i i$ represent guides fixed to the top of the frame to engage the upper block, g , and to thereby direct the movements of the reciprocating rod f .

J represents my night-signal, in the form of a lantern, that has two parallel red lights and two parallel white lights corresponding with the colors on the opposite sides of the day-signals B.

k is a shaft mounted in bearings attached to the top of the frame. The night signal or lantern is fixed to the top of this shaft.

m is a cross-head on the lower end of the shaft, from the ends of which extend downward two prongs, n , that are twisted spirally relatively to the shaft k .

r is a rod, flexibly connected at its lower end with the end of the short arm of the lever d . It has a cross-head, s , at its top end, that is provided with eyes s' at its extremities, through which the spirally-twisted prongs n extend downward in such a manner that a reciprocating rectilinear motion of the rod r will impart a rotary motion to the shaft k and cause it to make quarter-revolutions in reverse ways.

t is a box, preferably made of sheet metal, fixed against the inside of the wall immediately under the long arm of the lever d , that extends into the building.

t' is an opening in the front face of the box.

w is a slide or block fitted in the box t , and flexibly connected at its top end with the lever d in such a manner that the movements of

the lever will cause it to slide up and down in the fixed box or case *t*.

The front face of the slide or block is painted white and a section thereof corresponding with the size of the opening *t'* red, and that red section is placed in such a position relative to the opening *t'* that when the lever is up the red section will coincide with the opening and be plainly visible on the inside of the building, to indicate that the red signals are exposed on the outside of the building.

In the practical use of my invention thus constructed and located, the pulling down of the long arm of the lever inside of the building will elevate the rod *f*, and by means of the springs *h* and rods *c* turn the slats of the signals B B so as to present a white surface, and the same motion will also push the red section of the surface of the indicator-slide *w* out of sight, to present a white surface through the opening in the box *t*. A reverse motion of the lever will reverse the slats to present their red surfaces on the outside of the building, and also the red section of the indicator inside of the building. The same motions of the lever will, by means of the rod *r*, having a cross-head, *s*, and the shaft *k*, having spiral prongs *n n*, impart quarter-revolutions to the night-signal J, as required, to alternately present red and white lights to approaching trains. The springs *h*, in their normal condition, will press the rods *c* against the blind-slats of the signals B and retain them stationary until force is applied, by means of the lever *d*, to overcome the power of the springs, as required, to adjust and reverse the signals. Consequently the lever, the signals composed of the slats, and the signal consisting of a lantern will be retained stationary in fixed positions by means of the springs *h* whenever desired until power is applied to the lever, and the white faces of

the signals will be thus kept in view at all times, excepting when a train or trains are to be prevented from passing the station until ordered to proceed; and to signal a train to stop it will therefore only be necessary to make one motion with the lever to reverse the signals and to present their red surfaces to the view of the engineers on approaching trains. It is therefore obvious that with the flash of intelligence of danger and necessity for stopping a train that would pass in a few moments the operator can instantly pull the lever inside of the building, and thereby operate the mechanism to present the danger-signal on the outside of the building in time to be seen by the engineer and to arrest the train from danger and destruction.

I claim as my invention—

1. The frame A, the signals B, composed of series of pivoted slats connected by rods *c*, the rod *f f'*, the blocks *g*, the springs *h*, and a lever, *d*, arranged and combined substantially as shown and described, to operate in the manner set forth, for the purposes specified.

2. The shaft *k*, carrying a signal-lantern, J, and having a cross-head, *m*, and spiral prongs *n*, and the rod *r*, having a cross-head, *s*, in combination with the lever *d*, for the purposes set forth.

3. The railway-signaling apparatus composed of a frame, A, two reversible signals, B, and their operating mechanism *d f g h*, a signal-lantern, J, and its operative mechanism *k m n r s*, and an indicator, *t t' w*, substantially as shown and described, and adapted to be applied and operated in the manner set forth, for the purposes specified.

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Witnesses:

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