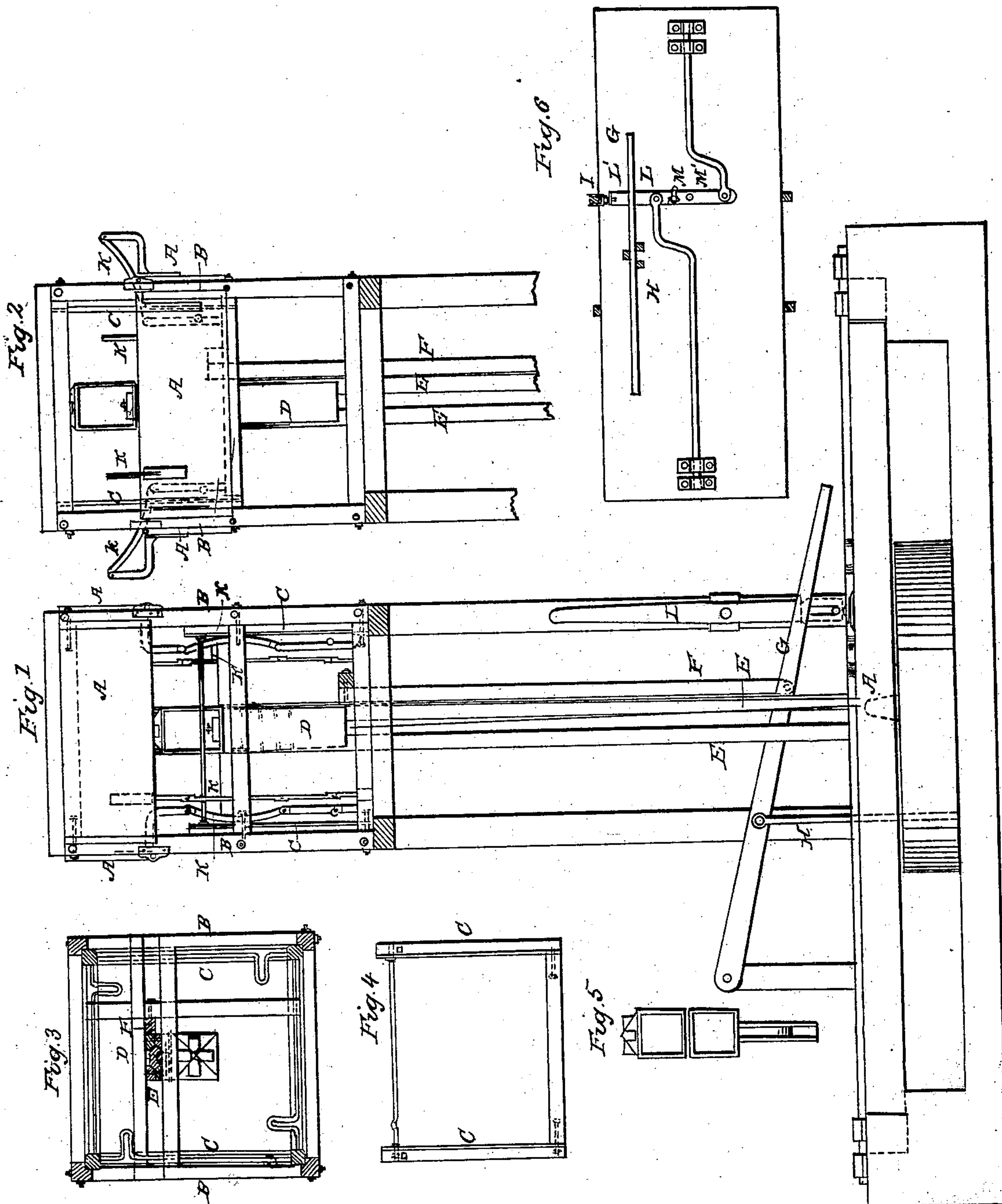


S. L. SPAFFORD.
Railroad Signal.

No. 13,235.

Patented July 10, 1855.



UNITED STATES PATENT OFFICE.

SIMEON L. SPAFFORD, OF PHILADELPHIA, PENNSYLVANIA; SOPHIA B. SPAFFORD AND
GEO. ALEXANDER ADMINISTRATORS OF SAID SIMEON L. SPAFFORD, DECEASED.

RAILROAD DRAWBRIDGE-SIGNAL.

Specification of Letters Patent No. 13,235, dated July 10, 1855.

To all whom it may concern:

Be it known that I, SIMEON L. SPAFFORD, of the city of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Railroad-Signals for Drawbridges; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification.

Figure 1 is an elevation of the signal in a position to indicate safety. Fig. 2 is an elevation of the signal in a position to indicate danger. Fig. 3 is a plan of the signal. Fig. 4 is an elevation of the sliding frame. Fig. 5 is an elevation of the lantern carriage and lanterns. Fig. 6 shows the application of the latches to the pivot draw of a bridge.

A A A A represent the signal boards; B B the signal frame; C C the sliding frame; D the lantern carriage and lantern.

E E represent the guides for the lantern carriage.

F represents the connecting rod which unites the sliding frame with the signal lever G. H represents the stop lock; I the latch lever.

K K K K represent the jointed levers which connect the signal boards with the sliding frame.

The signal boards (A A A A) are painted of a red color on the one face and a white color on the reverse. The lanterns are so placed that when the white face of the signal boards is exposed to view the white lantern is seen below the signal boards and when the red face of the signal boards is exposed to view, the red lantern is seen above the signal boards. The signal boards are connected with the signal frame (B B) by a revolving joint and attached to the sliding frame (C C) which is moved vertically in the grooved corner of the signal frame by the jointed levers (K K K K) one lever being attached to each signal board. The sliding frame is attached to the signal lever (G) by the connecting rod (F). When the signal is applied to a draw bridge or any revolving or sliding structure, the stop lock (H) passes down from the lower side of the signal lever into a recess or cavity in the substructure. The up and down motion of the stop lock must be such that when the stop lock is raised the space between its point and

the substructure shall be sufficient for the admission of the horizontal sliding plate (L M and L' M') attached to the latch lock (I).

To move the stop lock down into the recess or cavity in the substructure the horizontal sliding plate (L M) must be drawn into the position (L' M') so that it will not interfere with the downward movement of the stop lock (H).

Through one arm of the latch lever passes the end of a horizontal lever connected with the latches by rods; and the fulcrum of the horizontal lever is fixed at such a point that when the horizontal arm of the latch lever is drawn back, the draw or the revolving or sliding structure, as the case may be is latched or fastened.

To unlatch or unfasten the draw, or the revolving or sliding structure, as the case may be, the signal boards must first be turned by raising the signal lever (G) which operation simultaneously elevates the stop lock (H) to such a distance above the recess or cavity in the substructure as to permit the sliding plate lock, attached to the latch lever, to slide into the position L' M'. The latch lever (I) may then be moved so as to slide L M into the position L' M' and the one movement of the latch lever at the same time unlatches the draw. In raising the stop lock by means of the signal lever, the connecting rod (F) at the same time raises the sliding frame, and thus by one movement of the signal lever (G) the signal boards are made to describe a semicircle, thereby exposing the red face of the signal boards and the red lantern simultaneously above them.

By moving the horizontal sliding plate (L M) into the position L' M' the point of the stop lock is prevented from passing downward so long as the draw or the revolving or sliding structure, as the case may be, remains unlatched or unfastened.

My invention and improvement as hereinbefore described possesses the following advantages. First by the arrangement and combination of the sliding signal frame (c), the signal boards (A A A A), the signal lanterns and the signal lever (G), one motion of the signal lever G is made to display simultaneously a danger signal and a danger lantern, or a safety signal and a safety lantern. Second. By the arrangement and combination of the sliding signal frame C,

the signal boards A A A A, the signal lever G, and the stop lock H, one movement of the signal lever displays the appropriate signal and simultaneously locks the latches
5 and forms a double lock to the draw. Third. By the arrangement and combination of the latch lever I, the signal lever G, and the horizontal sliding plate L M, it is rendered impossible to display a safety signal except
10 when the draw is both closed and latched.

Having thus described my improvement what I claim and desire to secure by Letters Patent is—

1. The combination of the sliding signal
15 frame C the signal boards A A A A, the signal lanterns and the signal lever G, arranged and operating in the manner and

for the purpose substantially as hereinbefore described.

2. The combination of the sliding signal
20 frame C, the signal boards A A A A, the signal lever G, and the stop lock H, arranged and operating in the manner and for the purpose substantially as hereinbefore described. 25

3. The combination of the latch lever I, the signal lever G, and the sliding plate L M arranged and operating in the manner and for the purpose substantially as hereinbefore described.

SIMEON L. SPAFFORD.

Witnesses:

F. E. FELTON,
CHARLES GRAFF.

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