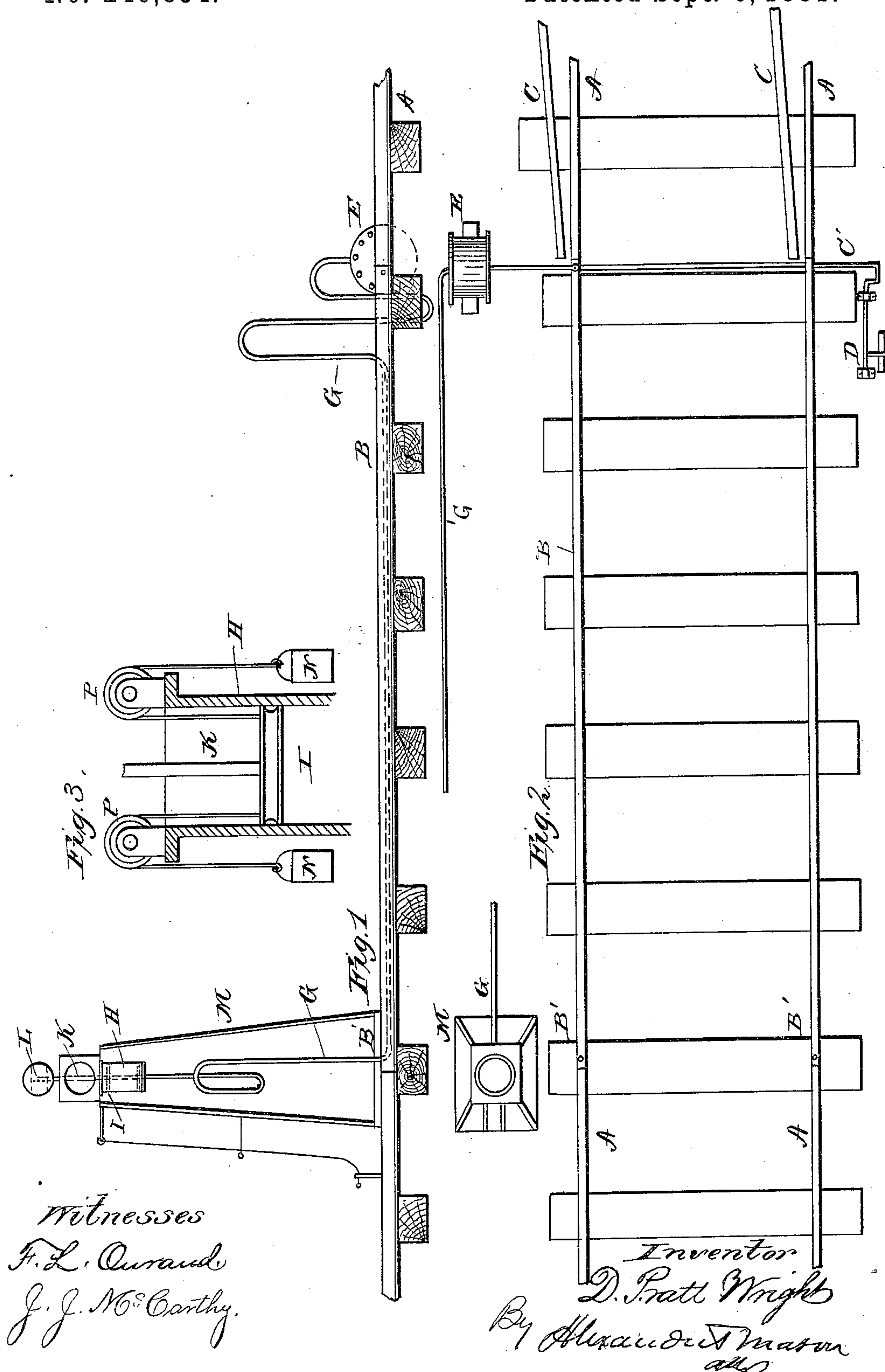


(No Model.)

D. P. WRIGHT.
SIGNALING APPARATUS.

No. 246,854.

Patented Sept. 6, 1881.



Witnesses
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UNITED STATES PATENT OFFICE.

D. PRATT WRIGHT, OF RUTHERFORD, NEW JERSEY.

SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 246,854, dated September 6, 1881.

Application filed February 15, 1881. (No model.)

To all whom it may concern:

Be it known that I, D. PRATT WRIGHT, of Rutherford, in the county of Bergen, and in the State of New Jersey, have invented certain new and useful Improvements in Signaling Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to certain improvements in railroad-signals; and it has for its objects to provide a means whereby a signal or system of signals may be automatically operated when the switches are shifted, as more fully hereinafter specified. These objects I attain by the apparatus illustrated in the accompanying drawings, in which—

Figure 1 represents a sectional view of a railroad showing my invention; Fig. 2, a plan view of a railroad showing my invention; Fig. 3, a detached sectional view of a modification of a portion of my improved signal device.

The letter A indicates the rails of the track, which are secured to the sleepers in the usual manner; and B, the movable sections or switch-rails, which are pivoted at the points B', in the usual manner.

The letter C indicates the rails of the siding, which are mounted upon the sleepers in the ordinary manner, in such position that the switch-rails may be thrown into proper connection with them. The switch-rails B are connected with each other in any suitable manner so as to move together, and at one side are connected with the rod C' of the switch-lever D, by means of which they can be shifted so as to connect with either the main rails A or the rails C of the siding.

The letter E indicates a cylinder provided with a piston, the piston-rod of which connects with one of the switch-rails in such manner that the piston will be moved when the switch-rails are shifted. From the said cylinder extends a pipe, G, to a similar cylinder, H, which is provided with a piston, I, the rod K of which carries the signal L. The said

cylinder H is mounted upon a suitable tower, M, so that it can be readily observed. The pipe G, as it leaves the cylinder E, is bent downward and then upward, as shown in the drawings, and the cylinder back of the piston is filled with liquid glycerine or other liquid which will not readily freeze, the bend in the pipe G preventing the escape of such liquid as the piston is moved back and forth, confining the liquid to the cylinder and to the U portion of the pipe. The respective bent portions of the pipes are of such capacity as to contain sufficient liquid to fill the respective cylinders and still contain sufficient liquid to preserve the seal in said pipes. Just before entering the cylinder H the pipe G is bent, as shown by the letter M, so as to prevent the escape of liquid from the said cylinder, with which the cylinder is filled below the piston therein. The pipe G, between the two bends, contains no liquid, being simply filled with air.

In the modification shown in Fig. 3 the piston at the signal-station is counterbalanced by means of weights N, passing over the pulleys P, in order to render the signal more delicate in operation.

The operation of my invention is as follows: When the switch-rails are shifted the piston in the cylinder E is moved forward, causing the liquid therein to compress the air in the pipe G. The air thus compressed operates upon the liquid in the cylinder H so as to move its piston and elevate the signal. When the reverse movement of the switch-rails is made the pressure in the pipe G is relieved and the signal drops.

The switches are operated by the switch-man in the usual manner; but the signal mechanism may be so arranged as to be automatically operated by passing trains. At the signal-tower the piston-rod of the cylinder carries a number of signals, which operate, in connection with a suitable screen or with a lantern, to indicate "safety" or "danger" on the road.

It is evident that two or more signal-towers can be employed, one at each side of the switch-section, so as to display the signals to trains approaching from either direction.

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

5 The combination, with the cylinder E and its piston and operating mechanism, of the cylinder H and its piston and signal, and the connecting-pipe G, bent as described, the whole adapted to operate substantially as specified.

In testimony that I claim the foregoing I 10 have hereunto set my hand this 22d day of January, 1881.

D. PRATT WRIGHT.

Witnesses:

C. G. HOFMANN,
THOS. G. WILSON.