(No Model.)

S. FORMAN.

RAILWAY CAR SIGNAL.

No. 334,766. Patented Jan. 26, 1886.

FIG. 1.

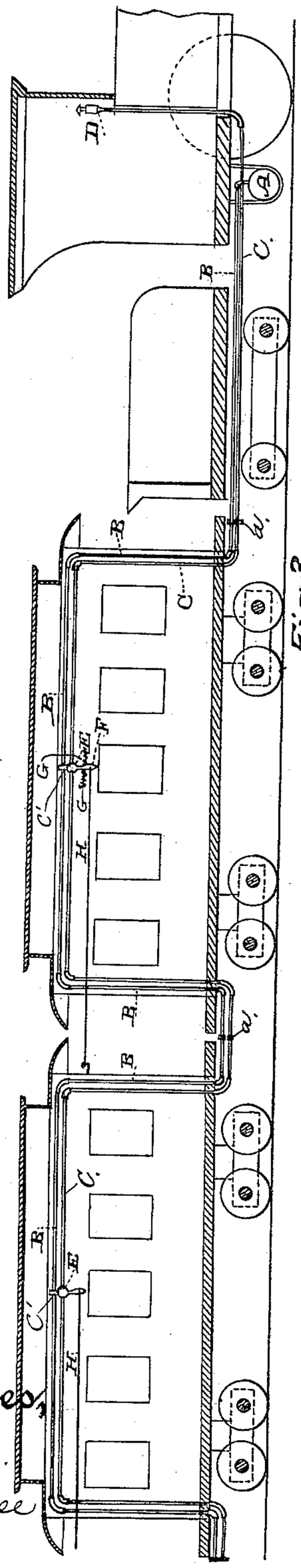


Fig 3

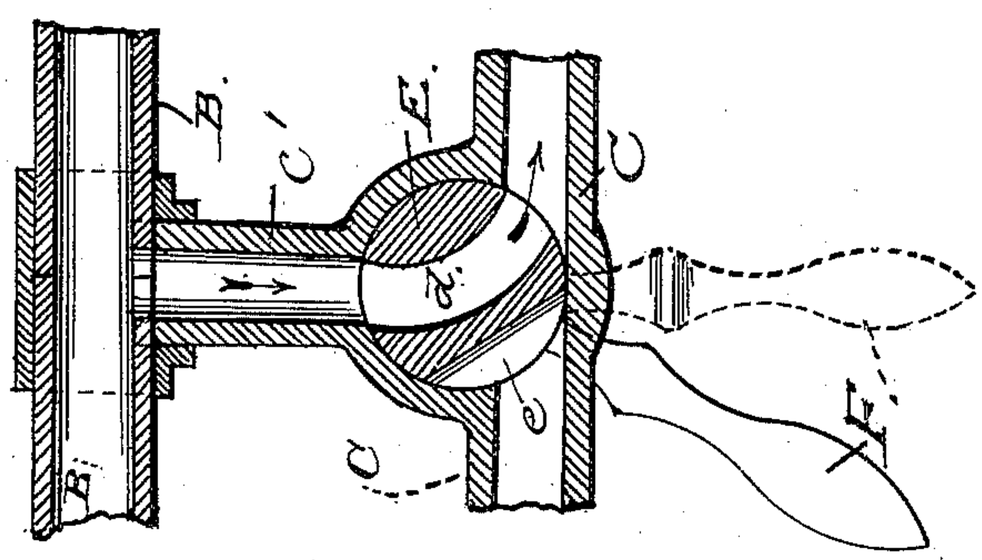
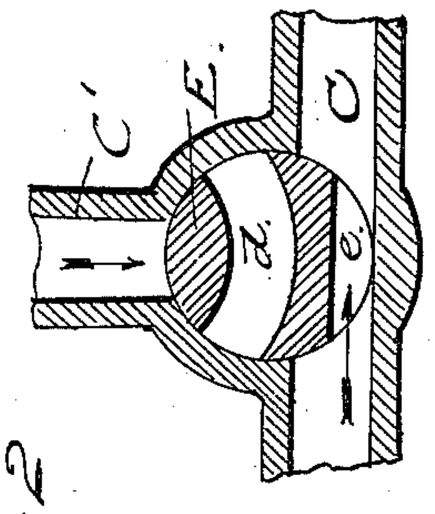


Fig 2



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UNITED STATES PATENT OFFICE.

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RAILWAY-CAR SIGNAL.

SPECIFICATION forming part of Letters Patent No. 334,766, dated January 26, 1886.

Application filed January 16, 1885. Serial No. 153,113. (No model.)

To all whom it may concern:

Be it known that I, SANDS FORMAN, of Gold Hill, Storey county, State of Nevada, have invented an Improvement in a Railway-Car Signal; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a means by which the engineer can be signaled from any car in a train, and also a means by which he is notified if the train breaks into two parts.

It consists of a pair of pipes extending from the end of the train and connected with suitable couplings, one of these pipes being connected with an air-compressor, while the other is connected with a whistle or other signaling device near the engineer. A means of communication is formed between these pipes in each car with an operating lever or device so that the compressed air from one pipe may be admitted into the other and directed forward so as to give a signal. These devices are also each connected by a rope with the front of the succeeding car, so that if the train accidentally breaks in two the rope will operate the valve and give a signal.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a sectional elevation of a skeleton train of cars and engine, showing the air-compressor, pipes, valves, and whistle or signaling apparatus. Figs. 2 and 3 are sectional views, upon an enlarged scale, of the valve mechanism.

A is an air-receiver, which will preferably be attached to the engine, and may be the same one from which air is drawn to operate the air-brakes upon the train. B is a pipe connecting with this receiver and extending through each car of the train, being carried through along the most convenient portion of the car to be easily reached. C is a second pipe, which extends through the train parallel with and close to the pipe B, and which communicates with said pipe through a suitable connection, C'. These pipes are closed at their rear ends and have couplings *a*, by which the several sections thereof may be united at the meeting-points between the cars, and in order to prevent mistakes in coupling these pipes or couplings should preferably be of different sizes. The pipe C has its forward end connected with a whistle or other signaling device, D, which is preferably fixed within the cab and near the engineer. Each car is provided with a cock or valve, E, which is so constructed as to open a passage between the pipes B and C, through the port *d*, and allow an uninterrupted passage through these pipes from the compressor to the whistle. When in its normal position, the valve E closes the passage between pipes B and C, as shown in Fig. 2, a perforation or port, *e*, formed in the lower face of the valve permitting the free passage of the compressed air through pipe *c* from a succeeding car to the whistle, as shown in Fig. 2. The valve E is also provided with a lever or handle, F, having springs G, the ends of which may be attached at any suitable point to retain said valve in its normal position, (see Fig. 1,) and which will return it to that position after it has been pulled to one side to give a signal. The handle of this valve has a cord, H, attached to it, extending backward through the rear of the car, and having its end attached to the forward end of the succeeding car.

The operation will then be as follows: When the valve is in its normal position, the air passes freely through the pipe B, in which it remains under considerable pressure, to the rear end of the train. If it is necessary to signal the engineer, the lever F is pulled back, which connects the pipe B with that portion of the pipe C which is in front of the valve, the valve meantime closing the rear portion of the pipe C. The air passing through the pipe C acts upon the signal in the cab, thus notifying the engineer. When the handle is released, the springs G will return it to its normal position and the passage through the pipe B is again re-established.

It will be manifest from this construction that the engineer may be signaled from any car in the train so long as the valves in the cars in front of it remain in their normal position.

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

1. An air-pipe connected with a chamber containing compressed air, and extending through the railway-train, a second pipe extending alongside the first and connected with

a whistle or other signaling device upon the engine, in combination with a cock or valve, whereby the communication may be opened between the two pipes, and the rear portion of the second pipe closed so that the compressed air may pass forward to the signal, substantially as herein described.

2. The parallel pipes B and C, extending through the train, one being connected with a compressed-air chamber and the other with a whistle or signaling device, in combination with valves by which passage may be opened between these pipes within each car, levers by which the valves may be moved, and returning-springs connected with levers, substantially as herein described.

3. In a signaling apparatus, pipes extending through the train of cars, one being connected with a compressed-air receiver and the other with a signaling device upon the engine, valves within each car by which communication may be opened between the pipes, levers connected with said valves and having returning-springs, as shown, in combination with ropes or cords one of which extends from each lever to the front of the succeeding car, where it is attached, substantially as herein described.

In witness whereof I have hereunto set my hand.

SANDS FORMAN.

Witnesses:
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JNO. B. PREUSCH.