

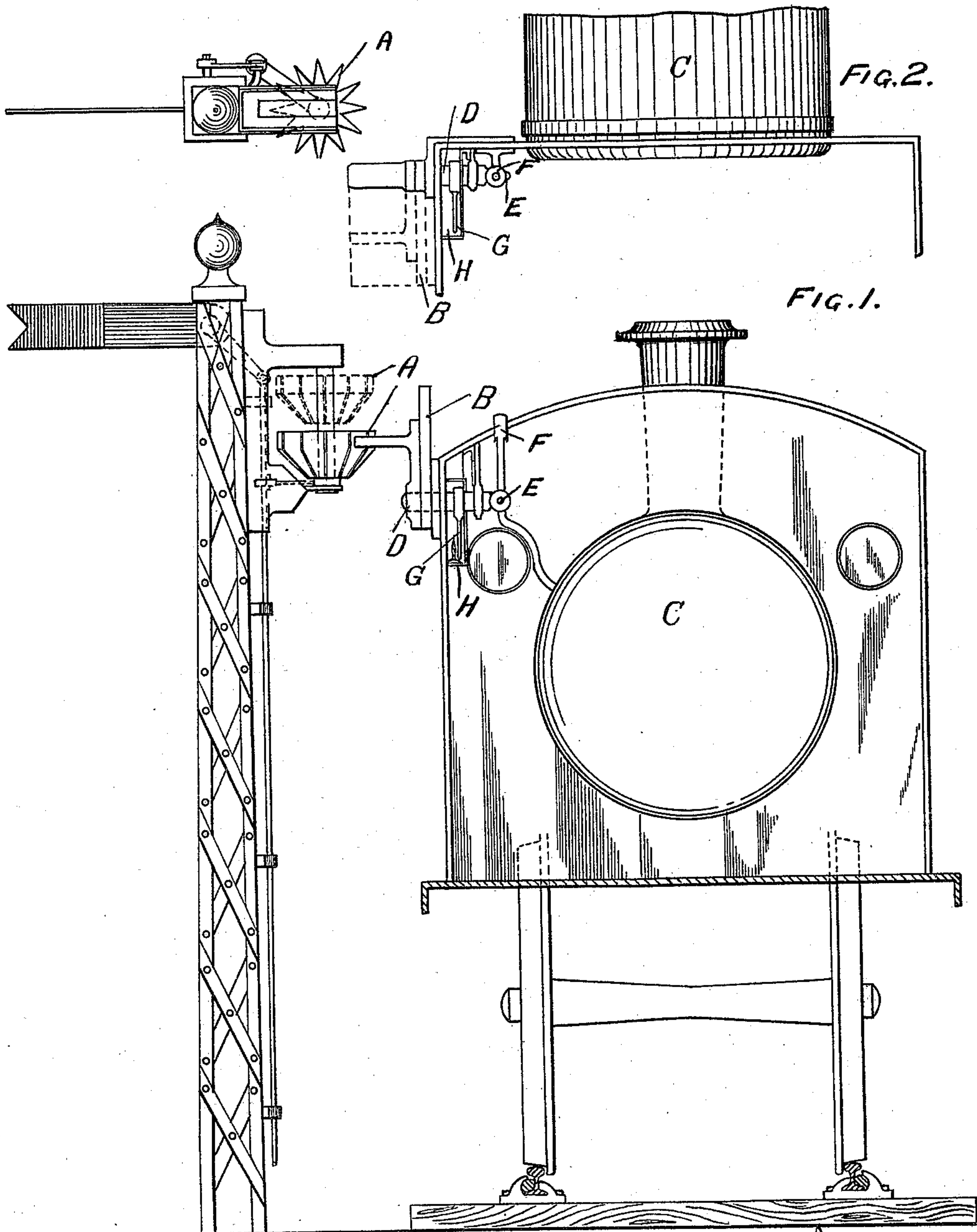
(No Model.)

2 Sheets—Sheet 1.

A. STEWART.  
RAILWAY FOG SIGNALING APPARATUS.

No. 561,357.

Patented June 2, 1896.



Witnesses

H. van Oldenmeel  
E. A. Scott.

Inventor

Allan Stewart

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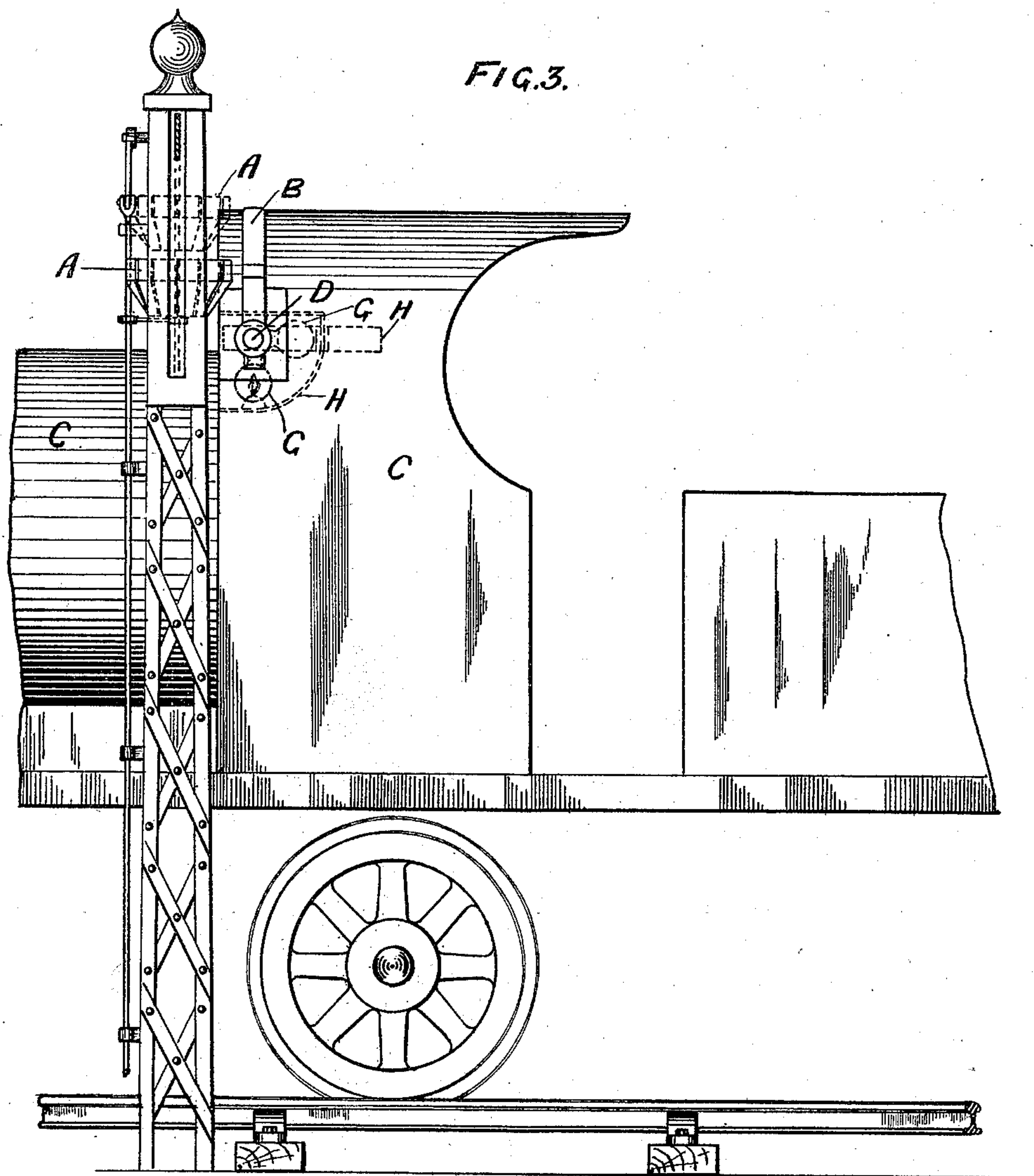
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# UNITED STATES PATENT OFFICE.

ALLAN STEWART, OF GOVAN, SCOTLAND.

## RAILWAY FOG-SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 561,357, dated June 2, 1896.

Application filed September 30, 1895. Serial No. 564,132. (No model.) Patented in England November 11, 1894, No. 24,042.

*To all whom it may concern:*

Be it known that I, ALLAN STEWART, engineer, of 9 Park Terrace, Govan, in the county of Lanark, Scotland, have invented certain new and useful Improvements in Railway Fog-Signaling Apparatus, (for which I have received a patent in England, No. 24,042, dated November 11, 1894,) of which the following is a specification.

10 This invention, which relates to fog-signaling on railways, has for its object the providing on a railway-locomotive or other part of a railway-train a lever or other similar arrangement situate on the top or side of the locomotive and in a vertical position which is acted upon by a movable arm or arms or other appliance fixed on a post or posts clear of snow, &c., by the side of the railway and projecting over the top of the locomotive or  
20 railway-train and which can be lowered or otherwise moved into position by a rod, wire, or other means of communication from the signal-box, either by the same act which works the ordinary signals to "line clear," or "caution," or "danger," as the case may be, or by a separate lever or otherwise when it is desired to be brought into contact with and act upon the said lever situate on the top or side of the locomotive. This said lever is hinged  
30 or pivoted at its lower end onto the top or side of the locomotive and is connected by means of a rod with a steam fog-horn or bell, or both, on the locomotive, and also in the same manner with the engine-lamp in the cab of the locomotive, and by means of a rope or rod to a bell or signal in the guard's van.

The invention is illustrated by the accompanying drawings, Figure 1 of which is an end view, Fig. 2 a plan, and Fig. 3 a side  
40 view, of the fog-signaling apparatus and shows a locomotive in position to have its steam fog-horn lever, bell-lever, or both, operated on by the danger-arm projecting from the signal-post.

45 During a fog the signalman in the box brings the apparatus into work either at the "home" or "distant" signal, or both, by lowering or otherwise moving a contact-piece

in the form of a wheel A, pivoted on a vertical or horizontal axis over the line of railway into position to act on a lever B, situate on the locomotive C, on the approach of the latter. This lever B is turned upon its pivot D by the action of the pivoted wheel, and as the end of the pivot engages with a cock E on the fog-horn F said cock is opened to admit steam to the fog-horn; or the pivot D may communicate motion to a hammer acting on a bell on the engine, thereby causing it to sound and continue sounding until stopped by the driver. This motion of the lever B lowers a slide of red glass G in front of the lamp H, thereby showing a danger-light to the driver, who immediately brings his engine to a standstill; or the lever B can be used to shut off steam or put on the brake independently of the driver, and thus automatically stop the train.

This apparatus is intended to replace the present system of detonating by hand and to inform the driver during a fog of the condition and position of the ordinary signals as effectually as under the best atmospheric conditions.

In cases where the usual signals are carried on a bridge extending across several lines of rails the pivoted wheel A may be fitted either on a vertical or horizontal axis and be operated on by an upright arm on the lever B, pivoted on the cab of the locomotive.

Having now described the invention, what I desire to secure and claim by Letters Patent is—

A fog-signal comprising a signal device and a lever for operating the same on the locomotive, a rotary serrated wheel arranged to engage and operate the lever on the locomotive and a signal-lever for raising and lowering the serrated wheel, substantially as described.

Signed at Glasgow, in the county of Lanark, Scotland, this 13th day of September, 1895.

ALLAN STEWART.

Witnesses:

WALLACE FAIRWEATHER,  
JNO. ARMSTRONG, Jr.