(No Model.) 2 Sheets—Sheet 1.

O. ROTHROCK.

SAFETY DEVICE FOR LOCOMOTIVE PILOTS.

No. 280,959. Patented July 10, 1883.

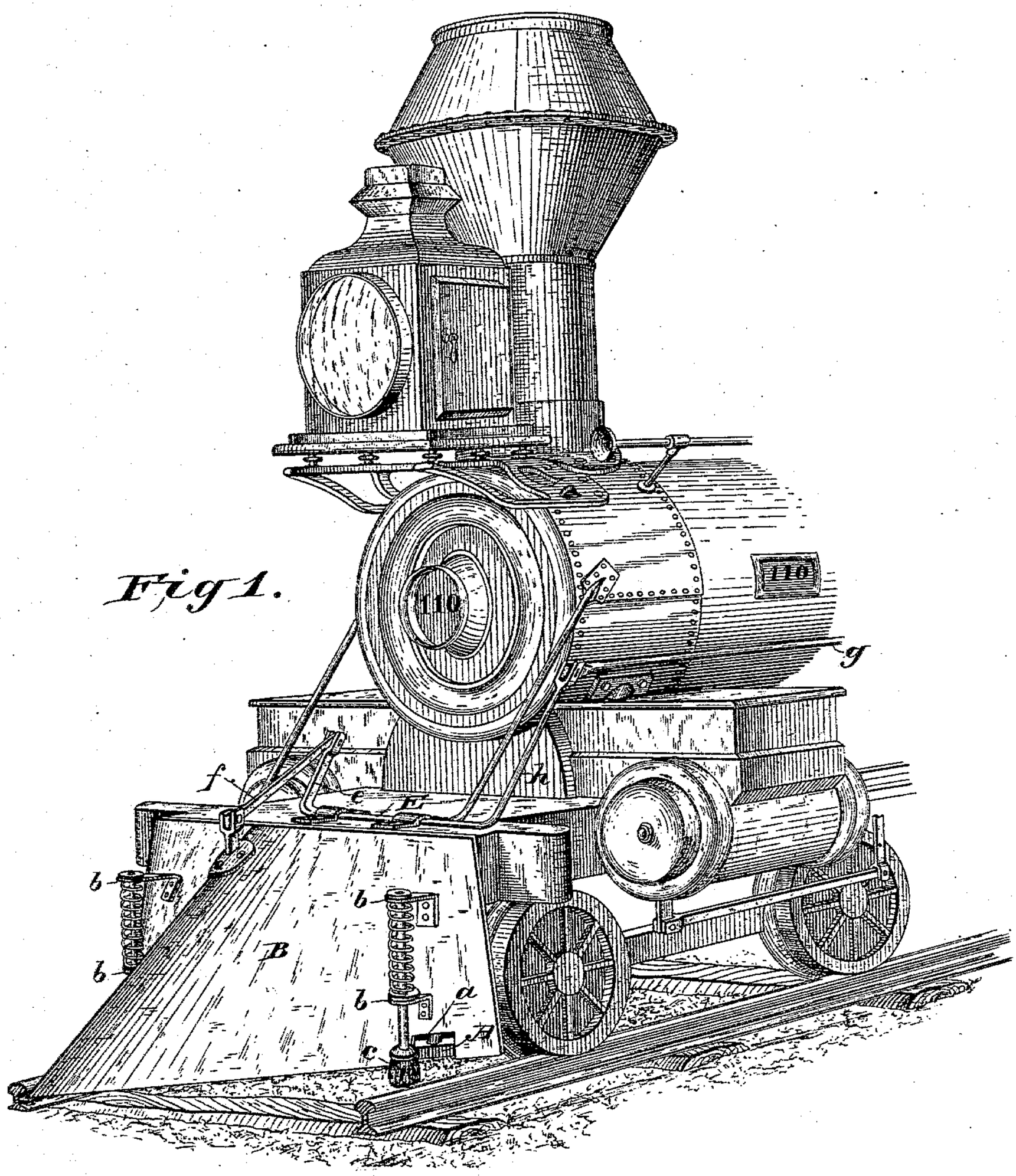

Fig 1.

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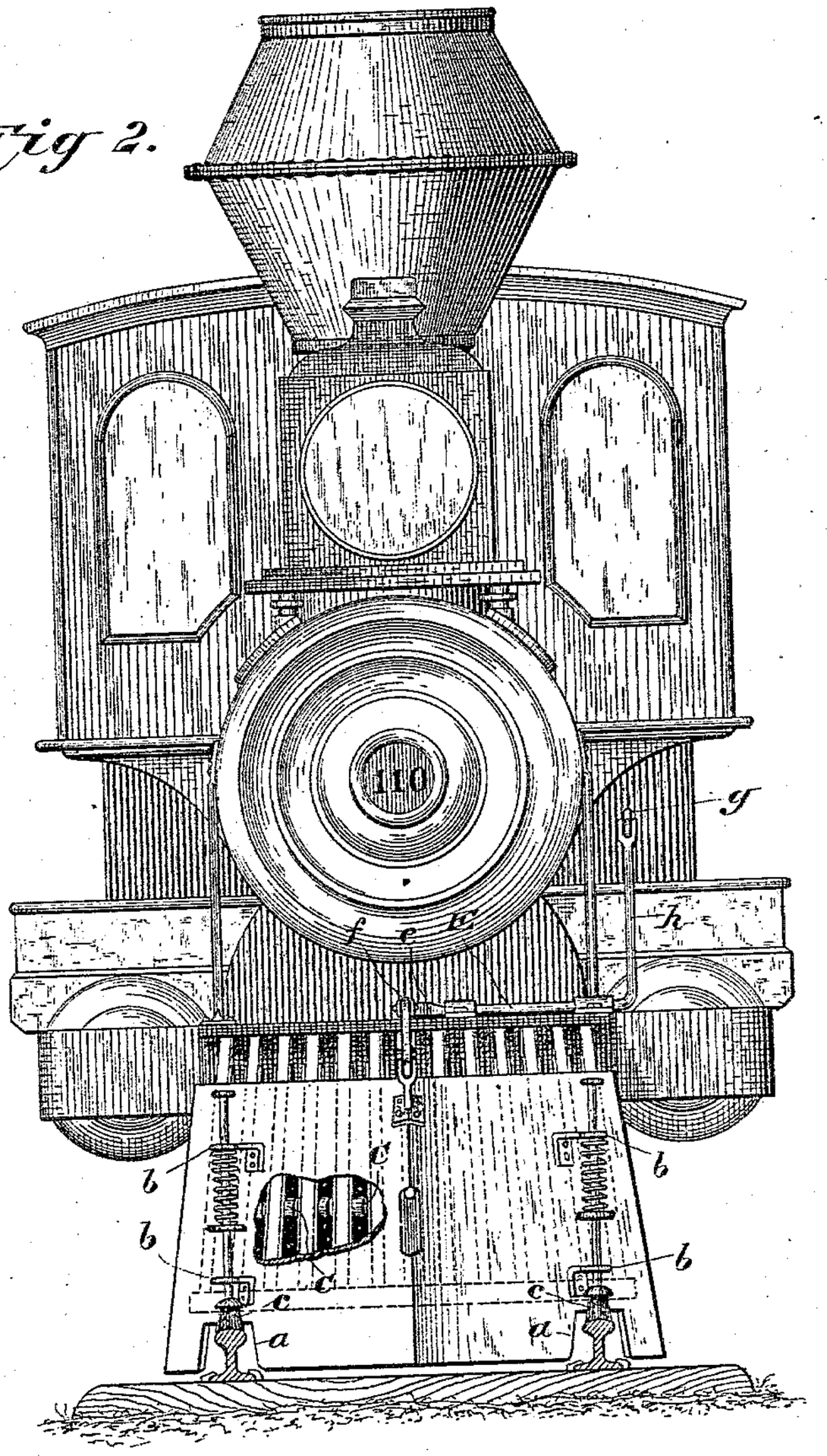
Fig 2.



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UNITED STATES PATENT OFFICE.

OSCAR ROTHROCK, OF BEECH CREEK, PENNSYLVANIA.

SAFETY DEVICE FOR LOCOMOTIVE-PILOTS.

SPECIFICATION forming part of Letters Patent No. 280,959, dated July 10, 1883.

Application filed March 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, OSCAR ROTHROCK, a citizen of the United States, residing at Beech Creek, in the county of Clinton and State of Pennsylvania, have invented certain new and useful Improvements in Safety Devices for Locomotive-Pilots; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to a safety attachment or guard device for locomotive-pilots or cow-catchers, the object thereof being to remove obstructions, whether animate or inanimate, from the track and prevent the train from passing over the same. The pilot or cow-catcher of a locomotive as ordinarily constructed does not extend to the track-rails, and hence it frequently happens that an animal or other object, after having been struck by the pilot, drops again in front of the same, or is brought into such a position that the locomotive and train pass over such object, consequently rendering the train very liable to be thrown off from the track and causing loss of life and property.

My invention is designed to obviate such dangerous results or accidents; and it consists of a sheath or hood which conforms to the shape or contour of the pilot, and is made to slide up and down on the outer or inner surface of the same. The bottom edge of the sheath is provided with two notches, which receive the track-rails and permit the central portion of the shield to sweep the space between said rails. The sheath slides up and down on roller-ways on the pilot-bars, and is combined with suitable devices or mechanism for operating the same from the cab or engine room of the locomotive. The sheath, when lowered to its full extent, projects beyond the track-rails and moves in close proximity to the cross-ties or sleepers, so as to effectually prevent any obstruction from passing under the pilot. The sheath generally carries the brushes for sweeping the track-rails, and may also carry the scoop and hose connected therewith for taking up water when the train is running.

In the drawings, Figure 1 is a perspective view of the front portion of a locomotive and its pilot or cow-catcher, the latter having a covering sheath or hood which is capable of sliding on roller-ways on said pilot, as is indicated through the broken-out portion of the shield. Fig. 2 is a front elevation of the pilot, showing the sheath in a lowered position.

The pilot A is of the customary form and construction—that is, it is formed of inclined bottom bars converging to a nose or point, and the rearwardly-inclined vertical bars, constituting the grated body portion of said pilot.

A sheath or hood, B, made of metal, gutta-percha, wood, or other suitable material possessing the requisites of strength and rigidity, is fitted generally on the outer surface of the pilot, and is of a corresponding shape and size. In other words, this body or shield conforms to the contour of the pilot and lies in close contact therewith.

A suitable number of the inclined vertical bars of the pilot are provided with anti-friction rollers or balls C, which are set in grooves or seats made in said bars, as is shown in Fig. 2. The sheath or hood slides in contact with these rollers, the latter serving to permit the shield to move freely at all times. The extreme lower part of the sheath may be made of hard rubber, when desired, the remaining or body portion being generally constructed of solid sheet metal. The sheath or hood, covering the pilot in the manner above stated, may have interior ribs, which slide in the roller-ways of the pilot-bars, so as to prevent the lateral displacement of the sheath and maintain it always in a working position. Other means, however—such as guide flanges or strips—may be resorted to for holding the sheath in proper working relation to the pilot. The bottom edge of the sheath is provided with two notches, *a*, which are so disposed that the sheath can pass down on each side of the track-rails when it is lowered to its full extent, as illustrated in Fig. 2. Suitable holders or sockets, *b*, are located in juxtaposition or in line with these notches for receiving and retaining brushes *c*, which serve to sweep the track-rails, these brushes being of such size or so arranged that they will only

sweep the rails when the sheath is sufficiently lowered; or, when the brushes encounter objects lodged on the rails, they will serve to remove the same.

The means for raising and lowering or operating a safety sheath or guard device applied to a pilot and constructed in the above-described manner depends altogether upon the character of the locomotive or the position of the cab or engine-room, it being understood that the sheath is designed in all cases to be under the control of the engineer, so that it can be quickly and easily operated for the purposes herein set forth, and any suitable mechanism for raising and lowering it can be employed.

In the present instance I have illustrated an operating mechanism for the sheath which consists of a rock-shaft, E, located at the front of the locomotive-truck, and having an arm, *e*, connected with a link, *f*, extending from the center of the upper portion of the sheath. A rod, *g*, connected with an arm, *h*, on the outer end of the rock-shaft, extends to a vertical lever which is located in the cab of the locomotive, and has a suitable pawl or spring-catch for locking it to a notched segment or plate or other holding device. It will be manifest that when said lever is locked in one position the sheath is held in an elevated state, as is shown in Fig. 1, so that the sheath will not project beyond the bottom bars of the pilot. When the lever is released, the weight of the shaft suffices to let it drop until it is again locked. When approaching cattle on the track, the sheath is lowered to within such a distance from the rails that there will be no liability of danger should an animal be struck and fall in front of the locomotive. In such an event the guard device, in connection with its rigid backing, would throw the animal to the side of the track. When obstructions exist on crossings, switches, &c., the sheath is lowered to a point just level with the rails, so as to throw such obstructions outwardly from the track. In position where no objects such as switch-rails, frogs, &c., are between the track-rails, the sheath can be lowered to within a short distance of the sleepers or cross-ties, so as to permit the engineer from his seat to throw off any object like a cow, hog, or sheep.

Guide-posts may be located at the side of the track for indicating the nature and position of obstructions which will prevent the shield from being lowered to its full extent. When the sheath is in its lowermost position, (illustrated in Fig. 2,) the track-rails are received in the notches thereof, and obviously the bottom edge sheath sweeps along the outer sides of the track-rails and in the space between the latter; hence it follows that there is absolutely no possibility of any object liable to do damage from passing under the pilot, and a sheath, when in this position, is also serviceable for removing snow and small objects from the rails.

In addition to the functions of the sheath as a track-clearing and safety device, I would observe that the scoop for supplying water to the tender while the train is running may be connected with said sheath, so that when the latter is lowered the scoop will take up the water and deliver it to the tank through a hose or pipe connected with said scoop.

In a system of locomotives recently devised by me the means of ingress to the cab and egress therefrom are located at the front of the locomotive, the engine-room being also located at the same point. In such instances I make provision for facilitating the ascent and descent over the cow-catcher by providing the covering-sheath of the latter with projections or steps on its outer surface. These steps are either riveted or otherwise secured to the sheath, or they may be made in one piece therewith when gutta-percha is used in the construction of the sheath.

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

1. The combination of a vertically-movable sheath or hood with a locomotive-pilot, said sheath conforming in shape or contour to the latter, and capable of being lowered below the same, so as to sweep the space over and between the rails, substantially as and for the purpose set forth.

2. The combination of a locomotive-pilot having roller or slide ways with a sheath or hood fitted thereon and suitable means for raising and lowering the sheath from the engine-room or cab, substantially as and for the purpose set forth.

3. The combination of the notched sheath or hood and the brushes carried by the same with the locomotive-pilot and suitable means for raising and lowering the sheath, substantially as herein set forth.

In testimony whereof I affix my signature in presence of two witnesses.

OSCAR ROTHROCK.

Witnesses:

J. R. YOUNGMAN,

F. B. FURST.