(Model.)

H. P. JONES.

DANGER SIGNAL.

No. 352,618. Patented Nov. 16, 1886.

Fig. 1.

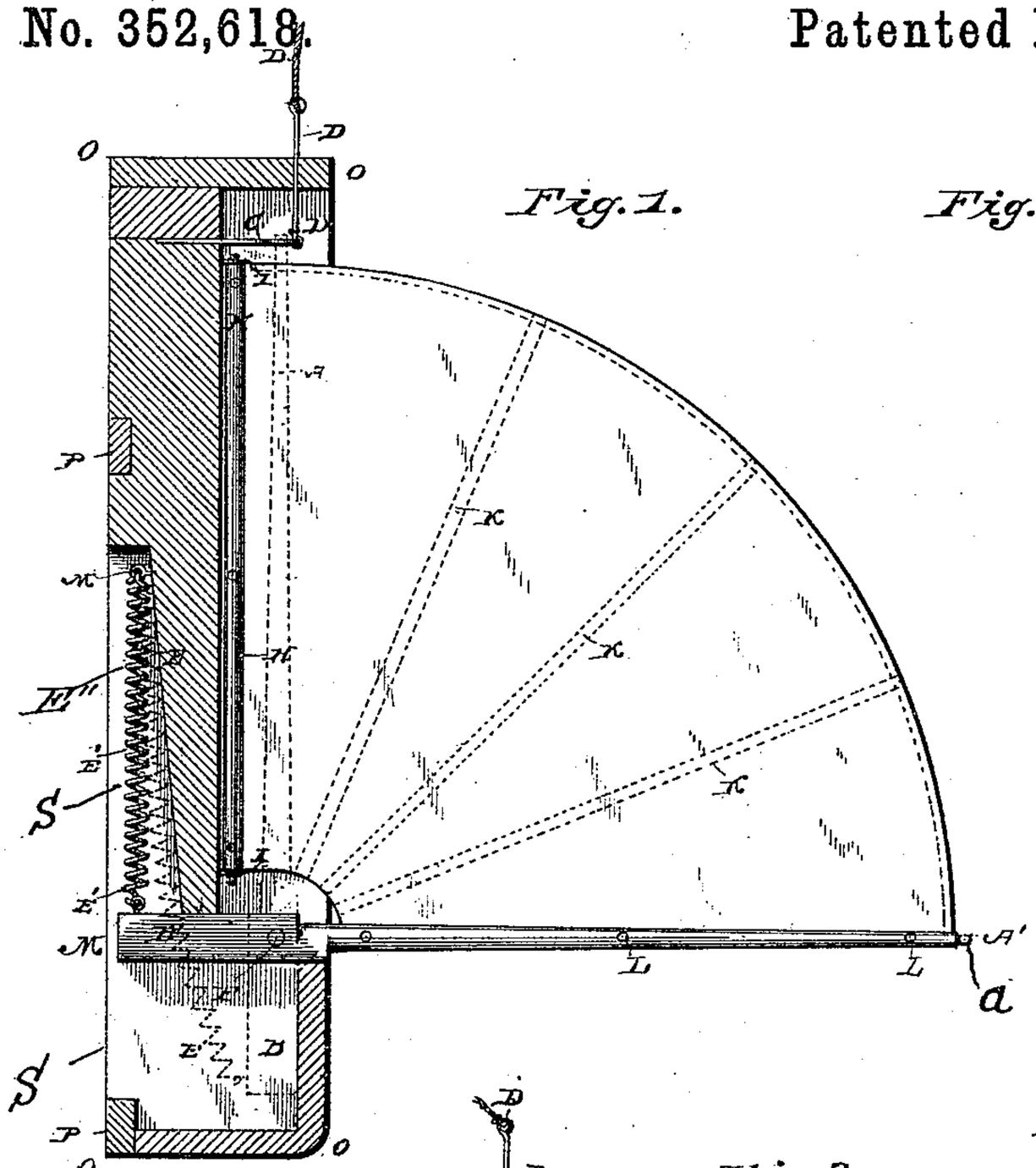


Fig. 3.

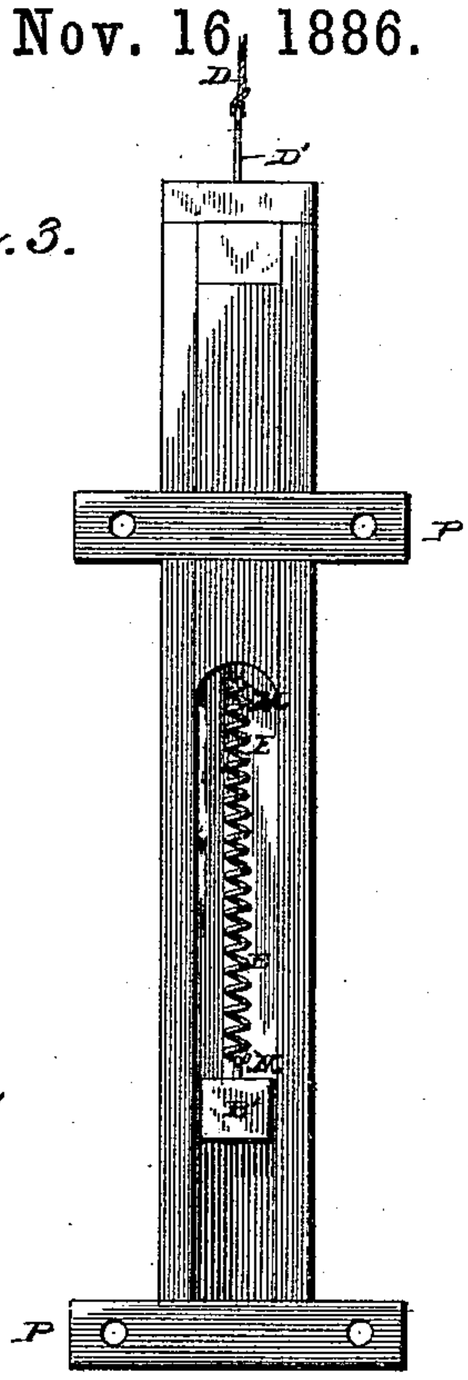


Fig. 2.

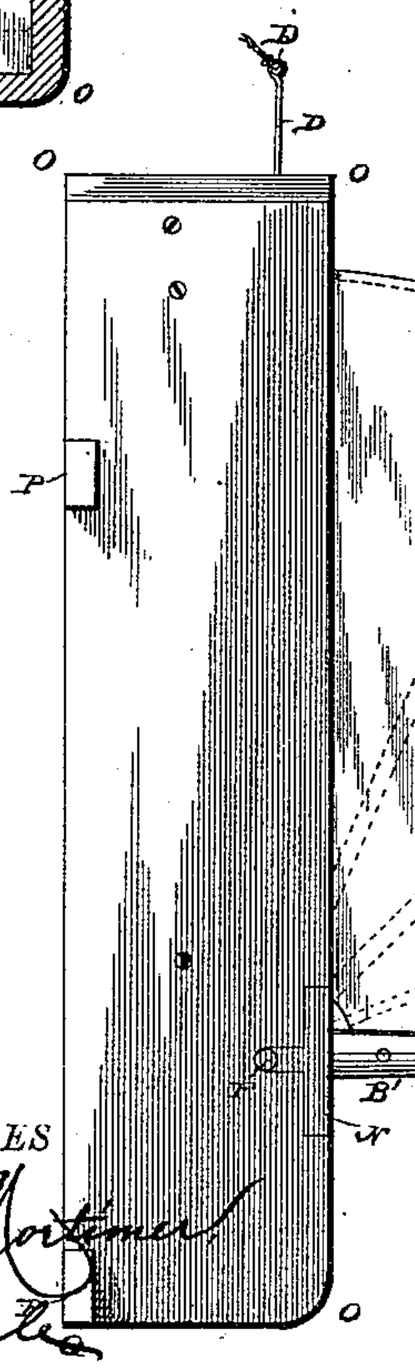
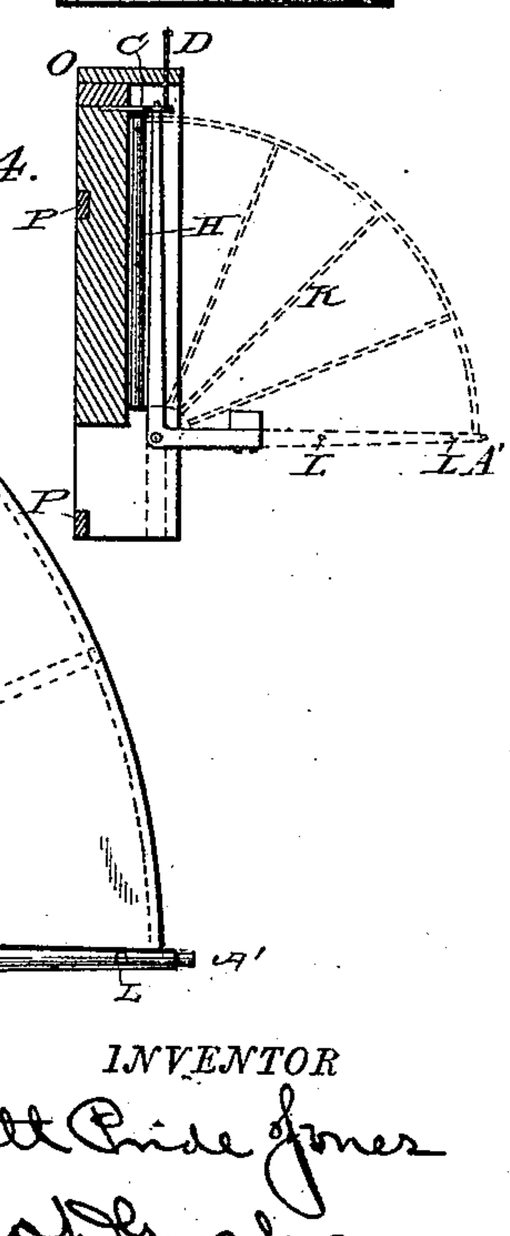


Fig. 4.



WITNESSES

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HALCOTT PRIDE JONES, OF HILLSBOROUGH, NORTH CAROLINA.

DANGER-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 352,618, dated November 16, 1886.

Application filed May 15, 1885. Serial No. 165,591. (Model.)

To all whom it may concern:

Be it known that I, HALCOTT PRIDE JONES, a citizen of the United States, residing at Hillsborough, in the county of Orange and State of North Carolina, have invented certain new and useful Improvements in Danger-Signals; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a promptly-acting and reliable signal of warning and intelligence by a novel combination. When attached to the rear coach of a train of cars, it is at the service of the engineer or other person thereon, in case of an accident happening to slacken speed or prevent further progress, to signal this fact to any locomotive following it, and thus check an impending collision. The apparatus may be attached to both locomotive and stationary objects from which a quick signal is desired to be displayed. This object I attain by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the entire apparatus with signal displayed. Fig. 2 is a side view. Fig. 3 is a rear view showing how the case may be attached to a car or other object. Fig. 4 is a vertical section of the mechanical apparatus, the same as in Fig. 1, except that a drop-weight is substituted for the spring.

Similar letters refer to similar parts throughout the four views.

A B is a pivoted standard held in a perpendicular position by the pivot F and catch C, which catch may be loosed by pulling the cord D.

E E is a spring, which contracts to E′ E′ upon thus loosing said catch from the position indicated by dotted lines E″, Fig. 1, to the position indicated by full lines in the same view, and has one end attached to base of standard A B, and the other to the apparatus-case. The standard A B is instantaneously swung around its pivot F to the position shown in Fig. 1 in full lines A′ B′ by the automatic contraction of said spring.

H H is a fixed standard secured within the apparatus-case by bearings I I. The signal-flag at full display is shown between the said standards and the arc A A′.

K K K are ribs forming part of and supporting said flag, and holding it out to its fullest extent; L L, screws holding the respective edges of the flag in slits of the standards.

M M are screw-eyes fastening the main spring E to case and pivoted standard; N, axle-box for said pivot; O O O O, outlines of case; P P, brackets for attaching the case to a car or other object; R R, open compartment for spring-catch C, bearings I I, and the flag with its standards; S S, open compartment and recess for holding base of standard A B, spring E E, and its fastenings M M; T T T, screws for securing sides of case to solid parts within.

D′ D′ is a handle to the catch-spring C. *b* is a perforation in the case for the working of said handle and connecting it with said spring, and *a* is the neck of said standard A B, fitting loosely in catch C.

The apparatus-case may be wholly of metal or wood, or other solid suitable substance, or in part of each. Its dimensions will be governed by the space to be occupied upon the object to which it is to be attached. It is an oblong, say wooden or metallic, box, and, as for a railway-coach, it will answer its purpose when made thirty-six inches in length, ten inches in breadth, and four in thickness. It will consist of two sides and solid parts between the sides. The solid parts will each consist of a board, say, thirty-six by ten inches, and, say, one-fourth of an inch thick. The solid parts will be three and one-half inches thick, and occupy all the space between the sides not needed for holding and working the spring-catch and mainspring, pivoted standard, the folding and unfolding of the signal-flag, and holding in place the fixed standard, standard-bearings, and mainspring-fastenings.

The catch C may be of metal, inserted in the open compartment provided, as above, for it and the flag. This front compartment may be five inches in depth, being half of the breadth of the sides. This would allow the standard-catch marked C (after being screwed or driven into the bottom of this compartment near the case-top, in position to receive the tip or neck *a* of the pivoted standard A B) to project as

much as four inches from the solid part of the case into which it is inserted, and still leave its working end an inch within the compartment. It may be of any breadth to allow it free play within said compartment, and sufficiently thin to secure the degree of flexibility desired for readily responding to the necessary manipulation in setting and springing the signal. A stiff handle, say of metal or other durable substance, will connect said spring-catch C through an orifice in the solid part at the top of the case to a cord or conductor to be attached on the outside. This orifice is of sufficient size to allow free play to said catch-handle. This catch C has also a standard socket or perforation fitting loosely over the neck *a*.

The pivoted standard in the case above described may be thirty-two inches in length, allowing space for the free action of the spring-catch above it, and also for its base below the pivot. The length of base to shoulder, one inch above pivot, is six inches, and the neck being one inch, the shaft of the pivoted standard is twenty-five inches long. Two metallic collars encircle the shaft just below the neck and just above the base, and, being each a half inch deep, occupy one inch of its length, and leave twenty-four inches for the length of the slit to receive the outer straight edge of the flag.

The fixed standard H H will be twenty-five inches long, including a neck at either end one inch long; and two similar metallic collars, occupying one-half inch each, leave twenty-three inches for the slip to hold the inner straight edge of the flag. Both slits are clamped with screws to keep the flag even and prevent slipping.

The bearings I I and fastenings M M may be metallic screws with ring-heads, allowing the fixed standard H H and spring E E to be readily removed and replaced. The bearings I will be so located as to bring the top of slit in standard H H to the same height as that in standard A B when both standards are fixed within the case.

The body of the flag will be of silk, or any other material similar in flexibility, and provided with ribs—say of whalebone, wood, or metal—which may be stitched in the flag, especially if the flag be made of two thicknesses; or the ribs may be secured by rivets. The flag, when of the material above suggested, will be hemstitched or bound along its outer and inner curved edges. It should be of a right color, to readily catch the eye, a flexible colored transparency being used with a light at night. The pivot F, of wood or metal, will run through the case from the sides, and be of sufficient size and strength to resist the pressure upon it.

The spring E E, attached to the base of standard A B, will be a metallic spiral (or of any other substance or shape) of sufficient strength to automatically throw out this standard to an angle of forty-five degrees and firmly hold it so. As in the case of the fixed standards, screws with ring-heads will connect one end of this spring to the base of the rod and the other end to the case. A recess is provided between the sides of the case at S S, of the length required for the spring thus located. Below the front compartment of it a solid portion of the case will be made and so placed as to meet and firmly support the pivoted standard when it is swung upon its pivot to a horizontal position.

The case may be all of one piece; but when consisting of the two sides and solid parts, as described, the whole may be screwed together. It may be made entire with brackets; or the brackets P P may be let into the case, crossing the solid portions at right angles, and secured by bolts or screws. It is attached to the object desired by means of screws or bolts through the arms of the brackets. At the upper and lower ends of the case the solid parts will extend across its whole width to firmly support its sides, and be nowhere less than an inch deep.

The pivot F is provided with an axle-box, so that the pivot may receive proper attention without removing it. This axle-box may be of the same material as the case, and is put on with screws.

In case a drop-weight is substituted for the spring E E, the upper parts of the case may remain as above described, and the shape and fastenings of the flag will all be the same, and so will the spring-catch C and its handle D′ D′; but the pivoted standard will be made in the shape of the Roman capital letter L, with an upper long and lower short arm, with an orifice for the pivot near their right angle, and with a weight of sufficient gravity to bring the upper arm, when released from catch C, instantaneously from a vertical to a horizontal position. This weight is located at the outer extremity of the lower arm. It is obvious that this automatic and instantaneous action may also be attained by substituting for the spring E E, as described, a spiral spring coiled around the pivot F, with one end attached to it and the other end free, and bearing upon the rod A B. This is recommended for its simplicity. Across the lower end of the case for a drop-weight the solid portion may extend across it, as in the other case; but the front compartment must be of sufficient length and depth to allow free play to the arms of the L-shaped standard. Its brackets will be the same; but no open compartment will be needed in its rear. For this last-named case the sides can be made to cover all of the lower arm, if desired, when standing ready to signal.

I am aware that a folding signal is not new; nor is a flag displayed in part by means of a pivoted rod; nor is the method of loosing the catch-spring C. I am aware that it is not broadly new to connect a stationary and a pivoted standard by a strip of flexible material provided with stay-ribs, and that means have been provided for holding the pivoted stand-

ard in a closed position. I therefore do not claim either of these; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a car-signal, the combination, with a suitable case, of a fixed and a pivoted standard, a signal-flag secured to the standards, means for holding and releasing the pivoted standard, and a spring attached to the pivoted standard at one end and to the case at its other end, substantially as set forth.

2. In a car-signal, the combination, with a suitable case, of a fixed and a pivoted standard, the latter being provided with a neck, a signal-flag connecting said standards, a perforated spring-catch to engage the neck, means for releasing the catch from engagement with the neck, and a spring for moving the pivoted standard away from the fixed standard, substantially as set forth.

3. In a car-signal, the vertical stationary standard H, the pivoted standard, the signal-flag secured in slits of said standards, as described, the spring secured to the pivoted standard, the spring-catch C, the handle D, and the rope secured thereto, substantially as set forth.

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

HALCOTT PRIDE JONES.

Witnesses:
JOHN T. DOYLE,
MATTHEW F. HALLORAN.