

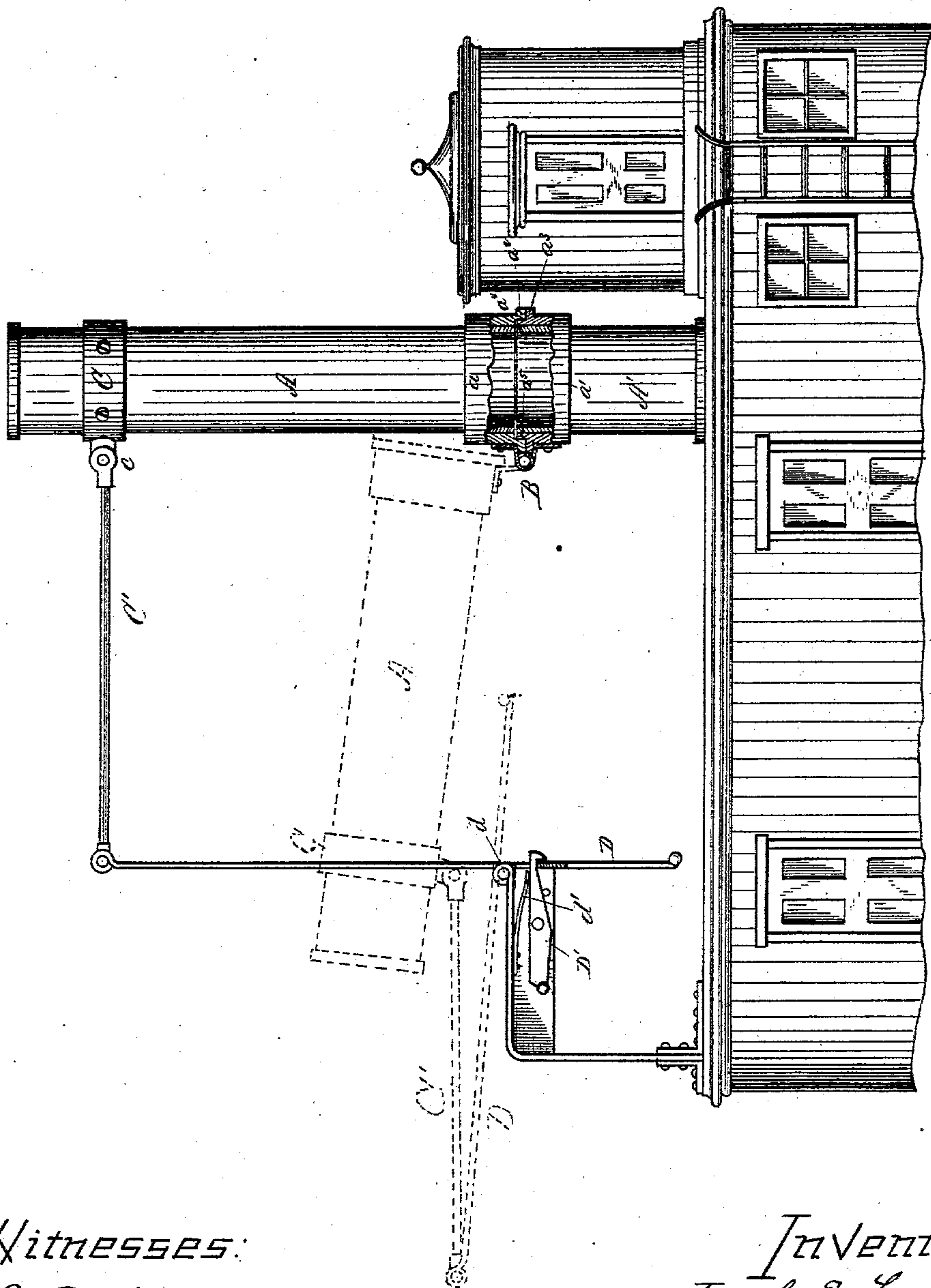
(No Model.)

J. E. LARSON.

DEVICE FOR LOWERING AND RAISING SMOKE STACKS.

No. 304,739.

Patented Sept. 9, 1884.



Witnesses:

E. J. Walker  
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Inventor.

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Attorney.



# UNITED STATES PATENT OFFICE.

JACOB E. LARSON, OF ISHPEMING, MICHIGAN.

## DEVICE FOR LOWERING AND RAISING SMOKE-STACKS.

SPECIFICATION forming part of Letters Patent No. 304,739, dated September 9, 1884.

Application filed January 16, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB E. LARSON, a citizen of the United States, residing at Ishpeming, in the county of Marquette and State of Michigan, have invented certain new and useful Improvements in Devices for Lowering and Raising Smoke-Stacks on Steam-Tugs, &c.; 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.

This invention relates to devices for lowering the smoke-stacks of steam-tugs and the like while passing under bridges or other obstructions, and again raising the same after the obstruction has been passed.

The object of the invention is to produce an operating device or lever, which may be located either forward or aft of the smoke-stack to suit the views of different users, said device being at the same time simpler in construction and cheaper to manufacture than any other now known to me.

The invention consists in particulars of construction and combinations of parts, which will be fully described in the ensuing specification, and pointed out in the claim at the close thereof.

In the accompanying drawing my device is illustrated in side elevation in connection with the upper portion of a steam-tug or tow-boat.

The smoke-stack is constructed of upper and lower sections, A and A', the lower section, A', being provided at its upper end with a sleeve, a', and the upper section, A, being provided at its lower end with a sleeve, a. These sleeves are provided at their meeting ends with flanges a<sup>2</sup> and a<sup>3</sup>, and in the end of the upper sleeve is formed an annular recess, a<sup>4</sup>, which receives the rim a<sup>5</sup>, projecting upward from the flange a<sup>3</sup> of the lower sleeve. This construction provides for the accurate fitting of one section upon the other, and serves as a guide in raising the upper section, A, of the smoke-stack to its vertical position. The sleeves a and a' are connected at one side by a hinge, B, as shown. The upper section, A, of the smoke-stack is provided at a suitable point with a collar, C, from which projects a transversely-perforated lug, c, to which is pivotally secured the bifurcated forward end of connecting-rod C' by means of a bolt passing through the legs of said rod and the

perforation in lug c. The rear end of this connecting-rod C' is jointed to the upper end of the operating-lever D, which lever is pivoted at d (a short distance above its lower or free end) to a suitable support, and normally held in a vertical position by a latch, D'. This latch may be held in engagement with the lever by a spring, d', or the forward end of the latch may be weighted, as preferred.

To lower the smoke-stack by means of this device, the attendant frees the latch D' from engagement with the lever D, and presses forward on the lower end of the lever to bring the parts into the position shown by dotted lines in the drawings. A reverse movement of the lower end of the lever will restore the smoke-stack to its normal vertical position, the latch automatically engaging with the lever to hold the parts securely.

It is obvious that the connecting-rod C' may be made longer or shorter to place the free end of the lever D in a convenient position for operation, as also that the lever may be lengthened or shortened for a like purpose.

I contemplate in some instances extending the lever D, so that it may be pivoted in the roof of the engine-room with its free end extending down within reach of the engineer to be operated by him upon the proper signal being given; or, if preferred, the collar C may be secured in such position that its lug c shall project forward, so that by using a shorter connecting-rod the lever may be pivoted in the roof of the pilot-house to place the device under the control of the pilot.

What I claim as new, and desire to secure by Letters Patent, is—

The combination, with the sectional hinged smoke-stack, of a hand operating-lever pivoted to a suitable support near its free or lower end, a rod pivotally connecting the operating-lever with the upper section of smoke-stack, and the latch for securing the operating-lever in its normal position, substantially in the manner as and for the purpose herein shown and described.

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

JACOB E. LARSON.

Witnesses:

SWEN P. LANDMARK,  
ANDREW LIDBERG.