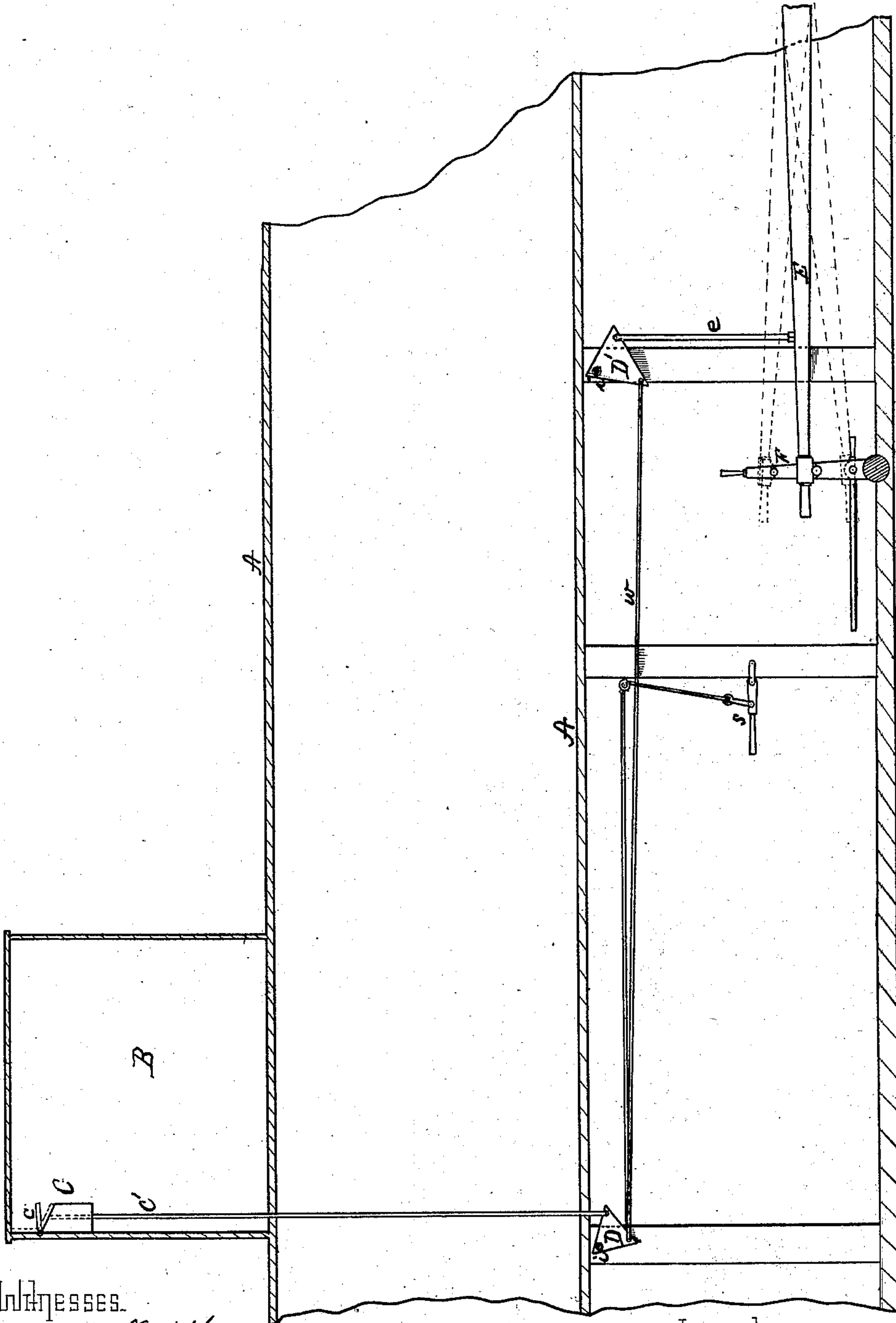


L. SHOOK.

INDICATORS FOR STEAMBOAT-ENGINES.

No. 194,475.

Patented Aug. 21, 1877.



Witnesses.
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UNITED STATES PATENT OFFICE.

LEVI SHOOK, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND PATTERSON & BISHOP.

IMPROVEMENT IN INDICATORS FOR STEAMBOAT-ENGINES.

Specification forming part of Letters Patent No. 194,475, dated August 21, 1877; application filed June 19, 1877.

To all whom it may concern:

Be it known that I, LEVI SHOOK, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Devices for Indicating the Motion of Engines on Steamboats, and similar places; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming a part of this specification, and which is a sectional view of so much of a boat as is necessary to illustrate the attachment of devices which may be employed in carrying out my invention.

My invention relates to devices for indicating to the pilot of a steamer, or party similarly situated, the motion of the engines, whether at rest, backing, or going ahead; and consists in connecting an indicator, located within the pilot-house or like position, with the eccentric-rod or reversing-lever of the engine by means of suitable intermediate mechanism, so that every change of position of the rod or lever is indicated at the desired point.

At the present, so far as I am advised, the pilot of a steamboat, or person similarly placed, has no definite means of knowing the motion of the engine, whether backing or going ahead, and it frequently happens when the usual signals are given that they are misunderstood by the engineer, and this mistake is not discovered by the pilot until the boat is underway, so that accidents involving loss of life and property are of frequent occurrence.

One object, then, of the present invention is to give the pilot means for ascertaining at once whether his signals have been understood and obeyed.

I will now proceed to describe my invention, so that others skilled in the art to which it appertains may apply the same.

A indicates the deck of a boat, and B the pilot-house. Within the pilot-house I arrange an indicator, C, which, for purposes of illustration, may be a box or like hollow support, having a hinged top, *e*, and a rod, *c'*, for operating the top *c*. At suitable points between the indicator or pilot-house and the engines are arranged two or more angle-pieces or el-

bow-levers, D D', and to the first of which, D, the rod *c'* is secured, so as to be operated thereby, and the several angle-pieces of the series are pivoted, as at *i*, and connected by cords or wires, as at *w*, in the usual manner of bell-hanging. The last angle-piece or elbow-lever D' is connected, by a link or rod, *e*, to the eccentric or cam rod E of the engine, or to the reversing-lever F, if preferred, at a point or points which will give the requisite motion to actuate rod *c'* through the intermediate angle-pieces and connecting-wires.

In addition to the above-described connections, which are all that are required on low-pressure engines, I connect one of the angle-pieces or elbow-levers D with the lever *s*, which operates the receiving-valves when a high-pressure engine is employed, so that the indicator will be operated therefrom in shifting the valve or stopping the engines.

The connections between the indicator and the eccentric rod may be made or arranged in any desired manner; but, in the present instance, they are such that the top *c* is down upon its seat when the engine is going ahead, partially raised when the engine is stopped, and still farther raised when the engine is reversed or backing.

The advantages of my invention are that the pilot of the boat is always kept advised of the motion of the engines, and can thus, to a great extent, guard against mistakes and accidents arising therefrom.

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

In combination with the reversing devices of an engine, an indicator placed in the pilot-house or a similar position, and intermediate mechanism, substantially as specified, for operating the indicator from the eccentric rod or lever.

In testimony whereof I, the said LEVI SHOOK, of Pittsburg, county of Allegheny and State of Pennsylvania, have hereunto set my hand.

LEVI SHOOK.

Witnesses:

JAMES I. KAY,
JOHN K. SMITH.