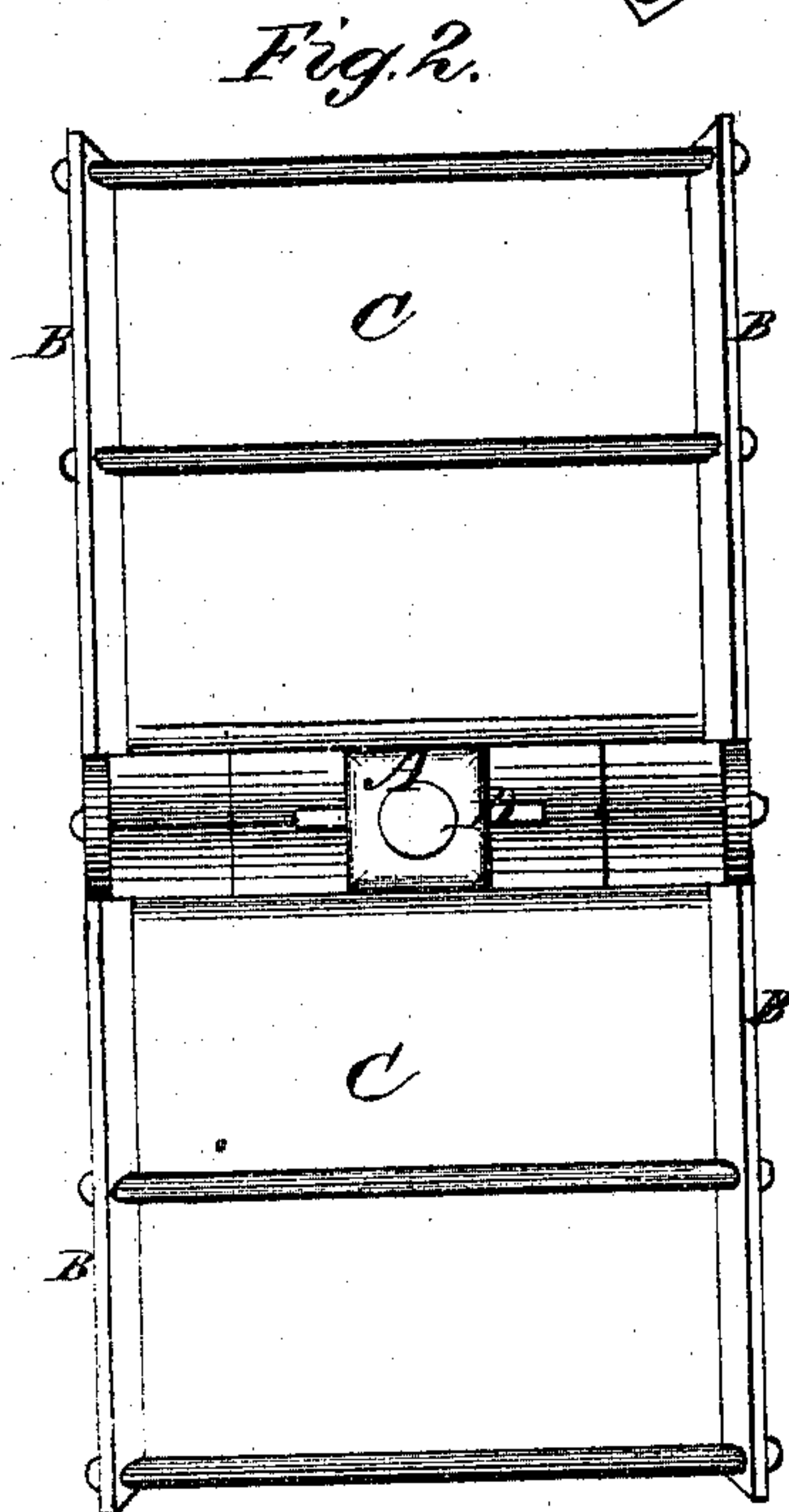
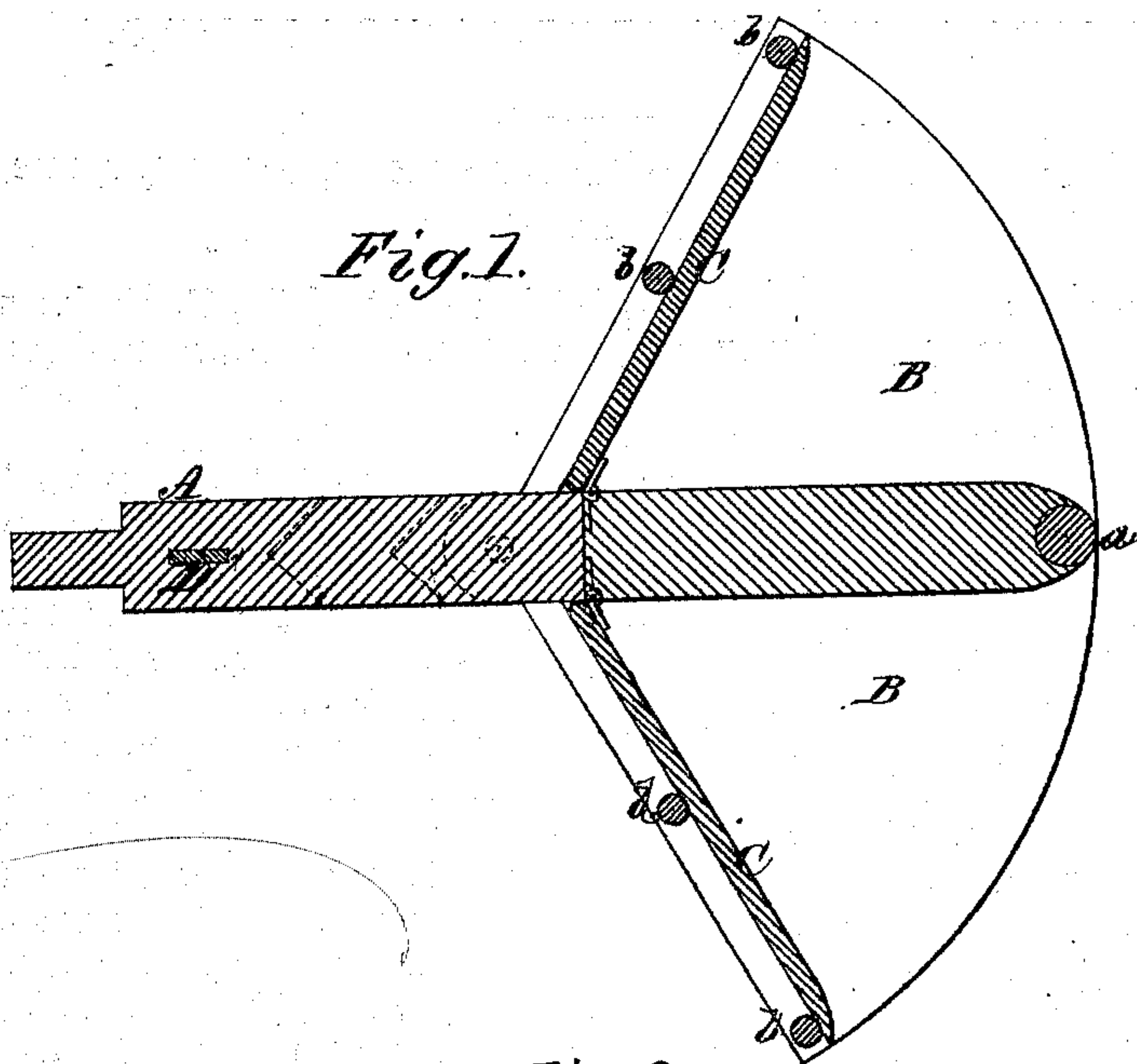


C. A. READ.

Improvement in Propelling Vessels.

No. 128,657.

Patented July 2, 1872.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES A. READ, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN PROPELLING VESSELS.

Specification forming part of Letters Patent No. 128,657, dated July 2, 1872.

To all whom it may concern:

Be it known that I, CHARLES A. READ, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in "Propelling-Paddles;" and do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in hinged or pivoted paddles operating between segmental plates attached to a head keyed or otherwise secured to the end of the piston-rod, so that the propelling-paddle is operated directly from the engine, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing which forms a part of this specification, and in which—

Figure 1 is a longitudinal section, and Fig. 2 an end view, of my improved propelling-paddle.

A represents a head of any suitable construction, keyed or otherwise secured, at D, to the end of a long piston-rod, G, which runs direct from the steam-cylinder of the engine through the stern of the boat or vessel. To this head A are attached two parallel segmental plates, B B, the point of attachment of said plates to the head being at the center of the circles of which the plates are parts. The plates B B are connected by a rod or post, *a*, at the center of their circumference, and by similar rods *b b* at the sides. To each side of the head A, at the point of attachment to the plates B B,

is hinged a paddle, C, of the same length as the radius of the segmental plates and of such width as to move freely between them. As soon as the piston-rod starts outwardly the paddles C C immediately open to their full extent, holding every square inch of water which the front of the paddles covers until the stroke is made, the direct action of the water concentrating and compressing the water, thereby increasing the resistance. As soon as the outward stroke is completed and the return stroke commences the paddles C C instantaneously close, giving no resistance of any amount.

By this construction no cumbersome stationary supplemental box or trunk is required; there is less resisting surface presented on the return stroke; the parts used are fewer, making the device more simple, less expensive, and requiring less power to operate the same than any device used in a similar manner and for the purpose set forth.

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

The paddles C C, constructed with the beveled edges, as shown, in combination with the plates B B, head A, and pins *a* and *b b*, the several parts being arranged to operate substantially as specified and for the purposes described.

In testimony that I claim the foregoing as my own I affix my signature in the presence of two witnesses.

CHARLES A. READ.

Witnesses:

ELIPHALET B. STEVENS,
JONATHAN S. HUBBELL.