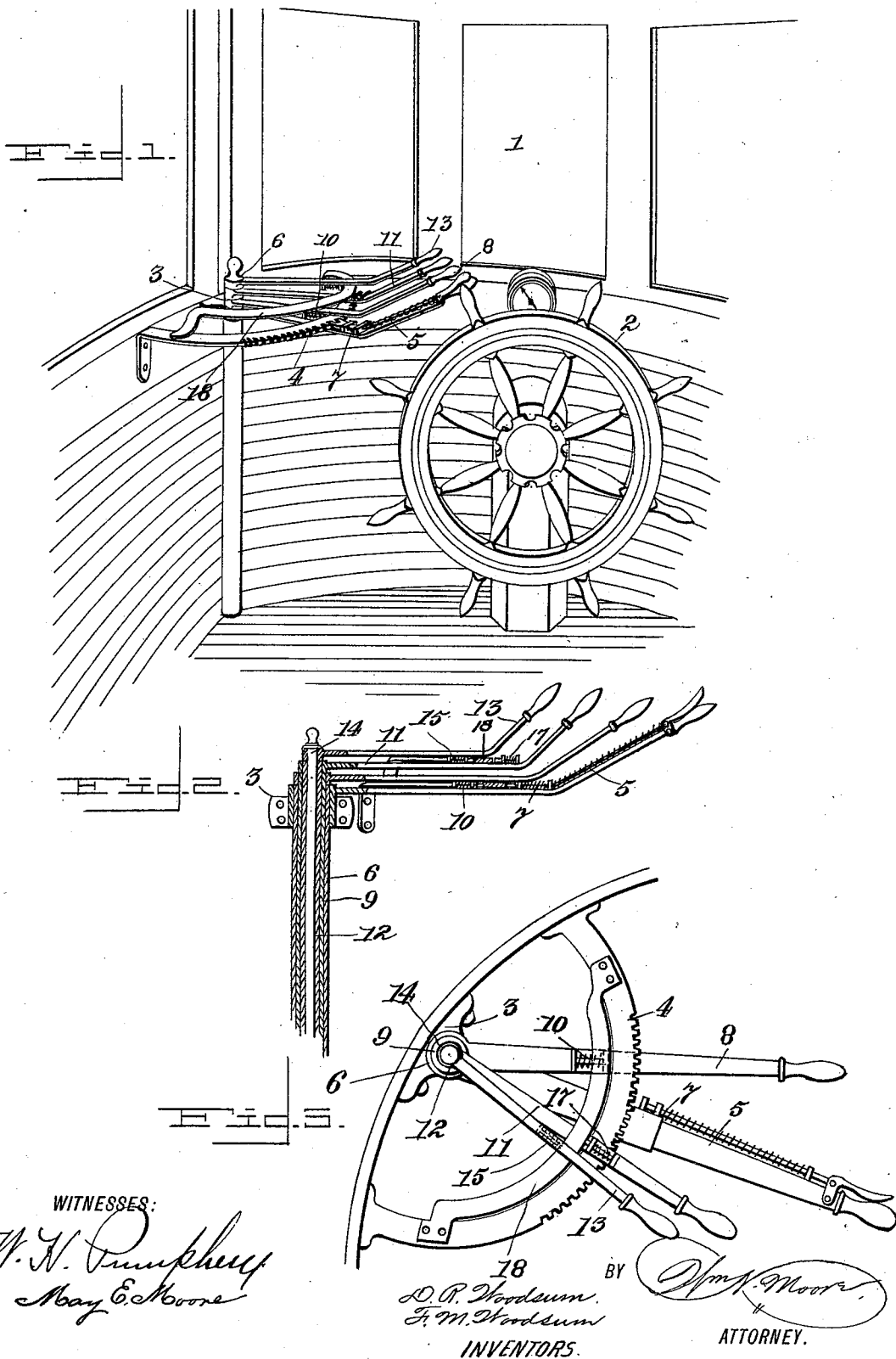


(No Model.)

D. R. & F. M. WOODSUM.  
ENGINE ATTACHMENT.

No. 519,488.

Patented May 8, 1894.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

DANIEL R. WOODSUM AND FRANK M. WOODSUM, OF SUNAPEE, NEW HAMPSHIRE.

## ENGINE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 519,488, dated May 8, 1894.

Application filed June 23, 1893. Serial No. 478,604. (No model.)

*To all whom it may concern:*

Be it known that we, DANIEL R. WOODSUM and FRANK M. WOODSUM, citizens of the United States, residing at Sunapee, in the county of Sullivan and State of New Hampshire, have invented certain new and useful Improvements in Engine Attachments; and we 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 figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in engine attachments, and the invention is designed specially as an improvement upon the engine attachment for which we secured Letters-Patent February 3, 1891, No. 445,943. In the patent referred to the improvement was adapted for use in connection with double engines, and the object of our present improvement is the provision of an attachment of simple, durable and inexpensive construction which will effectively operate upon double, triple or compound engines as may be found necessary.

To attain the desired object the invention consists in the combination with the mechanism of the engine of a series of rods properly connected and levers operating the rods to control the operation of the engine.

The invention also consists of an attachment to engines embodying novel features of construction and arrangement of parts substantially as disclosed herein.

In order that the details of construction and the operation and advantages of our invention may be readily understood we have illustrated our invention as applied to a steamer and arranged in the pilot house thereof within easy reach of the pilot whereby he may have the power entirely under his control.

Figure 1 represents an elevation of part of a pilot house equipped with our improvement. Fig. 2 represents a plan view thereof, and Fig. 3 represents a sectional view of the levers, the rods connected therewith for communi-

cating the action of the levers and the segmental rack.

Referring by numerals to the drawings, the numeral 1 designates a portion of the pilot house of a steamer and 2 the pilot-wheel mounted therein.

We would have it understood that we may employ our improvement wherever it will operate properly but for illustration we show it in connection with a steamer, and only one of the mechanisms is shown but it is evident that the mechanisms are provided for each engine when operating twin screws.

In the corner of the pilot house is secured the bracket or bearing 3 and the segmental or curved rack 4, and the reversing lever 5 is connected to the rod 6 and carries the spring detent or dog 7. The throttle lever 8 is also connected to the rod 9 within the rod 6 and has the spring detent 10 bearing against the inner face of the segmental rack. The lever 11 is also connected to the rod 12 within the rod 9 and the lever 13 is connected to the rod 14 arranged within the rod 12. The lever 13 is provided with the spring detent 15 which bears against the inner face or edge of curved plate 18 carried by rack plate 4, and lever 11 is also provided with spring detent 17 which bears against the outer face or edge of said curved or segmental plate 18. From this construction it will be seen that we provide a series of independent levers connected with rods or tubes arranged one within the other and suitably connected to the parts of the engine and by means of our improvement the power can be controlled by the engineer or pilot entirely and the invention is applicable to a double, triple or compound engine as found necessary and as will be readily apparent to all skilled in such matters. When attached to a twin screw propeller it furnishes a reliable way for steering in case the rudder becomes disabled and is a great help in making sharp turns as they can be worked independently of each other. By going ahead with one propeller and backing with the other the boat can be turned nearly on its center.

We claim—

The combination of a bracket or support, a

guide tube secured thereby, a series of telescoping tubes or rods arranged in said guide, levers connected at their inner ends to said tubes or rods to move them, a main curved or  
5 segmental rack having teeth on the outer face and having the inner face plain, a supplemental curved or segmental plate arranged a short distance away from the main rack, and spring detents carried by the levers and arranged to engage the inner and outer faces of  
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the main and supplemental curved plates, substantially as shown.

In testimony whereof we affix our signatures in presence of two witnesses.

DANIEL R. WOODSUM.  
FRANK M. WOODSUM.

Witnesses:

E. H. BARTLETT,  
P. M. BARTLETT.