

A. McKENZIE.

Devices for Operating Carriage-Tops.

No. 153,098.

Patented July 14, 1874.

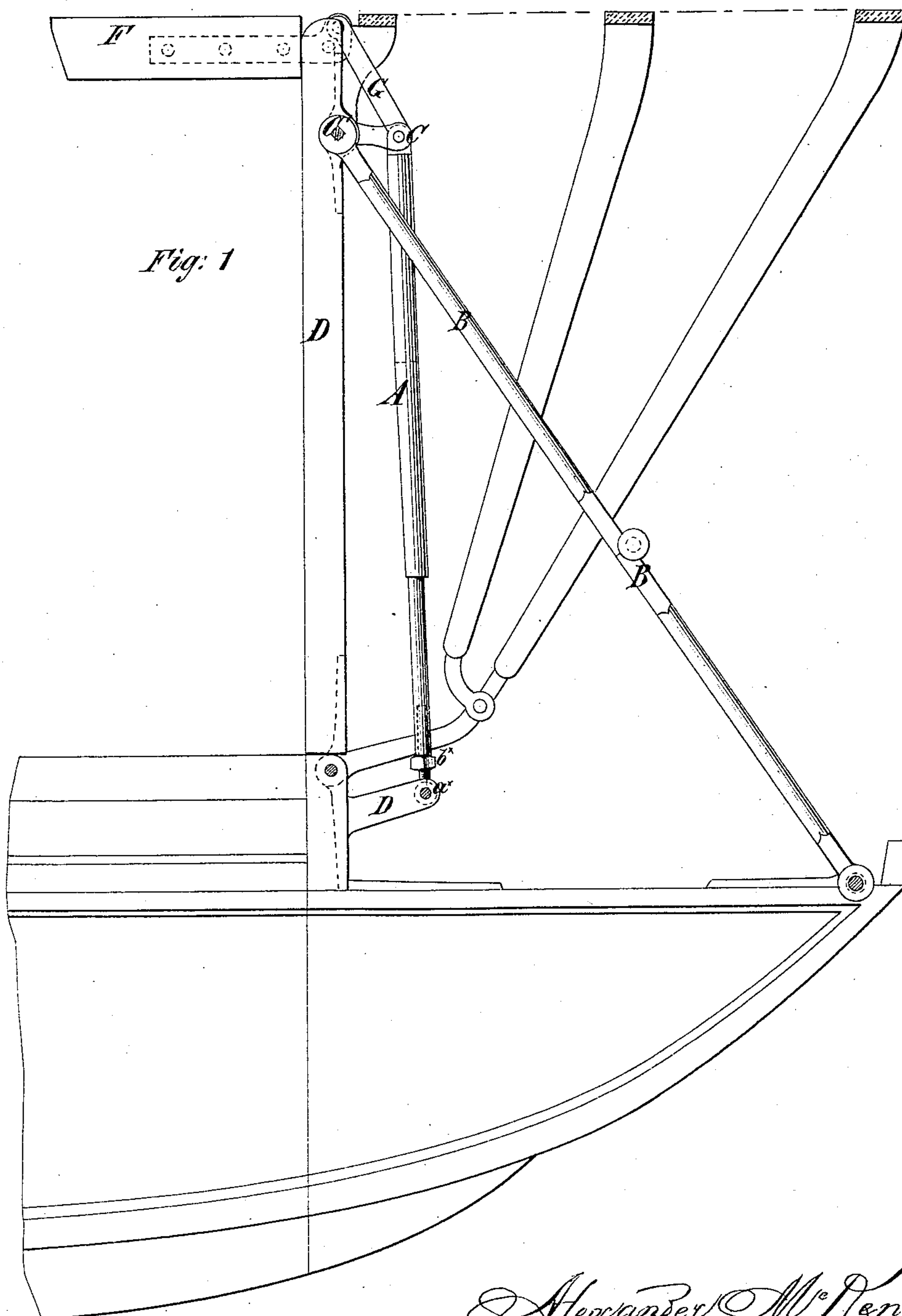


Fig: 1

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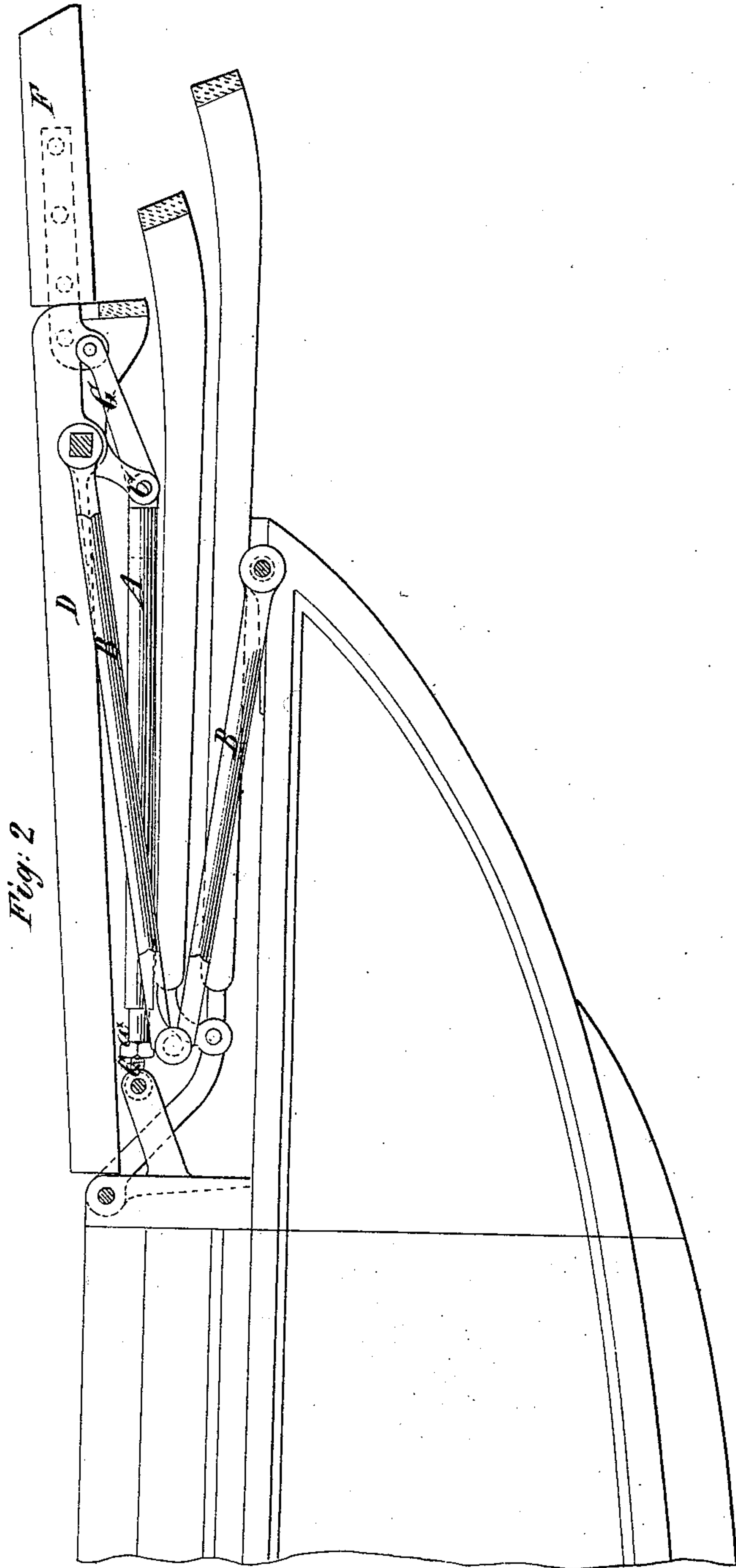
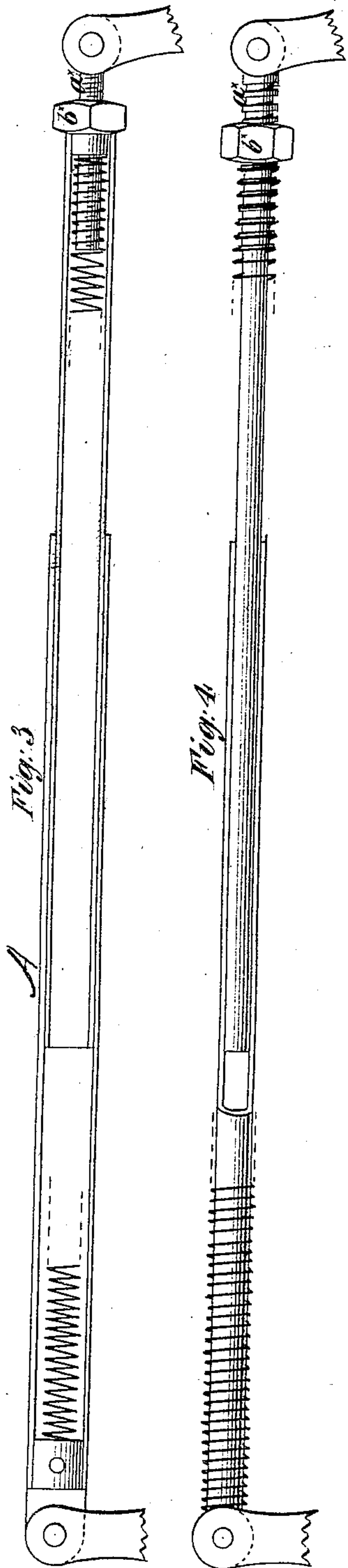
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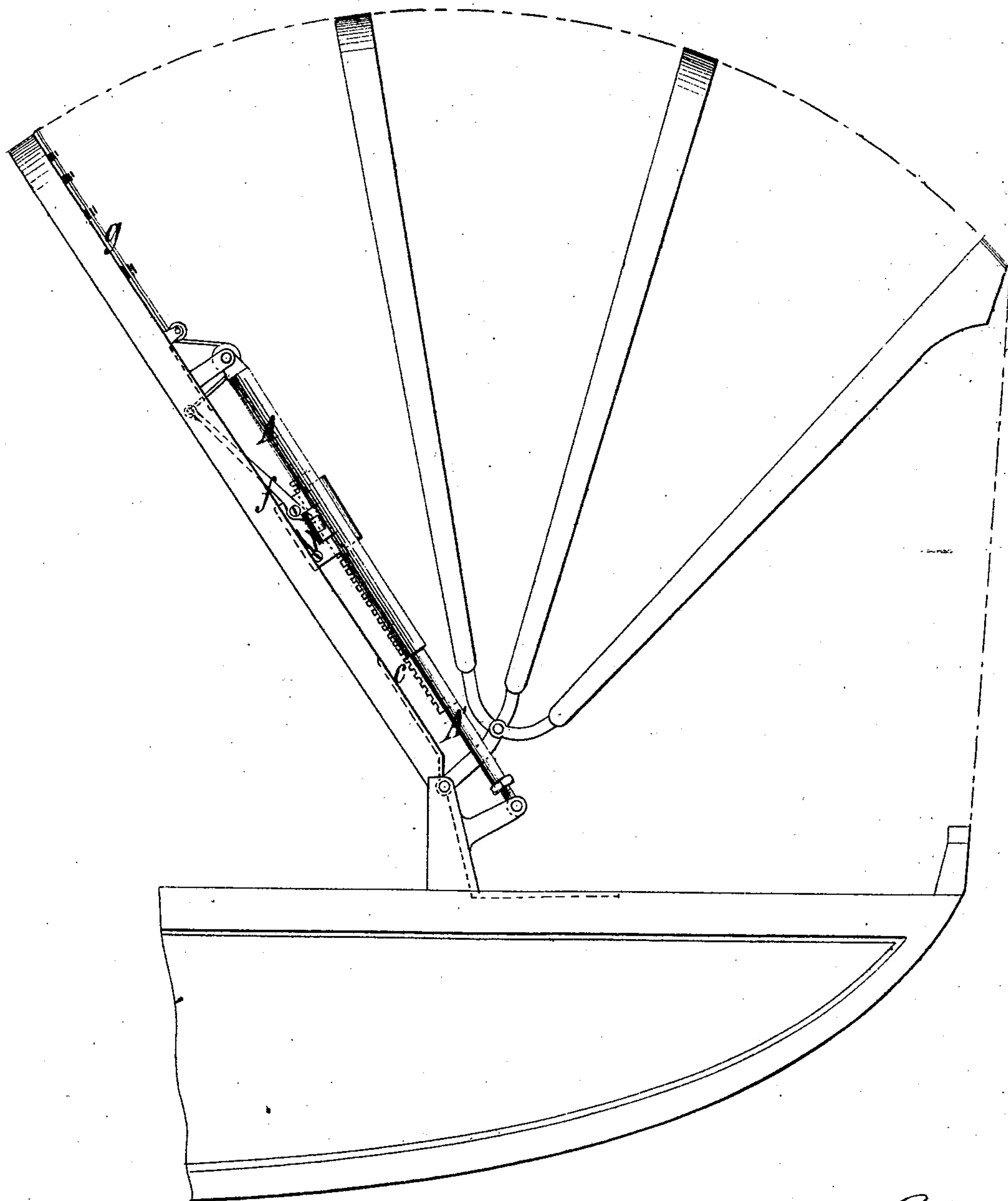
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Fig. 5



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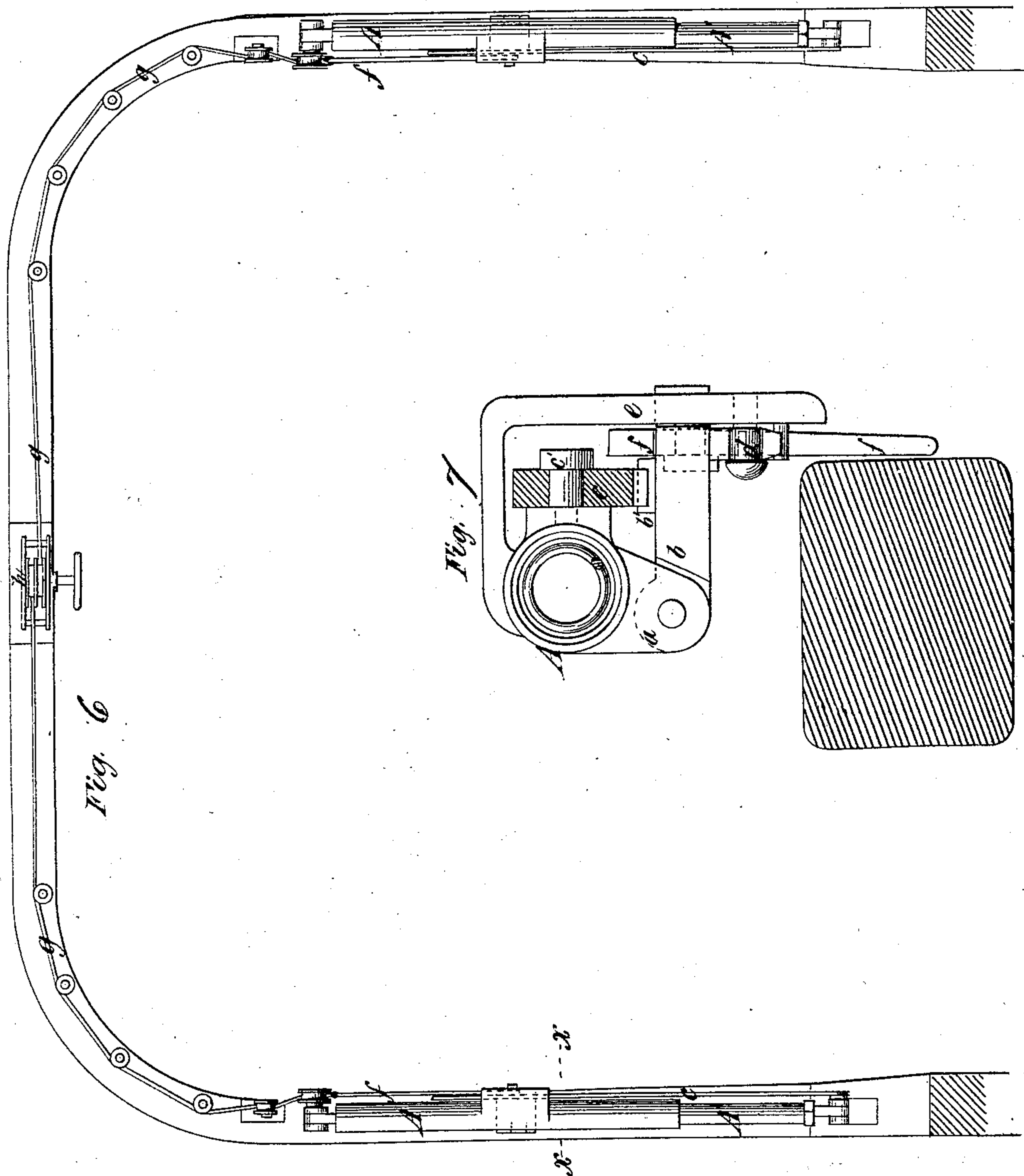
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UNITED STATES PATENT OFFICE.

ALEXANDER McKENZIE, OF LONDON, ENGLAND.

IMPROVEMENT IN DEVICES FOR OPERATING CARRIAGE-TOPS.

Specification forming part of Letters Patent No. **153,098**, dated July 14, 1874; application filed February 27, 1873.

To all whom it may concern:

Be it known that I, ALEXANDER McKENZIE, of Little Windmill street, London, in the county of Middlesex, England, coach-builder, have invented certain Improved Apparatus for Operating the Moving Heads of Carriages, of which the following is a specification:

This invention relates to improvements in the mechanism used for facilitating the closing and opening and locking in position the heads of landaus, barouches, and other like carriages.

In carrying out my invention, I may use the ordinary head-joints, or I may dispense with their use. When using them I connect with the head-joints telescopic rods, or rods sliding one within the other, which serve as guides and supports for coiled springs, which springs, as the head of the carriage is thrown back or opened, become compressed and allow the head to fall, but which, when the head is attempted to be raised, will supplement the action of the coachman, and throw up the head into the closed or raised position, in which it will be secured by the straightening of the head-joints. The telescopic rods may be connected to either end of the head-joints, as may be thought most convenient.

In Sheet I of the accompanying drawings, Figure 1 shows, in partial side elevation, a landau fitted according to my invention, the head of the landau being closed. Fig. 2, Sheet II, is a partial side elevation, showing the landau-head open.

In both figures the leather covering of the head is removed to show the construction of the mechanism for closing the same. In these figures it will be seen that the mechanism is applied to a head which is furnished with the usual head-joints; but it should be here stated that the head-joints will not be required when the mechanism is fitted with a locking appliance, as hereafter described.

In the example shown at Fig. 1, the telescopic rods A A are connected with the upper ends of the head-joints B B through short arms C, made fast to the axles C' of the head-joints, which axles turn in bearings in the pillar-tops D. The lower ends of the telescopic rods are plugged and tapped to receive screws *a**, which are jointed to fixed brackets E on the carriage-

frame. The axles C' are squared to receive the upper ends of their respective head-joints B, the lower ends of which are pivoted to the framing of the carriage. Surrounding the telescopic rods, or inserted within them, are the coiled springs which give the upward impetus to the depressed carriage-head and effect the straightening of the bent head-joints.

Figs. 3 and 4, Sheet II, show, on an enlarged scale, these two arrangements, the spring being represented within the rods at Fig. 3, which is the arrangement preferred, and as surrounding the telescopic rods at Fig. 4. Bearings are provided at the top and bottom of these rods, to receive the pressure of the springs, and, when the head is thrown back, these bearings serve to compress the springs, and thereby provide the impelling force for raising and closing the head. Nuts *b** are provided at the bottom of the rods A, to permit of the turning of the same for the purpose of adjusting the pressure of the springs. To give the cant-rail, or falling portion of the head F, which is hinged to the top of the pillar-posts D, an automatic motion on the closing of the head, and to allow of its taking either of the two positions shown in the drawing, I connect the arms C of the head-joint axles, by means of links G, with the hinges of the cant-rail, as shown at Fig. 1. This connection allows of the depression of the head by simply lifting the cant-rail from the horizontal position of Fig. 1, the turning of the cant-rail on its hinged joints serving, through its connection with the axles C', to rock those axles, and thereby double back the head-joints by which the head is supported and allow the head to fall to the position of Fig. 2.

In Sheet III, Fig. 5 represents, in side elevation, the head of a barouche fitted with a locking telescopic arrangement, and without the ordinary head-joint; and Fig. 6, Sheet IV, is a back elevation of the same.

A A' are a pair of locking telescopic tubes, which are intended to act simultaneously on opposite sides of the carriage-head. The larger tubes A are each provided with a lug, *a*, (see the enlarged cross-section, Fig. 7, taken in the line *x x* of Fig. 6,) to carry a locking-piece, *b*, which is pivoted thereto, and which is provided with teeth *b'* for locking into a rack, *e*.

This rack is made fast to the joint of the lower tube A, and it is slotted at its upper end to receive a screw, *c'*, which secures it to the tube A, and yet allows of the sliding of the tubes one over the other. The locking-piece B is forced into contact with the rack by means of a spring, *d*, which is carried by a bracket-piece, *e*, made fast to the tube A. The locking-piece *b* is embraced by a rock-lever, *f*, the rocking of which throws the locking-piece out of contact with the rack and releases the telescopic tubes, leaving them free to move either by the impelling force of the coiled springs contained therein, or by the counteracting pressure applied by the occupant of the carriage or an attendant, to force back the head to the depressed position.

In order that the locking apparatus may act efficiently, it will be necessary to bring the rock-levers on the opposite sides of the head into action simultaneously. This I do by connecting the tails of these levers, by means of chains or cords *g*, with a small barrel, *h*, mounted centrally on the framing of the head. By turning this barrel the levers will be tipped,

and thereby be caused to withdraw the locking-pieces *b* out of contact with the racks *c*. The head will then be free to rise or fall, as may be desired.

Having now explained the nature of my invention, and the manner of carrying the same into effect, I claim—

1. The combination, with the carriage-top, of the rods A A, to slide one within the other, and acted on by a coiled spring or springs contained within one of said rods, substantially as shown and described, for the purpose specified.

2. The combination of the rods A A, to slide one within the other, and connected with the falling portion F of the head by links G, with the head-joints B, connected to the axle *c'*, all constructed to operate substantially as described.

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