

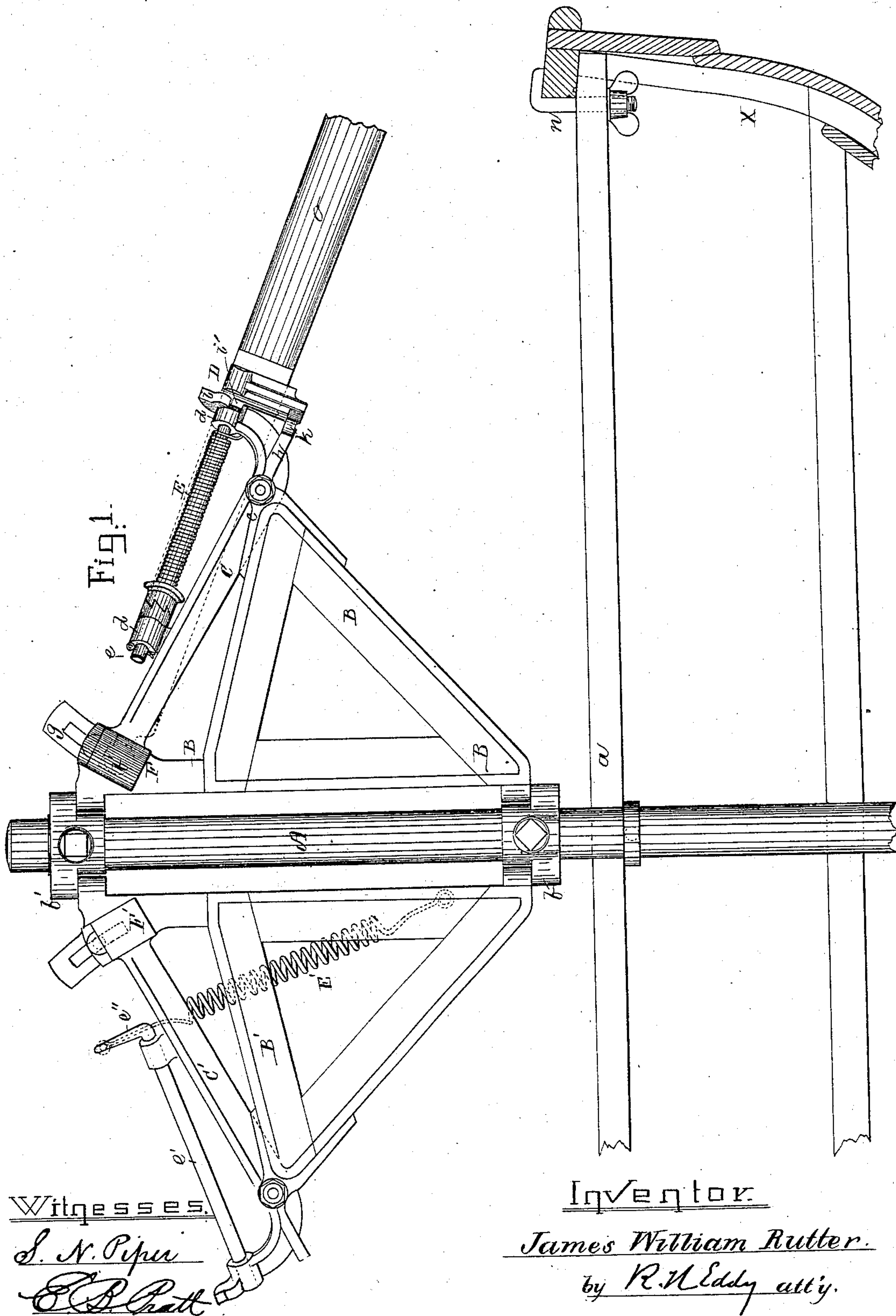
(No Model.)

2 Sheets—Sheet 1.

J. W. RUTTER.
ROWING GEAR.

No. 282,121.

Patented July 31, 1883.



(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

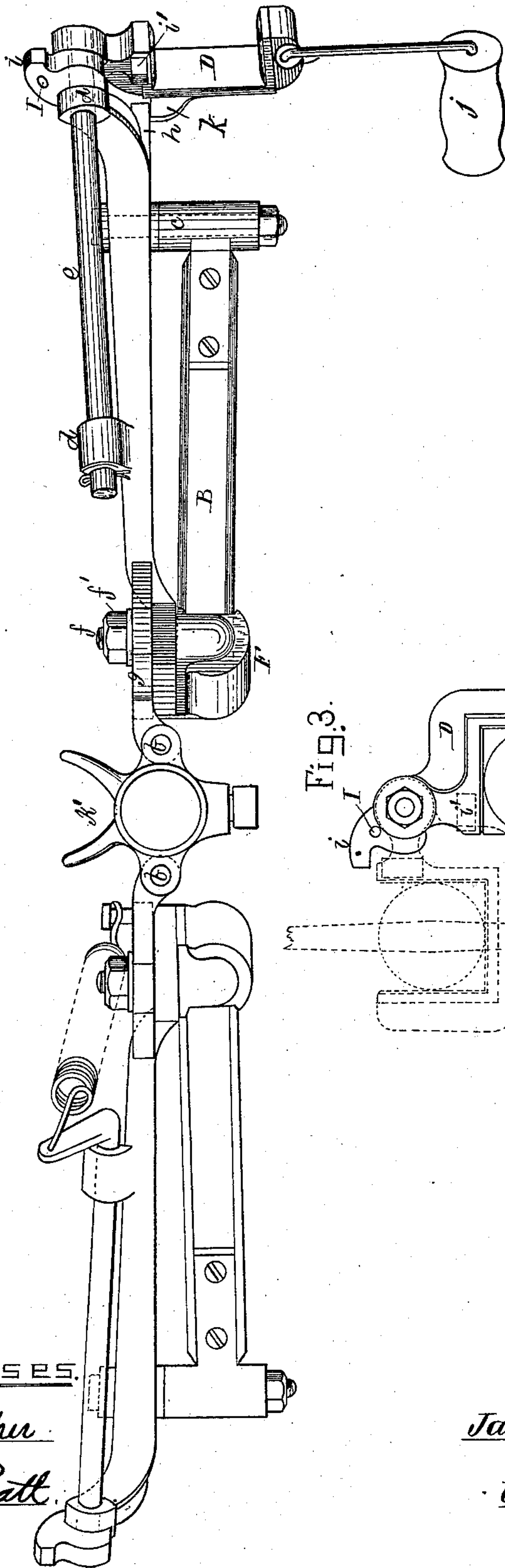
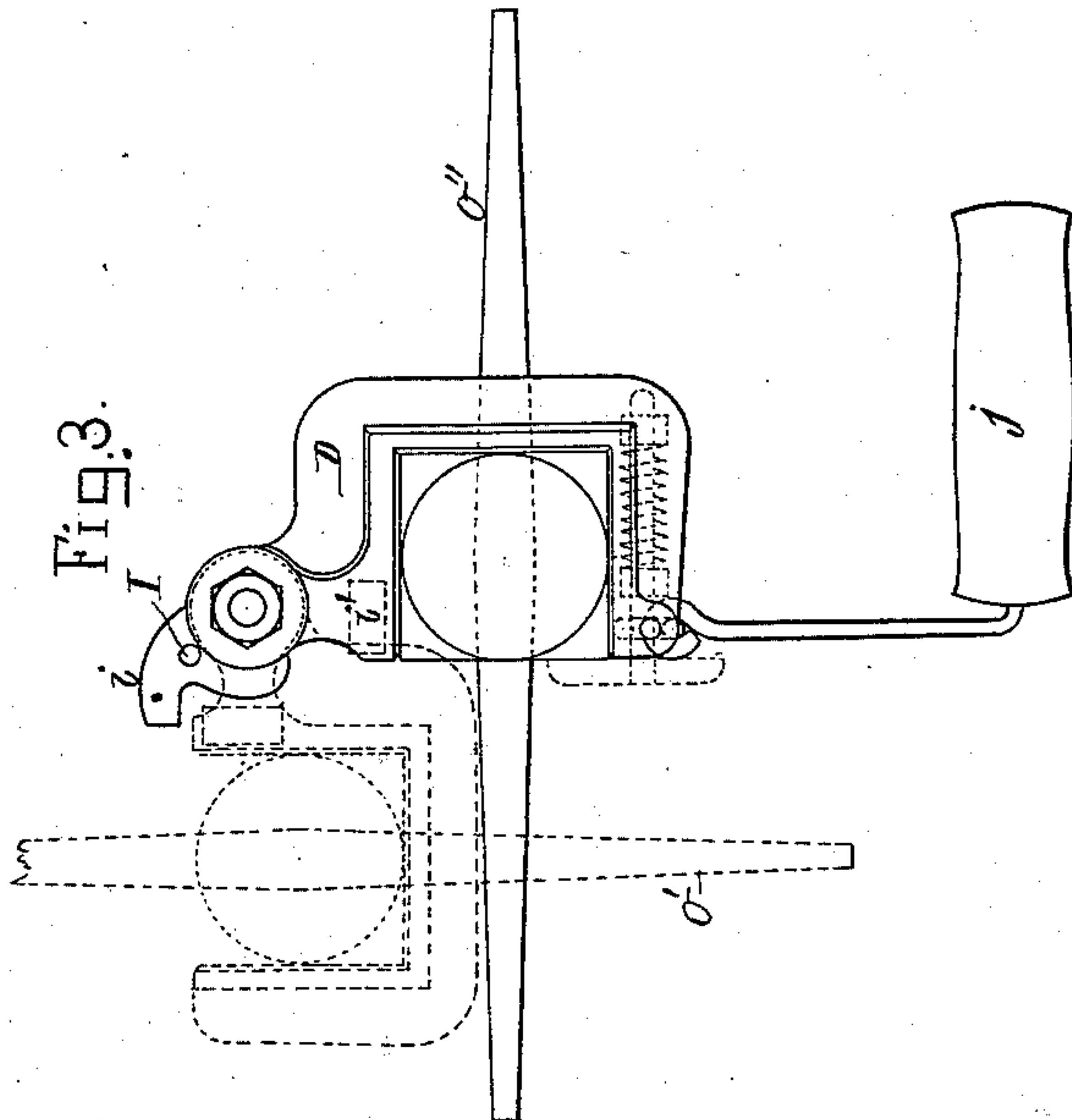


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES W. RUTTER, OF WAKEFIELD, MASSACHUSETTS.

ROWING-GEAR.

SPECIFICATION forming part of Letters Patent No. 282,121, dated July 31, 1883.

Application filed April 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES WILLIAM RUTTER, of Wakefield, in the county of Middlesex, of the Commonwealth of Massachusetts, have invented a new and useful Improvement in Rowing-Gear; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a rear elevation, and Fig. 2 a top view, of a rowing-gear embodying my invention, the nature of which is defined in the claims hereinafter presented. Fig. 3 is a side view of the revoluble rowlock, to be described.

My said rowing-gear, besides having a means of supporting an oar and imparting to it reciprocating vibratory movements, has mechanism for automatically "feathering" it to cause such oar, when propelling a boat, to present its blade broadside to the water, and in the return-stroke to present the blade edgewise to the air or water. Furthermore, my rowing-gear has means of varying the dip or inclination of the oar in the water. With my said rowing-gear the oarsman sits facing the bow instead of the stern of the boat, and with his hand or hands grasping the oar or the handle of the revoluble rowlock, in which case he is to alternately push it forward and draw it backward, the oar being partially revolved at the commencement of its advance as well as at that of its return or propelling stroke. The revoluble rowlock is provided with mechanism for partially revolving the oar to cause it to "feather," as mentioned, preparatory to each stroke of it. When an oarsman, while rowing a boat, is obliged to sit facing the stern rather than the bow of it, he is not only prevented from seeing the direction of movement of the boat, but is liable to impel it against an object or obstacle. This often detracts greatly from the pleasure of rowing, and, besides, when he has to grasp the oar and move it forward and backward and feather it by his own manual power alone, he has to make movements of the hands and arms that soon tire him. With my improved rowing-gear most, if not all, such movements of the hands and arms are rendered unnecessary, nor is the rower obliged to sit low in the boat and spread

his legs apart, as he usually has to, in the ordinary process of rowing, as he can assume other and less tiresome or more convenient positions.

In Figs. 1 and 2 of the drawings, A denotes a staff or post suitably secured in an upright position within the boat X and immediately over its keel, and extended to a proper height above the thwarts of such boat. This post is provided with collars *b b'*, to which is pivoted a bracket or crane, B, adapted to swing horizontally and slotted at top, as shown at *g*. A movable ball-socket piece, F, has a screw, *f*, projecting from it through the slot, and screwed on this screw a nut, *f'*, such screw and nut being to fasten the socket-piece to the crane, and, with the slot, to admit of such socket-piece being adjusted higher or lower, to vary the dip or inclination of the oar O, whose head is provided with a ball (shown in Fig. 1 at *b'*, in dotted lines) to extend from it into the socket of the piece F.

The oar shown in the drawings is to be supposed to have its shank square in transverse section where it is to go within the rowlock, such rowlock being represented at D, it being by means of a shaft, *e*, projecting from it, pivoted to a lever, C, which is fulcrumed to the crane at *c*. This lever has fixed to its longer or straight arm the ball-socket piece F. The shorter arm of the said lever is curved upward, and the lever has bearings *d d* to receive and support the shaft *e*, which is revoluble in them. Furthermore, the lever C is provided with stops *h* and *i*, for stops *k* and *l*, projecting from the rowlock, to bring up against in order to arrest the rowlock in either of its horizontal or vertical positions, as, in rowing, the rowlock pivoted to the lever C alternately assumes, or is made to assume, such positions, it being turned or moved upward into the vertical one by the reaction of the spring E, properly applied to the lever and the shaft *e*. The spring may be attached, at one end of it, to an arm projecting from the shaft, and at the other to the crane, such being as shown in Fig. 1, wherein a second crane is represented at B', as applied to the post A, such crane carrying a lever, C', supporting a shaft, *e'*. The arm is shown at *e''* and the spring at E'.

In Fig. 3 the rowlock is shown in full lines in its horizontal position, or that which it has

while the oar is being in action on the water. Such rowlock is also shown by dotted lines in such Fig. 3, in its upright position, or that into which it is thrown by the action of the spring E, in which case the blade of the oar is presented edgewise to the air, it being presented broadside to the water when the rowlock is drawn down into its lower position by the pull of the oarsman. These two positions of the oar-blade are also represented in Fig. 3 by dotted and full lines at O' and O". The rowlock has jointed to it a handle, j, to be grasped by one or both hands of an oarsman. In rowing, he, with his hand hold of the handle or the oar, pushes the rowing-gear forward, the oar-blade at such time going edgewise through the air. Next, he pulls the gear backward, and in so doing overcomes the tension of the spring, and tips down the rowlock or feathers the oar, so as to cause its blade to pass and move broadside against the water. In the return-stroke of the oar it becomes feathered by the reaction of the spring, so as to pass edgewise through the air.

When two rowing-gears of the kind described are used to a post, they are to be arranged therewith on opposite sides of it, as represented in Fig. 1, and there may be horns, as shown at k' in Fig. 2, to each of the collars b, such horns being serviceable in securing a mast to a post.

Practice has demonstrated that, with rowing-gear constructed on the principle described, a boat may be propelled with much less labor and with greater ease by a person than can be done by manual power alone in the ordinary way of rowing with oars. The oar, in its propelling or broadside stroke, is to work in the water; but in its other or edgewise stroke it may work either in the air or in the water, but generally should be out of the water.

I claim—

1. A rowing-gear consisting of mechanism for supporting an oar and reciprocating it or moving it backward and forward relatively to the water, and a spring for automatically feath-

ering it on the recover, so as to cause its blade in one stroke to pass edgewise and in the next to pass broadside with respect to such water.

2. A rowing-gear consisting of mechanism for supporting an oar and reciprocating it or moving it backward and forward relatively to the water, mechanism for varying or adjusting its inclination or dip, and a spring for automatically feathering it on the recover, so as to cause its blade in one stroke to pass edgewise and in the next to pass broadside with respect to such water.

3. The combination of the crane B, adjustable lever C, arranged transverse the crane, ball-socket piece F at the inner end of lever C, rowlock D at the outer end of lever C, and its operative spring E, secured at one end to the lever C and at the other to the oar, arranged and adapted substantially as set forth.

4. The combination of the crane B, the adjustable lever C, arranged transverse the crane, provided at one end with the ball-socket piece F and at the other with stops h and i, as described, and the revoluble rowlock D, its stops k and i', the oar O, and actuating-spring E, secured at one end to the lever C and at the other to the oar, all being adapted and to operate with an oar, essentially in manner as represented.

5. The combination of the crane B, the adjustable lever C, the revoluble rowlock D and its operative spring E, secured at one end to the lever C and at the other to the oar.

6. The combination of the post A with the two cranes B and B', and a revoluble rowlock applied to each of such cranes and provided with a spring for turning it, as set forth.

7. The combination of the post A with the two cranes B and B' and a lever, C, a revoluble rowlock, and its operative spring adapted and applied to each of such cranes, substantially and to operate as set forth.

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Witnesses:

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