

(No Model.)

2 Sheets—Sheet 1.

I. H. CONWAY.
BOW FACING ROWING GEAR.

No. 429,678.

Patented June 10, 1890.

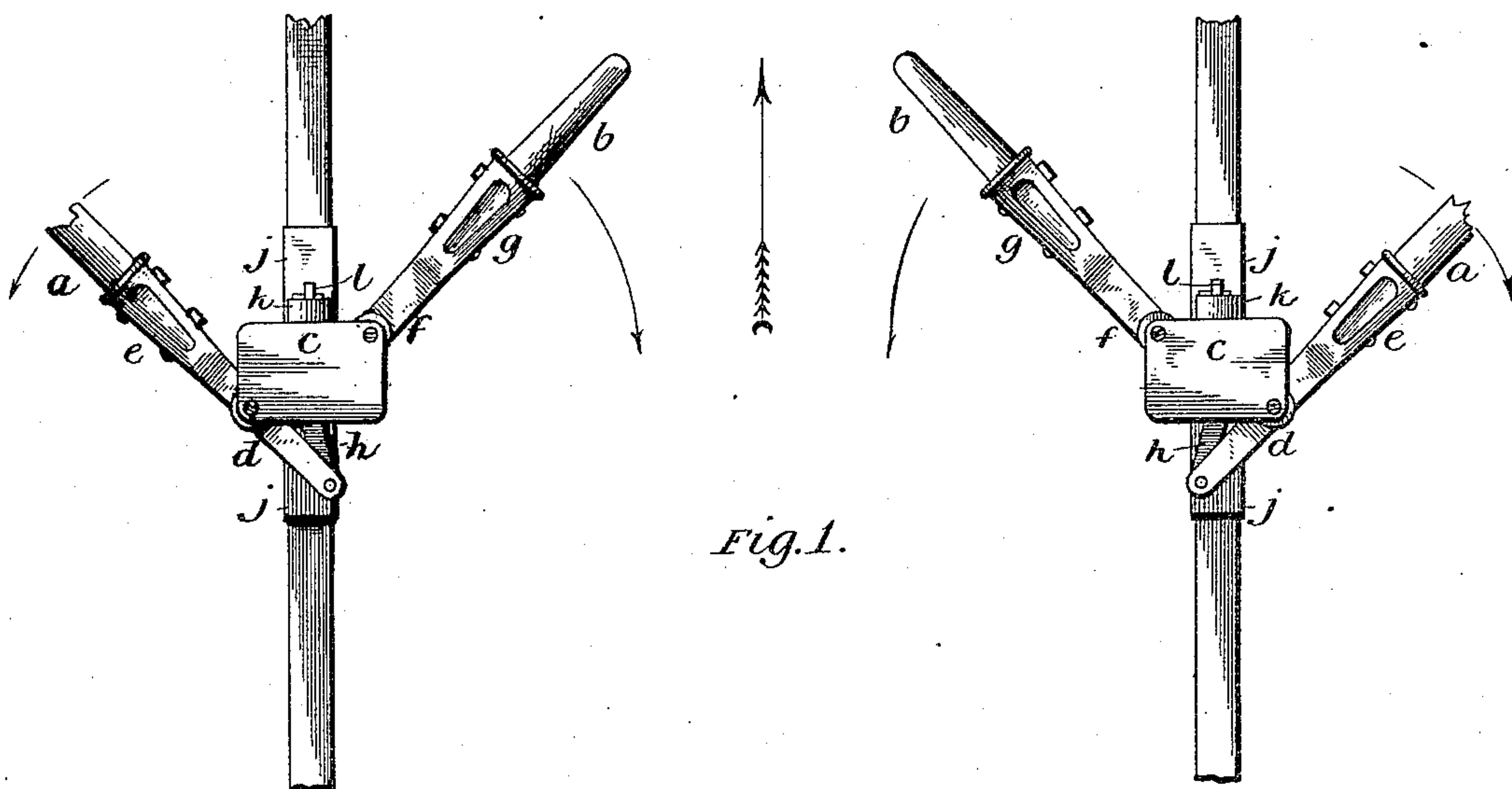


Fig. 1.

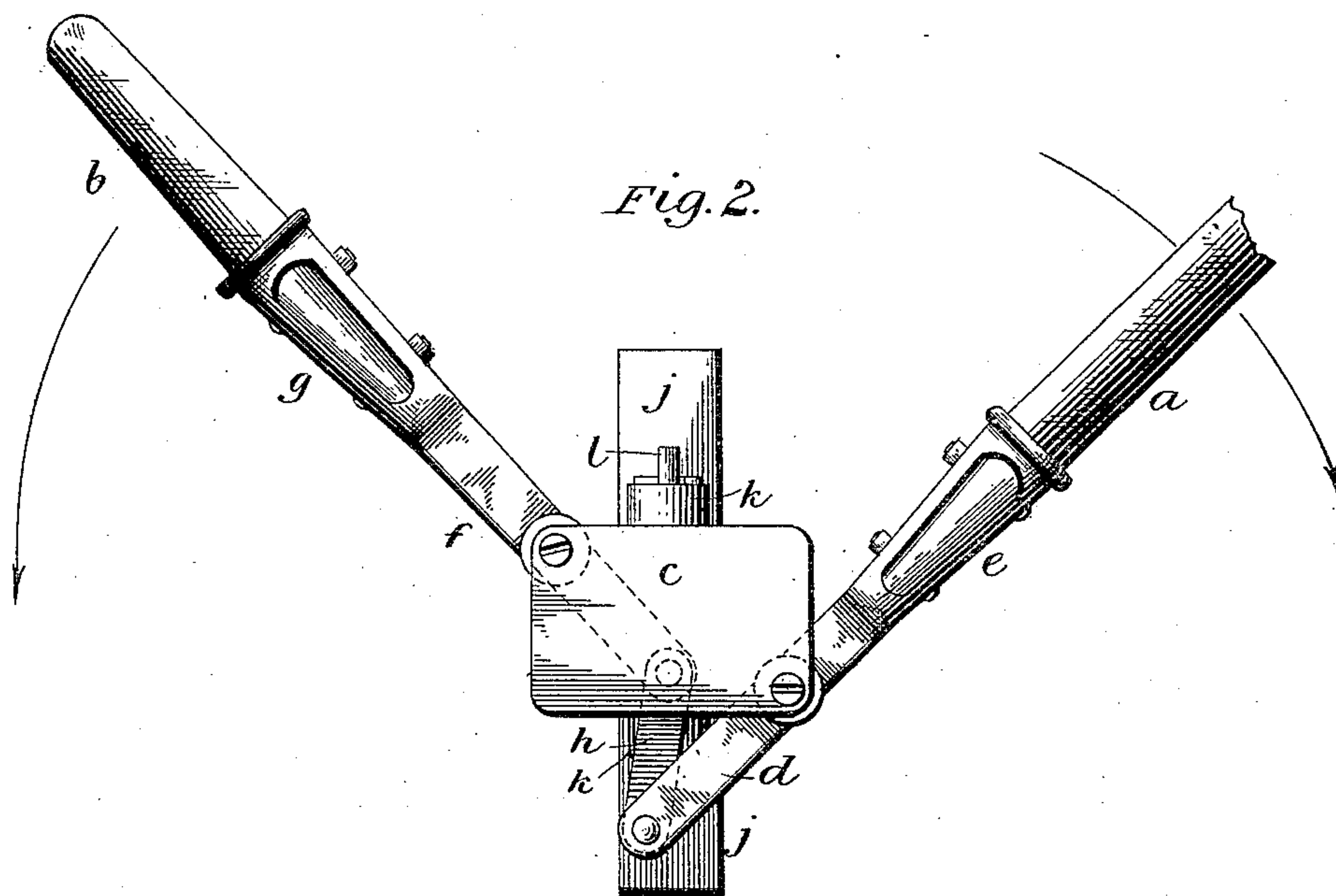


Fig. 2.

WITNESSES:

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G. F. Brown

INVENTOR

Isaac H. Conway

BY

W. W. Dudley

ATTORNEY.

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Fig. 3.

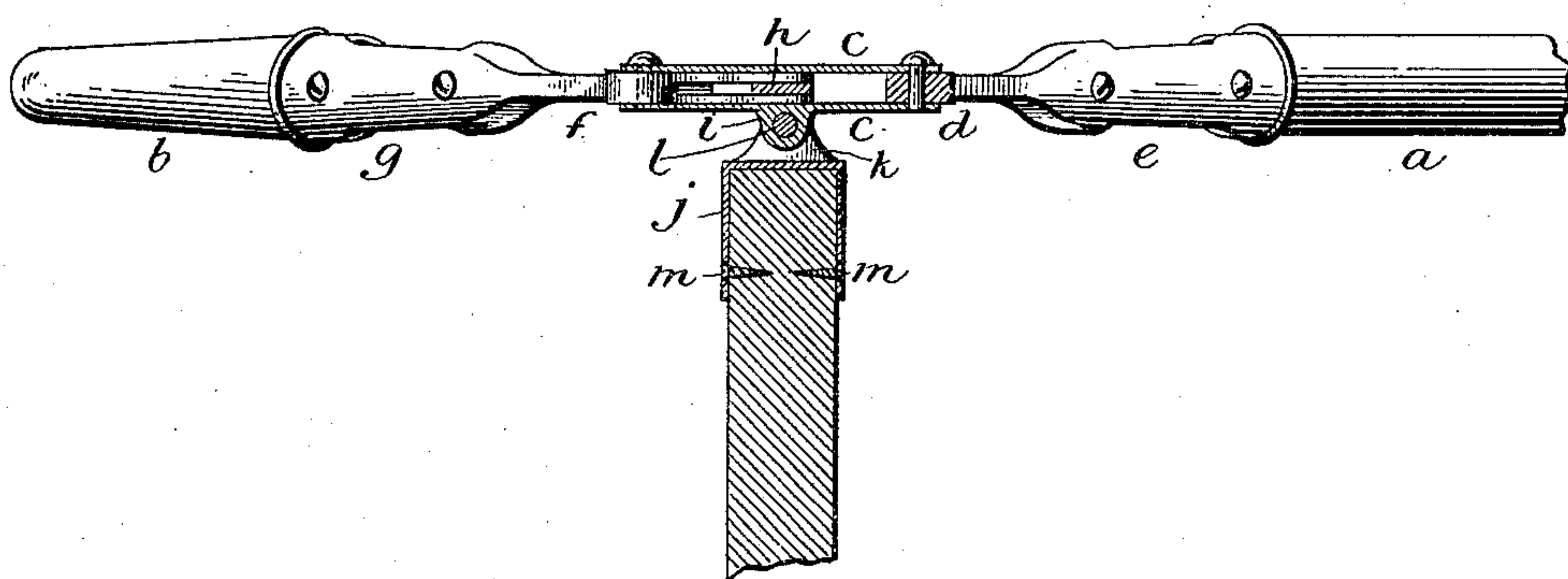
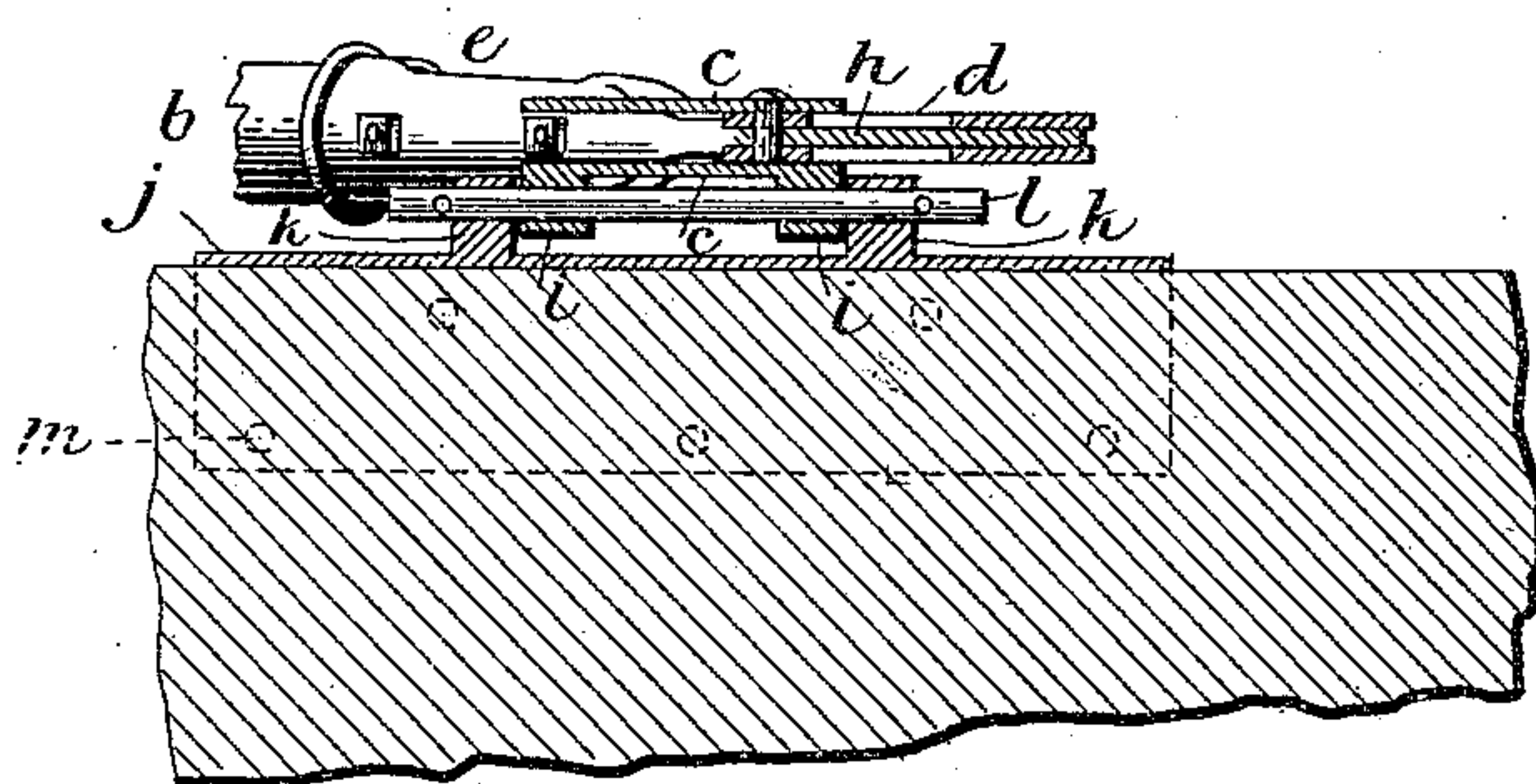


Fig. 4.



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UNITED STATES PATENT OFFICE.

ISAAC H. CONWAY, OF ST. PAUL, MINNESOTA.

BOW-FACING ROWING-GEAR.

SPECIFICATION forming part of Letters Patent No. 429,678, dated June 10, 1890.

Application filed February 14, 1890. Serial No. 340,389. (No model.)

To all whom it may concern:

Be it known that I, ISAAC H. CONWAY, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Bow-Facing Rowing-Gear; and I do hereby 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.

My invention is directed to improvements in that kind of rowing-gear in which the rower sits with his face to the bow of the boat while rowing with the ordinary movements of his arms; and the objects of my improvements are to arrange the fulcrums of the handles and the oar-connected parts in such relation to each other and to the longitudinal center of the gunwale as to give the greatest leverage to the handle parts in order to give the most effective stroke to the oar part, whereby it is caused to commence its stroke in the water to avoid lateral displacement thereof before it begins its propelling force, and to end its stroke at just the point to avoid lateral displacement of the water and thereby utilize all the available space at the side of the boat for the most effective stroke in propelling the boat and in rendering it comparatively easy in such propulsion. These objects are effected by and result primarily from the diagonal arrangement of the fulcrums of the handles and connected oar parts; and I will now describe and specifically point out the novel construction and combinations in the claims concluding this specification.

The drawings hereunto annexed illustrate my bow-facing rowing-gear in top view in Figure 1, wherein is shown the rowing-gear of both sides of the boat to exhibit the reverse relation to each other of the fulcrums of the connected handles and oar parts of each side of the boat. Fig. 2 is an enlarged view in plan of the rowing-gear of the right side of the boat. Fig. 3 is a vertical cross-section of the same, and Fig. 4 is a longitudinal section of the same, taken through the center of the gunwale.

The rowing-gear is secured upon the gunwale at opposite points in the beam of the

boat and a little back of the middle of the length of the boat to bring the oarsman in position to "trim" the boat.

The oar-blade *a* and the handle *b* are made of separate parts and mounted and connected by and within gunwale-housings, as I will now state, taking, for example, a rowing-gear adapted for use with a boat about forty-two inches wide and for which the oar-blade will be about eight or eight and a half feet from the outside of the boat, and the handle will be about twenty-seven or twenty-eight inches long from the side of the boat on its inner side. For each of these oar and handle parts I provide a socket-lever pivoted at the diagonal corners of a housing composed of two oblong plates *cc*, which stand crosswise of and extend about three inches beyond the inner and the outer sides of the boat and between which the lever-arms of the sockets have free play. The lever-arm *d* of the oar-socket *e* extends inward between these plates about five inches, while the lever-arm *f* of the handle-socket *g* extends outward between these plates about four inches, and these lever-arms are connected by a link *h*, the handle-socket being forward of the oar-socket. This relative arrangement and location of the oar and handle connected socket-levers gives an increased leverage to the connected parts due to the unequal length of the lever-arms, which makes it comparatively easy to propel the boat, said increase in leverage being proportionate to the relative lengths of the said arms within the housings of the oar-connected lever and the handle-connected lever—that is to say, by increasing the length of the arm *f* of the oar-connected lever or decreasing the length of the arm *d* of the handle-connected lever the power required to move the boat will be decreased, and vice versa. The proportionate lengths of five to four of said arms *f* and *d*, however, will give a stroke of the oar of the most advantageous length without increasing the arc to be described by the handle portion too much, while an increase in said proportion would give too short a stroke of the oar to too long a stroke of the handle, which would render the operation of the device impracticable.

By arranging the fulcrums of the levers

diagonally in the housing the lever-arms may be made straight and of comparatively greater length than if the fulcrums were arranged in a line with the oar and handle parts, which 5 would necessitate a construction giving decreased leverage. The bottom plate of the housing has bosses *i* on its under side, having bores which extend crosswise of the housing, while a box-casting *j*, open at one side and at 10 each end, placed upon and over the gunwale, like an inverted trough, is formed with bosses *k* on its upper closed side, having bores registering with those of the housing-plate, and within which a pivot-pin *l* is secured by 15 spring keys or cotters, whereby the housing may be rocked to permit the oar to be raised and lowered at pleasure and thus give the oarsman control of the boat in smooth or rough water. This box-casting is secured 20 upon the gunwale by screws *m*, which pass through the vertical sides of the box into the side of the boat, and gives a strong and firm support to the housing for the rowing-gear. The sides of the box-casting afford long braces 25 against the prying action of the oar because they grasp a sufficient surface of the side of the boat to give the required stiffness and resistance and prevent the box, which serves as the oar-lock, from working loose.

30 The lengths of the socket parts and their lever-arms may be made of equal or of unequal lengths, and either one of the lever-arms can be made longer or shorter instead of as described, and generally the dimensions 35 of the device will of course vary according to the size of the boat and be governed by the distance between the fulcrums of the

lever-sockets, which is governed by the size of the device.

The construction and arrangement of the 40 oar-connected parts and their free play within their respective housings allow the oars to be placed or shipped over the sides of the boat by taking the oar in the hand and moving it behind the rower, and to be as easily 45 turned out in position for rowing. In the rowing-gear for the left side of the boat the fulcrum for the handle will be placed at the inner front corner of the housing, so that the fulcrums of both handles will be in the same 50 line and the fulcrums of both oars will be in the same line, but in a plane back of the fulcrums of the handles.

I claim as my improvement—

1. In a rowing-gear, the combination, with 55 the pivoted housing, of the connected oar and handle socket-levers fulcrumed at the diagonal corners of said housing, whereby the handles are placed in advance of the oars and increased leverage given to the connected 60 parts.

2. In a rowing-gear, the oar and handle socket parts fulcrumed in diagonal relation to each other and having their connected lever ends of unequal length, in combination 65 with a pivoted housing therefor, substantially as described, for the purpose stated.

In testimony whereof I affix my signature in presence of two witnesses.

ISAAC H. CONWAY.

Witnesses:

CHARLES W. G. WITHEE,
FRANK B. KELLOGG.