

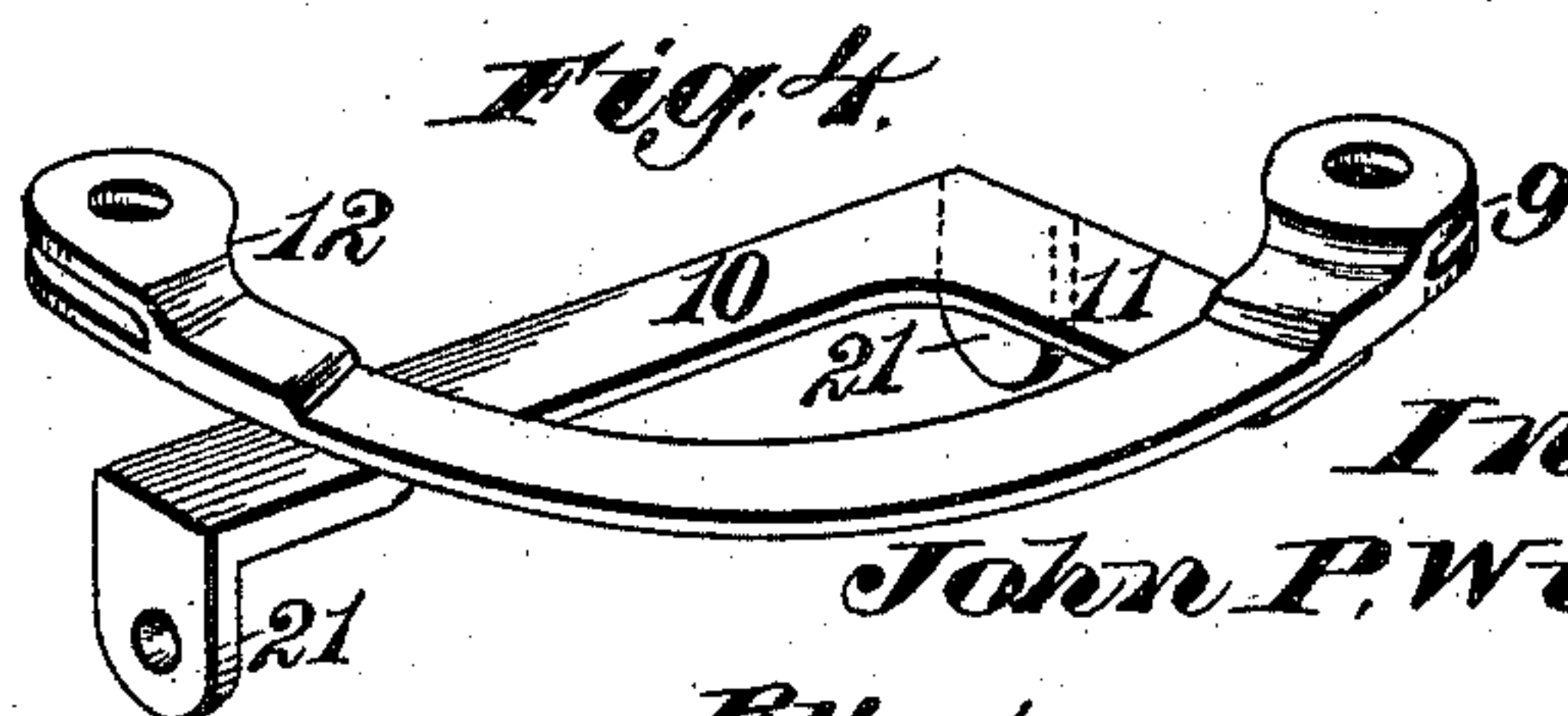
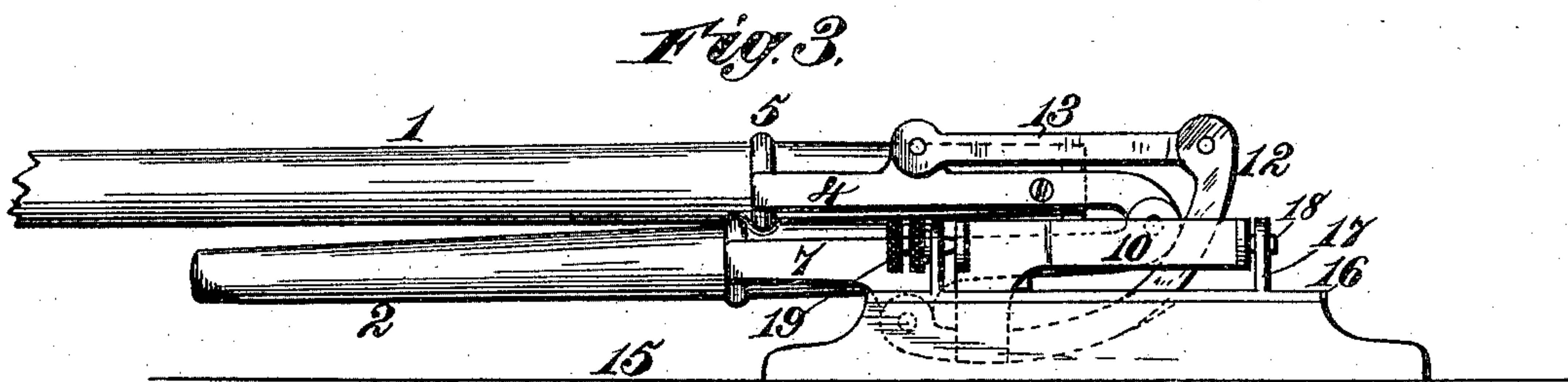
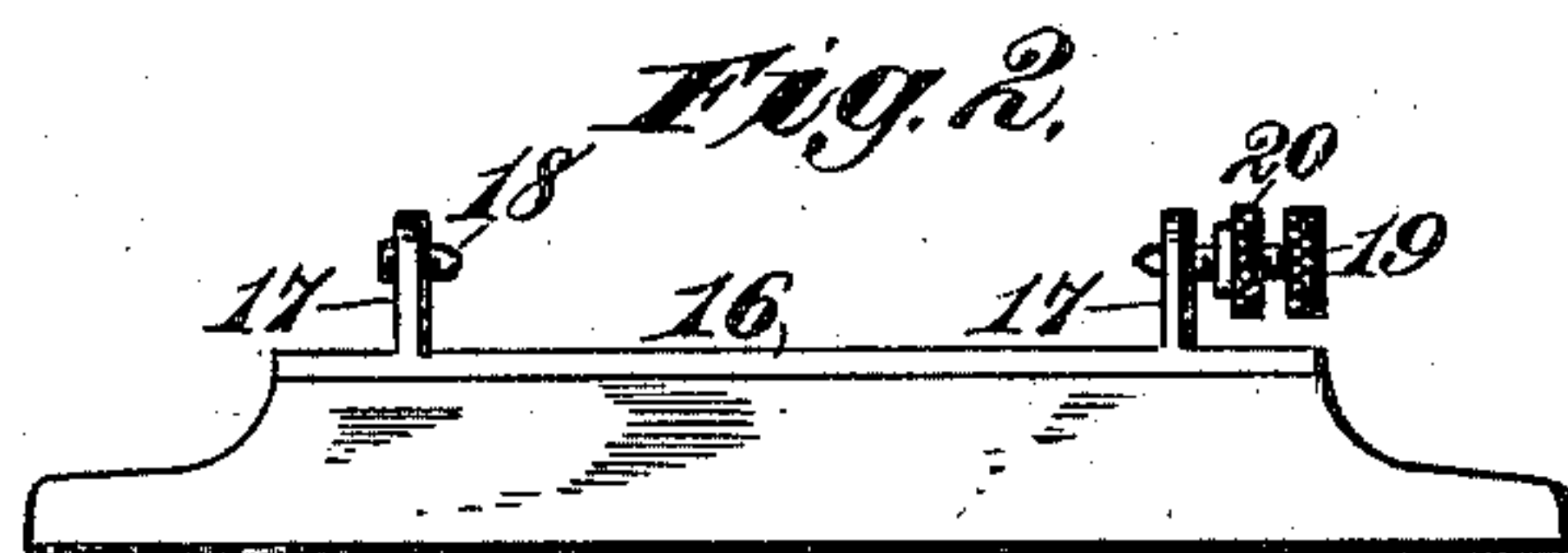
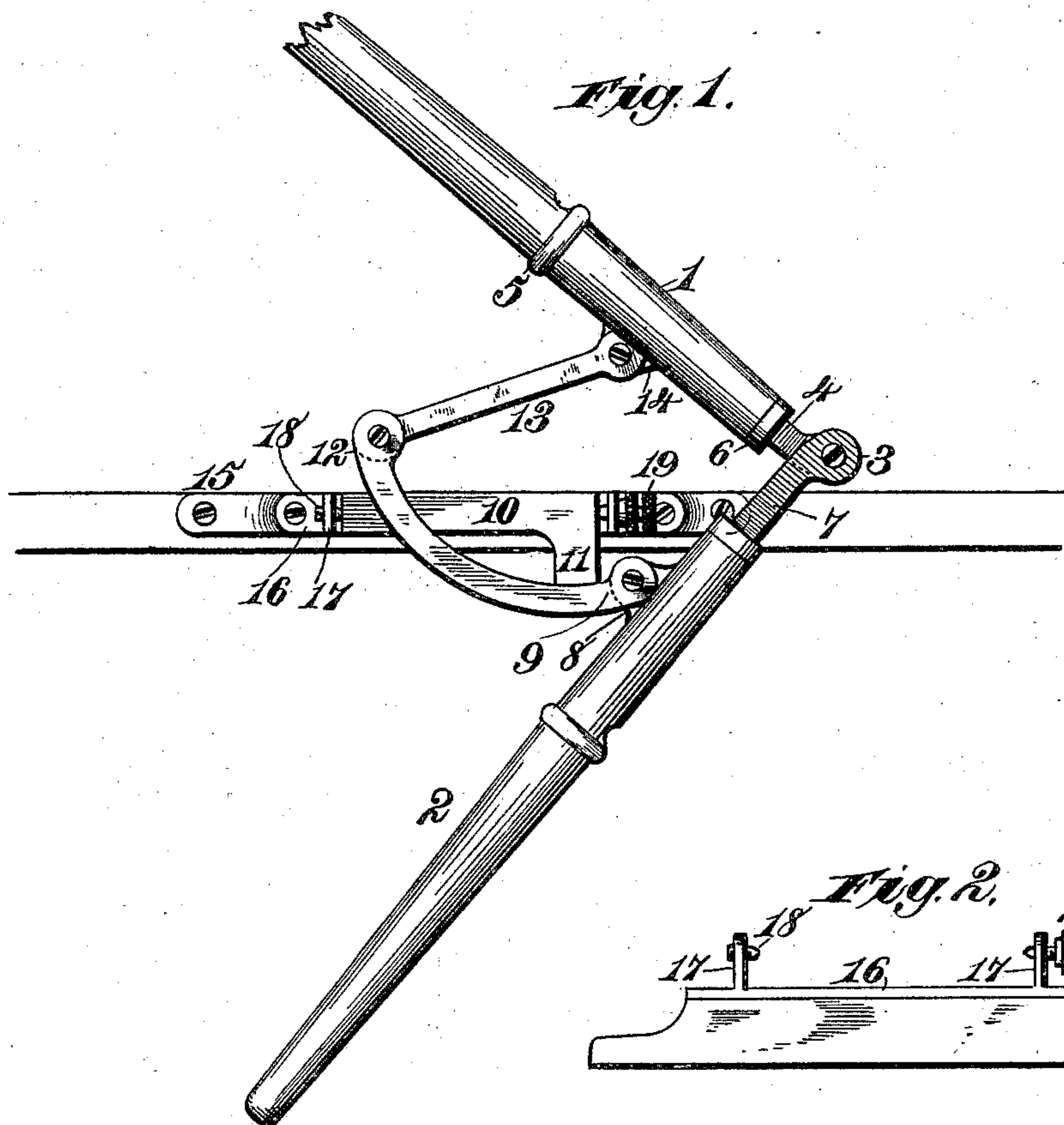
(No Model.)

J. P. WILLARD.

BOW FACING ROWING MECHANISM.

No. 299,042.

Patented May 20, 1884.



Witnesses.
Robert Everett.

J. A. Rutherford.

Inventor.

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UNITED STATES PATENT OFFICE.

JOHN P. WILLARD, OF WEST DEPERE, WISCONSIN.

BOW-FACING ROWING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 299,042, dated May 20, 1884.

Application filed March 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. WILLARD, a citizen of the United States, residing at West Depere, in the county of Brown and State of Wisconsin, have invented new and useful Improvements in Bow-Facing Rowing Mechanism, of which the following is a specification.

My invention relates to that class of rowing-gear which admits of the oarsman facing the prow of the boat, sometimes known as "bow-facing oars."

It consists, substantially, of a novel combination of operative parts, whereby the mechanism is simplified and the lever caused to act at the greatest possible advantage.

It also consists in the combination, with the wale-iron, of lugs or other suitable devices, to which is pivoted a frame carrying the oar with its operating mechanism, whereby the oar may be easily feathered, or, when not in use, folded down either inside or outside of the boat, and substantially parallel with its gunwale.

My invention finally consists in the several constructions and combinations of parts, hereinafter set forth and claimed.

Referring to the drawings, Figure 1 is a plan view showing a portion of the gunwale of the boat with the oar mounted thereon. Fig. 2 is a side elevation showing the wale-iron with the devices for mounting the oar. Fig. 3 is a side elevation showing the oar folded upon itself and turned down upon the gunwale of the boat. Fig. 4 is a detail perspective of part of the feathering-plate and its mounting device.

In said drawings, the reference-number 1 indicates the oar, having its end connected with the lever 2 by a pivot-joint, 3. Upon the lower side of the oar lies a strong plate of metal, 4, having a ring, 5, at the end, which slips upon the body of the oar, and a ferrule, 6, which fits upon the end. The end of the plate projects beyond the ferrule and forms one member of the pivot-joint 3. The other part consists of a similar plate, 7, secured to the lever 2 in a similar manner. Upon the plate 7 is formed a lug, 8, by which the lever 2 is pivoted to an arm or projection, 9, rigidly mounted upon a feathering-plate, 10. The arm 9 is mounted upon an inwardly-projecting lug, 11, upon said plate, and thence extends forward, crosses the plate 10, and has its other end, 12, projecting outward beyond the gunwale. To this extremity is pivoted one end of a toggle or link, 13, having its

other end pivoted to a lug, 14, upon the plate 4. Upon the gunwale 15 is mounted the wale-iron 16, and near each extremity thereof I place an upright lug, 17, upon one of which is rigidly mounted a pin, 18, having a centering-point, while through the other is tapped a set-screw, 19, having a similar joint, and provided with a jam-nut, 20. Upon the feathering-plate 10 I form or mount two depending lugs, 21, each provided with a centering recess or depression upon its outer face. By inserting these lugs between the lugs 17 and setting up the set-screw 19 so that it shall enter the said recess, the plate 10, with its attachments, may be rocked from side to side, turning upon the pin 18 and the set-screw 19 as an axis. By this means the oar may be "feathered" with great ease and accuracy.

The joint 3 is so formed that the oar 1 and lever 2 may be folded one upon the other, as shown in Fig. 3. When in this position, the feathering-plate 10 may be turned so as to bring them either within or without the gunwale and into substantial parallelism. When in the former position, the oar will lie upon and be supported by the lever 2 in a horizontal position.

By my invention I provide a simple, comparatively inexpensive, and efficient bow-facing oar, which may be removed from or attached to the boat in an instant, or folded and stowed with equal ease.

Having thus described my invention, what I claim is—

1. The combination, with the rocking feathering-plate 10, of the arm 9, rigidly secured to said plate, and projecting forwardly across the same, the toggle or link 13, pivoted to the outer end of said arm, and the oar 1 and lever 2, pivoted together, and jointed, respectively, to the toggle or link and the inner end portion of the arm, substantially as described.

2. In a bow-facing rowing mechanism, the combination, with the oar 1, of the lever 2, connected together by the joint 3, the feathering-plate 10, to which the lever 2 is pivoted, and the toggle or link 13, connecting the oar with the gunwale, substantially as described.

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

JOHN P. WILLARD.

Witnesses:

WM. WORKMAN,
W. M. WORKMAN.