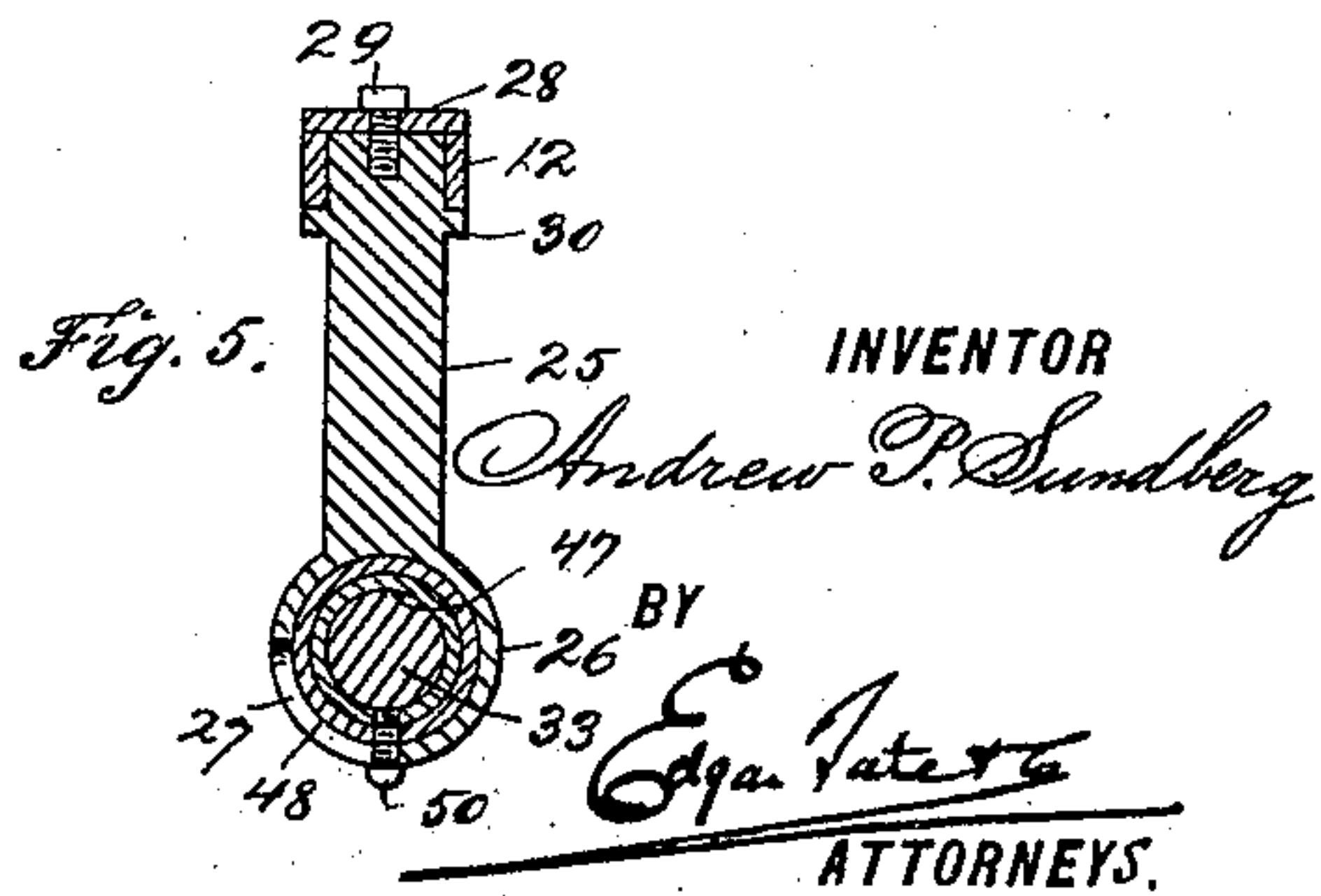
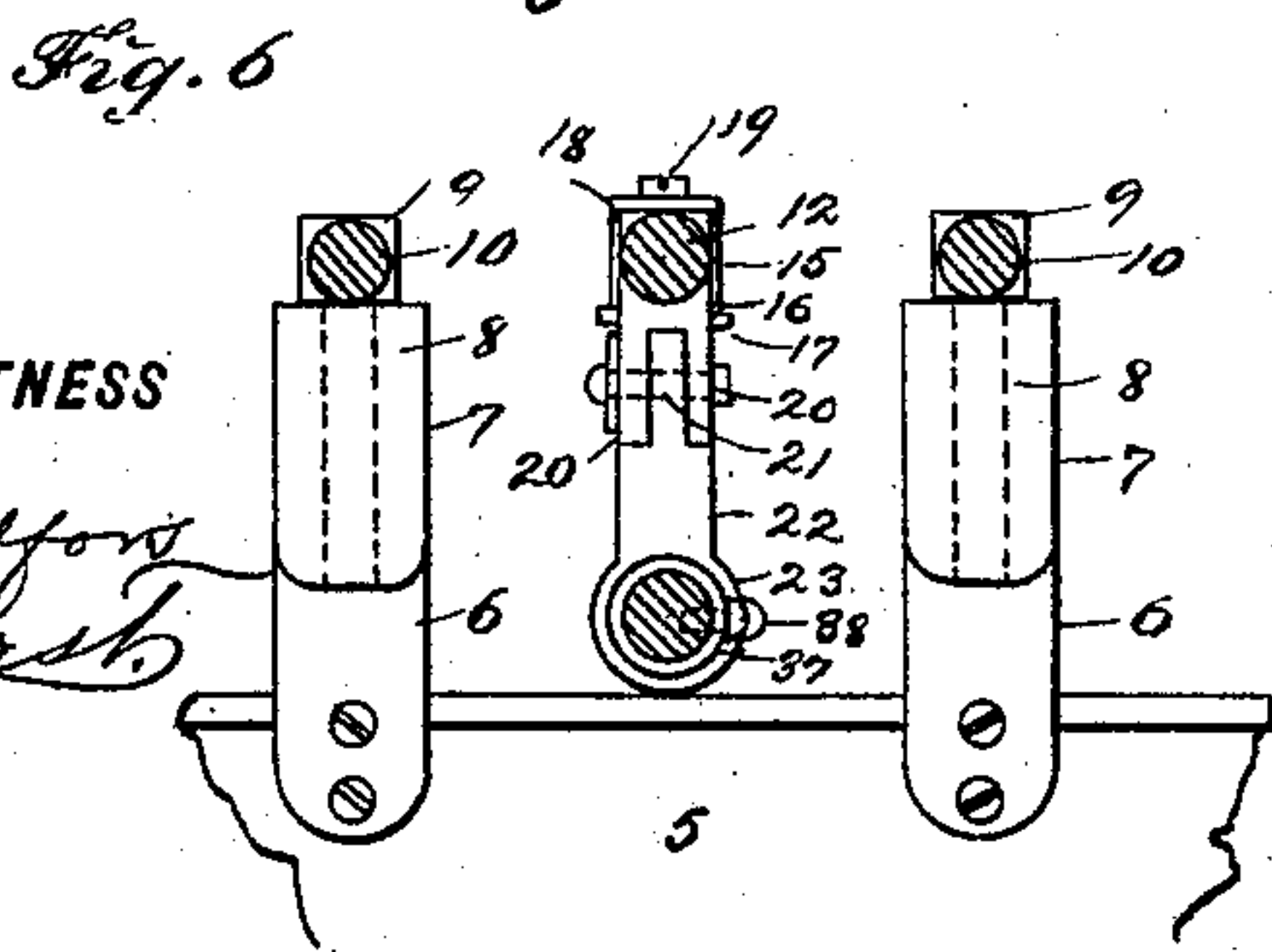
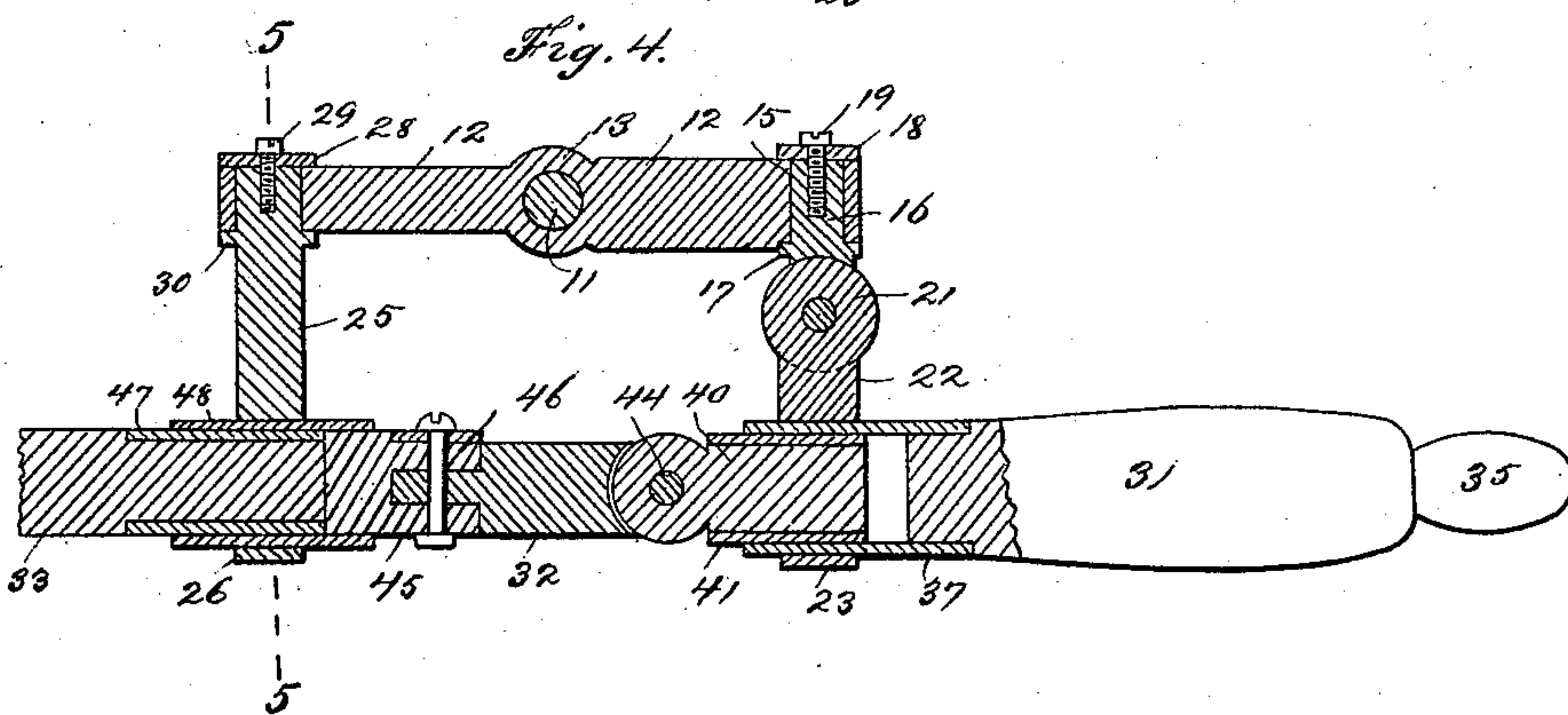
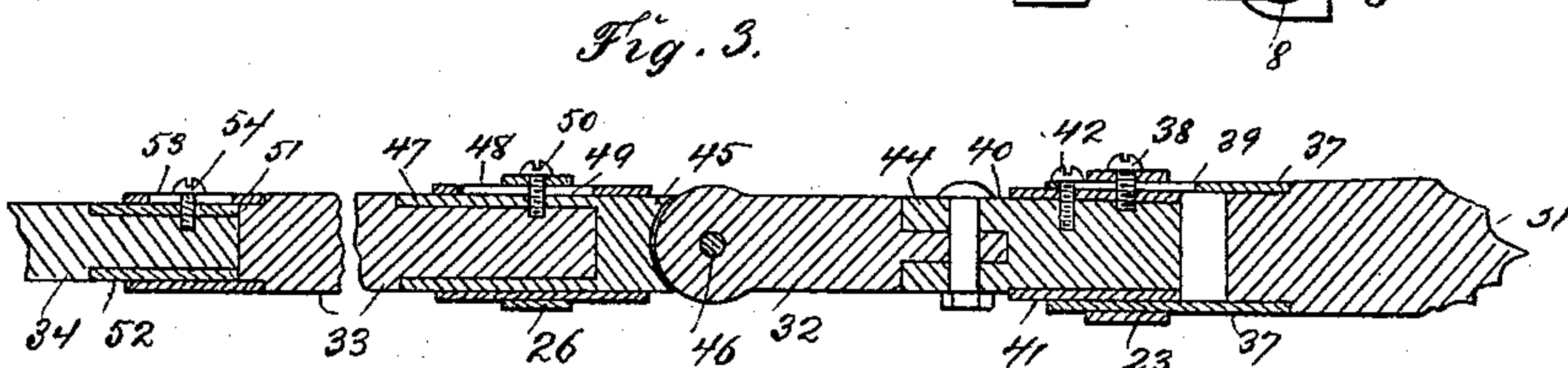
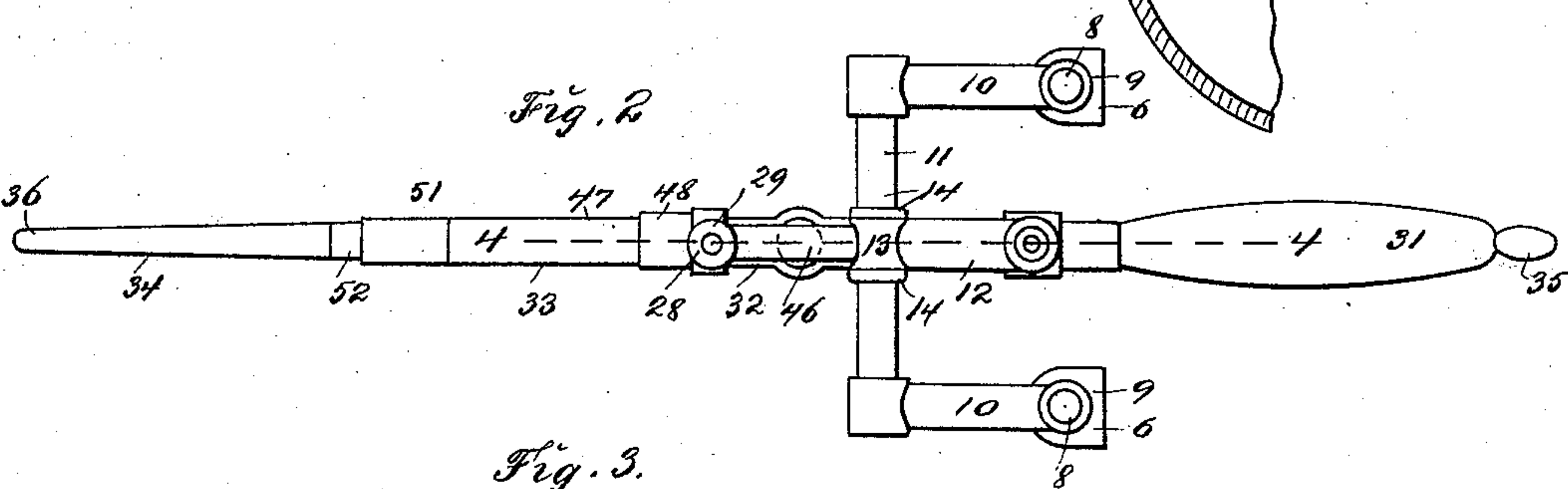
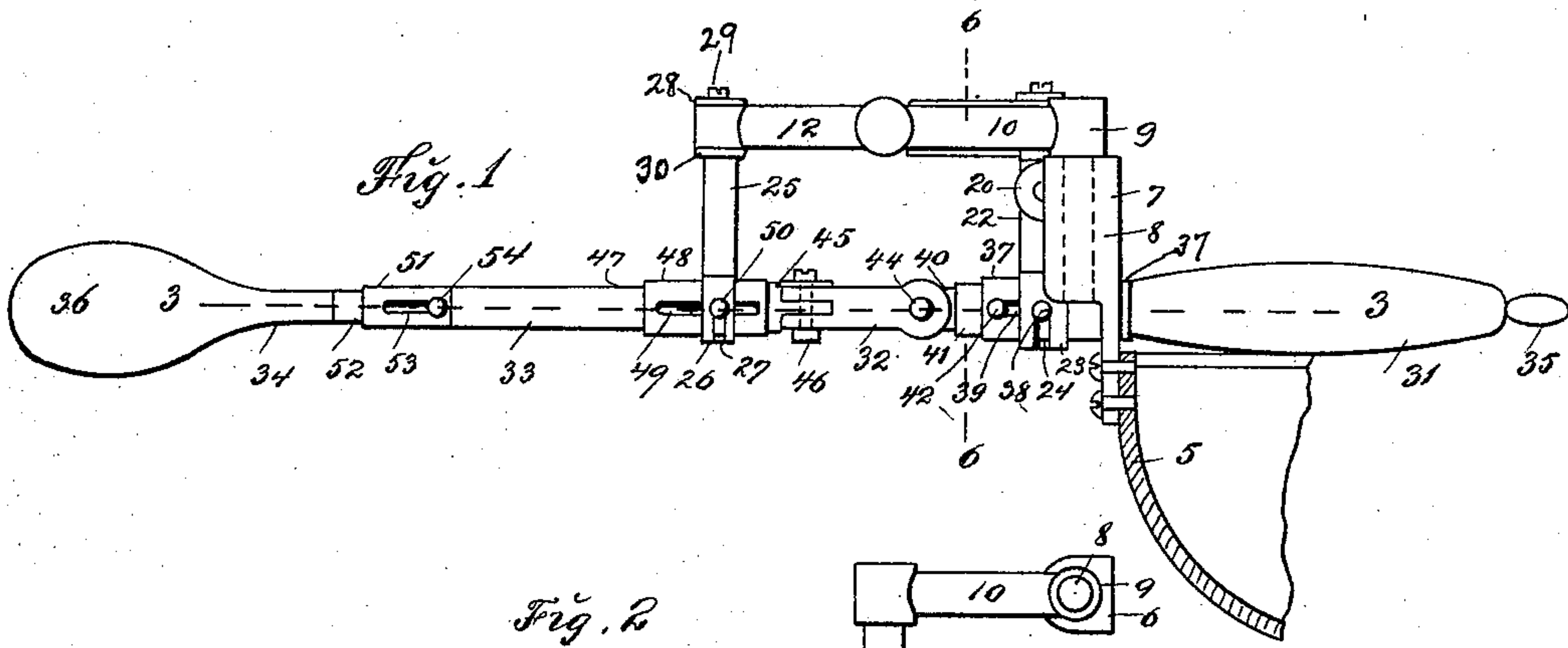


(No Model.)

A. P. SUNDBERG.
BOW FACING OAR.

No. 591,992.

Patented Oct. 19, 1897.



WITNESS

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BOW-FACING OAR.

SPECIFICATION forming part of Letters Patent No. 591,992, dated October 19, 1897.

Application filed February 13, 1897. Serial No. 623,328. (No model.)

To all whom it may concern:

Be it known that I, ANDREW P. SUNDBERG, a citizen of the United States, residing at Union Hill, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Rowlocks and Oars for Boats, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to rowlocks for boats, and the object thereof is to provide an improved device of this class whereby the oars may be connected with the boat and operated as hereinafter described, a further object being to provide improved oars and improved means for connecting the same with a boat, the devices for connecting the oars with the boat being so constructed that the oars may be swiveled or feathered as desired, and the oars being composed of separate sections and capable of longitudinal adjustment; and with these and other objects in view the invention consists of the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a transverse section of a part of one side of a boat, showing my improvement and the application thereof; Fig. 2, a plan view of the oar and the means for connecting the same with the boat; Fig. 3, a section on the line 3 3 of Fig. 1; Fig. 4, a section on the line 4 4 of Fig. 2, Figs. 3 and 4 being on an enlarged scale; Fig. 5, a section on the line 5 5 of Fig. 4, and Fig. 6 a section on the line 6 6 of Fig. 1.

In the drawings forming part of this specification, the separate parts of my improvement are designated by the same numerals of reference throughout the several views, and in Fig. 1 I have shown at 5 a section of one side of a boat, and in the practice of my invention I provide a rowlock and an improved oar which are of the following construction, and adapted to be connected with the boat in the following manner:

Secured to the side of the boat are two upright standards 6, each of which is provided

with a tubular head 7, and these tubular heads 7 are adapted to receive tenons or projections 8, which are formed on or mounted in cylindrical heads 9, which are provided with outwardly-directed arms 10, the outer ends of which are connected by a cross-bar 11, on which is mounted a cross-head 12. The cross-head 12 is provided centrally with a hub 13, through which the cross-bar 11 passes, and at each side of said hub is a collar 14, which is formed on or secured to the cross-bar 11, and by means of which the cross-head 12 is held centrally of said bar, and the inner end of said cross-head 12 is provided with a vertical bore 15, in which is mounted a revoluble cylinder 16, which is revoluble in said cross-head, and said cylinder 16 is provided below the cross-head with an annular collar 17, and above said cross-head is a plate 18, which is secured thereto by a bolt or screw 19.

The cylinder 16 is free to revolve in the cross-head 12, and is provided with two downwardly-directed circular jaws 20, between which is pivoted a similar jaw 21, which is provided with a downwardly-directed shank 22, which is provided with a sleeve 23, in which is formed a transverse slot 24, and mounted in the outer end of the cross-head 12, and revoluble therein, is a standard 25, the lower end of which is provided with a sleeve 26, in which is formed a transverse slot 27, similar to that formed in the sleeve 23.

The upper end of the standard 25 is provided with a plate 28, which is held in place by a screw or bolt 29, and formed on said standard, below the said cross-head 12, is a collar 30, and said standard is free to revolve in said cross-head, and is held therein by the plate 28.

The oar which I employ is preferably composed of four separate sections 31, 32, 33, and 34, and the section 31 projects inwardly and is provided with a handle 35, while the section 34 is provided with the usual blade.

The section 31 is provided with a tubular casing 37, which passes through the sleeve 23 on the shaft 22, which is provided with the jaw 21, which is pivoted between the jaws 20 of the cylinder 16, and a set-screw is passed through the slot 24 in said sleeve, and through the tubular casing 37, and the said

tubular casing is provided near its outer end and in the upper surface thereof with a slot 39.

The section 32 of the oar is connected with the section 31 by a coupling-head 40, which is provided at its inner end with a metal casing 41, which enters the outer end of the tubular casing 37 of the section 31 of the oar, and a set-screw 42 is passed through the slot 39 in the tubular casing 37, and through the tubular casing 41 into the coupling-head 40, and as thus constructed the coupling-head 40 is free to slide within certain limits in the tubular casing 37. The coupling-head 40 is connected with the inner end of the section 32 of the oar, as shown in Figs. 3 and 4, by a hinged joint or coupling 44, and the section 33 is connected with the section 32 by a coupling-head 45, and said coupling-head 45 is connected with said section 32 by a hinged joint or coupling 46, and the joints or couplings at 44 and 46, and that by which the cylinder 16 is connected with the sleeve 23, or the shank 22 thereof, are all of the same construction, but the last-named coupling or joint and the joint 44 are in a vertical plane, while the coupling or joint 46 is in a horizontal plane, when the parts are in the position shown in Figs. 1 and 2.

The inner end of the section 33 of the oar is provided with a metal casing 47, on which is mounted a tubular sleeve 48, into which the coupling-head 45 passes, and in which it is secured, and the tubular sleeve 48 passes through the sleeve 26 of the standard 25, and is free to move therein, and formed in the upper side of the sleeve 48 is a longitudinal slot 49, and passing through the sleeve 26, and through the slot 49 in the tubular sleeve 48, and through the tubular casing 47 of the section 33 of the oar is a set-screw 50.

The outer end of the section 33 of the oar is provided with a tubular casing 51, which is adapted to receive the inner end of the section 34, which is also preferably provided with a tubular casing 52, and formed in the upper side of the casing 51 is a longitudinal slot 53, through which is passed a set-screw 54, which passes through the tubular casing 52 and into the section 34. As thus constructed, it will be seen that the section 34 is adjustable in the outer end of the section 33, and that the section 33 is adjustable in the tubular casing 48, by which it is connected with the coupling-head 45, and the coupling-head 40, by means of which the section 32 is connected with the inner section of the oar, is also adjustable in the tubular casing 37 of the said section 31. It will also be seen that the inner end of the inner section may be raised or lowered on the hinge or coupling by which it is connected with the cylinder 16, and that the outer end of the section 31 is adapted to swing in a horizontal plane by means of its connection with the section 32, and that the outer end of the section 32 and the inner end of the section 33 are adapted to move in a vertical plane by reason of the

coupling or joint at 46, and the standard 25 and the cylinder 16 are free to turn in the coupling-head 12.

The outer section 34 of the oar may also be longitudinally adjusted with reference to the section 33, and the operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof.

It will be understood that both sides of the boat are provided with a rowlock and oars similar to that herein described, and by means of my improved rowlock and the oar constructed as described, the paddle 36 may be feathered in the usual manner, and the oar operated as usual in this class of devices. The length of the various sections and the couplings by which they are connected are also such as to give great leverage to the inner section 31, and by means thereof the boat may be propelled at a greater speed with a less application of power than in ordinary devices of this class.

It will be apparent that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

Having fully described my invention, I claim as new and desire to secure by Letters Patent--

1. A rowlock and oar, constructed as herein described, said rowlock consisting of parallel arms 10, which are provided at their inner ends with downwardly-directed tenons or projections, and which are connected at their outer ends by a cross-bar, a cross-head which is revolvably mounted on said cross-bar, and provided at its inner end with a vertical and revoluble cylinder which is mounted therein, and at its outer end with a vertical and revoluble standard and an oar which is composed of separate sections, the inner section of which is connected with said cylinder, and one of said sections with said standard as herein described, said sections being connected between said cylinder and said standard, and the outer section being provided with a paddle as and for the purpose set forth.

2. A rowlock and oar constructed as herein described, said rowlock consisting of two parallel arms which are provided at their inner ends with downwardly-directed tenons or projections which are adapted to enter sockets in vertical standards secured to the side of the boat, and said arms being connected at their outer ends by a cross-bar centrally of which is mounted a cross-head, said cross-head being provided at its inner end with a vertical and revoluble cylinder, and at its outer end with a vertical and revoluble standard, and an oar composed of a plurality of sections, the inner section being hinged to said cylinder by means of a sleeve through which it passes, and in which it is adapted to turn, another of said sections being mount-

ed in a sleeve connected with said standard, and in which it is adapted to turn, said sections being connected by a central piece which is hinged or pivoted to the adjacent ends thereof, one of said hinges or pivotal connections being in a horizontal and the other in a vertical plane, and that section of the oar which is mounted in said standard being provided with a paddle-section, substantially as shown and described.

3. A rowlock and oar constructed as herein described, said rowlock consisting of two parallel arms which are provided at their inner ends with downwardly-directed tenons or projections which are adapted to enter sockets in vertical standards secured to the sides of the boat, and said arms being connected at their outer ends by a cross-bar centrally of which is mounted a cross-head, said cross-head being provided at its inner end with a vertical and revoluble cylinder, and at its outer end with a vertical and revoluble standard, and an oar composed of a plurality of sections the inner section being hinged to said cylinder by means of a sleeve through which it passes, and in which it is adapted to turn, another of said sections being mounted in a sleeve connected with said standard, and in which it is adapted to turn, said sections being connected by a central piece which is hinged or pivoted to the adjacent ends thereof, one of said hinges or pivotal connections being in a horizontal and the other in a vertical plane, and that section of the oar which is mounted in the standard being provided with a paddle-section, which is longitudinally adjustable with reference thereto, substantially as shown and described.

4. A rowlock and oar constructed as herein described, said rowlock consisting of two parallel arms which are adapted to be pivotally connected with standards secured to the side of a boat, said arms being connected at their outer ends by a cross-bar centrally of which is mounted a cross-head which is adapted to

turn on said bar, said cross-head being provided at its inner end with a revoluble vertical cylinder and at its outer end with a revoluble vertical standard, and an oar composed of separate sections which are hinged or pivotally connected as herein described, the inner section being hinged to said cylinder and adapted to move in a vertical plane and swing on said cylinder, and another section being mounted in a sleeve connected with said standard and adapted to turn therein, said sections being connected by central coupling devices, as herein described.

5. A rowlock and oar constructed as herein described, said rowlock consisting of two parallel arms which are adapted to be pivotally connected at their outer ends, with standards secured to the side of a boat, said arms being connected at their outer ends by a cross-bar centrally of which is mounted a cross-head which is adapted to turn on said bar, said cross-head being provided at its inner end with a revoluble, vertical cylinder and at its outer end with a revoluble, vertical standard, and an oar composed of separate sections which are hinged or pivotally connected as herein described, the inner section being hinged to said cylinder and adapted to move in a vertical plane and swing on said cylinder, and another section being mounted in a sleeve connected with said standard and adapted to turn therein, said sections being connected by coupling devices, and the last-named section being also provided with a longitudinally-adjustable paddle-section, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 23d day of January, 1897.

ANDREW P. SUNDBERG.

Witnesses:

C. GERST,
K. E. LANGTRY.