

No. 608,131.

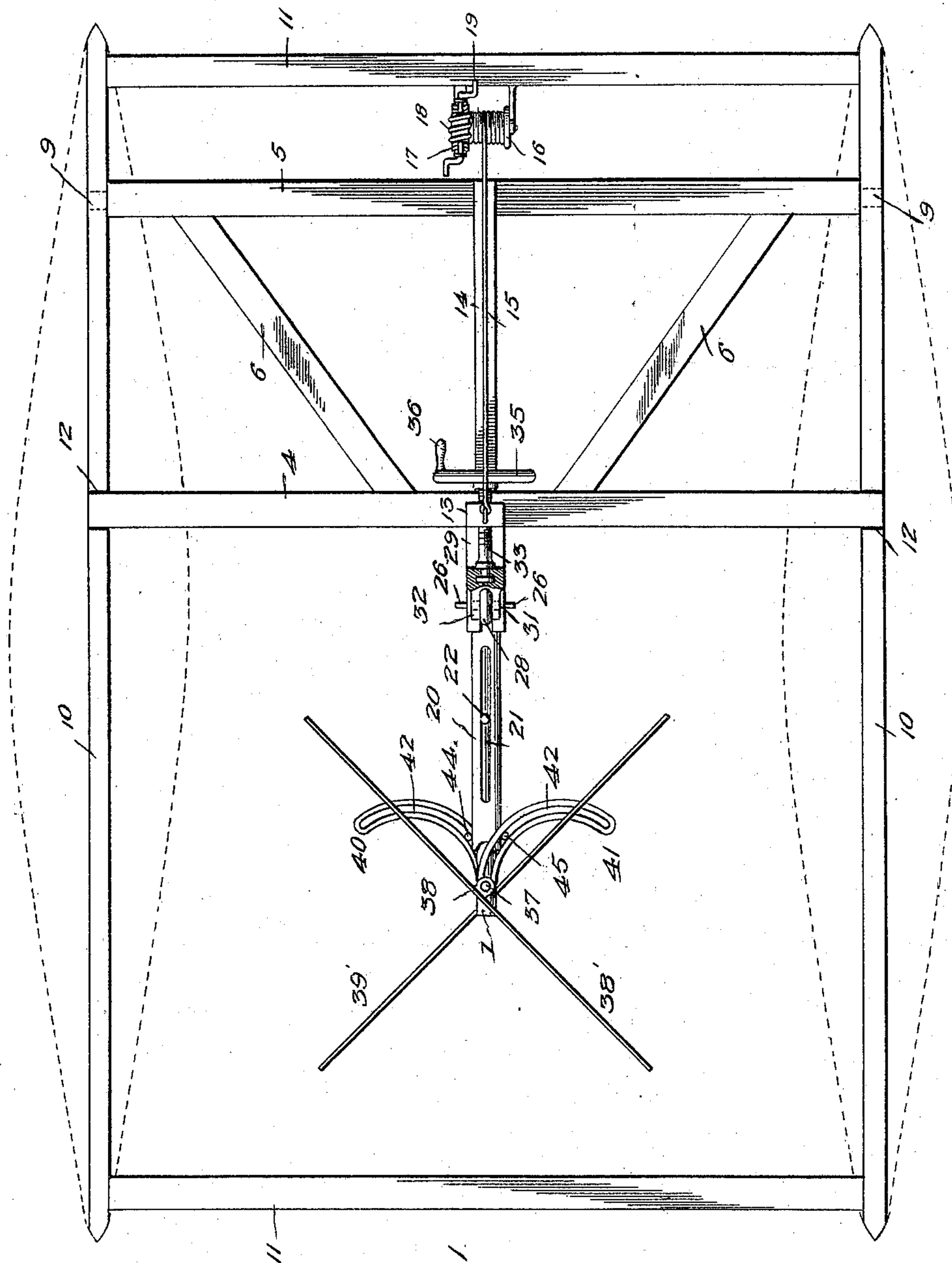
Patented July 26, 1898.

H. C. KEELER.
CURRENT MOTOR.

(Application filed Oct. 19, 1897.)

(No Model.)

4 Sheets—Sheet 1.



Witnesses

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Fig. 1

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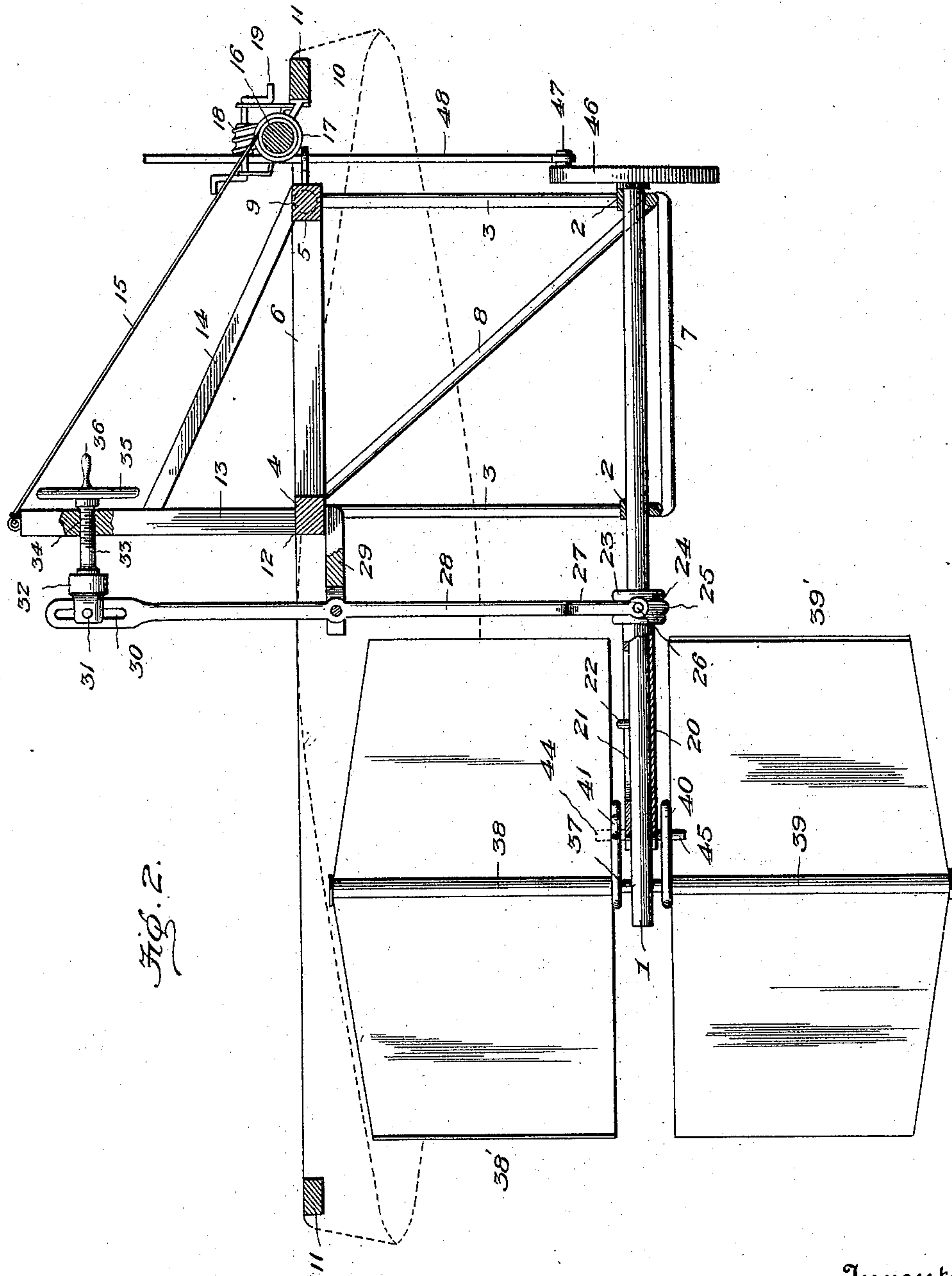
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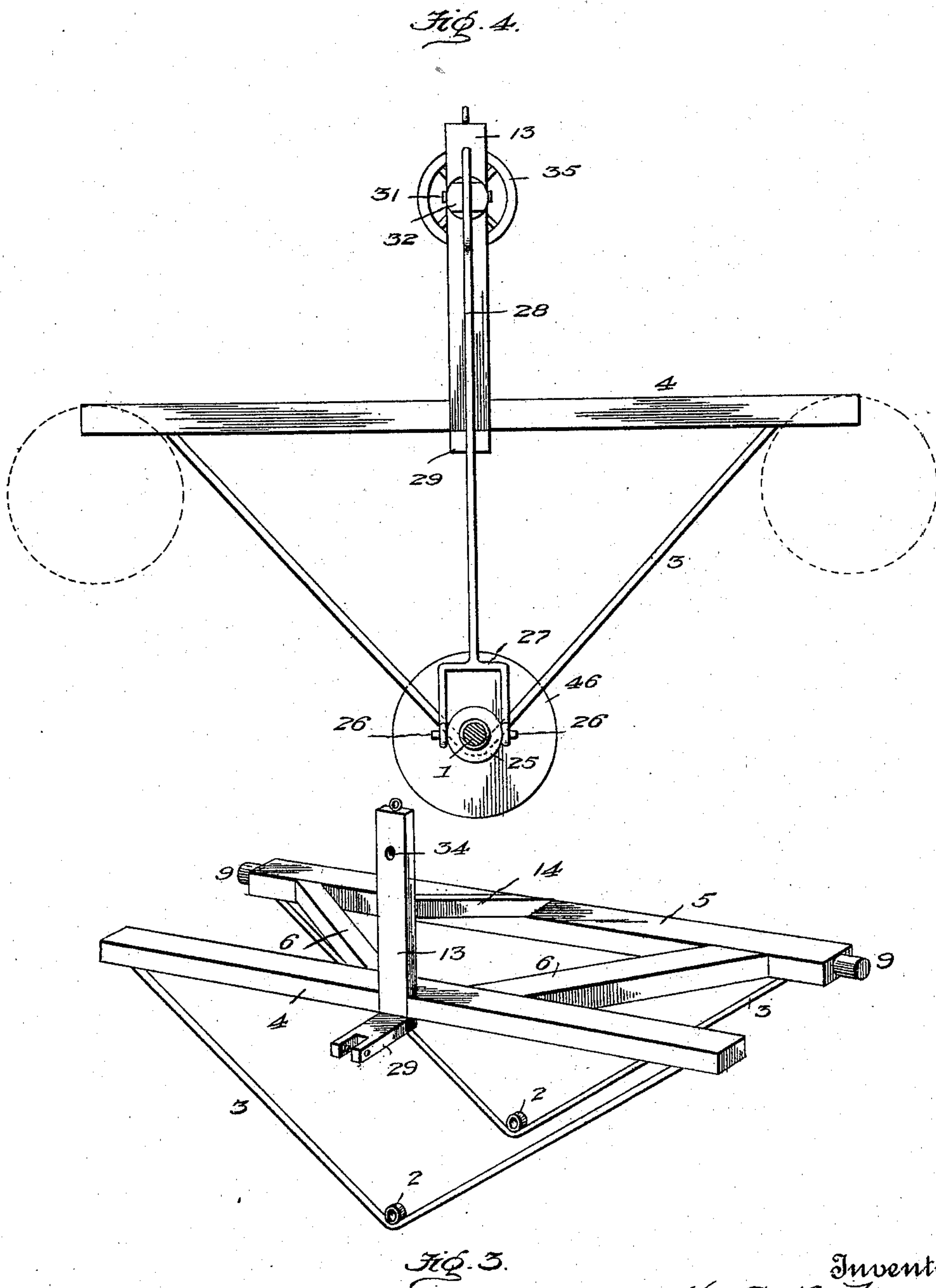
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Fig. 5.

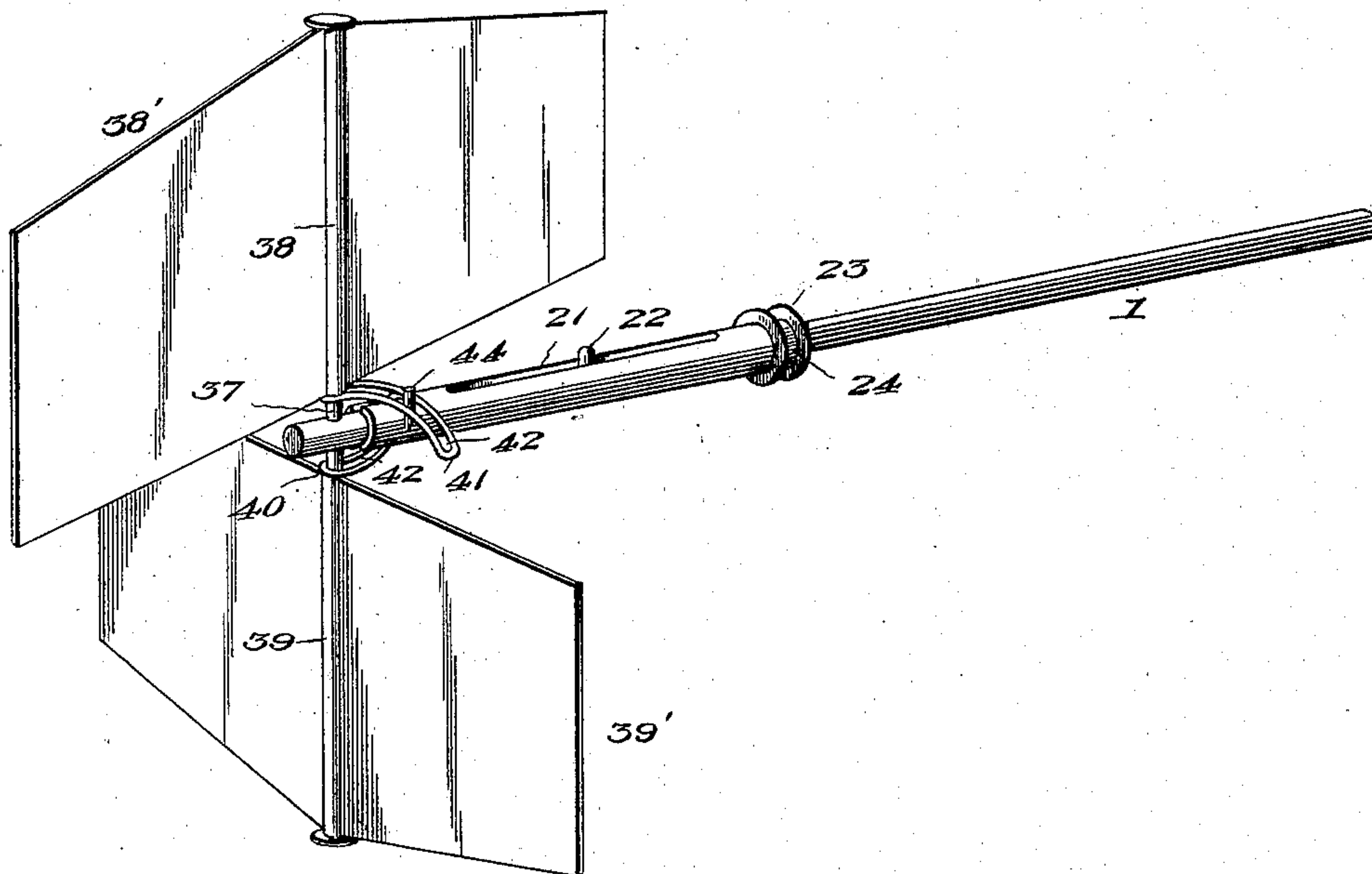
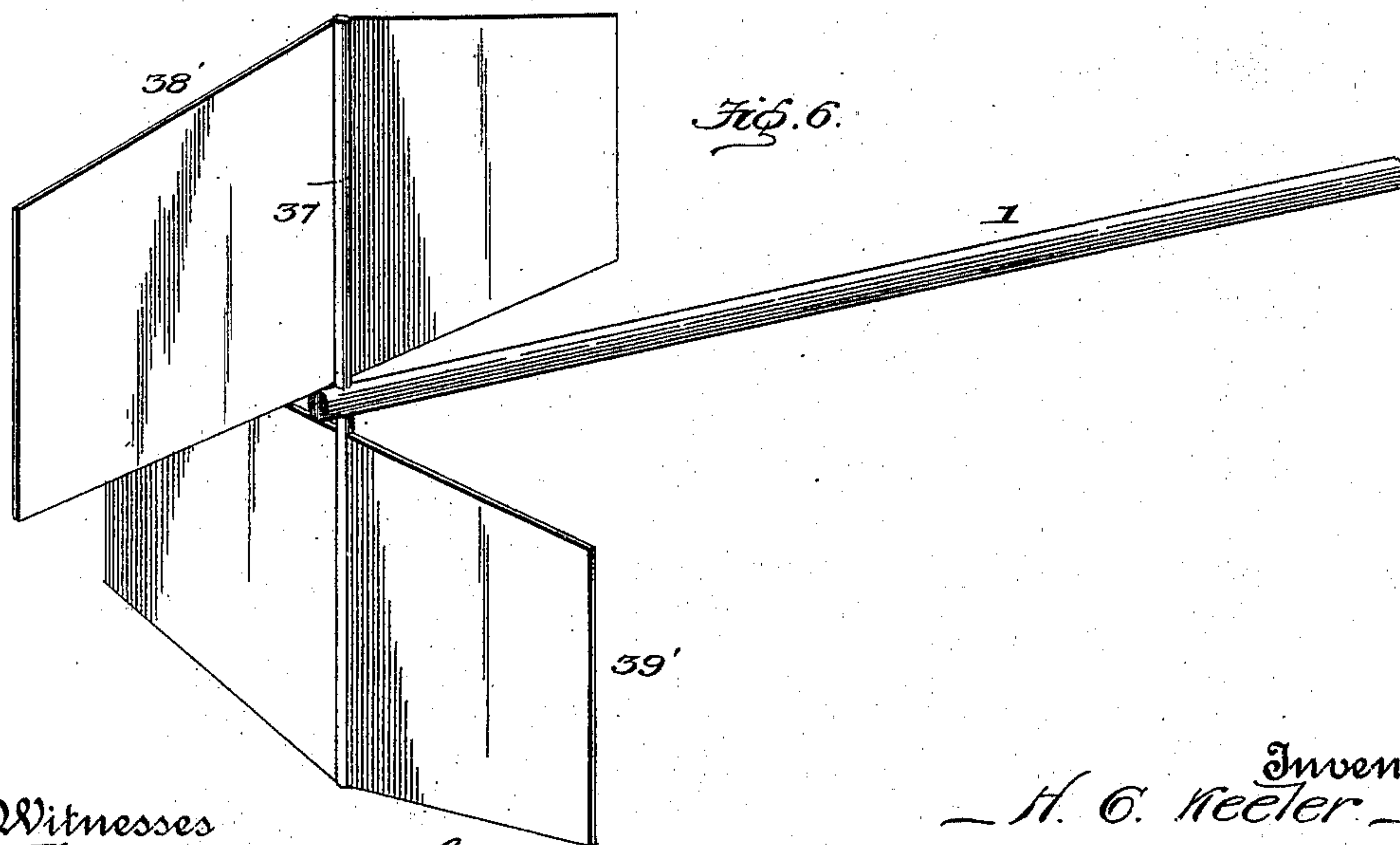


Fig. 6.



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UNITED STATES PATENT OFFICE.

HENRY C. KEELER, OF WATERVILLE, WASHINGTON.

CURRENT-MOTOR.

SPECIFICATION forming part of Letters Patent No. 608,131, dated July 26, 1898.

Application filed October 19, 1897. Serial No. 655,724. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. KEELER, a citizen of the United States, residing at Waterville, in the county of Douglas and State of Washington, have invented certain new and useful Improvements in Current-Motors; and I do 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 relates to a novel form of current-motor; and the object is to provide a simple, cheap, and effective device of this character.

To this end the invention consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same reference characters indicate the same parts of the invention.

Figure 1 is a top plan view of my improved current-motor. Fig. 2 is a longitudinal section. Fig. 3 is a detail of the motor-frame. Fig. 4 is a transverse section. Fig. 5 is a perspective detail of the propeller and its shaft. Fig. 6 illustrates another form of connecting the propeller to the shaft.

1 represents the propeller-shaft, which is cylindrical in cross-section and is journaled horizontally in the aligned bearing-boxes 2 2, fixed in the converging ends of the parallel brackets 3 3, depending from a rectangular frame composed of the transverse parallel beams 4 5, which are connected by the diagonal braces 6 6.

The lower ends of the brackets 3 3 are connected by a tie-brace 7, and a diagonal brace 8 extends from the lower end of the rear bracket 3 to the transverse beam 4.

The outer ends of the transverse beam 5 are formed with the cylindrical journals 9 9, which have a bearing in the opposite sides of the parallel portions 10 10, which are suitably connected by fixed cross-braces 11 11, and the corresponding rectangular ends of the transverse beam 4 are seated in similarly-formed recesses 12 12 in the same sides of the pontoons.

13 represents a standard arising from the

beam 4 and suitably supported by a diagonal brace 14, as shown. A wire rope or chain 15 extends from the upper end of the standard 13 to a drum 16, provided with a worm-wheel 17 in mesh with a worm-gear 18, operated by a crank-handle 19, so that the frame may be tilted rearwardly to raise the propeller-shaft and propeller out of the water.

20 represents a sleeve encompassing the forward end of the propeller-shaft, and it is provided with a longitudinal slot 21, through which a stud 22, radially fixed in the shaft, extends, and which causes the sleeve to rotate with the shaft and at the same time limits the longitudinal movement of said sleeve on said shaft. The rear end of this sleeve 20 is provided with a circular collar 23, formed with an annular groove 24, which receives a strap 25, provided with equidistant radial pins 26 26, which have a bearing in the yoke 27, formed on the lower end of the vertical lever 28, fulcrumed in the bracket 29, fixed to the beam 4. The upper end of this lever is formed with a longitudinal slot 30 to receive a bolt 31, fixed in the bifurcated end of a socket 32, which is swiveled on the end of the threaded rod 33, having a bearing in the threaded orifice 34 in the upper end of the standard 13, and the rear end of the threaded rod 33 is provided with a hand-wheel 35 and crank-handle 36, by means of which the sleeve 20 may be reciprocated on the shaft 1.

37 represents a transverse cylindrical rod fixed in the forward end of the shaft 1 and extending radially an equal distance on each side thereof.

38 and 39 represent sleeves which snugly encompass the projecting ends of the rod 37, and 38' 39' represent plane propeller-blades fixed to said sleeves, and they are adapted to oscillate with said sleeves on the rod. The inner ends of the sleeves are provided with fixed curved arms 40 41, formed with longitudinal slots 42 43, which engage the lateral studs 44 45, extending tangentially from the forward end of the sleeve, and from this construction it will be seen that when the sleeve is at the rear limit of its longitudinal movement on the shaft the propeller-blades will be ranged in the same plane longitudinally to the shaft, and consequently will present

their forward edges to the water; but if the sleeve be moved forward the blades will be turned at an angle to the shaft, so as to present their plane faces to the current, the degree of angularity of the blades being regulated by the movement of the sleeve, and by moving the sleeve so as to carry the blades past the longitudinal plane, so as to incline them at opposite angles to those first mentioned, the movement of the shaft will be reversed.

I have shown the rear end of the shaft 1 provided with a disk 46, provided with a crank or wrist pin 47, carrying a connecting-rod 48, through which the power may be transmitted to the point of consumption; but instead of the disk 46 a sprocket-wheel and choice of any suitable system of gearing may be employed in transmitting the power.

In Fig. 6 I have shown the blades rigidly fixed on the radial rods at an angle of about forty-five degrees or such other angle as will be found most effective in practice.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

Having thus fully described my invention, what I claim as new and useful, and desire to

secure by Letters Patent of the United States, is—

1. A current-motor, comprising a shaft 1 provided with a radial stud 22, a sleeve 20 encompassing said shaft and provided with a longitudinal slot 21 engaging said stud, and with the tangential studs 44, 45 and the rod 37, fixed in said shaft 1, in combination with the sleeves 38, 39 encompassing the ends of said rod, the propeller-blades 38', 39' fixed on said sleeves and the slotted arms 40, 41, engaging said studs 44, 45, substantially as shown and described.

2. A current-motor, comprising a pivoted frame, the shaft 1 journaled in brackets fixed to said frame and provided with the radial stud 22, and the rod 37, the sleeve 20 encompassing said shaft and provided with the longitudinal slot 21, to receive said stud, the grooved collar 23 fixed on said sleeve, and the lever 28 operatively connected to said sleeve, in combination with the propeller-blades 38', 39' pivoted on the rod 37, and the slotted arms 40, 41, fixed to said blades and operatively connected to said sleeves 20, substantially as and for the purpose set forth.

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

HENRY C. KEELER.

Witnesses:

ALBERT L. MALTBIE,
JOHN M. F. COOPER.