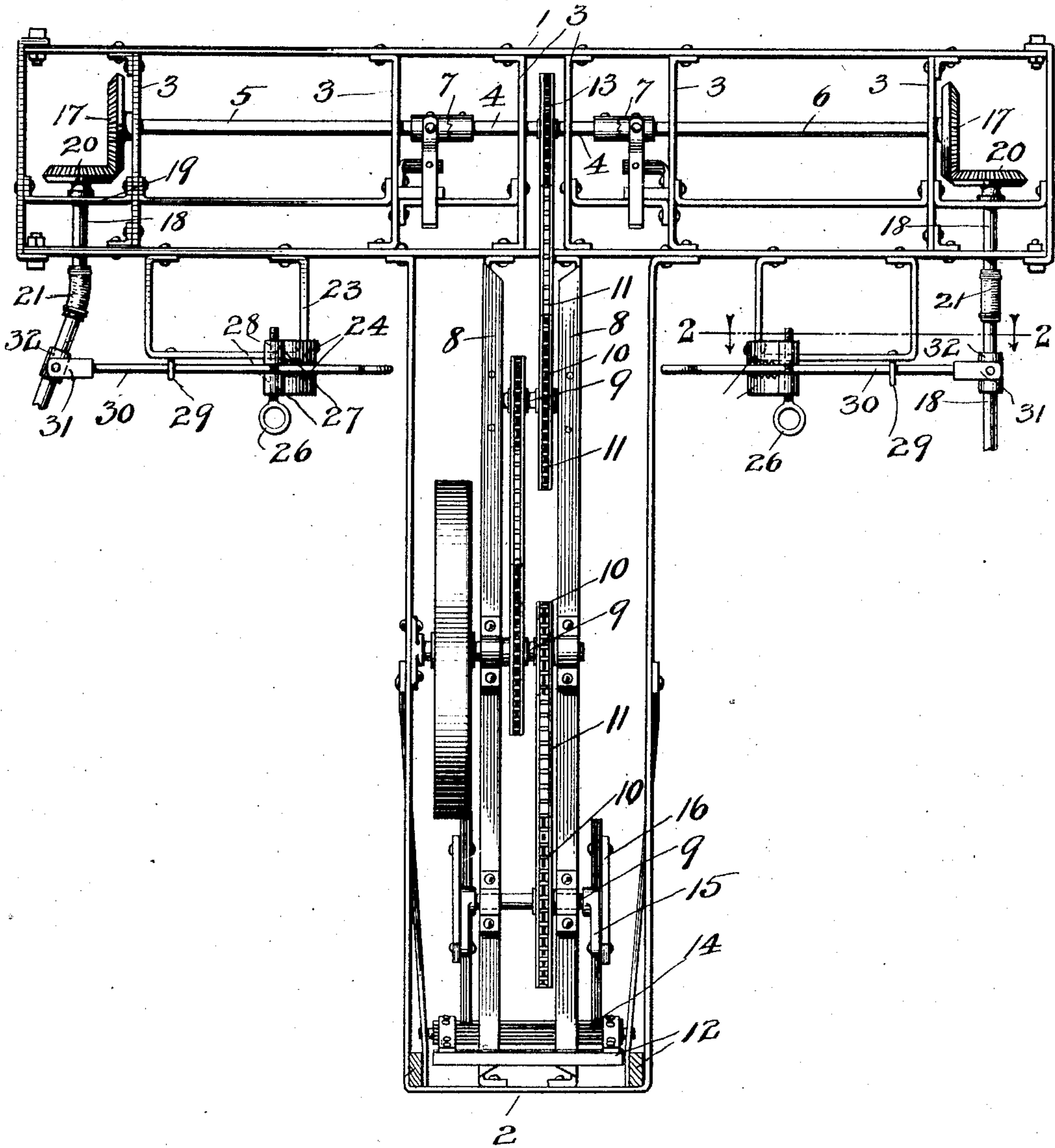


906,842.

Patented Dec. 15, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



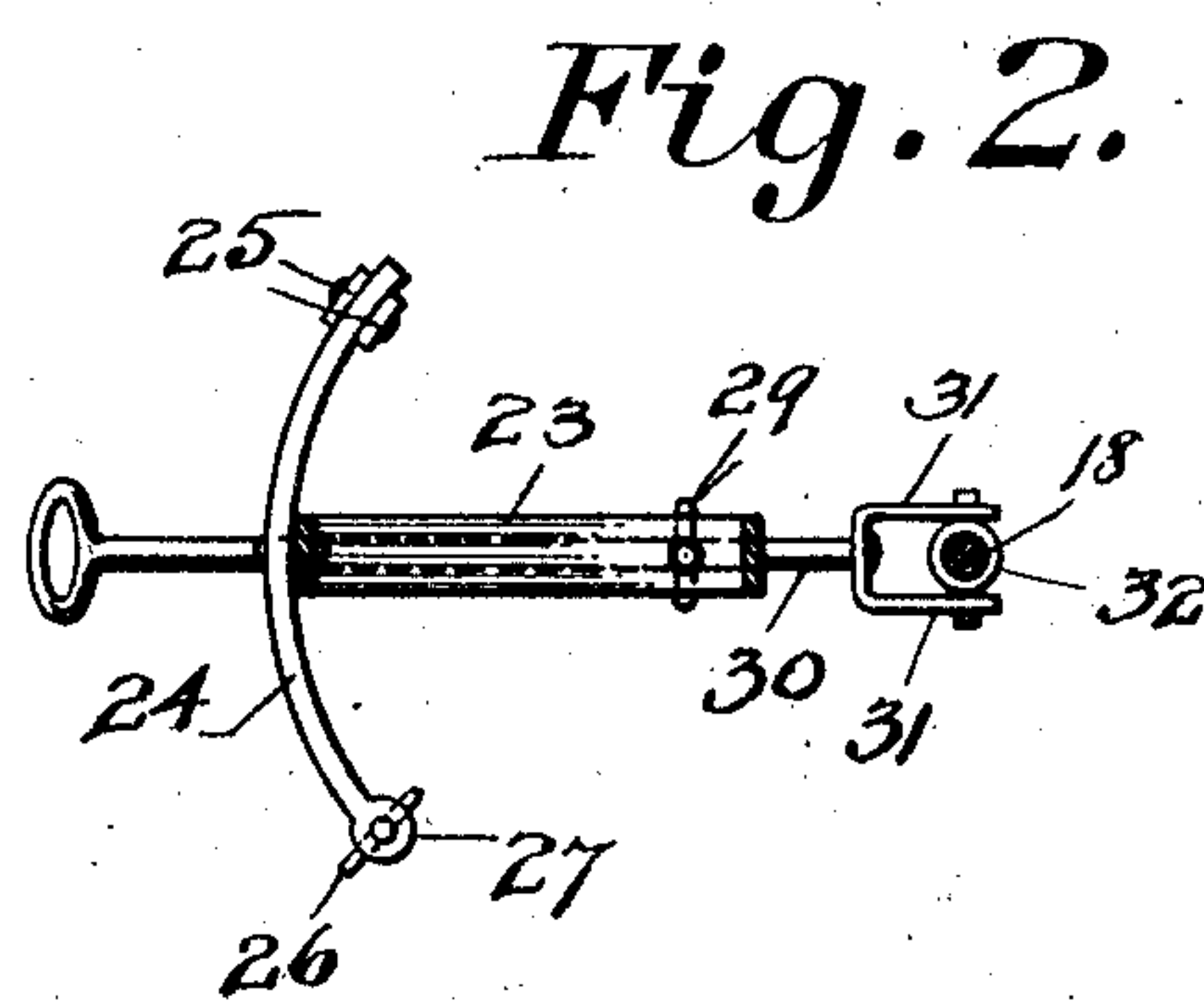
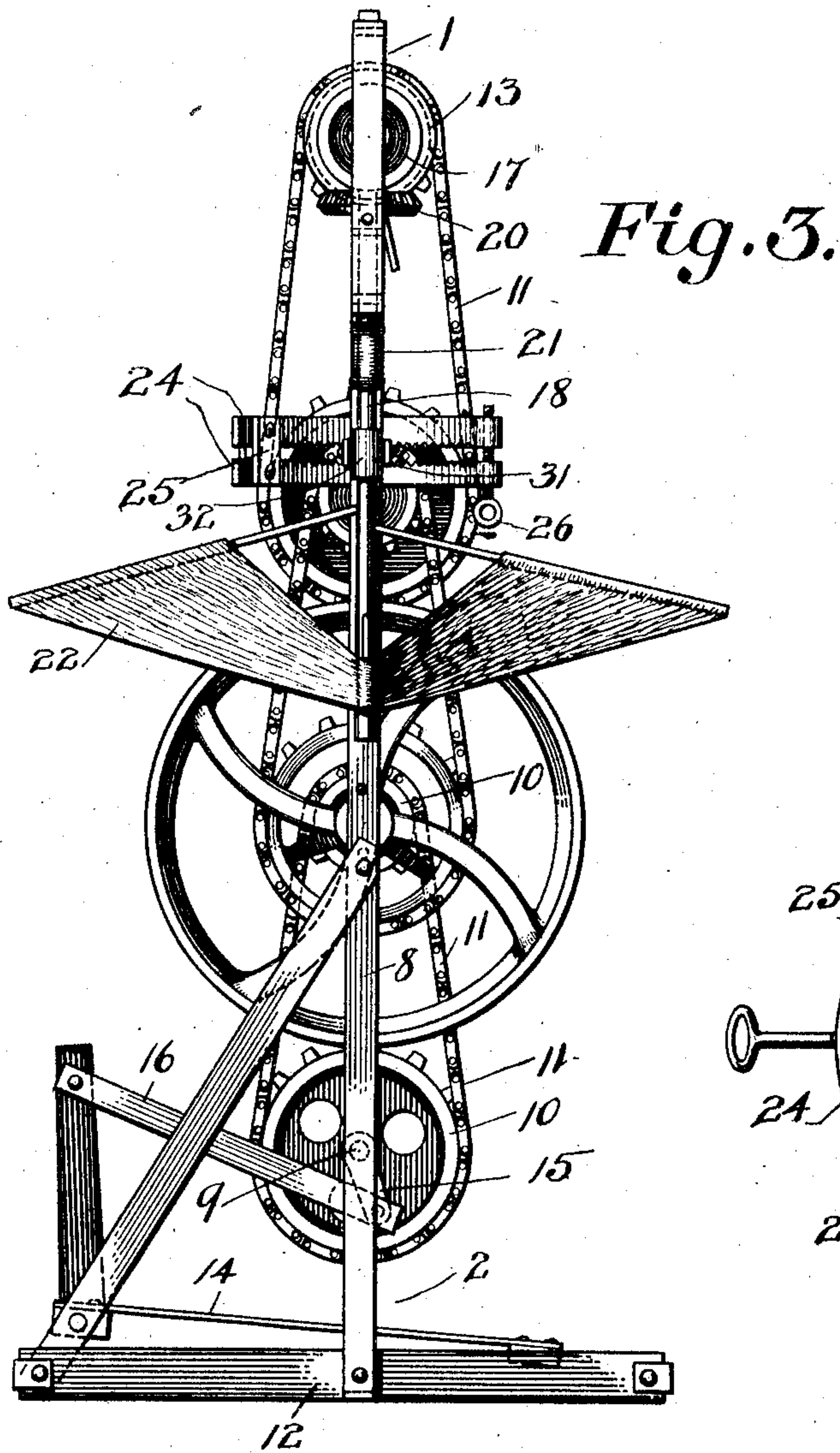
Witnesses:
Shirley C. Ward
J. W. Maunick

Inventor:
Rufus Clayton White

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2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

RUFUS CLAYTON WHITE, OF LOS ANGELES, CALIFORNIA.

DIRIGIBLE AIR-SHIP.

No. 906,842.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed August 26, 1907. Serial No. 390,256.

To all whom it may concern:

Be it known that I, RUFUS CLAYTON WHITE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Dirigible Air-Ships, of which the following is a specification.

My invention relates to aeronautics and to the improvement of balloons so as to make them dirigible and at the same time assist in lifting them. I accomplish this by securing a frame to the balloon carrying propellers, attached to vertical shafts driven by a motor carried by the frame, the propeller blades being connected with the motor by means of flexible shafts and having adjusting means secured thereto so that the propellers are capable of being adjusted to direct the balloon in any horizontal direction as well as aiding in lifting it.

My invention will be described in detail hereinafter and illustrated in the accompanying drawings in which—

Figure 1 is a side view of my improved propeller, Fig. 2, a sectional view on the line 2—2 of Fig. 1, and Fig. 3, an end view of the device.

In the drawings similar reference characters indicate corresponding parts throughout the several views.

1 indicates an elongated frame capable of being secured in any desired manner to a balloon and having another frame 2 extending downwardly from its middle, said frames 1 and 2 constituting a T-shaped frame as shown in Fig. 1. The frame 1 is provided with a number of cross-braces 3 on which are journaled shafts 4, 5 and 6, clutches 7 being provided to throw the shaft 4 into gear with shafts 5 and 6.

8 indicates uprights made preferably of angle iron and secured in frame 2 and carrying a series of shafts 9 journaled thereon with sprocket wheels 10 keyed thereto carrying chains 11 forming gearing to transmit power from any motor carried by platform 12 secured to the bottom of frame 2 to a sprocket wheel 13 keyed to shaft 4.

In the drawings the power is generated by a foot treadle 14 mounted on the platform 12 and connected with the lowermost shaft 9 by means of crank 15 and pitman 16 but it will be apparent that any other motor may be substituted.

17 indicates beveled gear wheels keyed to

the ends of shafts 5 and 6 and 18 indicates the propeller shafts journaled in frame 1 and horizontal bars 19 secured thereto and having beveled gear wheels 20 on their upper ends that mesh with gear wheels 17. The propeller shafts 18 have flexible sections 21 intermediate of their ends so that the lower end of the shafts carrying the propeller blades 22 can be adjusted to drive the balloon in any direction desired.

23 indicates a bracket secured under frame 1 at each side of frame 2, and 24 segmental, serrated jaws secured to said brackets, pivotally secured together by means of links 25 and locked together by means of bolts 26 loosely mounted in loops 27 in the loose jaws and having threaded ends to fit threaded apertures 28 in the free ends of the fixed jaws.

29 indicates eye loops secured to brackets 23 and 30 rods loosely mounted in said eye-loops 29 and having bifurcated ends 31 pivotally secured to sleeves 32 inclosing the shafts 18 between the flexible sections 21 and propellers 22. The free ends of rods 30 are engaged by the jaws 24 and it will be understood that after loosening the jaws 24 the free ends of shafts 18 may be adjusted so that the propellers incline downwardly in any direction towards the horizon. As the two propellers are independently adjustable it will be understood that they may be pointed in the same direction or if desired may be inclined in different directions as indicated in Fig. 1 in which the right hand propeller shaft is pointed directly downward and the left hand propeller to one side.

Having thus described my invention what I claim is—

1. In an air-ship, a suitable frame having a driving shaft journaled thereon, propeller shafts geared to said driving shaft and having flexible sections, brackets secured to said frame, eye-loops on said brackets, rods loosely mounted in said eye-loops, sleeves pivotally secured to said rods and slidably mounted on the propeller shafts, and clamps secured to said brackets and engaging said rods to hold the propeller shafts in an adjusted position.

2. In an air-ship, a suitable frame having a driving shaft journaled thereon, propeller shafts geared to said driving shaft and having flexible sections, brackets secured to said frame, eye-loops on said brackets, rods loosely mounted in said eye-loops, sleeves

pivotally secured to said rods and slidably
mounted on the propeller shafts, a seg-
mental serrated member secured to each
bracket, a corresponding member pivotally
5 secured to said member, said serrated mem-
bers constituting jaws to engage said rods,
and a screw bolt secured to said serrated

members to hold them in engagement with
said rods.

RUFUS CLAYTON WHITE.

Witnesses:

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