J. F. COMSTOCK.

WINDING MACHINE.

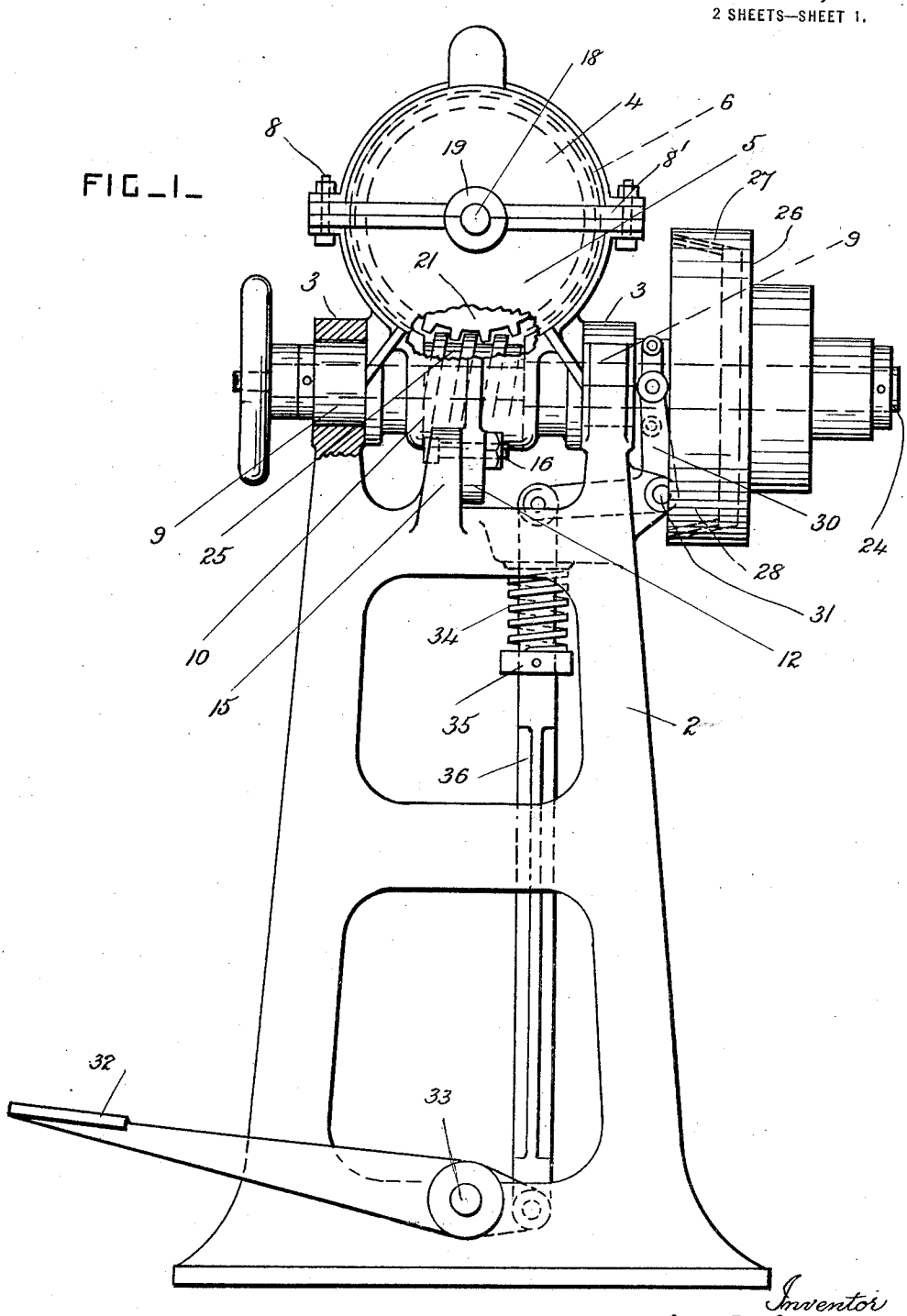
APPLICATION FILED OCT. 13, 1919.

1,346,635.

Patented July 13, 1920.

2 SHEETS—SHEET 1.

FIG. 1.



Inventor
Jesse F. Comstock
by Herbert W. Jenner
Attorney

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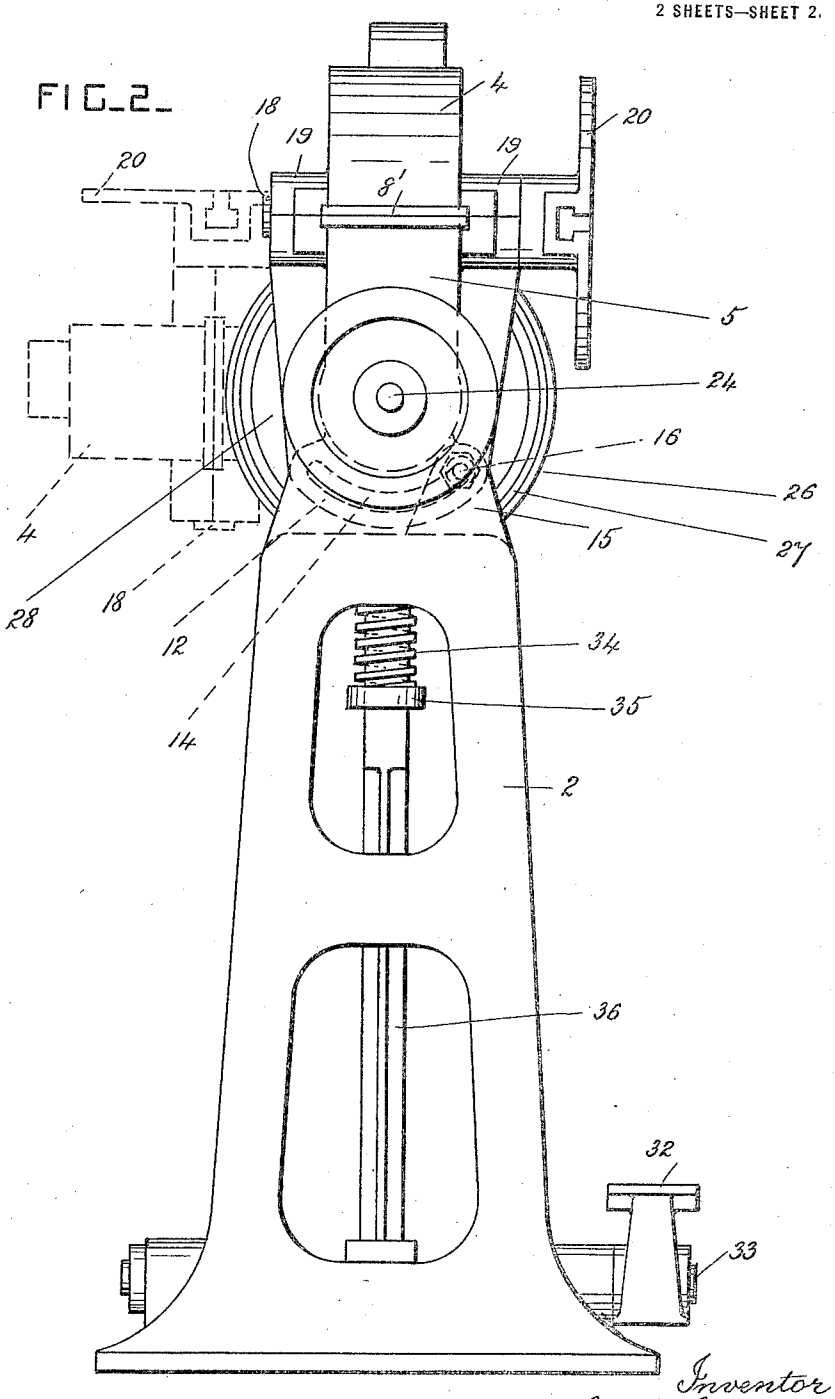
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2 SHEETS—SHEET 2.

FIG_2_



Inventor
Jesse F. Comstock
by Herbert W. Jenner
Attorney.

UNITED STATES PATENT OFFICE.

JESSE F. COMSTOCK, OF WILKES-BARRE, PENNSYLVANIA.

WINDING-MACHINE.

1,346,635. Specification of Letters Patent. Patented July 13, 1920.

Application filed October 13, 1919. Serial No. 330,239.

To all whom it may concern:

Be it known that I, JESSE F. COMSTOCK, a citizen of the United States, residing at Wilkes-Barre, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Winding-Machines, of which the following is a specification.

This invention relates to machines specially adapted for winding wire on forms for armatures and field coils and other similar parts; and it consists chiefly in pivoting the winding head to the frame as hereinafter fully described and claimed.

In the drawings, Figure 1 is a front view of a winding machine constructed according to this invention, and showing a part of the casing and one of the bearings in section. Fig. 2 is an end view of the machine.

A frame 2 is provided, and has bearings 3 at its upper part. A casing is provided, and comprises an upper part 4 and a lower part 5. These two parts form a cylindrical chamber 6, each half of which is half a cylinder, and the two sections of the casing are secured together by bolts 8 and flanges 8′.

Two trunnions 9 are formed on the lower part 5 of the casing, and are pivoted in the bearings 3 of the frame. A worm chamber 10 is also formed on the part 5 between its two trunnions, and this worm chamber communicates on one side with the cylindrical chamber 6. A plate or rib 12 is formed circumferentially on the outside of the worm chamber 10, and this plate has a curved slot 14 which is arranged concentric with the axis of the cylindrical casing. This plate 12 bears against one side of a lug 15 on the frame, and 16 is a bolt which engages with a hole in the lug 15 and projects through the curved slot 14. The cylindrical casing can be arranged vertically, as shown in full lines, or it can be turned horizontally, as shown by dotted lines in Fig. 2, or it can be set in any intermediate position. The casing is clamped to the frame by the bolt 16 after its position has been adjusted. In winding coils for armatures, this adjustability is found to be very advantageous, as the operator is enabled to set the face-plate and the form which supports the coil, and which is secured to the face-plate, in a position which enables him to wind the coil on the coil form to the best advantage.

A winding shaft 18 is journaled concentric with the cylindrical casing in suitable bearings 19 formed in halves upon the respective sections of the casing. A face-plate 20 is secured on the shaft 18 outside the casing, and a worm wheel 21 is secured on the shaft 18 inside the casing.

A driving shaft 24 is journaled in the trunnions of the casing, and a worm 25 is secured on the middle part of the driving shaft inside the worm chamber, and gears into the worm wheel 21. A driving pulley or cone 26 is mounted loosely on a projecting end portion of the shaft 24, and has a friction clutch member 27 formed in one end portion of it. A friction clutch member 28 is splined on the shaft 24, and engages with the clutch member 27. A bell-crank lever 30 is pivoted to the frame by a pin 31, and is operatively connected with the slidable clutch member.

A treadle 32 is pivoted to the frame by a pin 33, and is operatively connected with the bell-crank lever. A spring 34 is arranged between the frame and a collar 35 on the connecting-rod 36 between the treadle and the bell-crank lever, and operates to hold the clutch members out of engagement with each other until the treadle is depressed.

The coil form or other part to be wound is clamped to the face-plate and is revolved by the driving shaft and worm gearing as long as the treadle is held in its depressed position.

What I claim is:

1. In a winding machine, a frame provided with bearings, a driving shaft journaled concentric with the said bearings, a casing pivoted concentric with the said shaft and provided with means for securing it to the frame at different angles, a worm secured on the said shaft, a winding shaft journaled in the casing to one side of the driving shaft, a worm wheel secured on the winding shaft and gearing into the said worm, and a face-plate secured on the winding shaft outside the casing.

2. In a winding machine, a frame provided with bearings, a casing provided with trunnions arranged at one side of it and pivoted in the said bearings, said casing having also a worm chamber formed on it between its trunnions and provided externally with a fastening plate, means for securing the fastening plate to the frame with the casing arranged at different angles, a driving shaft journaled in the said trunnions, a worm secured on the driving shaft and arranged in-

side the said worm chamber, a winding shaft journaled in the casing, a worm wheel secured on the winding shaft and gearing into the said worm, and a face-plate secured on the winding shaft outside the casing.

3. In a winding machine, a frame provided with bearings, a driving shaft journaled concentric with the said bearings, a driving clutch member mounted loosely on the driving shaft, a clutch member splined to the driving shaft, lever mechanism for placing the clutch members in engagement with each other at will, means for normally holding the clutch members apart, a casing pivoted concentric with the said shaft and provided with means for securing it to the frame at different angles, a worm secured on the said shaft, a winding shaft journaled in the casing to one side of the driving shaft, a worm wheel secured on the winding shaft and gearing into the said worm, and a face-plate secured on the winding shaft outside the casing.

In testimony whereof I have affixed my signature.

JESSE F. COMSTOCK.