

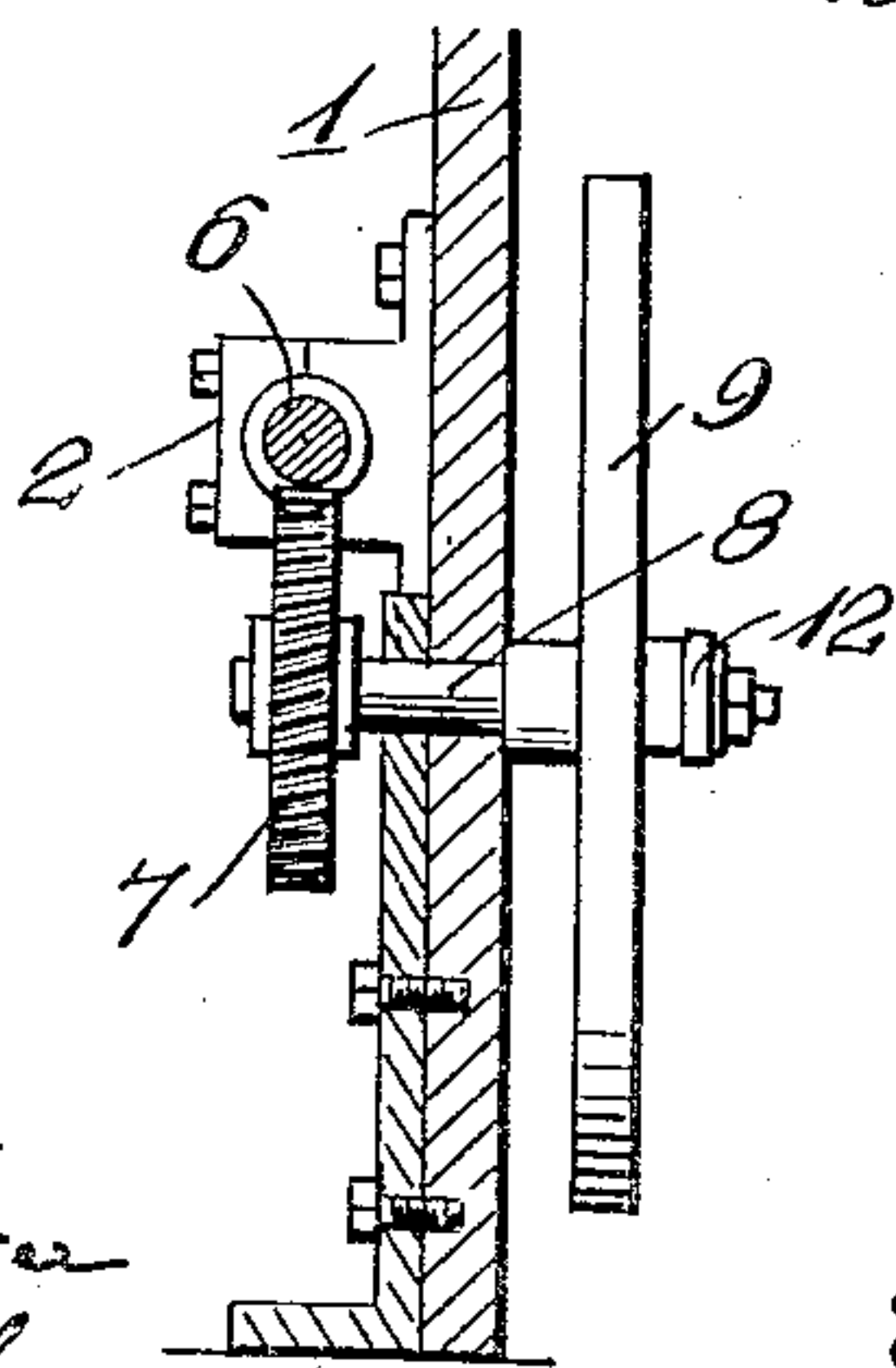
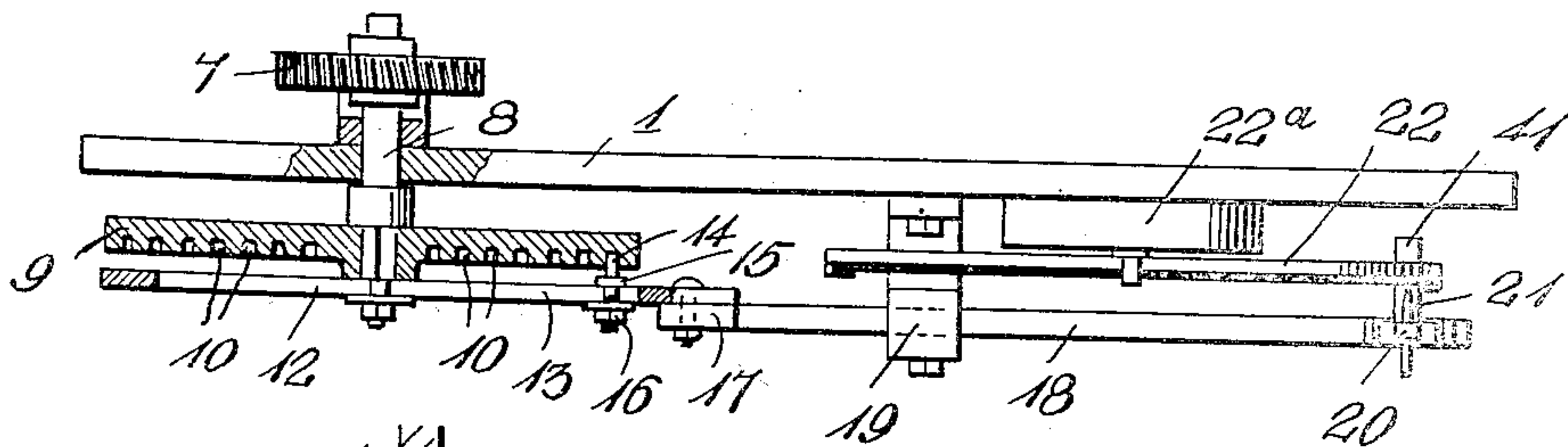
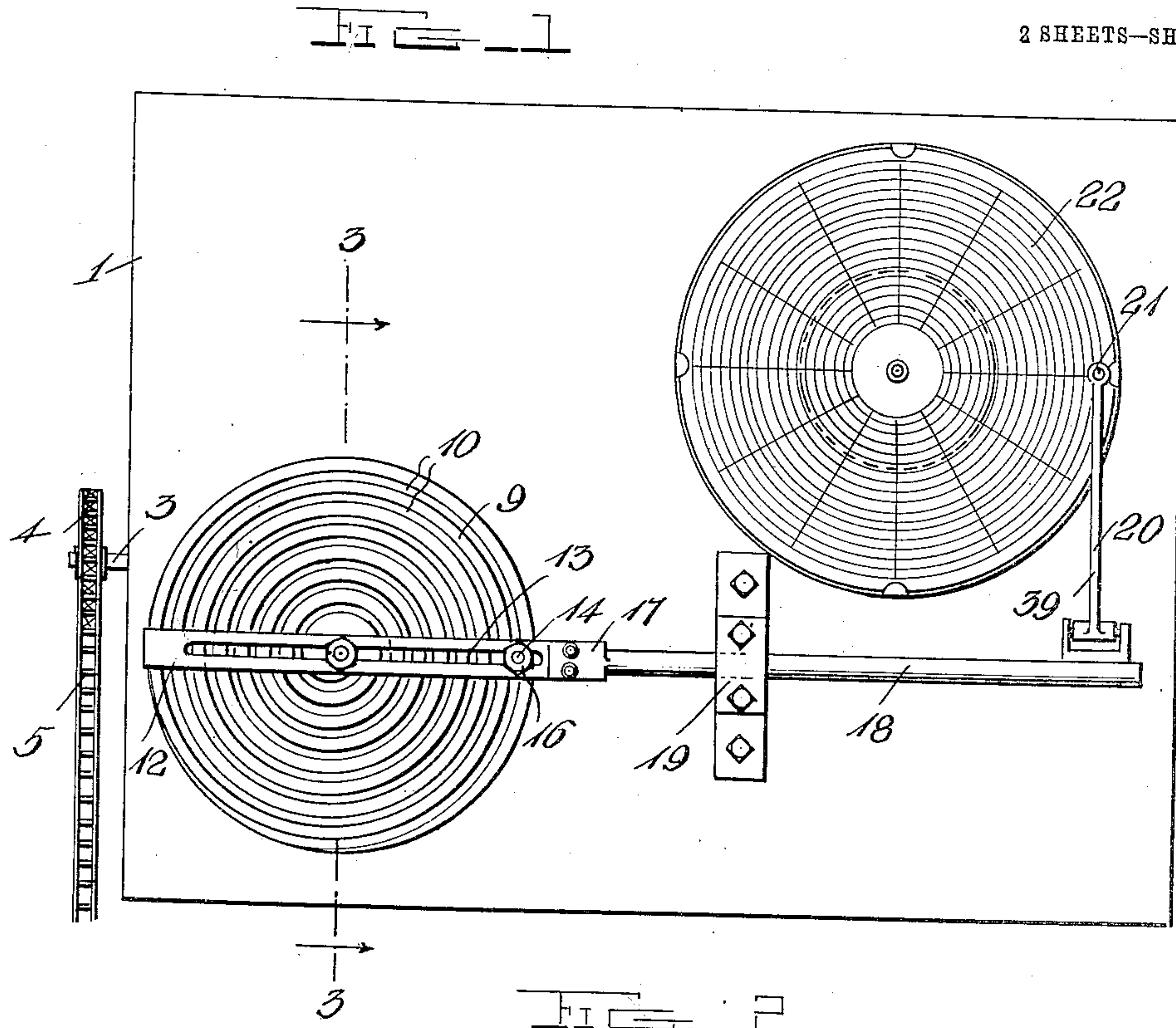
W. YOUNG.
RECORDING GAGE.

APPLICATION FILED AUG. 10, 1908.

910,630.

Patented Jan. 26, 1909.

2 SHEETS—SHEET 1.



Witnesses
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2 SHEETS—SHEET 2.

Fig. 7

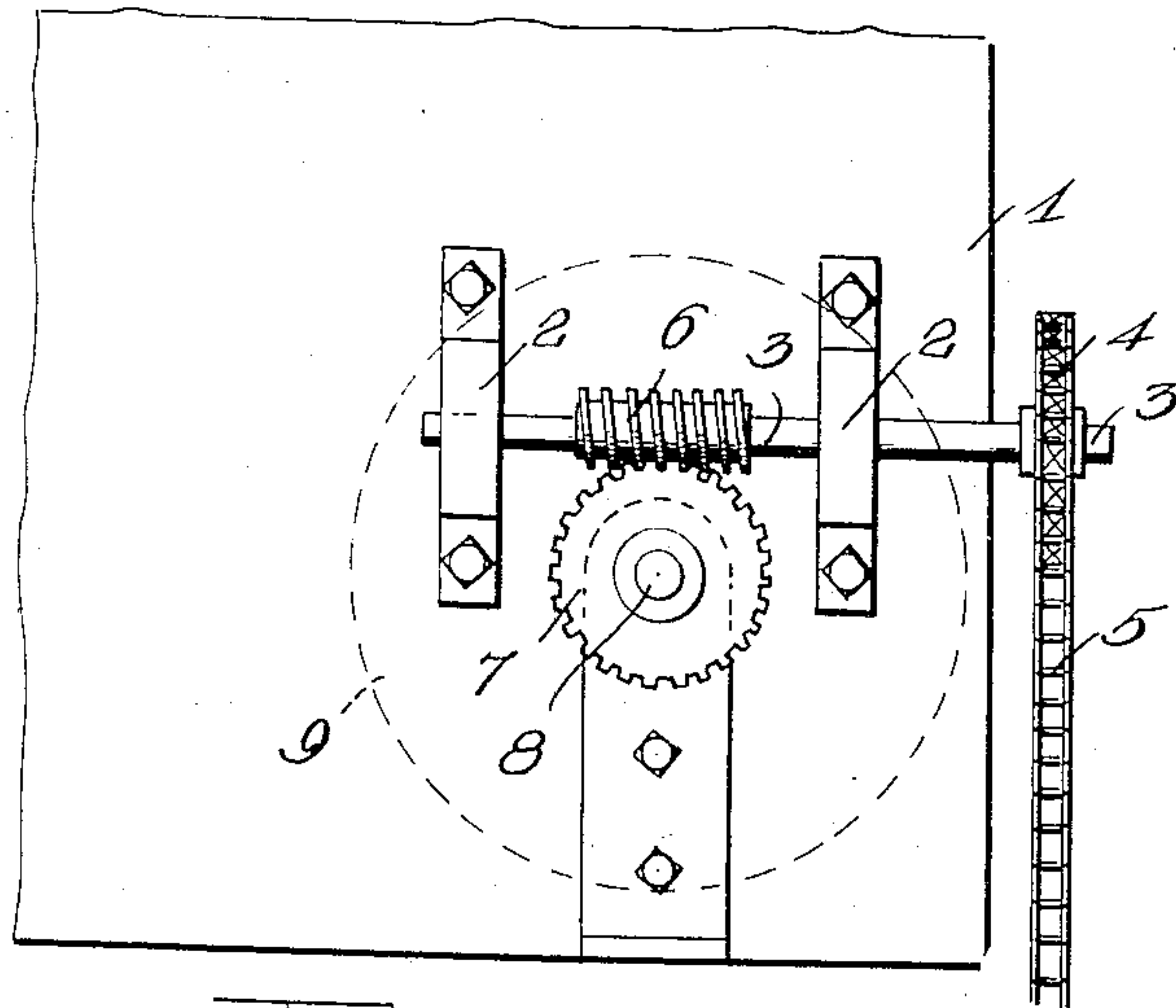


Fig. 6

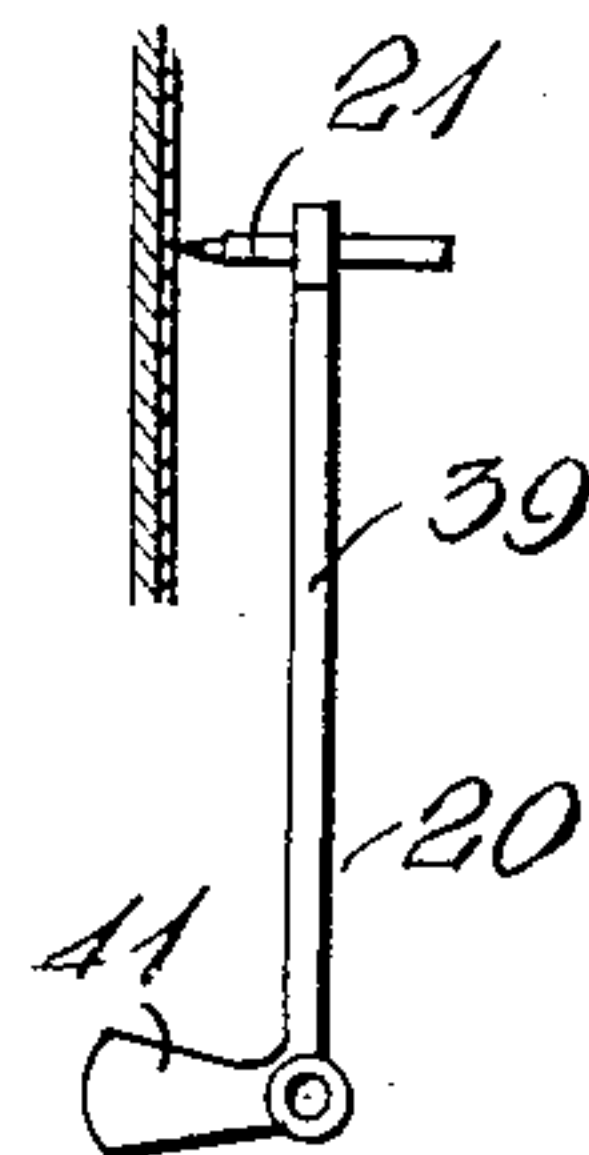
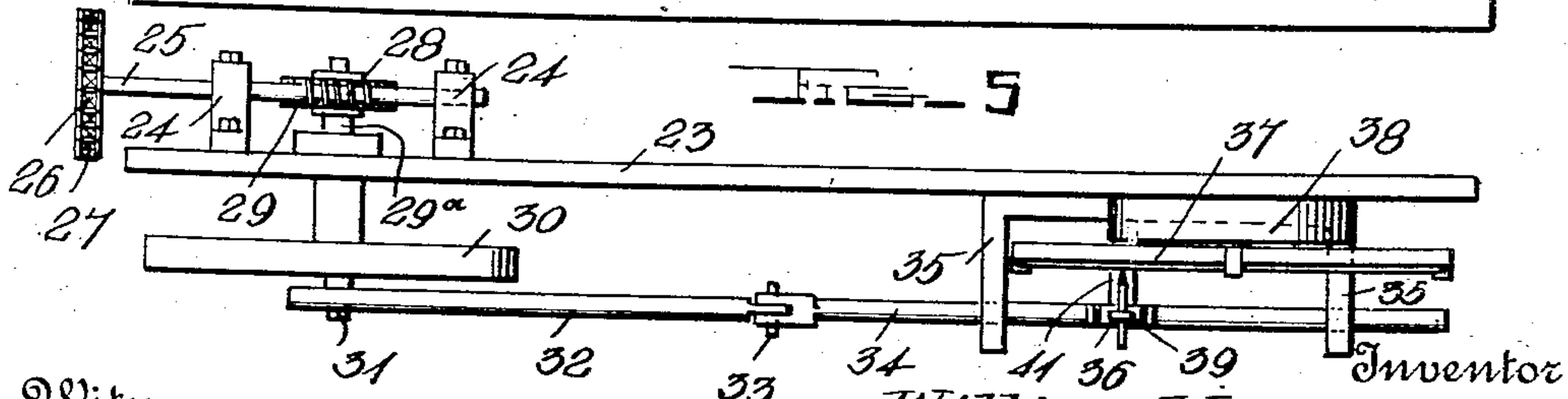
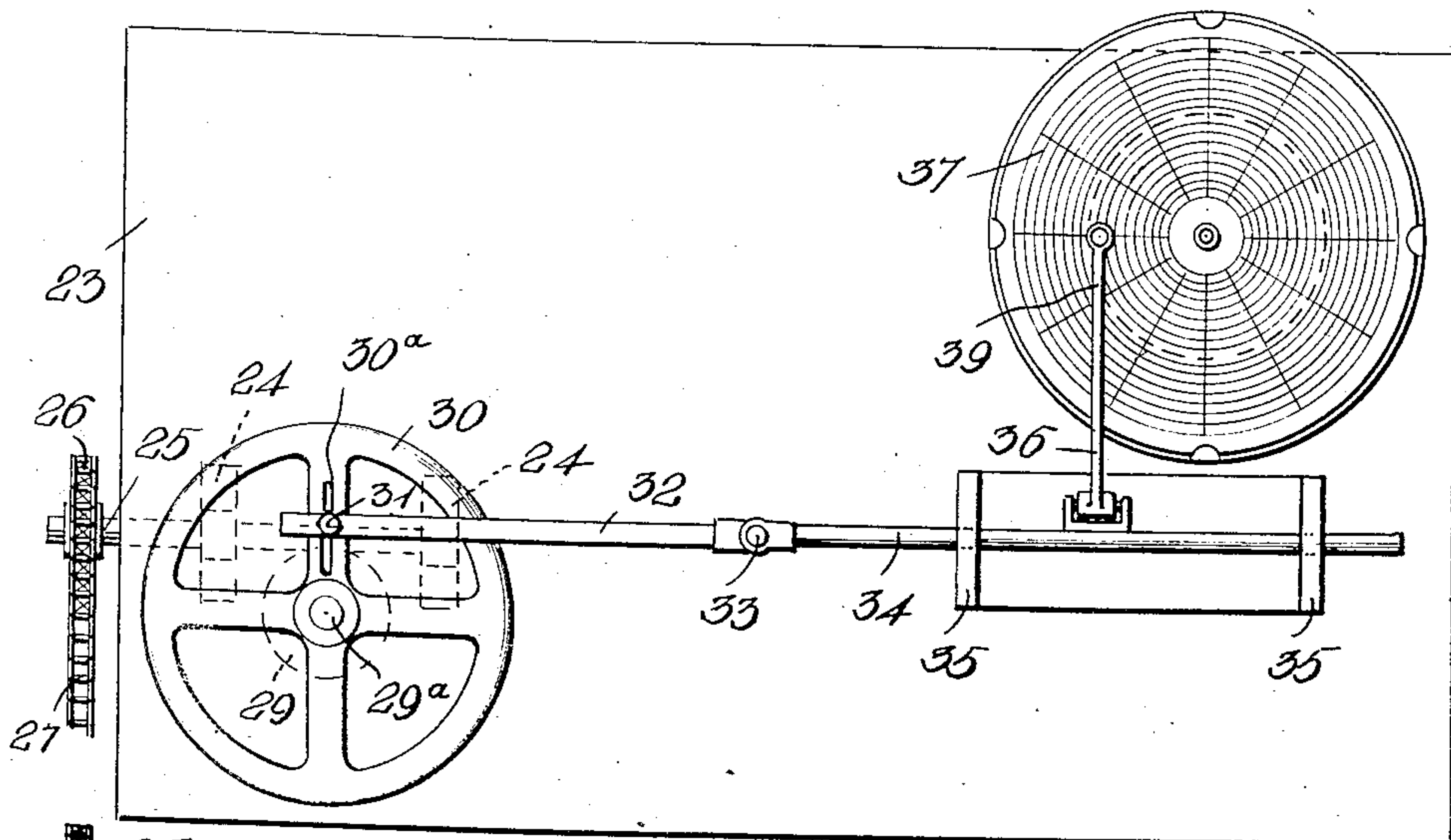


Fig. 4



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UNITED STATES PATENT OFFICE.

WILLIAM YOUNG, OF ULEDI, PENNSYLVANIA.

RECORDING-GAGE.

No. 910,630.

Specification of Letters Patent.

Patented Jan. 26, 1909.

Application filed August 10, 1908. Serial No. 447,815.

To all whom it may concern:

Be it known that I, WILLIAM YOUNG, a citizen of the United States, residing at Uledi, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Recording-Gages; 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.

This invention relates to improvements in recording gages.

The object of the invention is to provide a gage of this character adapted to be connected to any form of engine or motor, whereby the location, time and speed of the same will be correctly recorded.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawing, Figure 1 is a side view of a gage constructed in accordance with the invention; Fig. 2 is a top plan view of the same; Fig. 3 is a detail sectional view on the line 3—3 of Fig. 1; Fig. 4 is a side view of a modified form of the gage; Fig. 5 is a top plan view of the same; and Fig. 6 is a detail view of the recording finger used in connection with the gage. Fig. 7 is a rear elevation of a part of the device shown in Figs. 4, 5 and 6.

Referring more particularly to Figs. 1, 2 and 3 of the drawing, 1 denotes a base or support having on its rear side adjacent to one end, suitable bearings, 2, in which is rev-
olubly mounted an operating shaft 3. On the shaft, 3, is a sprocket gear, 4, with which is engaged a sprocket chain, 5, adapted to connect with a moving part of the engine or motor to be gaged. On the shaft, 3, is also
arranged a worm, 6, which engages a worm gear, 7, fixed on a stub shaft, 8, mounted in the base. The opposite end of the shaft 8 projects through the base and has mounted thereon a disk, 9, having on its outer face a
spirally formed thread, 10. Slidably mounted on the base, 1, is a finger-operating bar, 12, in one end of which is formed a longitudinal slot, 13, which is slidably engaged with the end of the shaft, 8, as shown, and in
which is adjustably secured a pin, 14, the inner end of which is adapted to engage the

spiral thread 10 in the disk 9 whereby the movement of the disk is communicated to the finger-operating bar, 12. The pin 14 is provided adjacent to its inner end with a head, 15, which engages the inner side of the bar, 12, and on its outer end the pin is threaded to receive a clamping nut, 16, which is adapted to be screwed up into engagement with the outer side bar, thereby clamping the pin in its adjusted position on the bar. The operating bar, 12, is preferably jointed midway between its ends, as shown at 17, and the portion, 18, of the same is reduced and slidably engaged with bearing brackets, 19, arranged on the base plate 1. The reduced portion, 18, of the operating bar has fixedly connected thereto between the bearing brackets, 19, a recording arm, 20, the outer end of which is provided with suitable means for holding a recording pencil or other suitable recording device, 21. The recording pencil in the outer end of the finger dial, 22, which is divided into annular and radial division lines, said radial lines corresponding to the time divisions of a clock dial, while the annular lines are provided to indicate speed and location. The dial, 22, is suitably connected to a clock mechanism whereby the dial is operated.

From the foregoing description, it will be seen that as the operating bar 12 is reciprocated back and forth by its connections with the operating part of the engine or motor, the recording arm carrying the pencil will move the latter back and forth across the dial, while the same is being revolved by the clock mechanism so that the lines drawn on the dial by the recording pencil will correctly indicate the time, speed and location of the movements of the engine or motor.

In Figs. 4 and 5 of the drawings is shown a slightly modified arrangement of the operating mechanism. The gage in this instance is shown as provided with a base, 23, bearings, 24, an operating shaft, 25, having a sprocket gear, 26, and chain, 27, whereby said shaft is operatively connected to an engine or motor. The shaft, 25, is provided with a worm, 28, to engage a worm gear, 29, on a stub shaft, 29^a, mounted in and projecting through the base, 23. On the opposite end of the shaft, 29^a, is a fixedly mounted disk, 30, which differs from the grooved disk 9 of the first form of gage. The disk 30 has formed therein a radially disposed slot, 30^a,

with which is engaged a wrist pin, 31, secured to the outer end of an operating bar, 32, whereby said bar is reciprocated. The bar, 32, is formed in two sections hingedly connected together, as at 33, and the portion, 34, of the bar is slidably mounted in bearing brackets, 35, secured to the base, 23, as shown. The part, 34, of the operating bar, 32, has fixedly connected thereto a recording arm, 36, which carries a pencil or other suitable recording device adapted to be engaged with a dial, 37, which is operatively connected to a clock mechanism, 38, suitably mounted on the base, 23, of the gage. The operation of this recording arm and dial is the same as described in connection with the other form of gage.

The slot, 30^a, in the disk, 30, provides for the adjustable connection of the outer end of the operating bar, whereby the stroke of the latter and the movement of the recording arm may be regulated. The slot in the operating bar 12 of the first form of gage also provides for the adjustment of the operating pin, 14, whereby the stroke of the bar 12 is regulated. The recording arms of both forms of the gage are preferably in the form of a straight bar, 39, pivotally mounted at its inner end in a bearing bracket, 40, secured to the operating bar. The inner end of the bar, 39, is provided with a right-angularly projecting weighted arm, 41, whereby the pencil on the outer end of the bar is held in operative engagement with the disk.

A gage constructed as herein shown and described may be connected with any suitable part of an engine or motor, and the speed, time and location of the same accurately recorded on the dial.

From the foregoing description, taken in connection with the accompanying drawing, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined by the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters-Patent, is:

1. In a gage of the character described, a clock, a dial support operatively connected to

the clock, a recording arm engaged with a dial on said support and having means to mark the same, an operating shaft, an operating disk thereon, a slotted operating bar connected to said arm and to said shaft, means whereby said bar is moved by said disk to actuate the recording arm, a driving mechanism connected to said shaft and means to connect said driving mechanism with a moving part of an engine or motor.

2. In a gage of the character described, a clock, a dial support operatively connected to the clock, a recording arm having a recording point to engage a dial on said support, an operating shaft, an operating disk mounted on the shaft and having a spiral thread formed thereon, a stub projection on said shaft, a slotted operating bar connected to said arm and engaged with said stub projection on the shaft, a pin having an adjustable connection with said bar and adapted to engage the spiral thread on said disk whereby the bar is moved to actuate the recording arm, a driving mechanism connected to said operating disk, and means to connect said driving mechanism to the moving part of an engine or motor.

3. In a gage of the character described, a base, a clock mounted on said base, a dial support operatively connected to said clock, said support carrying a dial having thereon annular and radially disposed division lines, a recording arm having a recording point to engage said dial, an operating bar slidably mounted on said base and operatively connected to said recording arm, said bar having formed therein a slot, a shaft mounted in said base adapted to enter the slot to guide the bar, an operating disk, fixed on one end of said shaft, a spiral thread on said disk, a pin adjustably mounted in the slot of said operating bar and adapted to engage the thread on said disk, a worm gear on the opposite end of said disk shaft, and means to operatively connect said driving shaft with a moving part of an engine or motor, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM YOUNG.

Witnesses:

F. E. YOUNKIN,
H. D. LEONARD.