G. IPSON.

STATION INDICATOR.

APPLICATION FILED MAY 28, 1908.

907,806. Patented Dec. 29, 1908.

3 SHEETS—SHEET 1.

FIG. 6

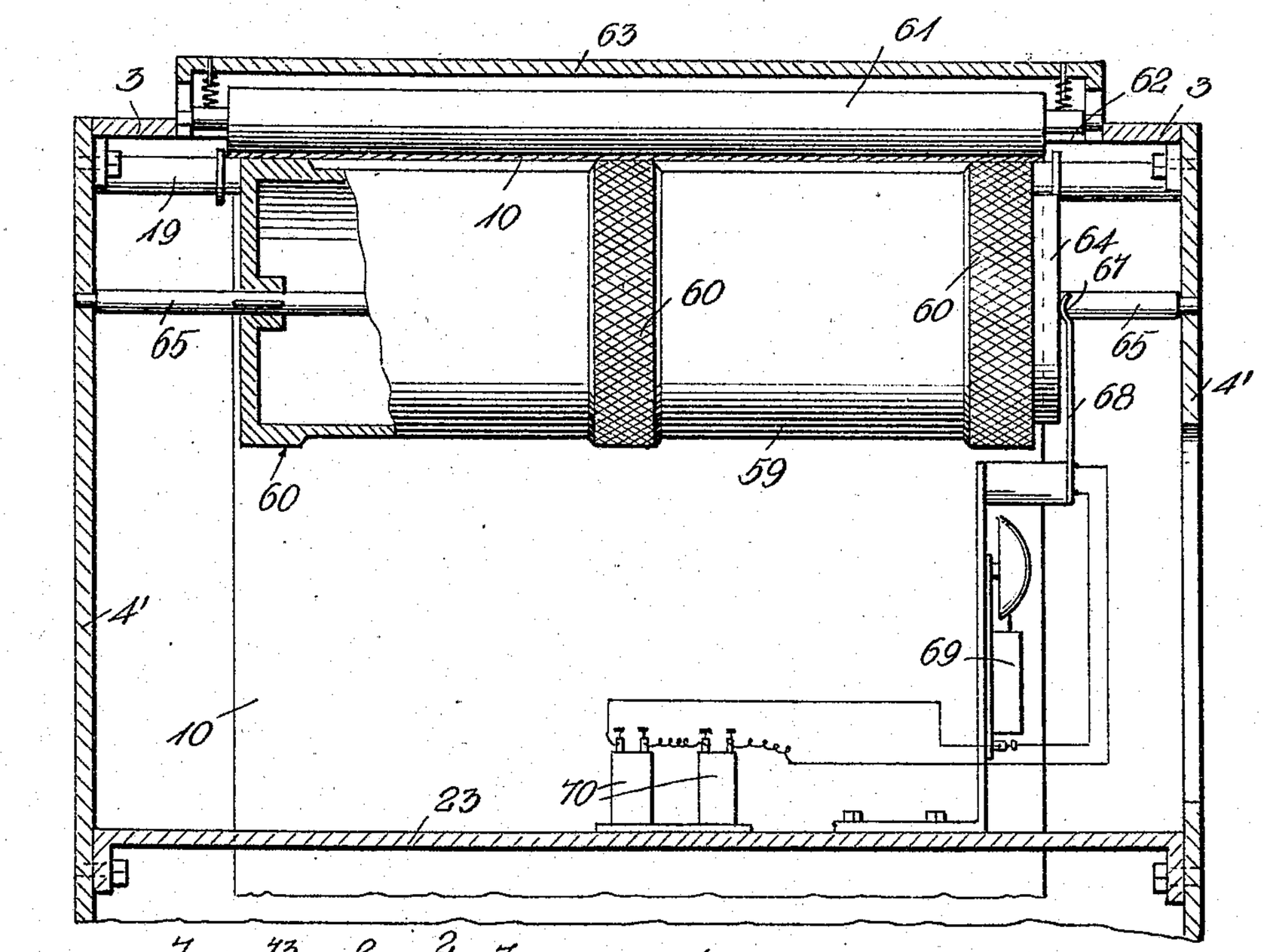

FIG. 1

FIG. 2

Witnesses

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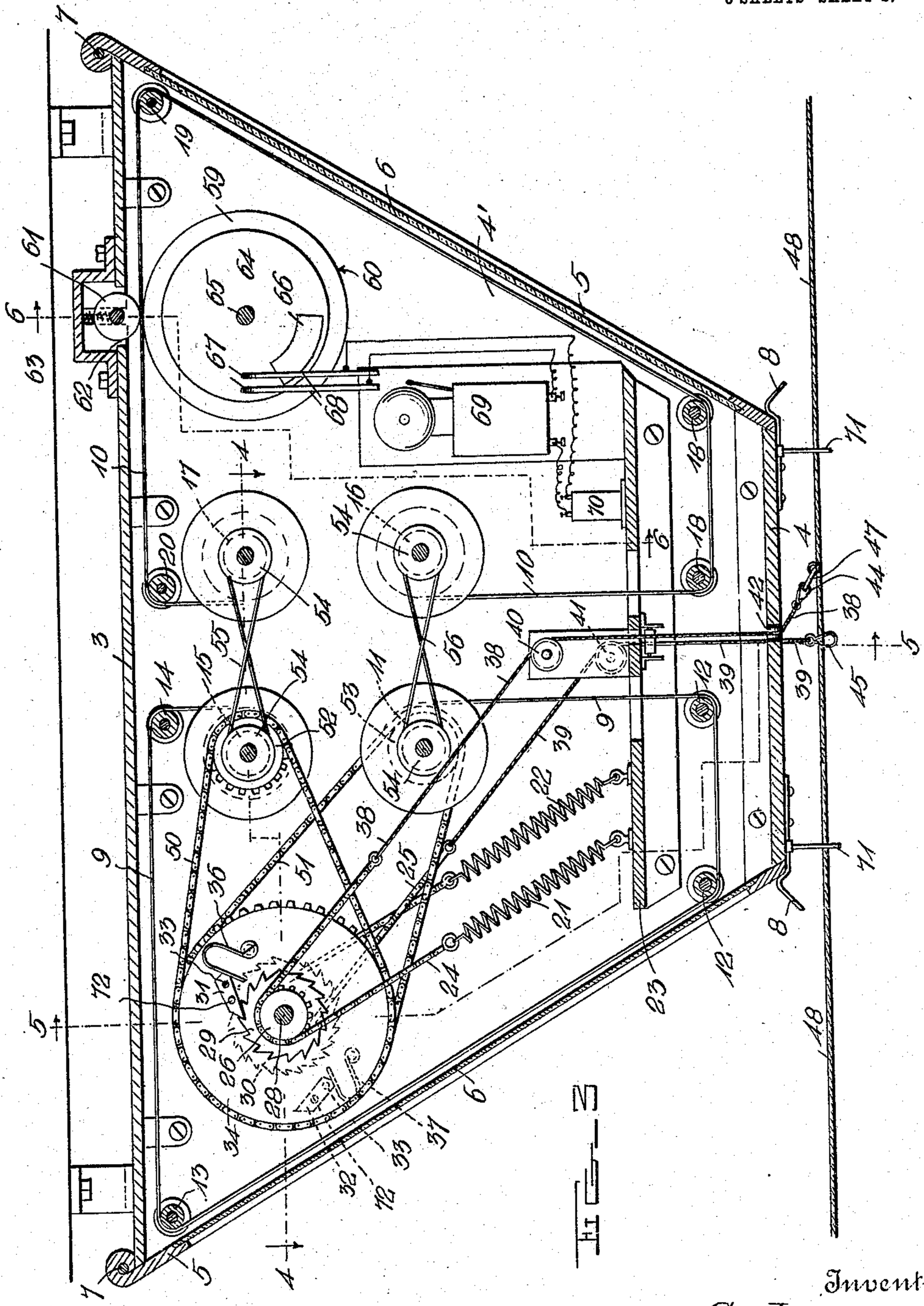
3 SHEETS—SHEET 2.



Witnesses

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3 SHEETS—SHEET 3.

FIG. 4

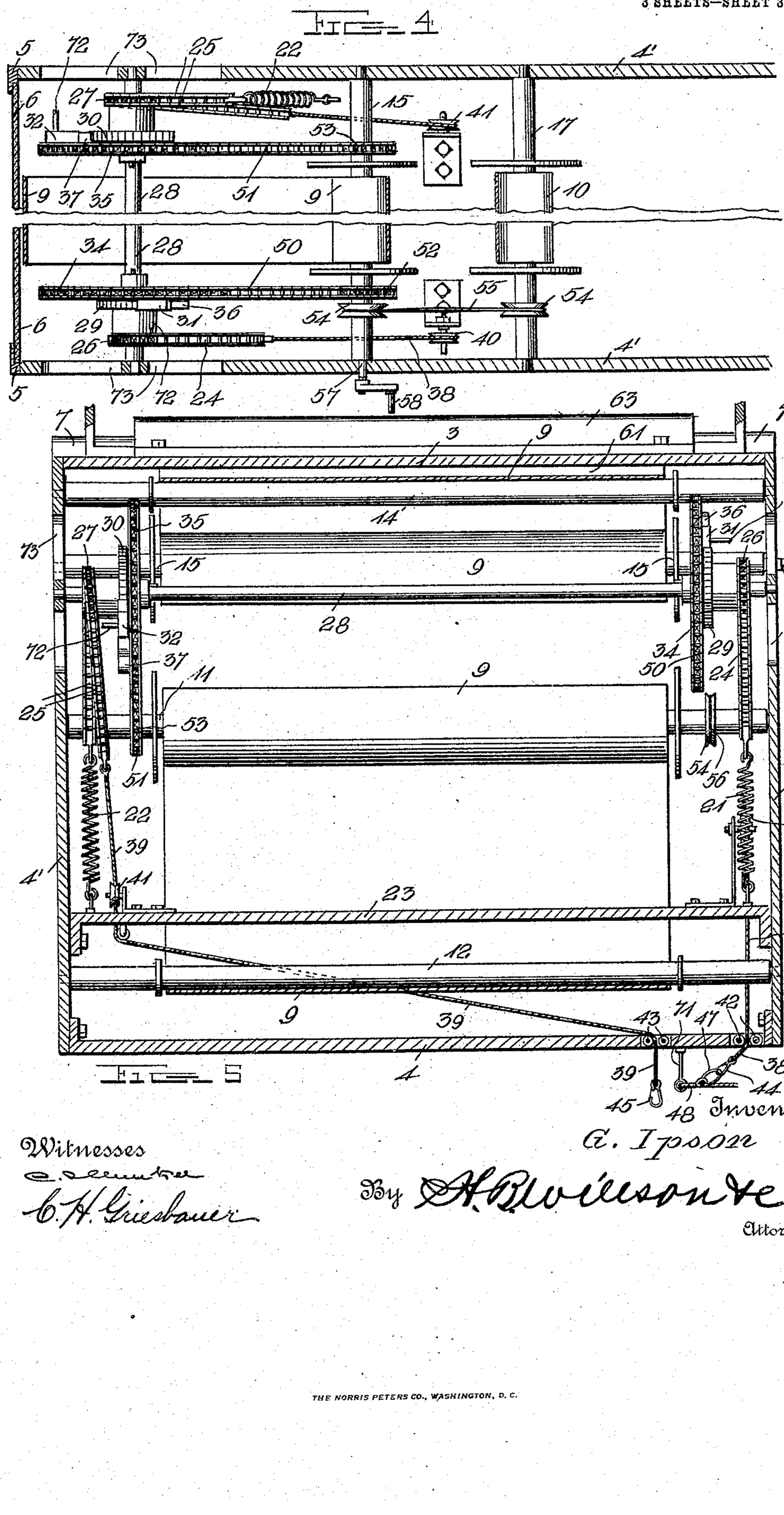

FIG. 5

Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE IPSON, OF HUNTINGTON, UTAH.

STATION-INDICATOR.

No. 907,806. Specification of Letters Patent. Patented Dec. 29, 1908.

Application filed May 28, 1908. Serial No. 435,591.

To all whom it may concern:

Be it known that I, GEORGE IPSON, citizen of the United States, residing at Huntington, in the county of Emery and State of Utah, have invented certain new and useful Improvements in Station-Indicators, and 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 new and useful improvements in station indicators for trains or street railway cars and has for its object the production of a simple and efficiently operating device of this kind which may be readily installed in position in the car, and which may be operated by the conductor to indicate the next stop.

A further object of the invention is to sound a signal as by ringing a bell as the conductor operates the device to indicate the next stop in order to call the attention of the passengers to the fact that the station ahead has about been reached.

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 drawings. Figure 1 is a fragmentary sectional view of a street railway car illustrating the invention as applied thereto; Fig. 2 is a transverse section taken on the plane indicated by the dotted lines 2—2 of Fig. 1, looking in the direction indicated by the arrows; Fig. 3 is a side elevation of the indicator, partly in section; Fig. 4 is a horizontal section taken through the casing on line 4—4, Fig. 3, the operating mechanism in elevation; Fig. 5 is a vertical section taken on line 5—5 Fig. 3 through the casing, the operating mechanism in elevation; and Fig. 6 is a vertical transverse section taken on line 6—6 Fig. 3 through the casing, with parts in elevation.

In the embodiment illustrated the numeral 1, indicates a fragment of a street railway car, and 2, the indicator which is shown as suspended from or attached to the roof thereof. The indicator casing comprises flat top and bottom walls 3 and 4, respectively, parallel side walls 4′ and inwardly slanting or inclined end walls 5 provided with windows 6, the purpose of which will be evident, the end walls being hinged at their upper ends, as at 7, to opposite ends of the top wall 3 and being held at their lower ends in engaged relation with the bottom wall by springs 8.

In practice, rolls of canvas 9 and 10 respectively, are arranged at opposite ends of the casing, the roll 9 adapted to unwind from a drum 11 extending between the side walls of the casing and extending under transverse rollers 12 journaled in opposite side walls of the casing and arranged near the lower end and at one side thereof, and thence upwardly in parallel relation with the adjacent end wall over a roller 13, arranged at one of the upper inner corners of the casing and thence inwardly parallel with the top wall 3, over a roller 14, and winding upon a drum 15, journaled in opposite side walls of the casing. It is to be understood that this roll of canvas may be unwound from either of the drums 11 or 15, upon the other. The roll of canvas 10 is also adapted to wind upon or from either of a pair of vertically spaced rollers 16 and 17 respectively, spaced longitudinally from and alining with the rollers 11 and 15 respectively, the canvas extending under a pair of transverse longitudinally spaced rollers 18 arranged in the lower end of the casing, parallel with the other end wall 6, and over a pair of longitudinally spaced transverse rollers 19 and 20 respectively, arranged at the upper end of the casing at the opposite end thereof. Each of these rolls has provided upon it in proper order the several stations of the route over which the car or train to which the device is applied travels, and below each of the several stations may be printed any suitable advertising matter.

I will now proceed to describe an arrangement by which the conductor may impart step by step movement, simultaneously to both rolls of canvas in order to indicate the stops in their proper order. In accomplishing this, coil springs 21 and 22, are attached at their lower ends to a partition 23, arranged near the bottom of the casing and extending between the side walls thereof, the upper ends of the springs being connected with sprocket chain sections 24 and 25 respectively, which pass over sprocket wheels 26 and 27 respectively, loosely mounted upon opposite ends of a transverse shaft 28 arranged near one of the upper corners of the casing and journaled in the side walls thereof, said sprocket wheels being integral with ratchets 29 and 30 respectively, adapted to

be engaged by pawls 31 and 32 respectively, pivoted, as at 33, to the outer faces of sprocket wheels 34 and 35 respectively, keyed to opposite ends of the shafts 28 either of the pawls being adapted to be held in engaged relation with its ratchet by flat curved springs 36 and 37 respectively, attached to the outer faces of the sprocket wheels 34 and 35 respectively. Connecting cords 38 and 39 are attached to the free ends of the sprocket chain sections 24 and 25, said cords passing over guide pulleys 40 and 41 suitably mounted upon the partition 23, and thence between pairs of rollers 42 and 43, suitably mounted in the bottom wall of the casing, the lower ends of the connecting cords being provided with snap hooks 44 and 45 respectively, either of which is adapted to be engaged with an eye 47, formed on a longitudinally extending operating cord 48 which may extend the full length of the car in which the indicator is installed and is preferably supported by hangers 49.

Sprocket chains 50 and 51, pass over the sprocket wheels 34 and 35 respectively, and thence over smaller sprocket wheels 52 and 53, arranged at opposite ends of the rollers 11 and 15 respectively. The shafts upon which the rollers 11, 15, 16, and 17, are arranged are provided at adjacent ends with grooved wheels 54, over which are arranged to extend tension cords 55 and 56, respectively, the former of which passes over the grooved wheels carried by the shafts upon which the rollers 15 and 17 are mounted and the tension cord 56 over the pulleys carried by the shafts upon which the rollers 11 and 16 are mounted. By connecting the rollers in the manner described, it is evident that when movement is imparted to either roll of canvas corresponding movement will be imparted to the other roll of canvas, thus indicating the next stop at both ends of the casing. The shaft 57 upon which the roller 15 is mounted extends through one of the side walls 3 of the casing and is provided with a suitable crank 58 by means of which the rolls of canvas may be unwound from the rollers 11 and 54, upon the rollers 15 and 17.

A roller 59 having three or more peripheral milled surfaces 60, is journaled near one of the upper corners of the casing and a spring pressed roller 61, arranged directly above and adapted to bear on the roller 59, the roller 61 extending through a corresponding opening 62, in the top wall 3 of the casing and being protected by a suitable housing 63 mounted upon the top wall. A suitable roller 64, preferably of wood, is arranged at one end of the shaft 65 upon which the roller 59 is mounted, the face of said roller being provided with a suitable arc-shaped contact plate 66, adapted to contact with the upper inwardly bent ends 67, of a pair of corresponding spaced contact springs 68 at each revolution of the roller 59. As the contact plate 66 engages the curved ends 67 of the springs 68 an electric circuit is established through a bell 69, ringing said bell and notifying the passengers that the train or railway car has about reached the next stop. The current is preferably derived from a series of batteries 70 mounted upon the partition 23.

Stops 71 depend from the bottom wall of the casing through which pass the operating cord 38, said stops limiting the movement of the operating cord when the conductor pulls upon the same by reason of either the snap hooks 44 or 45, engaging with its stop. The connections for imparting step by step movement to the rollers 9 and 10 are so geared that when the conductor pulls upon the operating cord 48, each of the rolls of canvas is caused to travel a distance approximately equal to the distance of its portion lying between the top and bottom wall of the casing and in parallel relation with the adjacent end wall, this distance being equal to the circumference of the roll 59 in order that the latter is caused to make one complete revolution at each movement of the rolls in order to complete a circuit through the bell 69 by the contact plate 66 engaging with the springs 68, it being understood that the canvas 10 passes between the rollers 59 and 61 respectively, and imparts movement to the former.

It is to be understood that in winding the rolls of canvas from the rollers 11 and 16, upon the rollers 15 and 17 respectively, that the pawl 31 is engaged with its ratchet wheel 29 while the pawl 32 remains idle and that the operating cord 38 is connected with the eye 47 of the operating cord and that in winding the rolls of canvas in the opposite or reverse direction, the pawl 32 is engaged with its ratchet, while the pawl 31, is idle. Each of these pawls is provided with a laterally projecting extension 72 in order that either of the same may be thrown out of engagement with its ratchet, depending upon the direction in which it is desired to move the rolls of canvas, suitable openings 73 being provided in opposite side walls of the casing to permit the insertion of the operator's hand into the casing in order to engage or disengage either of the pawls from its ratchet.

From the foregoing description, taken in connection with the accompanying drawings, 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 in the appended claims.

Having thus described my invention what I claim as new is:

1. A station indicator comprising a casing, flexible rolls arranged within and at opposite ends of the casing and to travel in front of opposite end walls thereof, connections under the control of the operator for simultaneously imparting corresponding step by step movement to both of the rolls, a signal arranged in the casing, and connections for establishing an electric circuit through the signal at each movement of the rolls, said connections comprising a pair of corresponding contact springs, and a roller provided with a contact plate to engage said springs at each revolution.

2. A station indicator comprising a casing, a pair of flexible rolls, each bearing the names of the several stations along a given route, arranged within the casing, connections under the control of the operator for imparting step by step movement to the rolls, a bell in the casing, a roller mounted beneath a portion of one of the rolls and adapted to run in contact therewith, a spring pressed roller slidably mounted near said first mentioned roller and adapted to press said roll against the same whereby the latter is rotated by imparting movement to said roll, and means for establishing an electric circuit through the bell comprising a pair of spaced contact springs and a contact plate on one end of the first mentioned roller to engage said springs.

3. A station indicator comprising a casing, a pair of flexible rolls, each bearing the names of the several stations along a given route, arranged within the casing, connections under the control of the operator for imparting step by step movement to the rolls, a bell in the casing, a roller mounted beneath a portion of one of the rolls and adapted to run in contact therewith, a spring pressed roller slidably mounted near said first mentioned roller and adapted to press said roll against the same whereby the latter is rotated by imparting movement to said roll, and means for establishing an electric circuit through the bell, at each revolution of the first mentioned roller.

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

GEORGE IPSON.

Witnesses:
R. G. ANDERSON,
E. EDMONSTON, Jr.