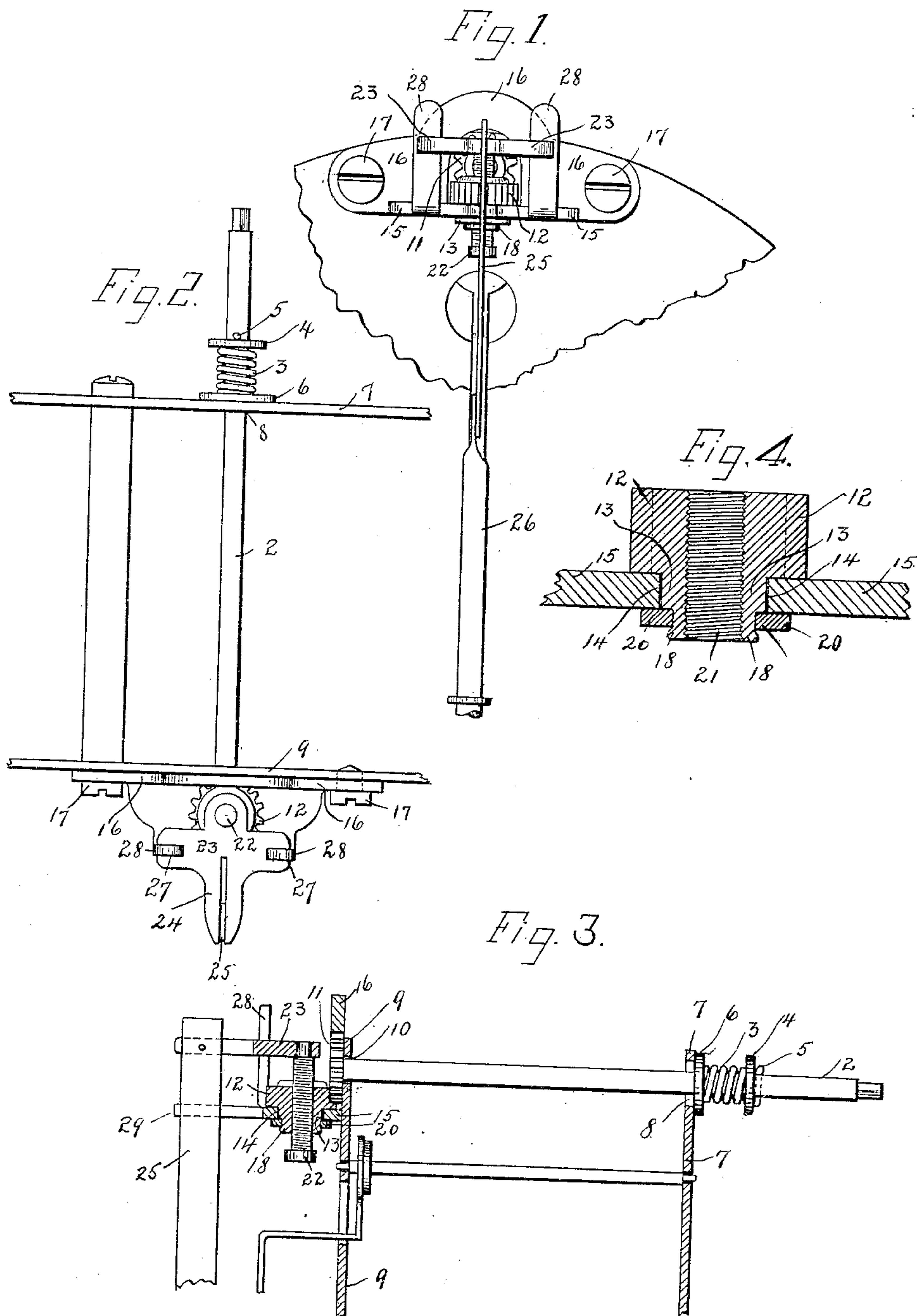


No. 841,440.

W. E. PORTER.
REGULATOR FOR PENDULUM CLOCKS.

PATENTED JAN. 15, 1907.

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Witnesses
J. F. Hummer,
C. L. Weed.

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UNITED STATES PATENT OFFICE.

WILSON E. PORTER, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO NEW HAVEN CLOCK CO., OF NEW HAVEN, CONNECTICUT, A CORPORATION.

REGULATOR FOR PENDULUM CLOCKS.

No. 841,440.

Specification of Letters Patent.

Patented Jan. 15, 1907.

Application filed April 24, 1906. Serial No. 313,386.

To all whom it may concern:

Be it known that I, WILSON E. PORTER, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Regulators for Pendulum Clocks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the figures of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a broken view, in rear elevation, of a clock-movement provided with my improved regulator; Fig. 2, a broken plan view thereof, eliminating from the movement-plates everything but the regulator; Fig. 3, a broken view thereof in vertical section; Fig. 4, a broken view, on an enlarged scale, showing the mode of mounting the pinion in the angle-bracket from which the pendulum is suspended.

My invention relates to an improvement in regulators for pendulum clocks, the object being to provide a simple and conveniently-operated adjustable regulator-shaft constructed with particular reference to permitting the shaft to be adjusted to porcelain dials, which vary considerably in the location of the openings formed in them for access to the regulator-shaft and the winding-arbors.

With these ends in view my invention consists in the construction hereinafter described, and pointed out in the claims.

In carrying out my invention as herein shown I provide the projecting forward end of the regulator-shaft 2 with a small helical spring 3, interposed between a washer 4, held in place upon the shaft by a pin 5, and a friction-washer 6, placed against the front movement-plate 7 and over a clearance-opening 8, formed therein for the forward passage through it of the regulator-shaft, this opening being so much larger in diameter than the diameter of the shaft as to permit the shaft to be moved up or down or sidewise sufficiently to provide for any adjustment required for bringing the front end of the shaft into concentricity with the regulator-shaft hole in the dial, which is not shown. It will be understood, of course, that the washer 6, by its frictional engagement with the front face of the plate 7 under the power of the spring 3, will

hold the shaft in any position to which it may be moved with respect to the said hole. In other words, the shaft will stay, in adjusting it, wherever it is put without further attention to it.

At its rear end the shaft passes through the rear movement-plate 9, furnished for the purpose with a bearing-hole 10, and is provided with a pinion 11, meshing into a pinion 12, having upon its lower face a bearing-hub 13, fitting into a bearing-hole 14, formed in the horizontal leaf 15 of an angle-bracket, the vertical leaf 16 of which receives screws 17, by means of which the bracket is fastened to the rear face of the rear movement-plate. The hub 13 is in turn formed with a retaining-flange 18, receiving a retaining-washer 20, bearing upon the lower face of the hub 13 and against the lower face of the leaf 15, the projecting end of the flange being upset, whereby the pinion 12 is attached to the leaf 15, in which, however, it is free to rotate in one direction or the other on the bearing-hub 13 as upon a center. A threaded screw-hole 21 passes through the pinion and the hub 13 and flange 18 thereof and receives a non-rotatable screw 22, the upper end of which is riveted in a vertical suspension-plate 23, having a long rearwardly-projecting slotted finger 24 for the reception of the flattened upper end 25 of a pendulum-rod 26, the ends of the plate being formed with slots 27 for the reception of guide-fingers 28, turned upward from the leaf 15 of the angle-bracket, the said leaf also being formed with a slotted finger 29 for the passage of the flattened upper end of the pendulum. It will be understood, of course, that as the pinion 12 is rotated the suspension-plate 23 will be raised or lowered, as the case may be, with the effect of virtually increasing or decreasing the length of the pendulum-rod, the operative length of which is determined by the length below the finger 29 for the reason that above the same it does not swing.

I claim—

1. In a clock-movement, the combination with a movement-plate having a clearance-opening, of a regulator-shaft passing through the said opening, a friction-washer mounted upon the shaft and applied to the plate over the opening, a spring mounted upon the shaft for coaction with the washer which it presses against the plate, a suspension device mount-

ed upon the movement for the suspension of the pendulum, and means for transmitting the rotary movement of the regulator-shaft to the said device, whereby the pendulum is raised and lowered.

2. In a clock-movement, the combination with the front and rear movement-plates thereof, the former having a clearance-opening, of a regulator-shaft passing through the said clearance-opening, a friction-washer mounted upon the said shaft and applied to the said plate over the said opening therein,

a spring mounted upon the shaft and applied to the washer, a suspension-plate for the pendulum, and means connecting the inner end of the shaft with the said plate whereby the pendulum is raised and lowered.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILSON E. PORTER.

Witnesses:

FREDERIC C. EARLE,
GEORGE D. SEYMOUR.