

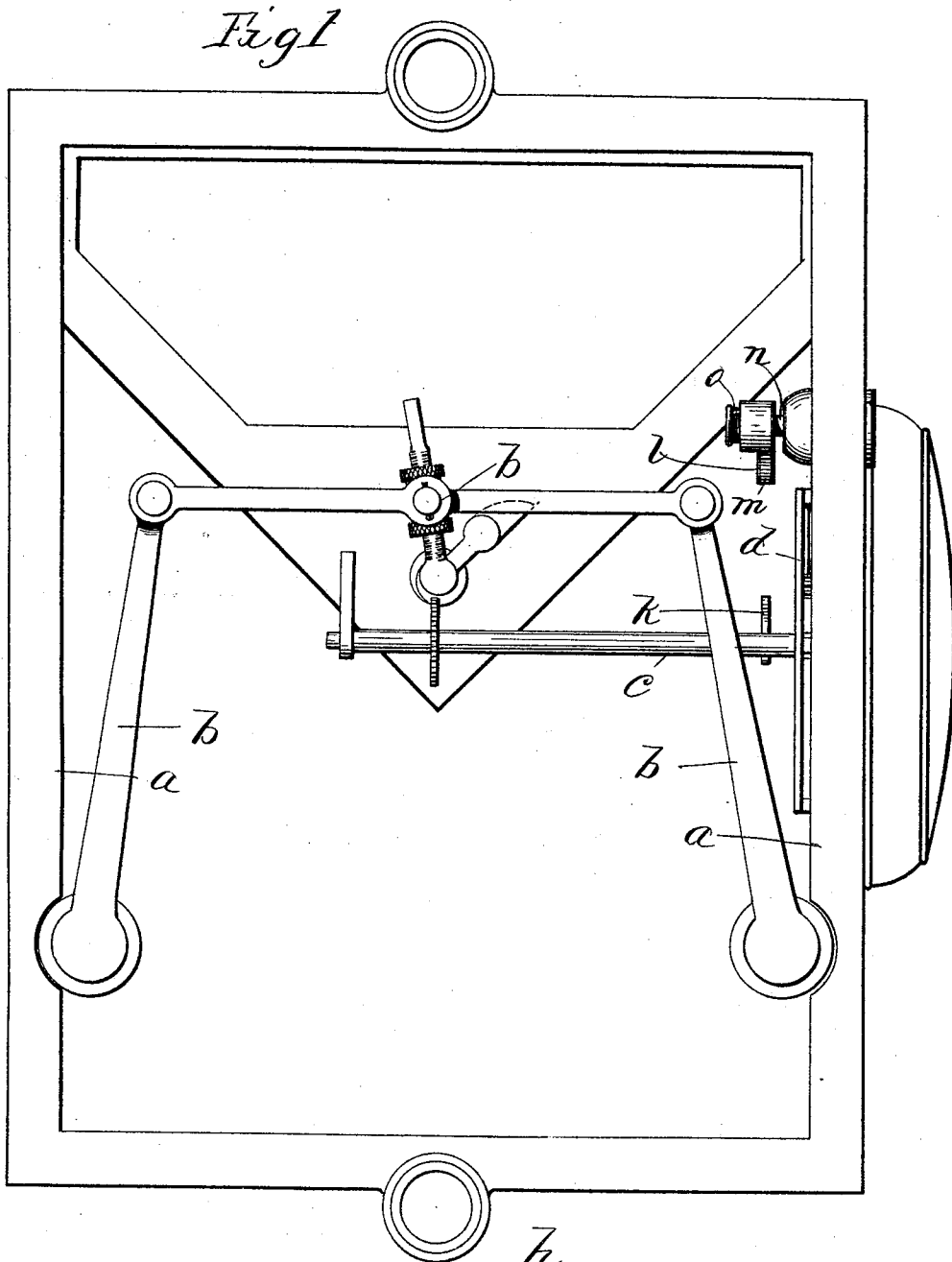
(No Model.)

2 Sheets—Sheet 1.

H. B. GOODWIN.
REGISTER FOR GAS METERS, &c.

No. 517,406.

Patented Mar. 27, 1894.



WITNESSES *Fig 5* INVENTOR
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Attorney

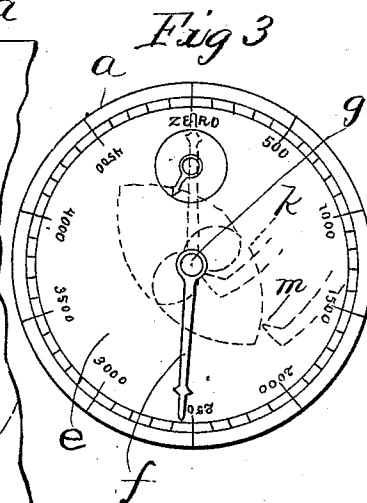
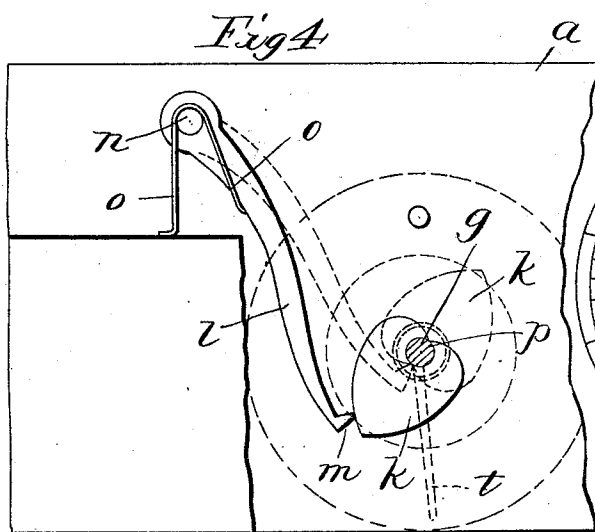
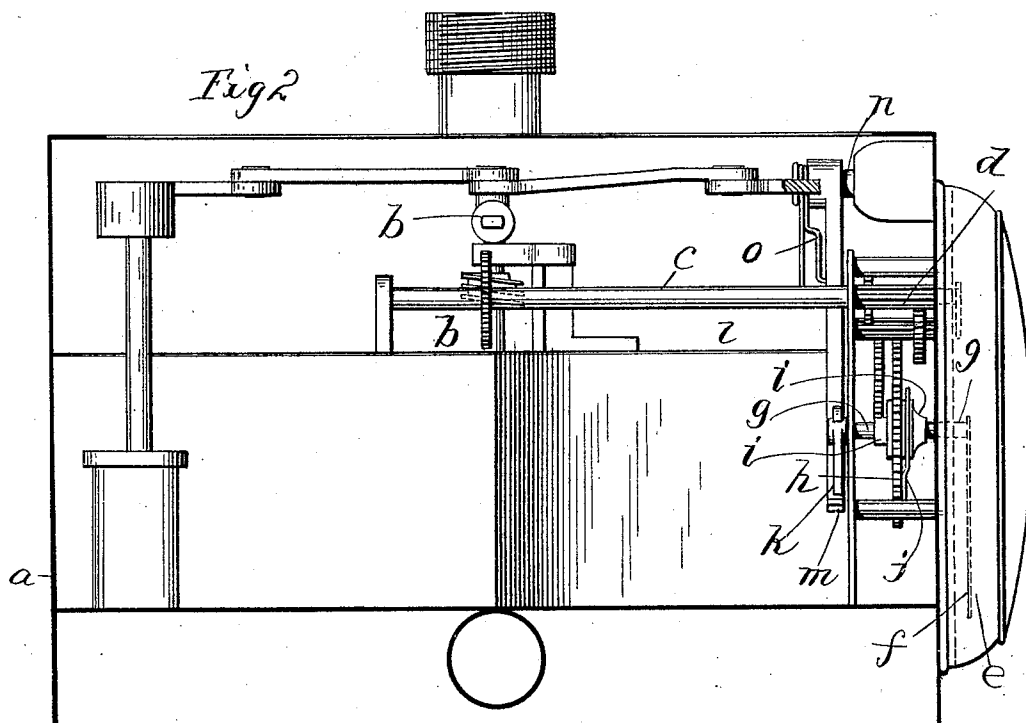
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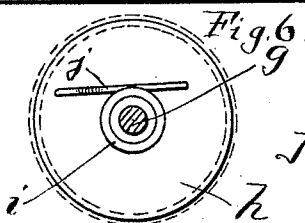
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Attest
Ole Bunde
Hubert Peck



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UNITED STATES PATENT OFFICE.

HARRY B. GOODWIN, OF BORDENTOWN, NEW JERSEY, ASSIGNOR TO THE
GOODWIN METER COMPANY, OF SAME PLACE.

REGISTER FOR GAS-METERS, &c.

SPECIFICATION forming part of Letters Patent No. 517,406, dated March 27, 1894.

Application filed July 31, 1893. Serial No. 482,014. (No model.)

To all whom it may concern:

Be it known that I, HARRY B. GOODWIN, of Bordentown, in the county of Burlington and State of New Jersey, have invented certain
5 new and useful Improvements in Registers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use
10 the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention relates to certain improvements in registering mechanism.

The object of the invention is to provide an improved registering mechanism constructed and arranged in an exceedingly simple, durable and effective manner so that the index
20 finger or fingers can be returned to any given point such as zero, at any time desired without in anyway disturbing or effecting the operating mechanism of the meter or register.

The invention consists in certain novel features of construction, and in combinations of parts more fully described hereinafter and particularly pointed out in the claims.

Referring to the accompanying drawings,—
30 Figure 1 is a top plan view of an ordinary dry bellows meter, with the present invention applied thereto, the top thereof being removed. Fig. 2 is a cross section of the upper portion of such a meter showing the present invention in edge elevation. Fig. 3, is a face
35 view of the dial and finger showing parts of the present invention in different positions (in dotted lines). Fig. 4 is a detail elevation showing the means for returning the hand to zero, dotted lines showing the parts in different positions. Fig. 5, is a detail longitudinal
40 section on the plane of the axis of the center arbor of the register. Fig. 6, is a detail cross sectional view taken in a plane transverse to the axis of the center arbor.

45 In the drawings the letter *a*, indicates the upper portion of the casing in any ordinary meter.

b, indicates a portion of the operating mechanism of a dry bellows meter, actuating the
50 main horizontal shaft *c*, which drives the registering mechanism *d*.

e, indicates a suitable dial on the exterior of the case over which the index finger or pointer *f*, travels. This index finger is carried by the center arbor *g* driven by the gear-
55 ing of the mechanism *d*, from the main drive shaft *c*. The center arbor *g*, is driven by the cannon pinion *h*, located thereon. This cannon pinion is loosely mounted on the center arbor so that it will under certain conditions
60 permit said arbor to turn loosely with the said pinion. This is accomplished by having the pinion loose on the shaft between the two shoulders *i*, rigid with the shaft, and securing a spring *j* at one end to the side of the
65 pinion so that its free end will spring into the peripheral groove *i'* in one of the collars *i*, and there firmly bear thereon so that the friction will be sufficient to cause the center arbor to turn with the gear wheel or pinion. 70
In this connection it should be observed that the dial and the pointer are preferably inclosed in glass or the like so that they cannot be tampered with from the exterior of the meter. The center arbor projects inwardly
75 through the case containing the registering mechanism and on its inner end is provided with a heart shaped cam *k* rigidly secured thereto. A swinging lever *l* is located in the case *a* at one side of the registering mechanism, and at its lower end is provided with a
80 laterally projecting tapered nose or point *m*. This lever is so mounted on the horizontal shaft *n*, that the lever will swing toward and from the heart shaped cam *k* and its nose *m*,
85 will engage the curved smooth edge of said cam. A spring *o*, yieldingly holds said lever away from the cam. The cam *k* and the finger *f* are so relatively fixed on the central arbor or shaft that when the nose *m*, of the lever is
90 located in the depression *p*, of the heart shaped cam, the index finger will be over the zero mark on the dial. The shaft *n*, on which the lever *l* is rigidly mounted projects through the interior of the case of the meter and is so formed
95 on its end that it can be turned only by means of a specially formed key which will fit the outer end of the shaft *n* and will rock said shaft to throw the nose *m*, against the periphery of the heart shaped cam *q*, and by reason
100 of the curved edge of said cam, and the direction of movement of the nose *m*, the cam will

be moved around thereby moving the index finger until the nose *m* enters the depression *p* of the cam, at which point the index finger will be held over the zero character of the dial, thereby automatically returning the index finger to zero, without in any way interrupting or interfering with the movement of the registering mechanism or the operating connections thereof as the central arbor can loosely rest in the cannon pinion, the collars *i* turning and the spring *j* slipping around into the groove *i'* of the collar *i* without turning the cannon pinion. The cam *k*, is so formed that it will be rotated by the nose *m*, so long as the lever is pressed laterally by the key, or the means from the exterior of the case, and the nose will stop the cam rotating no matter at what point the indicating finger may be on the dial when the nose first strikes the cam, and the nose will continue rotating the cam until the nose *m*, enters the depression or recess *p*. The lever *l* is then released and dropped back to its normal position out of engagement with the cam *k*. It should be noted that the lever *l*, and its nose *m*, are normally held out of engagement with the cam *k*, and the lever *l*, only rotates the cam *k* when it is thrown against the same, and is constantly pressed against the same, as is obvious. It will thus be observed that by various exceedingly simple means, the index finger can be returned to zero by mechanism entirely independent of the registering device and without in any way interfering with the registering device, or stopping the movement thereof.

This mechanism can be applied to any kind of a registering device without limit as the connection in which it is used.

It is evident that various changes might be made in the forms, constructions and arrangements of the parts described without departing from the spirit and scope of my invention, hence I do not wish to limit myself to the exact construction herein set forth, but consider myself entitled to all such changes as fall within the spirit and scope of my invention.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A registering mechanism having its center arbor carrying the index finger provided with a cannon pinion loose thereon, and a spring carried by the cannon pinion with its free end springing toward and frictionally locking the arbor to turn with the cannon pinion, but so that the arbor can turn in said pinion, and means substantially as described for turning said center arbor, as and for the purposes set forth.

2. A registering mechanism having its center arbor provided with collars, a cannon pinion located between said collars, and having the spring secured thereto with its free end bearing on one of the collars so that the center arbor will turn with the cannon pinion as and for the purposes set forth.

3. In a registering mechanism, the combination, of a cannon pinion, the center arbor movable independently of the cannon pinion, the heart shaped cam rigid on the end of the center arbor, a shaft extending to the exterior of the case and formed on its outer end to be turned by a special key, the lateral lever or arm rigid with said shaft and provided with the nose to engage the edge of said cam and turn the same as set forth, and a spring to yieldingly hold said arm out of engagement with the cam, substantially as set forth.

4. In a register, the combination of the center arbor having a peripherally grooved collar rigid thereon, the cannon pinion loose on the arbor and having the spring secured to the side of the pinion with its free end resting in said groove and bearing against said collar, the heart shaped cam rigid with said arbor, and the swinging arm operated from the exterior of the case and having the nose arranged to engage the periphery of the cam, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HARRY B. GOODWIN.

Witnesses:

CHAS. H. PAIST,
CLARA E. MOORE.