

(No Model.)

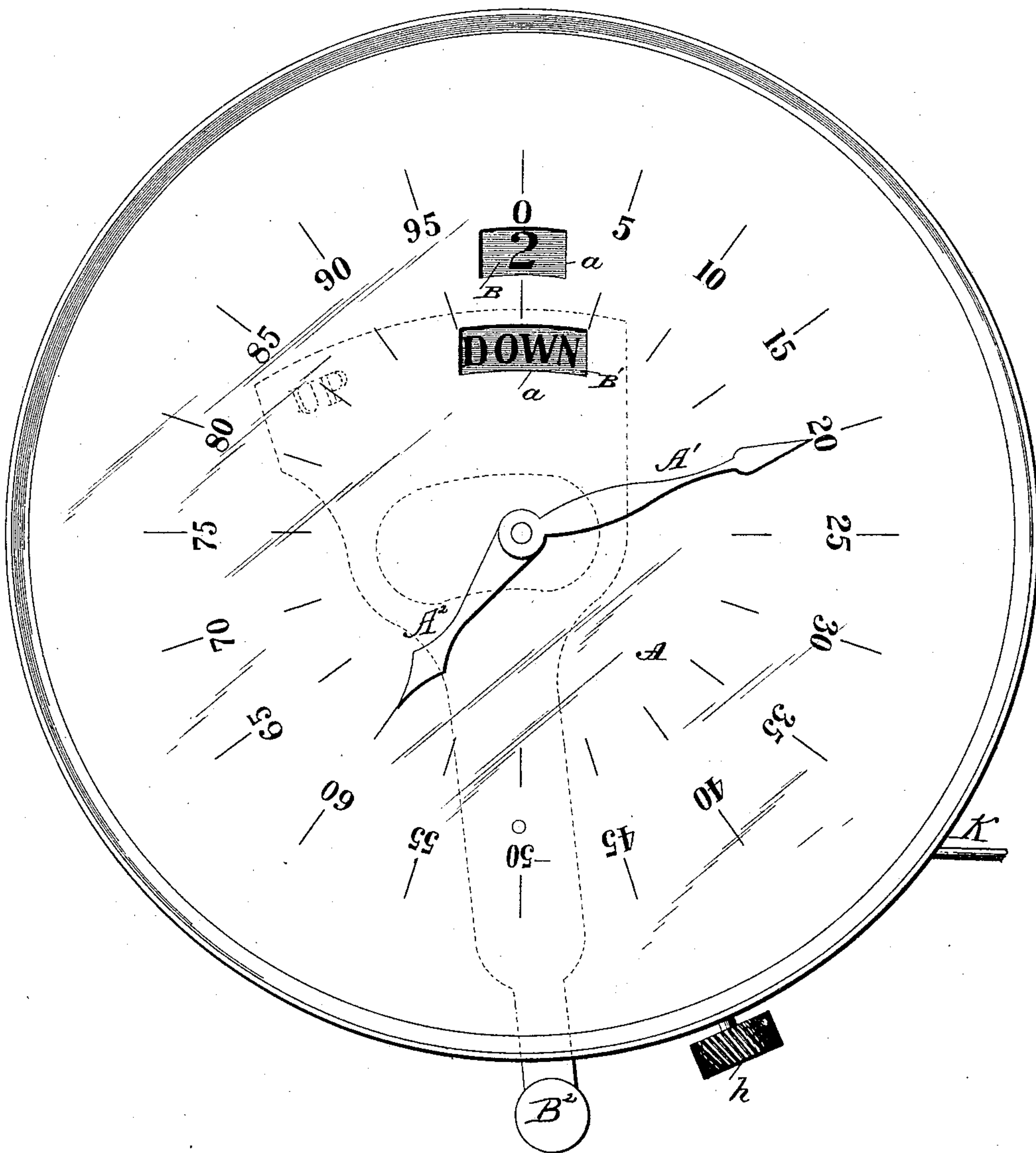
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S. E. HOSKINS.
FARE REGISTER.

No. 450,936.

Patented Apr. 21, 1891.

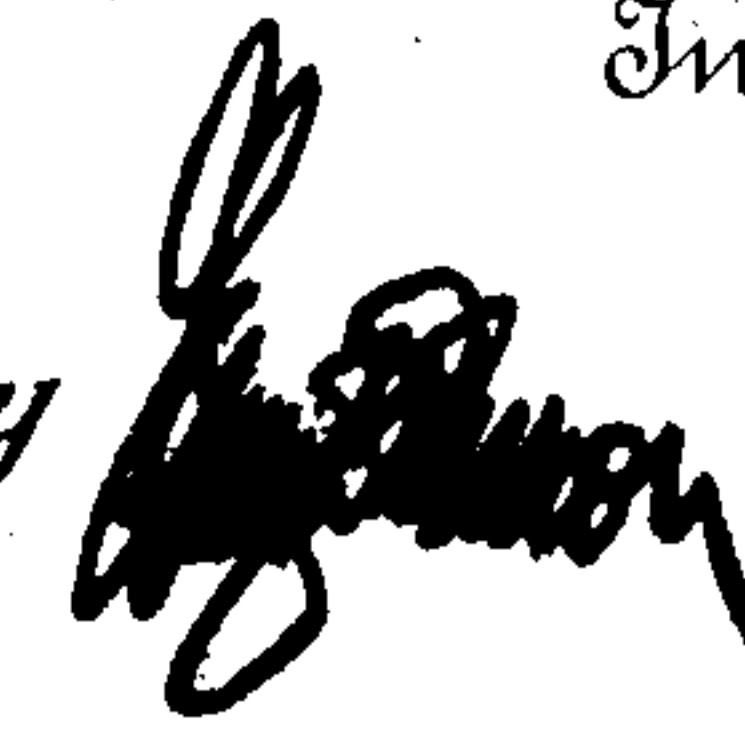
Fig. 1.



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by  Attorney

(No Model.)

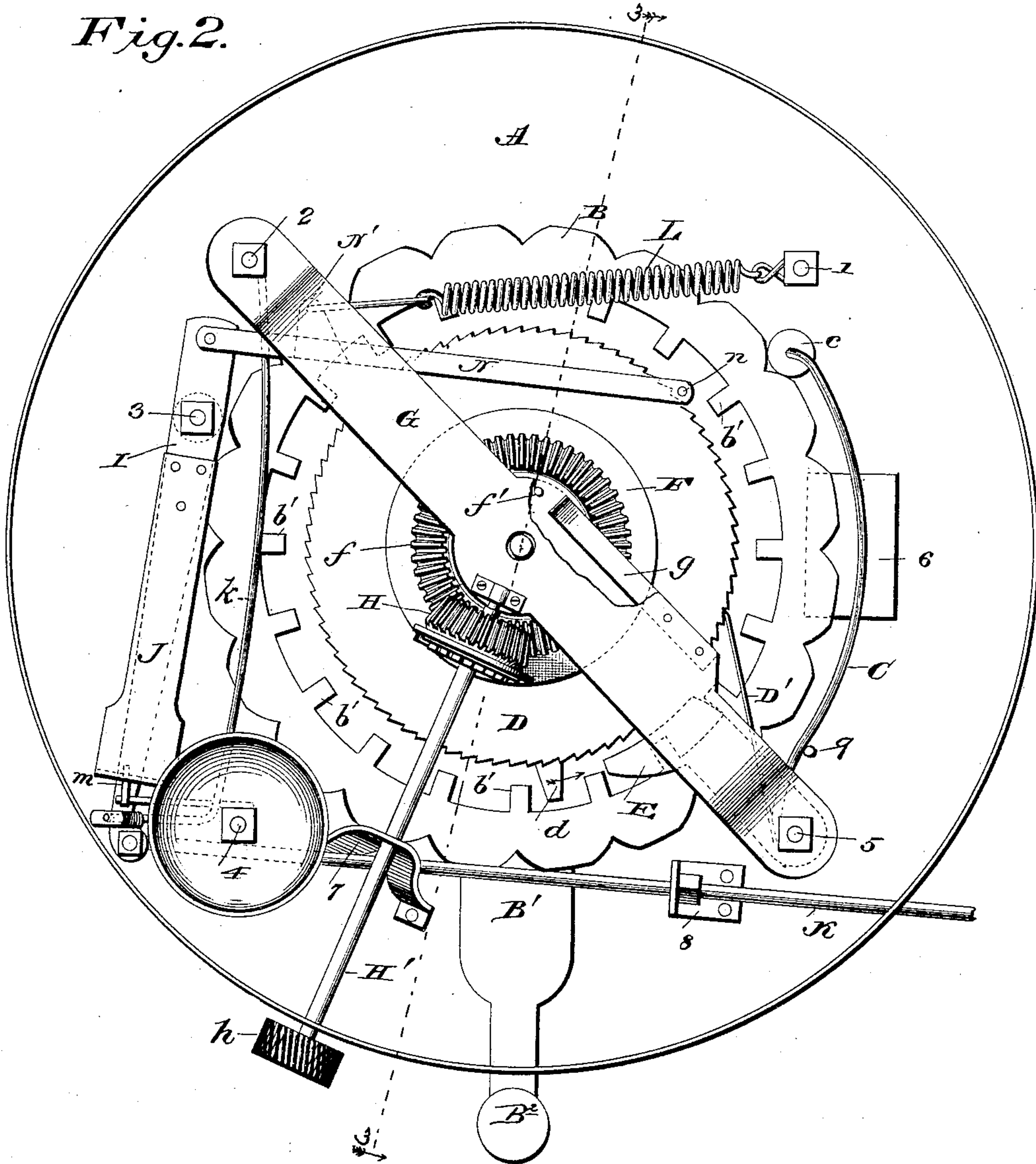
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Fig. 2.



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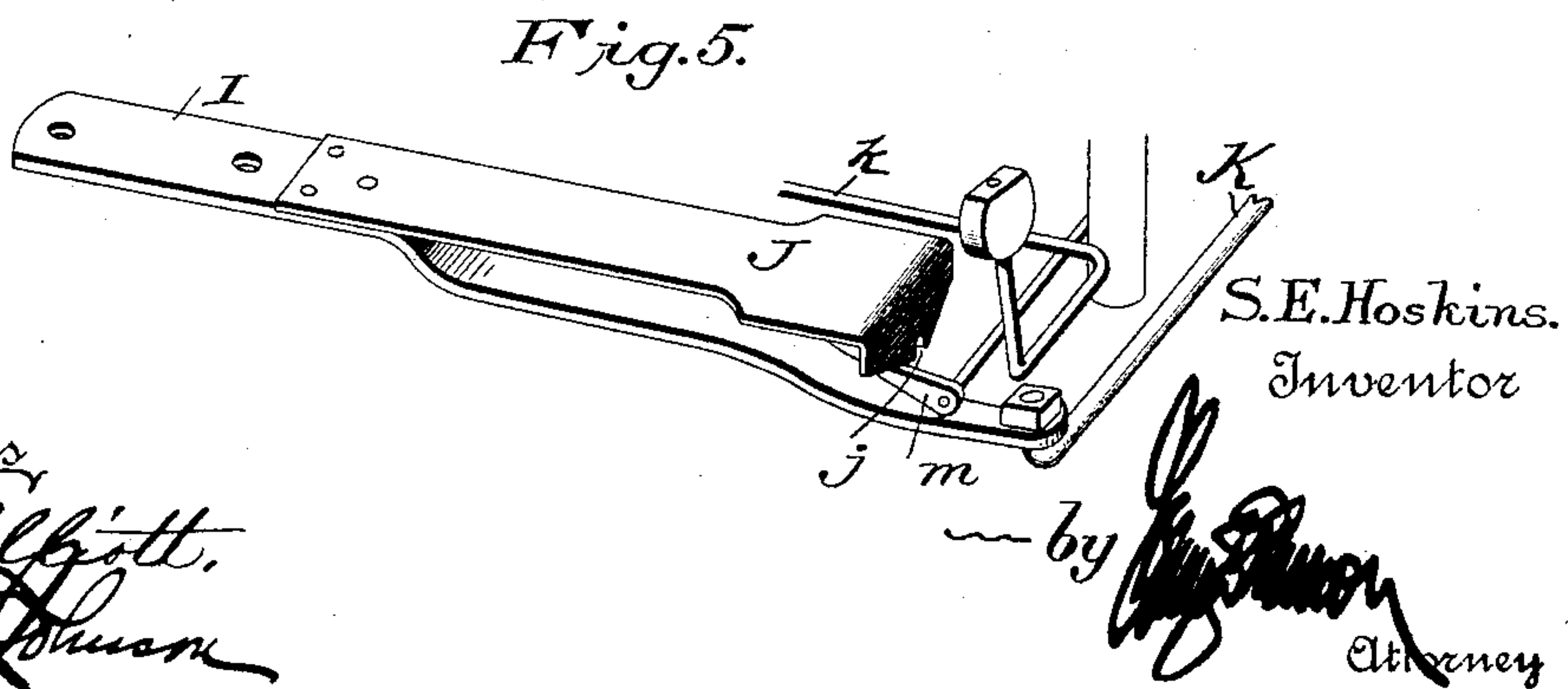
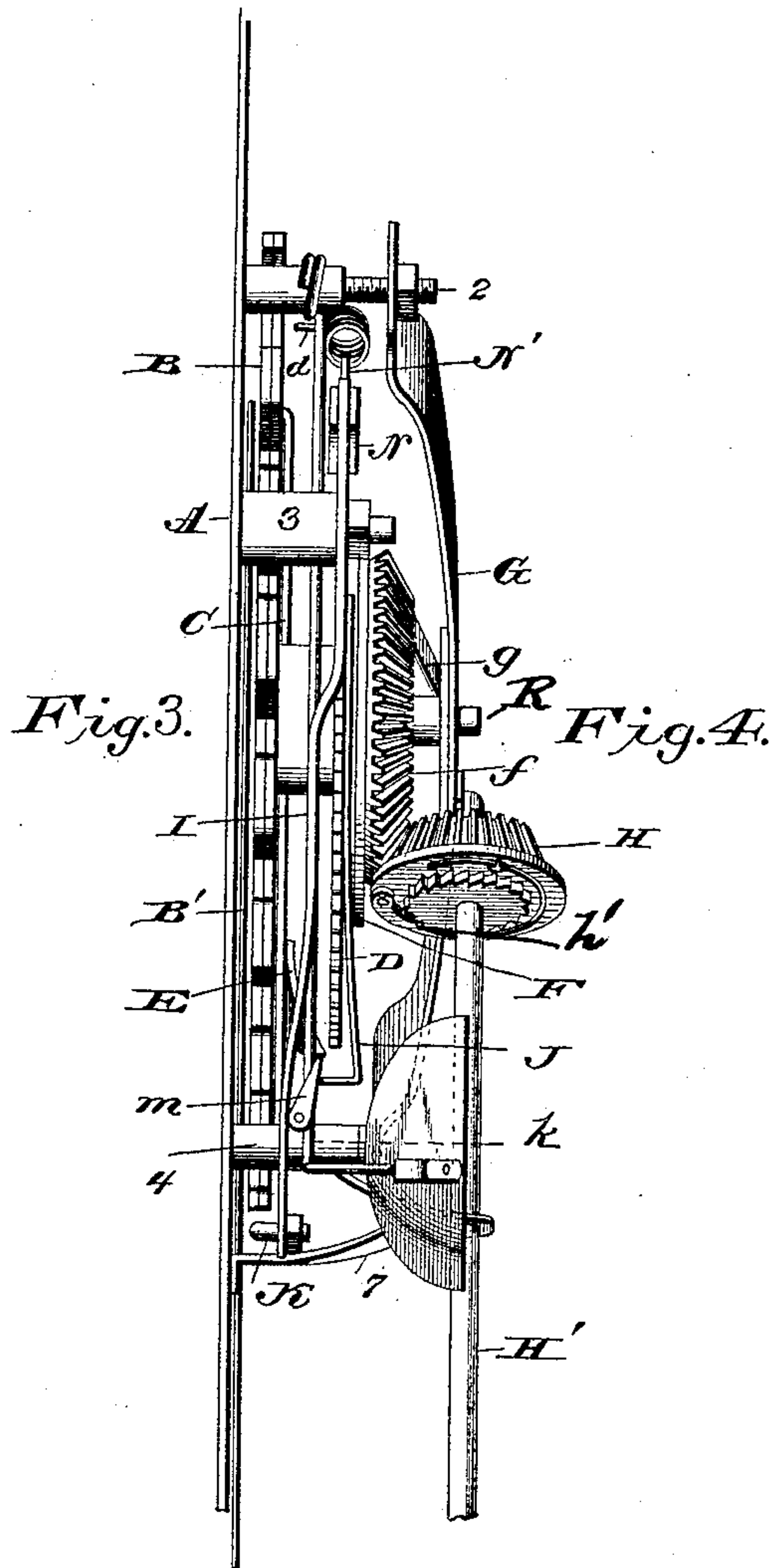
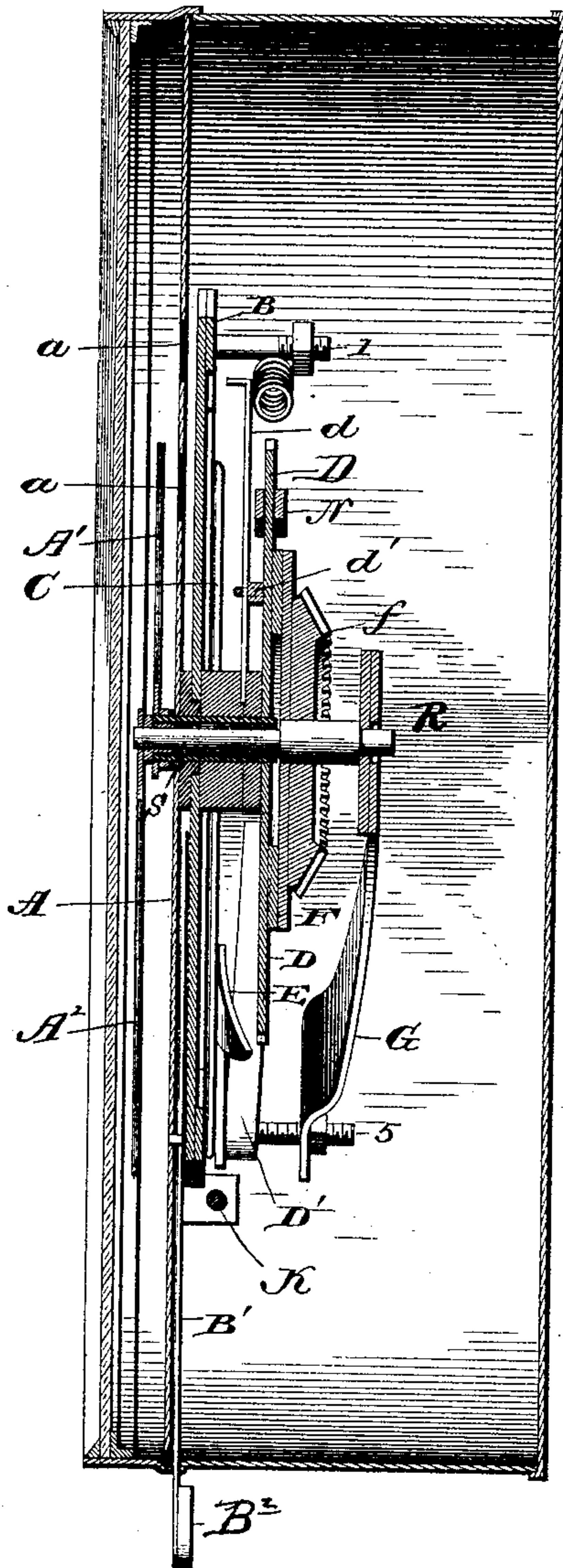
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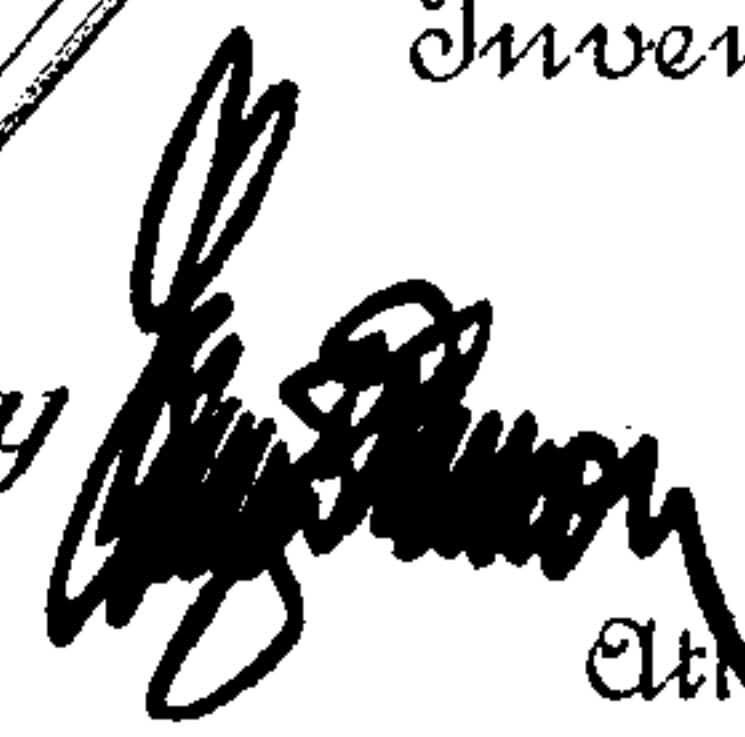
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UNITED STATES PATENT OFFICE.

SILAS E. HOSKINS, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF TO
WILLIAM DAVIS AND EDGAR WM. WILSON, BOTH OF SAME PLACE.

FARE-REGISTER.

SPECIFICATION forming part of Letters Patent No. 450,936, dated April 21, 1891.

Application filed July 10, 1890. Serial No. 358,257. (No model.)

To all whom it may concern:

Be it known that I, SILAS E. HOSKINS, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Fare-Registers; and I do hereby 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in registers, the object thereof being to provide a simple, cheap, and effective fare-register which may be used in street-cars or for such other purposes as devices of this class are employed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a front view of a register constructed in accordance with my invention. Fig. 2 is a rear view, the rear casing being removed. Fig. 3 is a sectional view on the line 3 3 of Fig. 2. Fig. 4 is a side view, and Fig. 5 is a detail view.

A designates the dial or main plate, which is provided with openings *a*, through which the surfaces of the disk B and trip-indicator B' may be seen. The dial also has a central opening through which the stems carrying the hands pass. The dial is graduated, and over the same is adapted to pass both a trip-register hand A' and a permanent register-hand A², as will be hereinafter fully set forth. This dial A is secured suitably within a frame, and to the rear face is rigidly secured posts 1, 2, 3, 4, and 5, as well as a friction-plate 6 and guides and supports 7 and 8, these parts being immovable.

The disk B is provided centrally with a circular opening, which fits snugly over a boss formed around the edge of the central opening in the dial-plate A. This disk has marked upon its face, which is exposed through one of the openings *a*, a series of numerals which correspond with projecting lugs *b'*, formed on the rim of the disk and extending toward the hub thereof. Opposite these inwardly-projecting lugs are notches, with which engages

a roller *c*, carried by a spring-arm C, said arm being rigidly attached to the post 5, so that the roller *c* and its arm will act as a retaining-pawl and hold the disk B from rotation until positively actuated. When this arm C is loosely attached to the post, a pin 9, as shown, may bear against the spring-bar. The front edge or face of a portion of the rim of the disk bears against the plate 6, so that there will be frictional contact between the parts, and in addition to the roller will prevent this disk moving when not positively actuated. The plate also prevents that side of the disk being depressed.

Between the plate A and disk B is pivotally secured a thin flat plate B', the upper portion of which passes over the other or lower opening *a*, and the central portion thereof is cut away or provided with a supplemental opening of proper length, through which passes the stud or collar upon which the disk B is journaled, and by moving the projecting end B² of this plate either the words "Up" or "Down" may be exposed or other such words as it may be desired to use.

D designates a circular ratchet plate or disk, which on its front face is provided with a hub which carries a spring-arm *d*, said spring-arm also being attached to a block *d'*, carried by the front face of this ratchet-disk. The hub also has a collar *s* of sufficient length to extend through and beyond the central aperture in the plate A. The ratchet-teeth on the periphery of the disk D engage with a spring D', attached to the post 5, which prevents a backward rotation of the disk, and the spring-arm *d*, having the downwardly-bent end, passes under a finger or plate E, said plate being bent to throw the bent end of said spring in contact with one of the lugs of the disk B, so that when the ratchet-disk is turned one revolution the disk B will be moved forward one step, it being evident that the spring-arm *d* is released from engagement with the lug as soon as it passes the finger E.

The short hand A², which moves over the face of the dial A, is rigidly secured to the collar *s*, which passes through said plate and cannot be turned without moving the ratchet-disk D.

F designates a plate carrying a beveled gear-

wheel *f* and a shaft having a bearing in a diagonal cross-bar *G*, secured to the posts 2 and 5. This plate *F* is also provided with a shaft *R*, which extends through the dial *A* and through the collar *s*, that carries the trip-register hand *A'*. Adjacent to the teeth of the wheel *f* and properly positioned on said wheel is a pin or stud *f'*, which is adapted to contact with a spring *g*, carried by the bar *G*, said spring bearing normally upon the face of the gear-wheel, and is adapted to ride over the stud or pin *f'* in one direction and prevent the rotation of the ratchet-disk *F* when turned in an opposite direction. The pin or stud *f'* is so positioned that when it contacts with the spring *g* the long hand *A'* will point to zero. The plate *F* and the ratchet-disk *D* move with each other in one direction owing to the frictional contact of the parts; but the plate *F* can be moved in an opposite direction independent of the ratchet-disk *D* beneath it, as said ratchet-disk is held against movement in one direction by the spring which contacts with the ratchet-teeth, as hereinbefore referred to. The plate *F*, carrying the gear-wheel *f*, can be set or turned by a pinion *H*, which is mounted on a shaft *H'*, one end of the same being journaled in the cross-bar *G*, while the other end passes through the support or standard 7 and carries a knob *h*, the pinion *H* being loosely mounted on the shaft and carries a pawl *h'*, which engages with a ratchet-wheel rigidly mounted on the said shaft, so that the disk *F* can be turned in but one direction by the rotation of the knob *h*.

Upon the post 3 is journaled a rod *I*, which carries a spring-plate *J*, the lower end of which is bent at right angles and beveled on each side of its free end toward the center. The bent end of this plate has a notch *j*, which engages with spring-rod *k*, carrying a bell-hammer, when the operating-rod *K* is drawn or moved in one direction, the beveled face of said spring riding upon the spring-rod of the bell-hammer and carrying it away from the bell until the oppositely-beveled face engages with a finger *m*, which elevates the spring-rod and releases the bell-hammer to sound an alarm, the actuating-rod *K* being suitably connected to the lower end of the bar *I* at its lower end, as shown in Figs. 2 and 5 of the drawings, the end of said bar being bent and passed through a perforation in the lower end of the bar *I*, and secured thereto by a nut. To the upper end of the bar *I* is pivotally attached a bifurcated bar *N*, (see Fig. 4,) through which bifurcation passes the ratchet-disk *D*, the outer end of this bar carrying a pin *n*, which engages with the teeth on the periphery of said disk. An extension-plate *N'* is also carried by the bifurcated bar *N* and projects upwardly therefrom, and to said extension is attached one end of a helical spring *L*, the opposite end of which is secured to the post 1. By this construction the contraction of said spring throws the trans-

verse pin *n* in engagement with the teeth of the ratchet-disk *D* and draws upon the short arm of the pivoted bar *I*.

The operating parts of my invention are intended to be inclosed in a suitable casing through which the rod *K* will pass, and the device may not only be used as a car-register, but also for other purposes, as registering games, &c. When the device is used as a car-fare register, I will use with the same the trip-indicator *B'*, the operating-handle *B²* of which may extend through the casing. On each movement of the operating-rod *K* both the long and the short hands will be moved one step forward, and when a sufficient number of impulses have been given to the operating-rod *K* to carry the short hand *A²* once around the dial the disk *B* will be moved one step forward by reason of the spring-arm *d*, carried by and rotated with the ratchet-disk *D*, passing under the plate *E* to throw the end thereof in engagement with one of the inwardly-projecting lugs *b*, and while passing under said plate advance the disk one step, thus indicating through one of the openings *a* in the dial the number of rotations the short arm has made.

When it is desired to set the register, it can be done by turning the knob *h* at the end of the shaft *H'*, and by turning this knob the plate *F*, to which the trip-register hand *A'* is directly attached, can be turned back and set at zero without in any way effecting the permanent register-hand *A²*.

From the foregoing it will be readily understood that to register a fare it is only necessary to draw upon the rod *K*, which will sound an alarm, said rod actuating the pivoted bar *I*, so as to move the ratchet-disk forward sufficient to advance the hands one step. The spring *L* not only holds the pin *n* in engagement with the ratchet-teeth, but also moves the pivoted bar *I*, so as to cause the rod *K* to assume its normal position.

Having thus described my invention, I do not wish to limit myself to the particular construction or form of the parts herein shown, but reserve the right to modify or change the same within the scope or spirit of my claims, which are—

1. The combination, in a register, of a dial-plate having an opening *a*, a disk *B*, having figures on its face which are visible through said opening, said disk having a notched periphery with which a spring-actuated roller engages, and lugs *b'*, a ratchet-disk *D*, having a spring-arm which is adapted to be thrown in engagement with one of said lugs on each complete rotation of the ratchet-disk, a hand carried by the ratchet-disk, said hand moving over the dial, a plate *F*, located above the ratchet-disk and in frictional contact therewith, said plate *F* also carrying a hand, and means for actuating the ratchet-plate to reset to zero, substantially as shown, and for the purpose set forth.

2. The combination, in a register having

a ratchet-disk, of a notched disk which is adapted to be moved one step forward on the complete rotation of the ratchet-disk, said ratchet-disk carrying an arm, a plate F, and
 5 a trip-register hand A', and actuated in one direction by frictional contact with the ratchet-plate, a shaft carrying a gear-wheel which meshes with teeth formed on the plate F, and a spring adapted to engage with a stud
 10 to limit the movement of said wheel, and means for holding the ratchet-disk stationary while the plate F is being turned, substantially as shown, and for the purpose set forth.

3. In a register constructed substantially
 15 as shown and provided with a bell and spring bell-hammer, a bar I, carrying a spring-plate J, the end of which is bent, beveled, and notched, as shown, so as to engage with a bell-hammer when moved in one direction and
 20 release said bell-hammer by riding upon a stationary finger, in combination with the operating-rod K, spring L, bar N, ratchet-disk, and registering mechanism, substantially as shown, and for the purpose set forth.

25 4. The combination, in a register constructed substantially as shown and provided with a ratchet-disk D, which is adapted to be rotated in one direction, a pivot bar or lever I, connected at its long end to an operating-rod,
 30 a bifurcated bar secured to the short end thereof and provided with a pin *n*, which engages with the ratchet-teeth of the disk D, an extension N', and spring, whereby said spring moves the bar or lever I in one direc-
 35 tion and holds the pin of the bifurcated bar N in contact with the ratchet-teeth, substantially as shown, and for the purpose set forth.

5. In a register, a disk or plate B, having a notched periphery and a series of inwardly-
 40 projecting lugs *b'*, corresponding with said notches as to number, a spring-actuated roller *c*, adapted to engage with the notches, and a

spring *d*, having a bent end carried by the ratchet-disk, as shown, and adapted to pass under a fixed plate E, having an upturned end for
 45 moving the notched disk B one step forward on the complete rotation of the ratchet-disk, in combination with a bifurcated bar N, carrying at one end a pin *n*, which engages with the ratchet-plate D, said bifurcated bar being
 50 attached to a lever I, the opposite end of said lever being connected with the actuating-rod K, and a spring L, connected to the bifurcated bar for holding the end which carries the pin in engagement with the ratchet-plate D, said
 55 spring also serving to return the lever I to its normal position, substantially as shown, and for the purpose set forth.

6. The combination, in a register constructed substantially as shown and provided with
 60 a disk which is moved one step forward on the complete rotation of the ratchet-disk, said ratchet-disk carrying an indicating-hand and a spring-finger, which passes beneath a fixed
 65 plate for effecting said movement, said ratchet-disk being movable in but one direction one step forward on each impulse of the operating-rod K, a plate F, held in frictional contact with the ratchet-disk and provided with the
 70 hand A', a shaft carrying a pinion engaging with teeth on the disk F, and a spring *g*, bearing upon the face of the plate F to hold said plate in frictional contact, the end of said spring being adapted to engage with a stud, so as to
 75 limit the backward movement thereof, the parts being organized substantially as shown, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SILAS E. HOSKINS.

Witnesses:

H. G. MARTIN,
 W. P. BAKER.