

No. 863,934.

PATENTED AUG. 20, 1907.

W. P. NEUBERT.
SLOW SPEED MECHANICAL RELEASE.

APPLICATION FILED APR. 30, 1906.

3 SHEETS—SHEET 1.

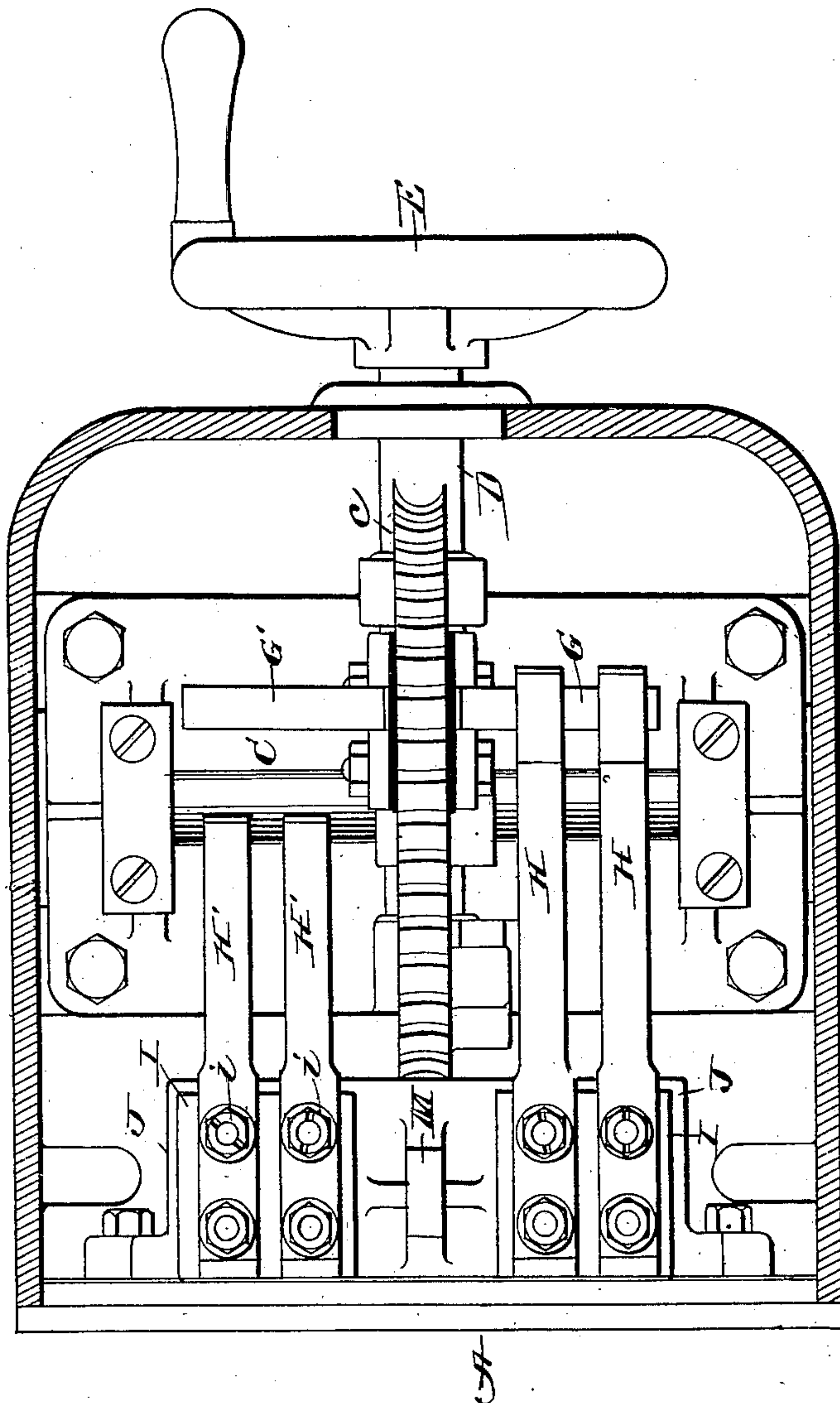


Fig. 1.

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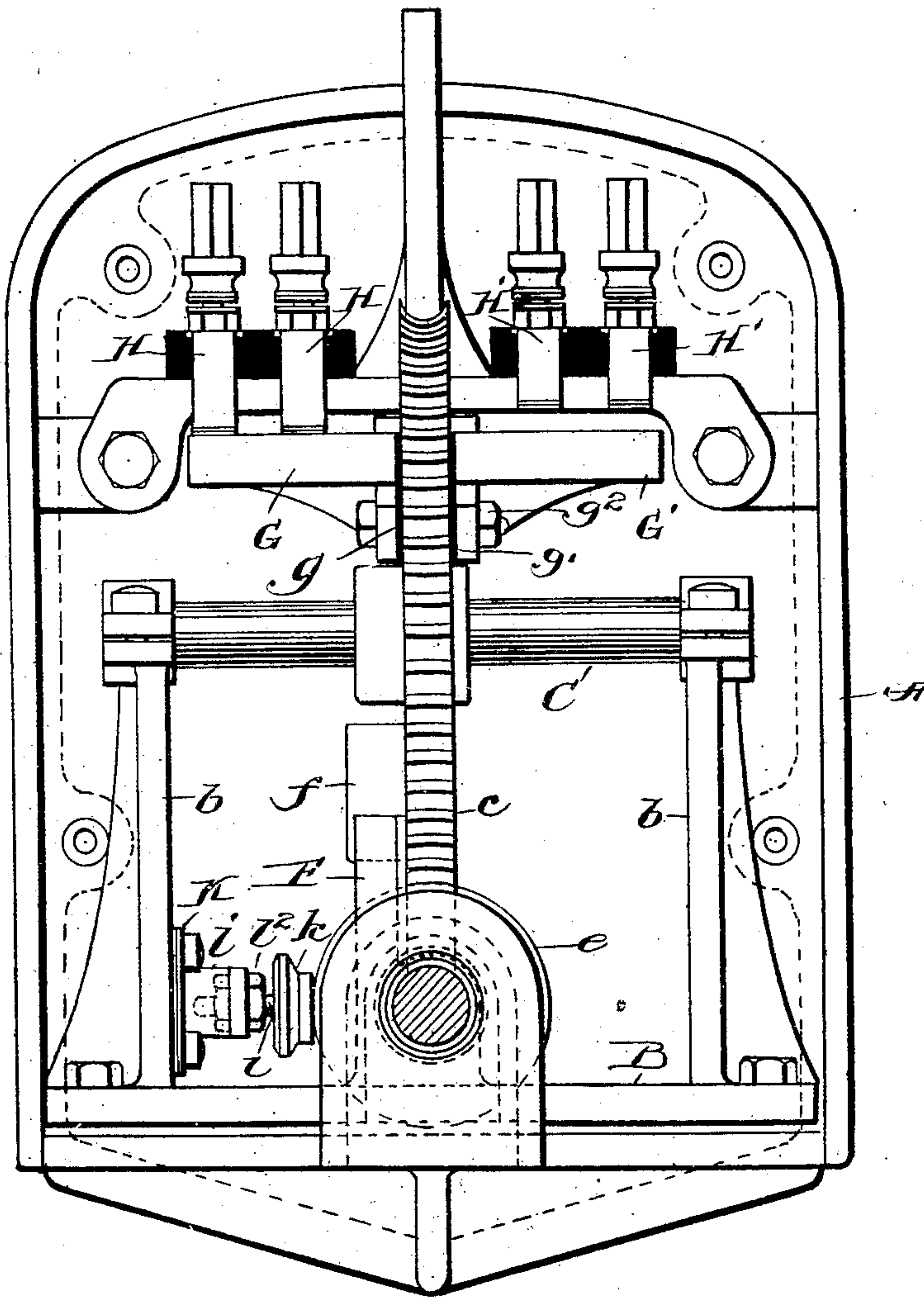
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3 SHEETS—SHEET 2.

Fig. 2.



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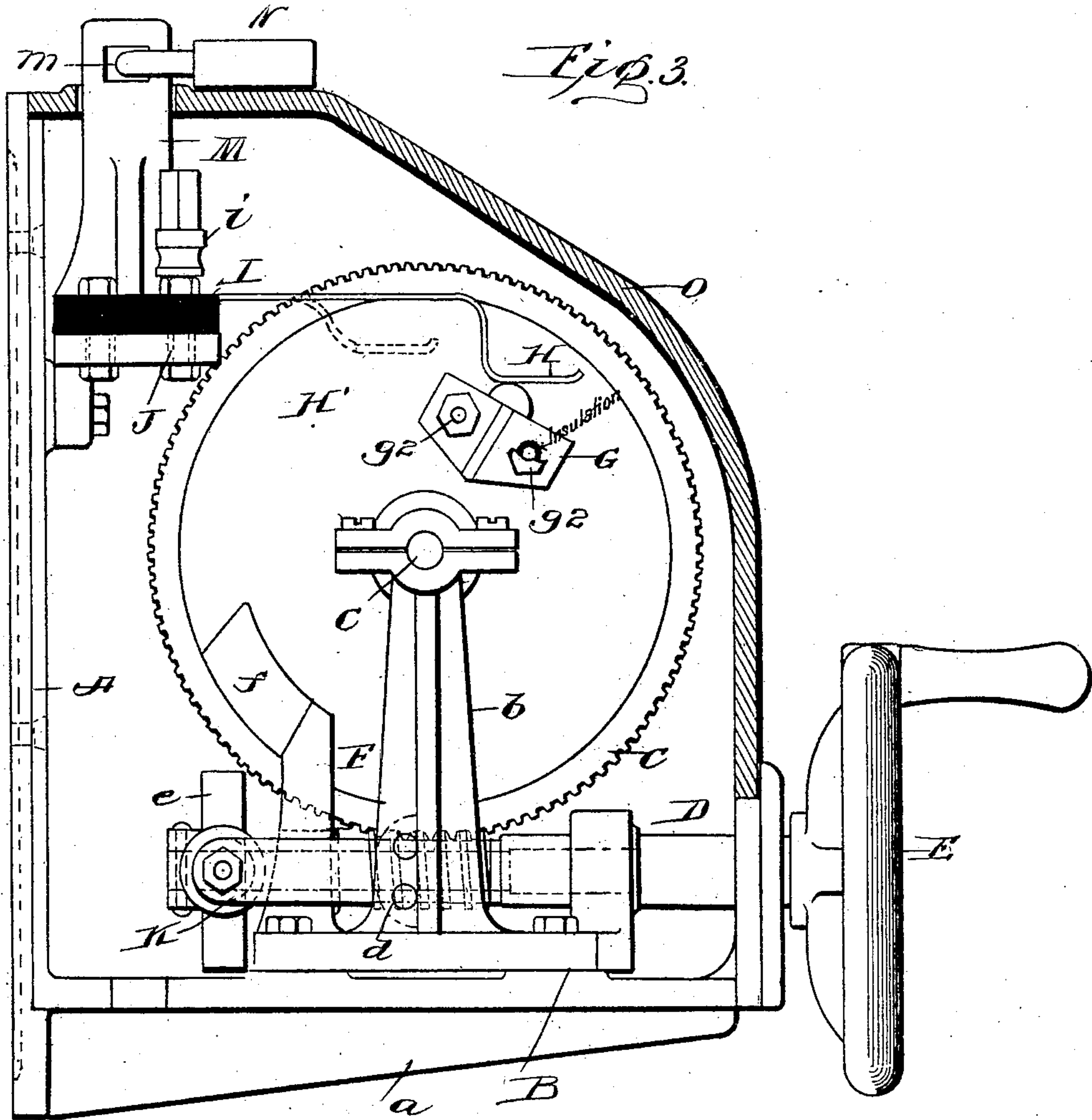
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

WALTER P. NEUBERT, OF SWISSVALE, PENNSYLVANIA, ASSIGNOR TO THE UNION SWITCH AND SIGNAL COMPANY, OF SWISSVALE, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SLOW-SPEED MECHANICAL RELEASE.

No. 863,934.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed April 30, 1906. Serial No. 314,446.

To all whom it may concern:

Be it known that I, WALTER P. NEUBERT, a citizen of the United States, residing at Swissvale, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Slow-Speed Mechanical Release, of which the following is a specification.

My invention relates to a slow speed mechanical device for controlling an electric circuit or circuits on electric locks of levers for controlling a switch or a signal or both a switch and signal.

I will describe a preferred embodiment of my invention and then point out the novel features in claims.

Figure 1 is a horizontal section of a preferred form of slow speed circuit controller embodying my invention. Fig. 2 is a vertical section taken at right angles to the section shown in Fig. 1. Fig. 3 is a vertical section.

Similar letters of reference designate corresponding parts in all of the figures.

Referring now to the drawings: A is a casing upon the base of which is mounted a bearing bracket B having standards *b* in which a shaft C is journaled. Upon the shaft C is mounted a worm wheel *c*.

D indicates a shaft journaled in suitable bearings on the bearing bracket B and provided with a worm *d* which engages the worm wheel *c*. This shaft D is provided at its outer end with a hand-wheel E by means of which it may be rotated. On its inner end the shaft D is provided with a brake wheel *e*, for a purpose to be hereinafter referred to. To the worm wheel *c*, on opposite sides thereof, are secured two contact brackets G G'. These brackets are insulated from the worm wheel by the insulation *g*, *g'*, and the bolts *g*² which secure the brackets to the wheel must also be insulated from the worm wheel *c*, but not necessarily from each other. This may be done by surrounding the bolts with insulating tubes, as indicated in Fig. 3.

H H and H' H' indicate, respectively, two pairs of contact springs extending on each side of the worm wheel *c* to engage respectively the contact brackets G G'. These contact springs are mounted upon insulating blocks I, which blocks are bolted to a bracket J, said bracket being in turn secured to the casing A. The contact springs H H must be insulated from each other as must also the contact springs H' H'. To each contact spring is connected a binding screw *i* to which conducting wires will be attached in the ordinary way. These conducting wires also include the electric locks on the switch or signal levers.

F indicates a fixed stop extending upwardly from the bearing bracket B in close proximity to the worm wheel *c*. Upon the worm wheel *c* is secured a block *f* adapted to engage the fixed stop F and the several parts are so arranged that when one end of the block *f*

is engaged with the stop F the contact springs H will be in engagement with the contact bracket G to close a circuit through the contact springs H and the conducting wires connected to them. When, however, the worm wheel is rotated to cause the other end of the block *f* to engage the stop F the contact spring H' H' will be in engagement with the contact bracket G' and a circuit will be closed through these spring contacts and the conducting wires connected to them.

It is desirable that the worm wheel *c* shall not be rotated too rapidly and in order to prevent rapid rotation, such as might be caused by spinning the hand-wheel E, the brake wheel *e* is provided on the shaft D. Secured to one of the standards *b* is a plate spring K upon the free end of which is mounted an adjustable brake shoe *k* adapted to engage the periphery of the wheel *e*. The brake shoe *k* is provided with a threaded shank *l* upon which are the nuts *l'* *l*², by means of which the brake shoe is held in position on the plate spring K, and the shoe may be adjusted to vary its pressure upon the wheel *e*. An arm M projects upwardly from the bracket G and is provided with an aperture *m* for the reception of a padlock N, or other locking device, by means of which the removable cover O may be held in place.

It is obvious that the worm wheel *c* can only be rotated at a slow speed for the reason that the engagement of the brake shoe *k* with the brake wheel *e* will prevent any spinning of the hand-wheel E and consequently the worm *d* can only be rotated at such speed as the operator may be able to develop by constantly turning the hand-wheel E.

While I have shown a device adapted to close the circuit between two pairs of contacts it is obvious that if the contact brackets G G' were extended and properly insulated to suit conditions more than two pairs of contacts might be closed or opened in a manner similar to the arrangement described above.

Having thus described my invention, what I claim is:

1. A slow speed circuit controller, comprising a worm wheel, a worm for turning said wheel in either direction, stops for limiting the movement of the wheel in both directions, two pairs of contacts supported adjacent the wheel, circuit closers carried by the wheel for respectively engaging the respective pairs of contacts when the wheel is turned in opposite directions and means for retarding the rotary movement of the worm in either direction.
2. A slow speed circuit controller comprising a worm wheel, a worm for turning said wheel in either direction, stops for limiting the movement of the wheel in both directions, two pairs of contacts supported adjacent the wheel, circuit closers carried by the wheel and insulated therefrom for respectively engaging the respective pairs of contacts when the wheel is at the extreme limit of its movement in opposite directions, a brake wheel on the worm and a brake shoe supported in engagement with said brake wheel.

5 3. A slow speed circuit controller comprising a worm wheel, a worm for turning said wheel in either direction, stops for limiting the movement of the wheel in both directions, two pairs of contacts supported adjacent the wheel, circuit closers carried by the wheel and insulated therefrom for respectively engaging the respective pairs of contacts when the wheel is turned in opposite directions, a hand wheel on the worm, a brake wheel on the worm, a brake shoe supported in engagement with the

brake wheel, and means for adjusting the pressure between the shoe and brake wheel. 10

In testimony whereof I have signed my name to this specification in the presence of two subscribed witnesses

WALTER P. NEUBERT.

Witnesses:

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W. L. MCDANIEL.