

(No Model.)

E. WERNER.
CAR STARTER AND BRAKE.

No. 333,367.

Patented Dec. 29, 1885.

Fig. 1.

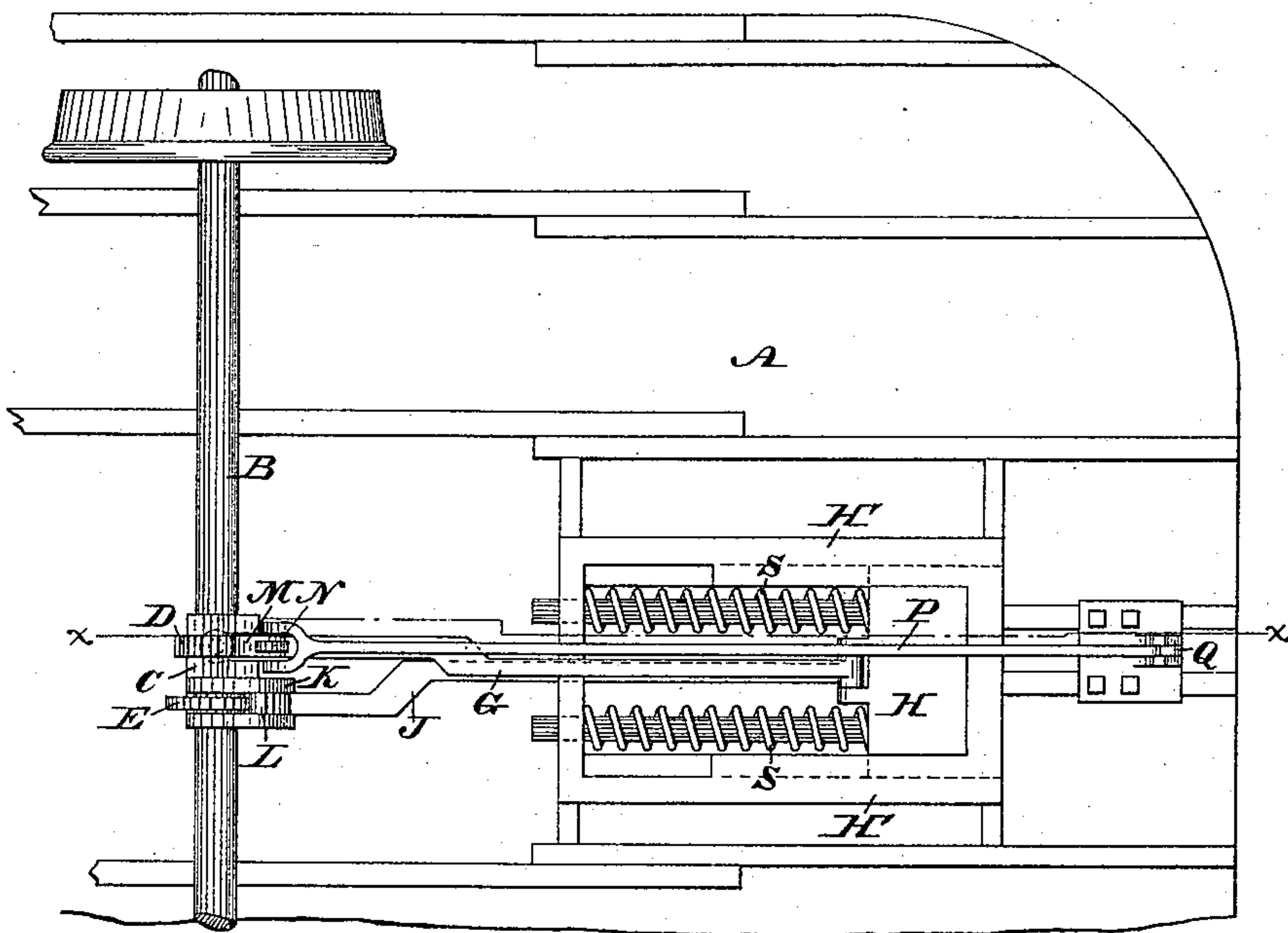


Fig. 2.

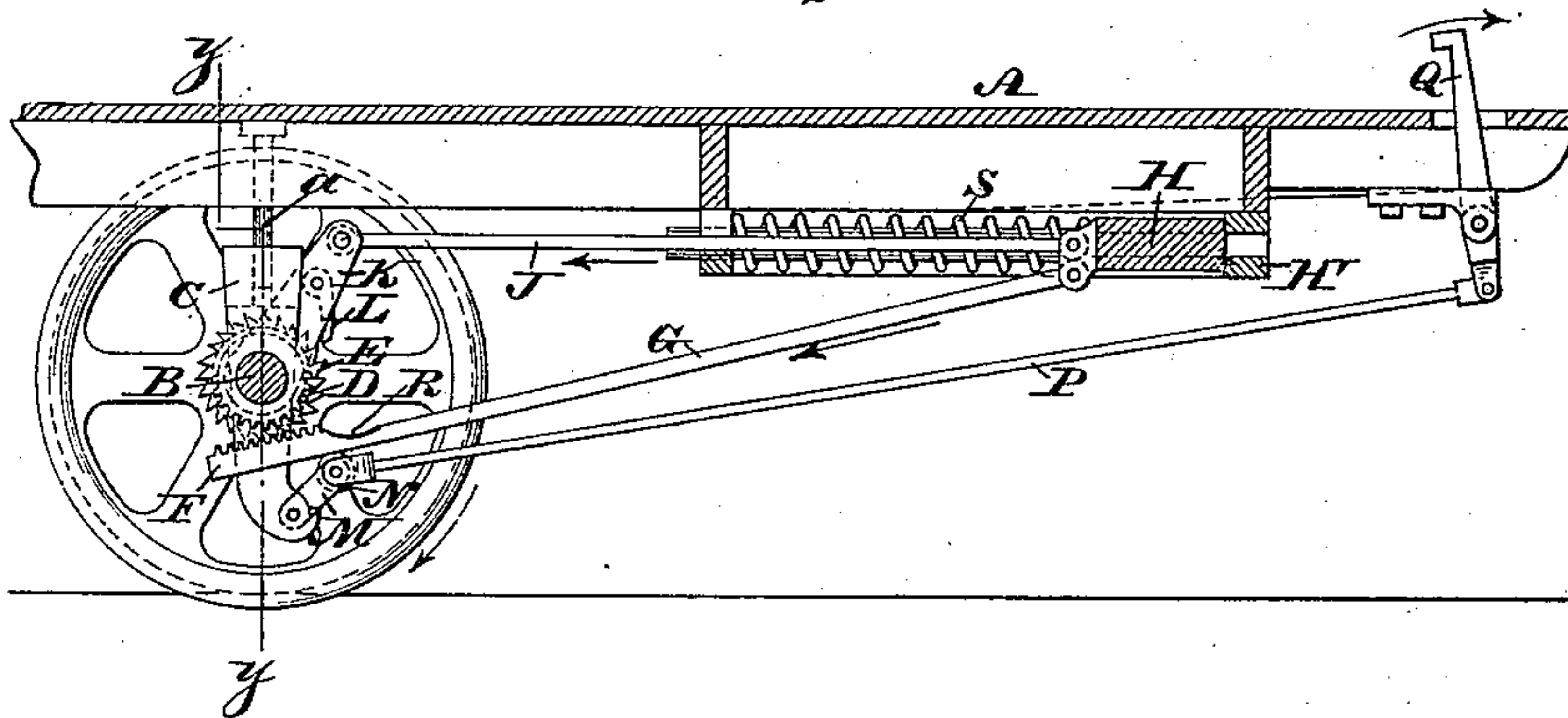
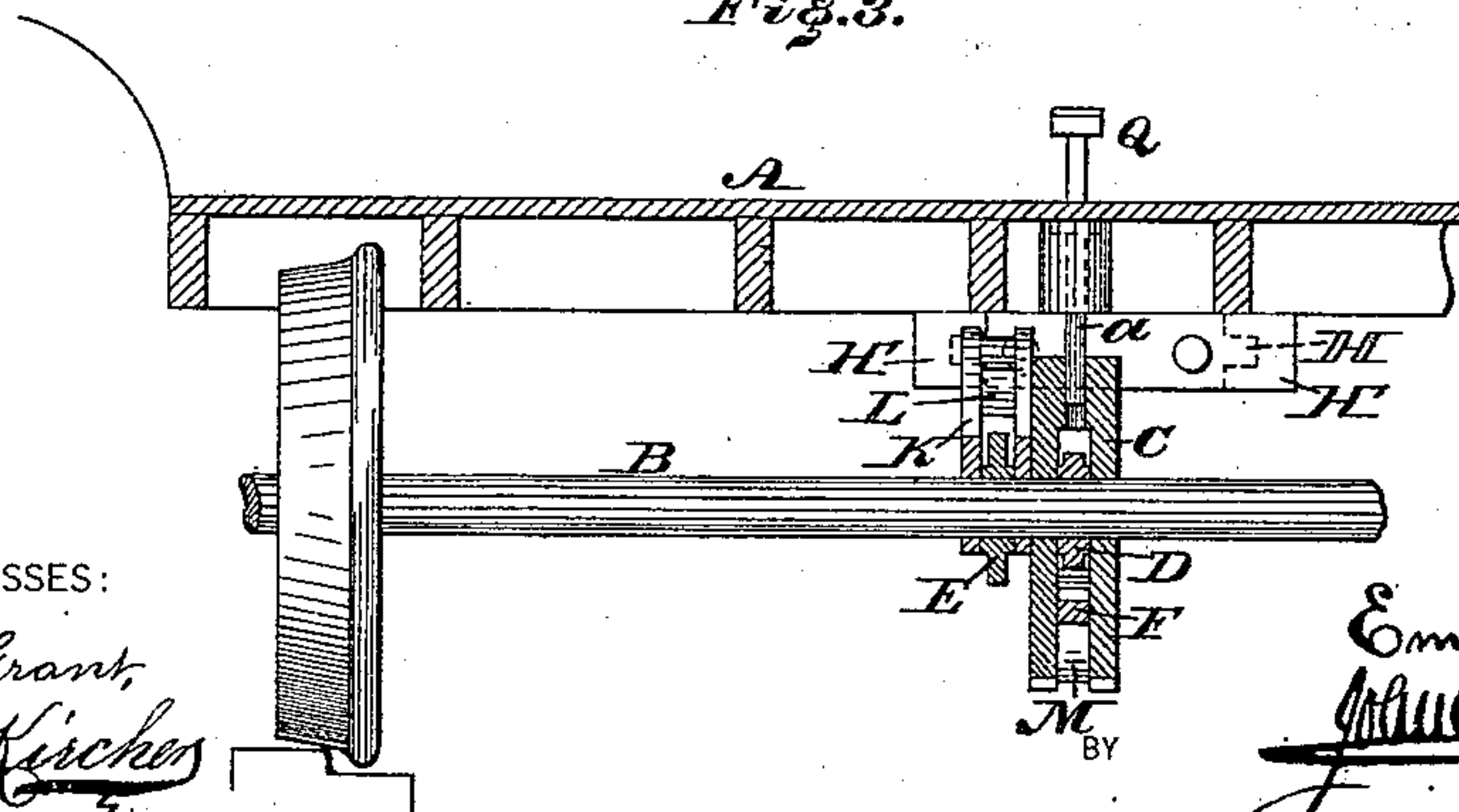


Fig. 3.



WITNESSES:

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DOUGLAS WESTERVELT, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND
JAMES S. BASSETT, OF SAME PLACE.

STOP AND WASTE COCK.

SPECIFICATION forming part of Letters Patent No. 333,368, dated December 29, 1885.

Application filed November 9, 1885. Serial No. 182,210. (No model.)

To all whom it may concern:

Be it known that I, DOUGLAS WESTERVELT, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved
5 Combined Stop and Waste Cock, of which the following is a full, clear, and exact description.

My invention relates to the construction of a combined waste and stop cock or valve, the
10 object of the invention being to supply a valve which in operation will prevent any possible escape of sewer-gas, and in which it will be impossible to open the supply and waste pipes at the same time.

15 A further object of the invention is to so construct the combined valve or cock as to cause it to indicate any leak in the supply or waste valves.

To the above ends the invention consists of
20 certain novel constructions and combinations to be hereinafter explained, and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in
25 which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a vertical sectional view of the combined stop and waste cock, the parts being represented in position to discharge water
30 from the service to the waste pipe, and Fig. 2 is a similar view representing the parts as in position to supply the service-pipe.

Referring now to the general construction as illustrated in the drawings, A represents a
35 casting formed with two cylindrical chambers, *a* and *b*, and a globe-shaped chamber, *c*. The diameter of the upper chamber, *a*, is considerably more than that of the lower chamber, *b*, and after bulging out from below the chamber
40 *b* the chamber *c* is contracted, so that at its lower end it is of less diameter than either of the other chambers formed in the casting A. Three nose-pieces, *d*, *e*, and *f*, are also formed upon the casting, leading, respectively, to or
45 from the chamber, *a*, *b*, and *c*, the supply-pipe being connected to the nose-piece *d*, the service-pipe to the nose-piece *e*, and, finally, the waste-pipe to the nose-piece *f*, which, as shown, is below the other connecting-points. The
50 nose-pieces named form, respectively, the sup-

ply-port *s*, the service port *t*, and the waste-port *u*.

At the lower end of the chamber *a* there is a rounded valve-seat, *g*, while the walls of the lower portion of the globe-shaped cham-
55 ber *c* act as the seat for a plug-valve, *h*, which is controlled by means of a valve-stem, *k*, which extends upward for manipulation through the hollow cylindrical valve-stem *l*. This valve-stem *l* carries two valves, *m* and *n*,
60 the valve *m* being a plug-valve, and so arranged as to fit tightly within the chamber *a*, within which chamber the valve may be raised to the position shown in Fig. 2, or lowered to rest
upon its seat *g*, as shown in Fig. 1. The valve
65 *n* fits closely within the chamber *b*, the distance between the two valves being such that the valve *n* will be within the upper portion of the chamber *b* when the valve *m* is raised to
its full extent, and will not pass downward into
70 the chamber *c* until the valve *m* has entered the lower portion of the chamber *a* below the port *s*. The upper end of the casting A is closed by a plug, *o*, which is screw-threaded to engage with a thread formed in the inner
75 face of the casting. This plug *o* bears upon a packing-ring, *p*, which is supported by a washer, *q*, that rests upon a shoulder, *r*, formed above the chamber *a*, the cylindrical valve-stem *l* passing upward through a central open-
80 ing formed in the plug-washer and packing.

A cylinder, D, is connected to the upper end of the casting A, and the top of this cylinder, which reaches to the top of the lowest floor of the building in connection with which the
85 improved stop and waste cock is to be used, is closed by a cap, E, centrally apertured to allow the valve-stem *l* to pass through it for manipulation.

A weight, N, which is secured to the valve-
90 stem *l*, rides up and down within the cylinder or pipe D. A cross-piece, *n'*, is fixed to the valve-stem *l* just below the weight N, so as to enter a slot formed to receive it in the top of the plug *o* when the valve-stem is lowered,
95 and by means of this arrangement the plug *o* may be screwed in place or unscrewed. The valve-stems *k* and *l* may be operated in any manner desired.

The operation of the combined stop and 100

the forks of a bifurcated hanger loosely attached to the bottom of a car, in combination with a pinion rigidly connected to said axle and within the forks of said hanger, a bar having a rack at one end thereof, and a lifter provided with a roller and pivotally connected to the lower portion of the said hanger, substantially as and for the purpose set forth.

2. In a car-starter, a car-axle, in combination with a ratchet rigidly connected therewith, an arm hung loosely on said axle, a pivoted bar connected with said arm, a sliding head to which said arm is pivoted, and a spring pressing against said head, substantially as and for the purpose set forth.

3. An axle, in combination with a pinion, and a ratchet connected to said axle, a bifurcated hanger, a bar with a rack, said pinion and rack being between the forks of the hanger

and adapted to operate said rack, a sliding head provided with a spring secured to one end of said rack-bar, and a second bar connected to said head and pivotally attached to an arm loosely mounted on the said axle, the said arm carrying a pawl adapted to operate the said ratchet, substantially as described.

4. In a car-starter, a pinion on the car-axle, in combination with a rack the bar whereof is formed with a brake-shoe, substantially as and for the purpose set forth.

5. An axle, in combination with the bar G, formed with a shoe, R, the lifting-arm M, the bar P, and the operating treadle or lever Q, substantially as and for the purpose set forth.

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Witnesses:

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