

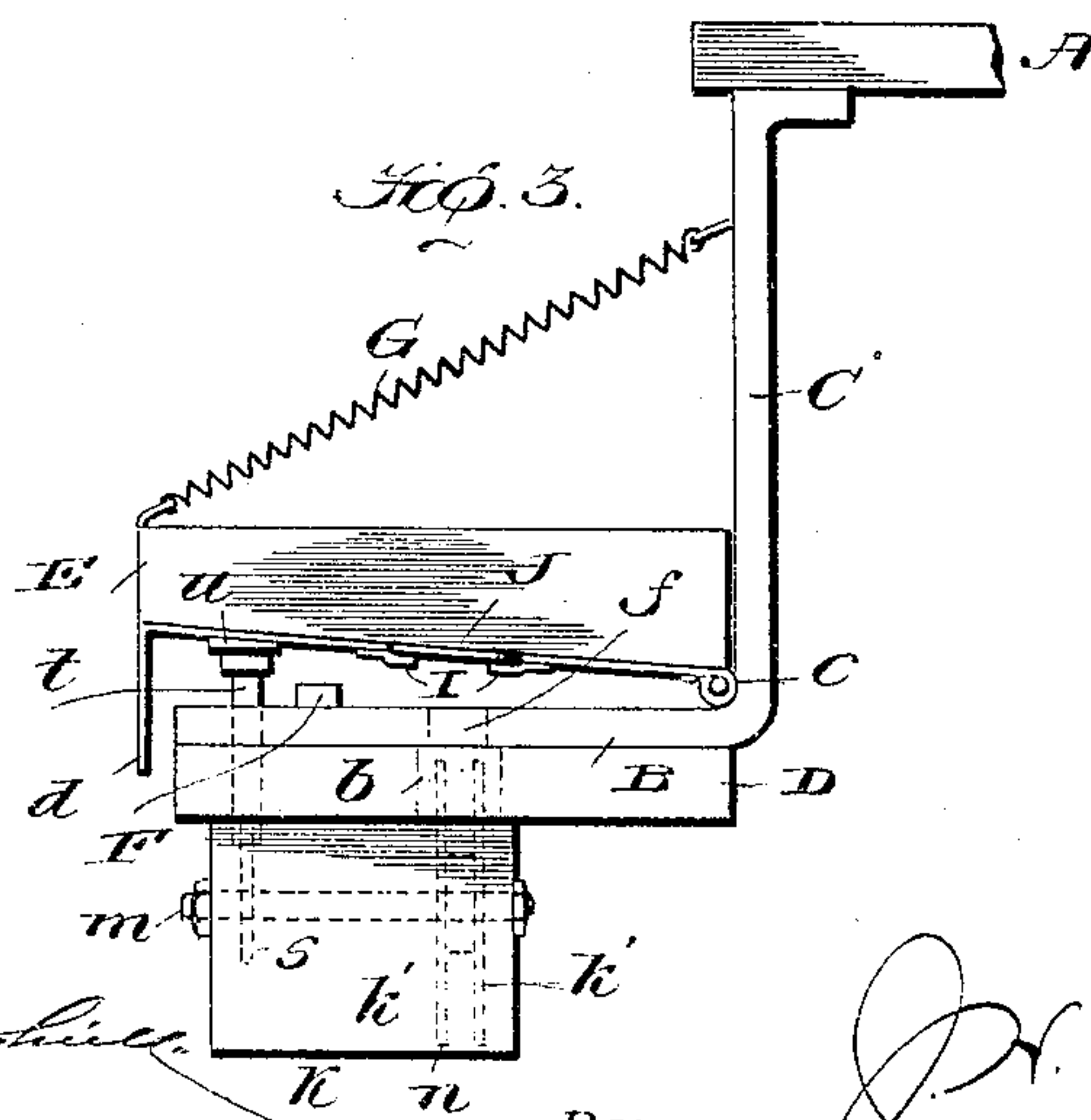
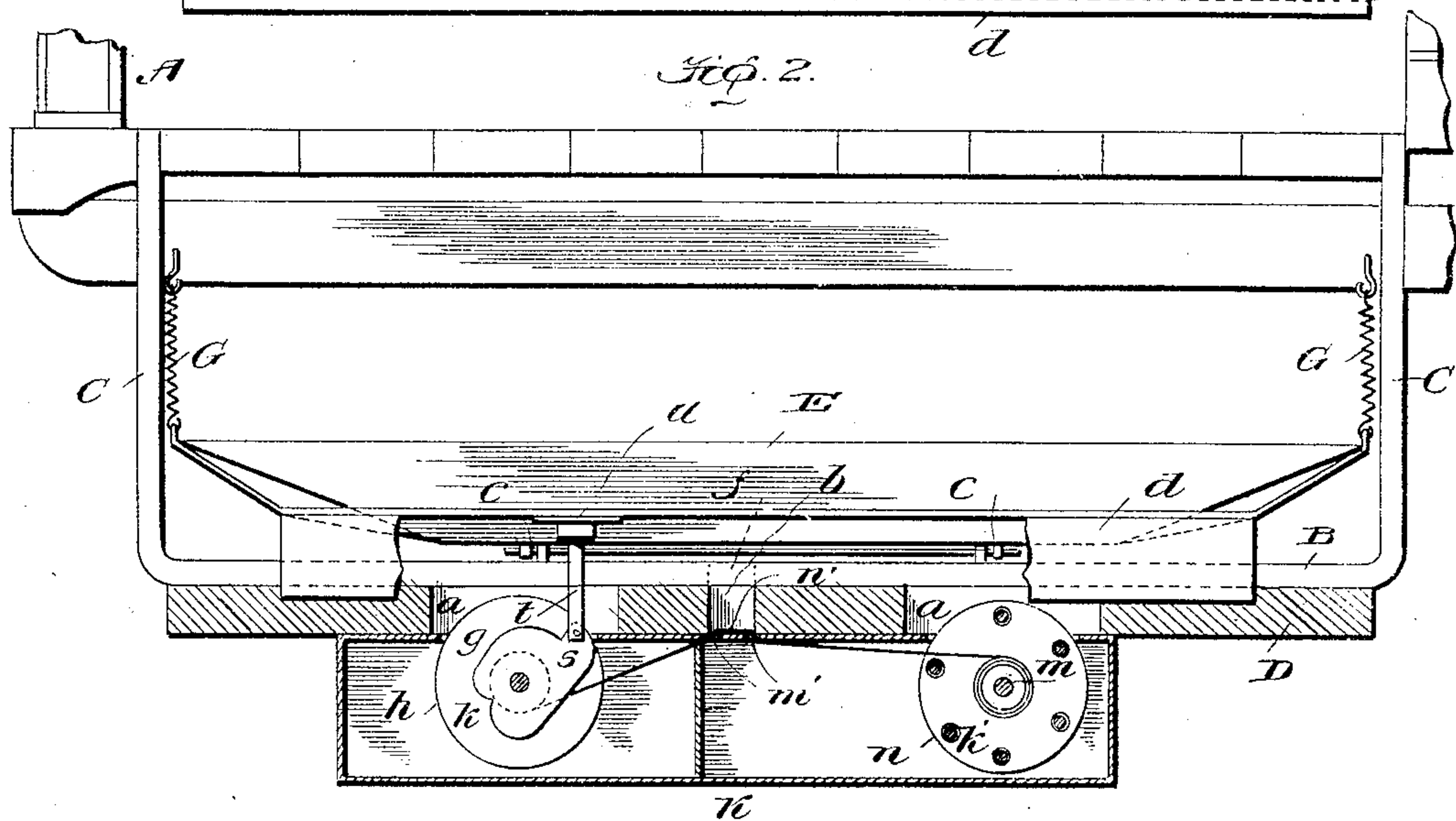
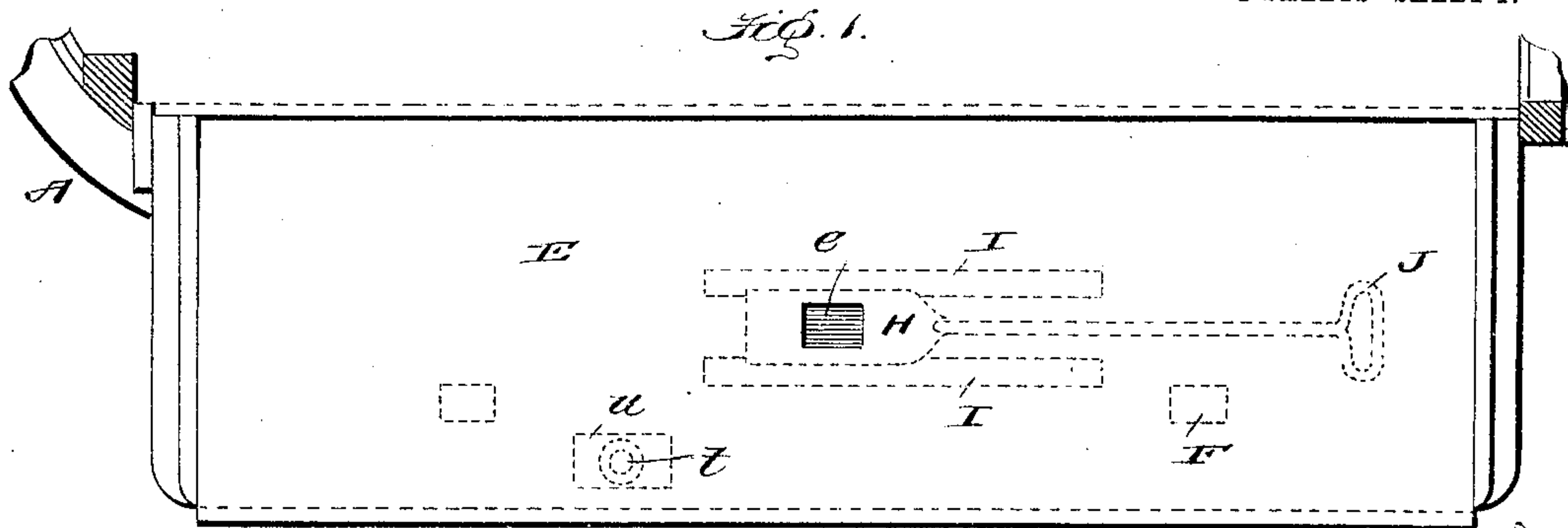
No. 843,055.

PATENTED FEB. 5, 1907.

J. H. WILLIAMS.
REGISTER.

APPLICATION FILED JUNE 14, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

W. E. Healy
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BY

INVENTOR

J. H. Williams
James J. Shulby
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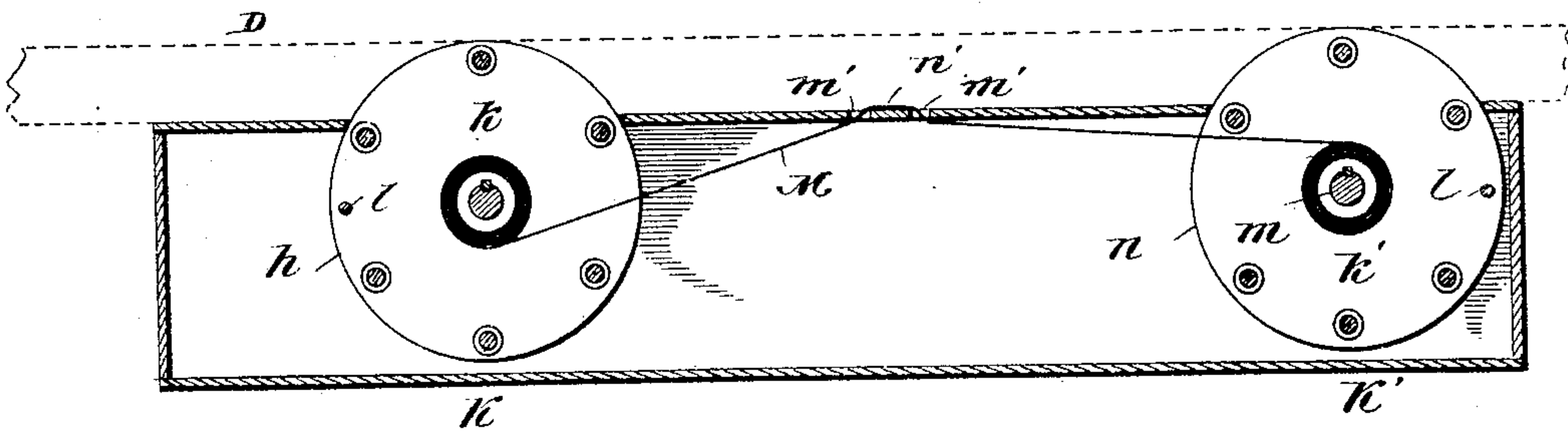
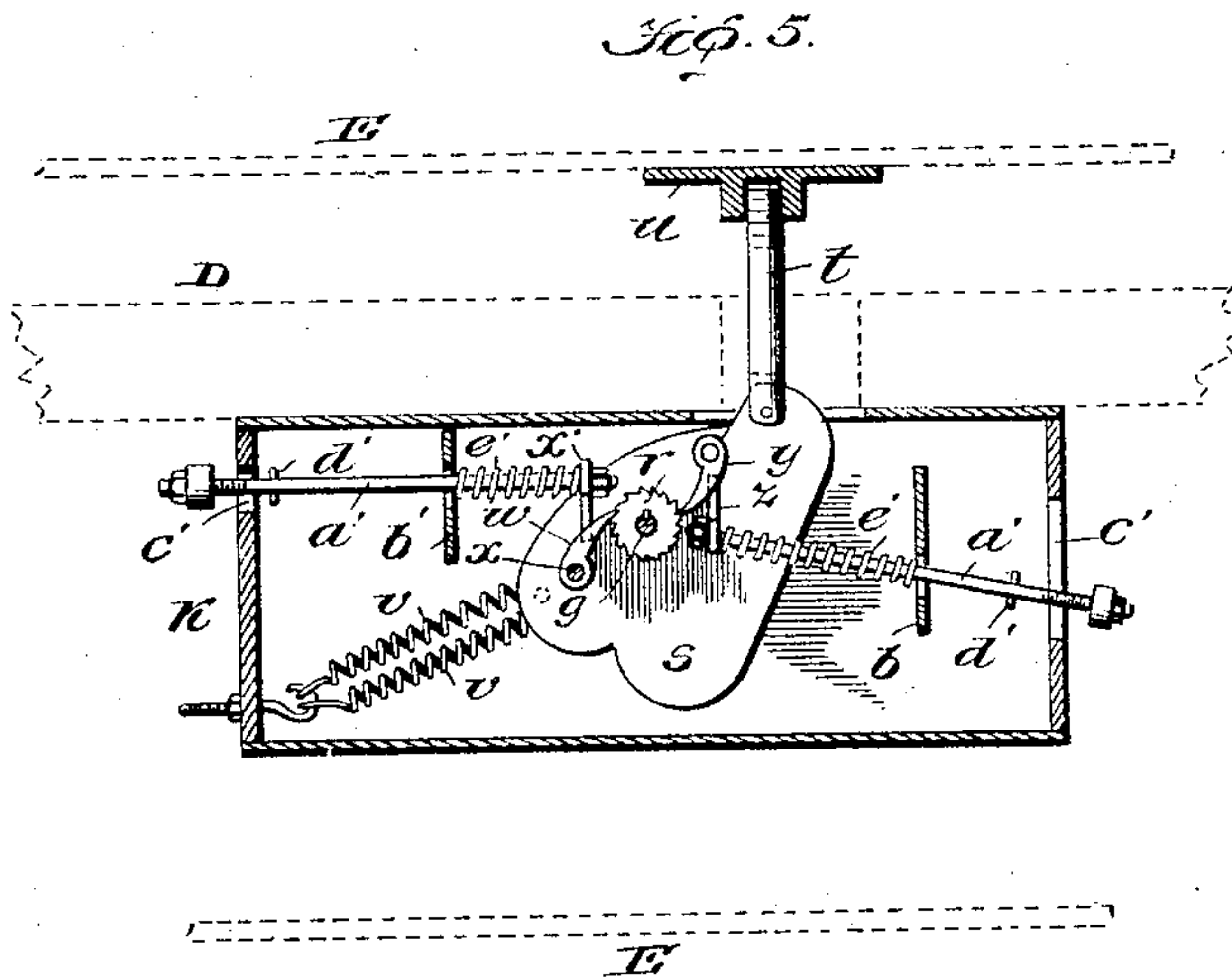
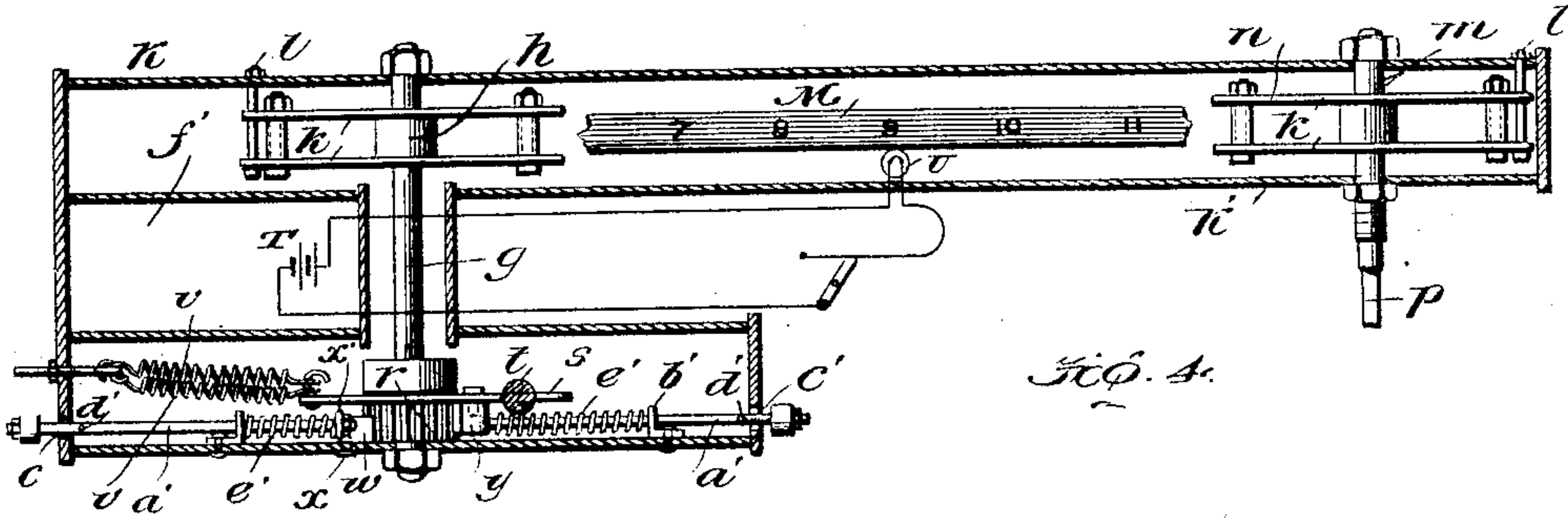
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2 SHEETS—SHEET 2.



WITNESSES:

N. C. Healy

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UNITED STATES PATENT OFFICE.

JOHN H. WILLIAMS, OF NEW ORLEANS, LOUISIANA.

REGISTER.

No. 843,055.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed June 14, 1906. Serial No. 321,760.

To all whom it may concern:

Be it known that I, JOHN H. WILLIAMS, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in Registers, of which the following is a specification.

My invention pertains to registers; and it contemplates the provision of a simple, durable, and reliable register constructed with a view of being automatically operated by the weight of a person stepping upon it and calculated to accurately register the number of persons entering or leaving a car or other enclosure.

The invention is designed more particularly for registering the number of persons entering or leaving a street-car; and it will be fully understood from the following description and claims when the same are read in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is a horizontal section illustrating a portion of a car equipped with the register constituting the present and preferred embodiment of my invention. Fig. 2 is a view, partly in side elevation and partly in vertical section, of the same with a portion of the depending flange on the front step broken away. Fig. 3 is a view illustrating my improvements in end elevation. Fig. 4 is an enlarged horizontal section taken through the casing comprised in the register and illustrating the parts contained in said casing in plan. Fig. 5 is an enlarged longitudinal section taken through the said casing in a plane between the vertically-swinging lever of the register mechanism and the adjacent side wall of the casing. Fig. 6 is a detail longitudinal vertical section illustrating the arrangement of the intermediate stretch of the register-tape relative to the top wall of the casing.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A is a portion of a car-body.

B is a horizontal bracket having upwardly-reaching arms C at its ends, fixed in any approved manner to the body A.

D is a step or section, preferably of wood, arranged below and fixedly connected to the bracket and having longitudinal vertically-disposed slots *a* and also having a vertically-disposed opening *b* arranged intermediate the slots *a* and designed to expose to view certain figures on the register-tape presently

referred to, and E is a false step, preferably of wood, arranged above the bracket B and hinged at *c* to the said bracket, as best shown in Figs. 1 and 3. The said false step E is provided with an outer depending flange *d* and is also provided with an opening *e*, which latter is designed to register with the before-mentioned opening *b* in step D and a similar opening *f* in the bracket B, this in order to enable a person in interest to look downward through the false step E and in that way read the figure or figures of the register-tape displayed in the opening *b* of the step D.

A stop F on the upper side of the bracket B limits the downward movement of the false step E, and in order to raise the said false step E when a person steps from the same, as well as to normally hold the false step in the position shown in Figs. 1 and 3, I provide coiled springs G, which are interposed between and connected to the false step E and the body A, as shown. The forward-depending flange *d* of the false step E tends to prevent dust and dirt finding their way between the bracket B and the false step, and in order to prevent dust and dirt falling down through the opening *e* in the false step and in that way getting upon the register-tape I provide the closure-plate H, (best shown in Figs. 1 and 3,) which closure-plate is disposed below the false step E. The said closure-plate is arranged to be moved between longitudinal guides I, and in the position indicated by dotted lines in Fig. 1 it obviously serves to close the lower end of the opening *e*. When, however, it is desired to view the displayed figure or figures on the register-tape, it is simply necessary to move the plate H from its position below the opening *e*, and this may be easily done through the medium of the handle J, with which the closure-plate is equipped, as indicated by dotted lines in Fig. 1. When the false step E is depressed, as when a person steps upon it, the stop F prevents the under side of the false step from reaching the upper side of the bracket B and in that way precludes injury of the closure-plate H or its guides I.

K is a casing, preferably of metal, fixedly connected to and disposed below the step D. The said casing K is provided with a compartment *f'* for an important purpose presently set forth and is designed to contain the tape-moving mechanism of the register. This tape-moving mechanism is best shown in Figs. 4 to 6 and in the preferred embodi-

ment of my invention is made up of a transverse shaft *g*, journaled in the side walls of the casing, a spool or drum *h*, fixed on the shaft *g*, tape-retaining disks *k*, loosely receiving the shaft *g* at opposite sides of the spool or drum *h* and fixedly connected to the adjacent side wall of the casing, preferably through the medium of a bolt *l*, Fig. 4, a comparatively short shaft *m*, journaled in the side walls of the reduced extension *K'* of the casing and having fixed thereon a spool or drum *n* and also having one of its ends squared, as indicated by *p*, for the application of a key or the like, tape-retaining disks *k'*, loosely receiving the shaft *m* at opposite sides of the spool or drum *n* and fixedly connected with the casing extension *K'*, a ratchet *r*, keyed or otherwise fixed on the shaft *g*, a vertically-swinging lever *s*, loosely mounted on the shaft *g* at one side of and adjacent to the ratchet *r* and having an upwardly-extending stem *t*, which terminates in a head *u*, disposed below and against the under side of the false step *E*, one or more, preferably two, tractile springs *v* interposed between and connected to the lever *s* and the casing *K* and having for their office to return the said lever to and normally hold it in the position shown in Fig. 5, a pawl *w*, mounted on a stud *x*, carried by one of the side walls of the casing and having an upwardly-extending apertured arm *x'*, a pawl *y*, pivoted on the lever *s* and having a depending apertured arm *z*, rods *a'*, connected to the arms of the pawls in a loose manner and extending through abutments *b'*, fixed in the casing *K*, and also extending through slots *c'* in the end walls of said casing and having lateral pins *d'* arranged to normally rest adjacent to the said end walls, and coiled springs *e'*, mounted on the rods *a'* and interposed between the abutments *b'* and the arms *x* and *z* of the two pawls *w* and *y*, so as to hold the said pawls yieldingly in engagement with the ratchet *r*, and thereby preclude retrograde movement of the register-tape *M*. As shown in Fig. 4, the said register-tape is provided at intervals with numbers arranged in proper sequence from left to right, and in the practice of my invention the said tape is designed to be wound off the spool or drum *n* and on the spool or drum *h*, and this in a step-by-step manner incident to the depressions of the false step *E*, as when persons step on and off the same. Then when the tape *M* is all wound on the drum *h*, I contemplate winding it back on the drum *n* by hand. To permit of this being done with facility, the rods *a'* are drawn outward against the action of the springs *e'*, and the pins *d'* on the rods are engaged with the outer sides of the end casing-walls, so as to hold the points of the pawls *w* and *y* away from the ratchet *r*. A key, which I have deemed it unnecessary to illustrate, is then applied to the squared end of the shaft

m, and the said shaft is turned toward the right until all of the tape is wound on the drum *n* except the portion which stretches between the said drum *n* and the drum *h*. The tape *M* extends through openings *m'* in the top wall of the casing *K* and over the said top wall for a short distance, as indicated by *n'*, at a point below the opening *b* in the step *D* and the opening *f* in the bracket *B*. (See Figs. 1 and 6.)

In practice I set my novel register with the register-tape *M* on the drum *n* and with the first number or any other predetermined number on the tape at the proper distance to the right of the right-hand opening *m'* in the casing-top, after which I restore the pawls *w* and *y* to their working positions, so as to enable said pawls to preclude retrograde movement of the tape during the operation of the register. With the parts thus arranged it will be apparent that as each person entering or leaving the car steps upon the false step *E* the said false step will be depressed, and through the medium of the stem *t*, the lever *s*, the pawls *w* and *y*, and the ratchet *r* the shaft *g* and the drum *h* will be turned sufficiently far to move the tape and draw one number thereon off the top of the casing *K* and the following number on the said top. In this way an accurate registration of the number of persons entering or leaving the car is made, and when the car is full or empty, as the case may be, a person in authority may readily ascertain the number by moving the closure-plate *H* toward the right and looking through the registered openings *e*, *f*, and *b* in the false step *E*, the bracket *B*, and the step *D*, respectively.

I contemplate in practice arranging a battery of the storage type in the compartment *f'* of casing *K*, as indicated by *T* in Fig. 4, and electrically connecting the said battery with an incandescent light *U*, arranged adjacent to the exposed part of the tape *M*, as shown diagrammatically in the said figure, this in order that the said exposed portion of the tape may be illuminated when necessary.

It will be gathered from the foregoing that when my novel register is employed each person stepping on the false step *E* will automatically register his or her passage into or out of the car, also that the register is simple and inexpensive in construction and is well adapted to withstand the usage to which car devices are ordinarily subjected.

While my novel register is designed more particularly for use in connection with street-cars, I desire it distinctly understood that the register may be used to advantage in connection with buildings and other inclosures in which people assemble.

I have entered into a detailed description of the construction and relative arrangement of the parts embraced in the present and preferred embodiment of my invention in order

to impart a definite understanding of the said embodiment. I do not desire, however, to be understood as confining myself to the said specific construction and relative arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of my invention as claimed.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a register, the combination of a vertically-disposed bracket having an opening, a step fixed to the under side of the bracket and having a vertically-disposed opening registered with the opening of the bracket, a yieldingly-supported false step arranged above and hinged to the bracket and having a vertically-disposed opening registered with those of the bracket and step and also having a depending stem, a casing connected to and arranged below the step, a register-tape arranged in said casing and having a portion extending below the vertical openings in the step, bracket and false step, and means for moving the tape, arranged to be actuated by the depending stem of the false step.

2. In a register, the combination of a suitable support having an opening, a casing connected to and arranged below said support, a register-tape arranged in the casing and having a portion exposed to the said opening, a yieldingly-supported, vertically-movable

step hinged to the support and having a forward depending flange and also having an opening registered with that of the support and a slide on its under side for closing said opening, and means operated by vertical movement of the step for feeding the tape.

3. In a register, the combination of a casing containing an abutment and having a slot in one wall, shafts journaled in the casing and bearing drums, a tape arranged to be moved from one drum to the other, a ratchet fixed on one shaft, a lever loosely mounted on said shaft and carrying a pawl arranged to engage the ratchet; said pawl having an apertured arm, a rod extending through the aperture of the arm on the pawl and connected to said arm and also extending through the abutment in the casing and the slot in the wall of the casing and having a lateral pin, a spring mounted on the rod and interposed between the abutment and arm, a vertically-movable, yieldingly-supported step, and a connection between said step and the lever for operating the latter by the former.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN H. WILLIAMS.

Witnesses:

GEO. W. KENDALL,
TOM HUGHES.