

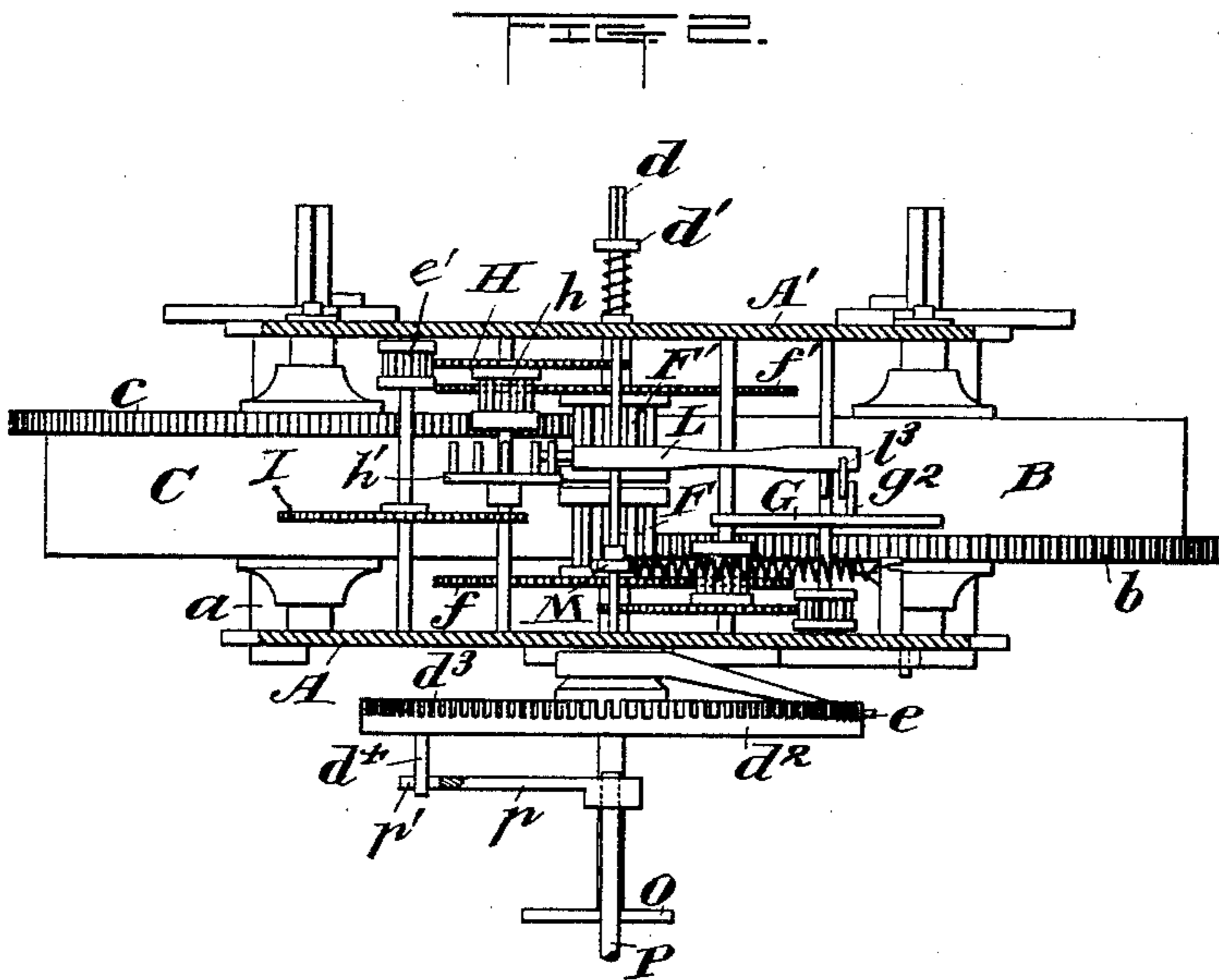
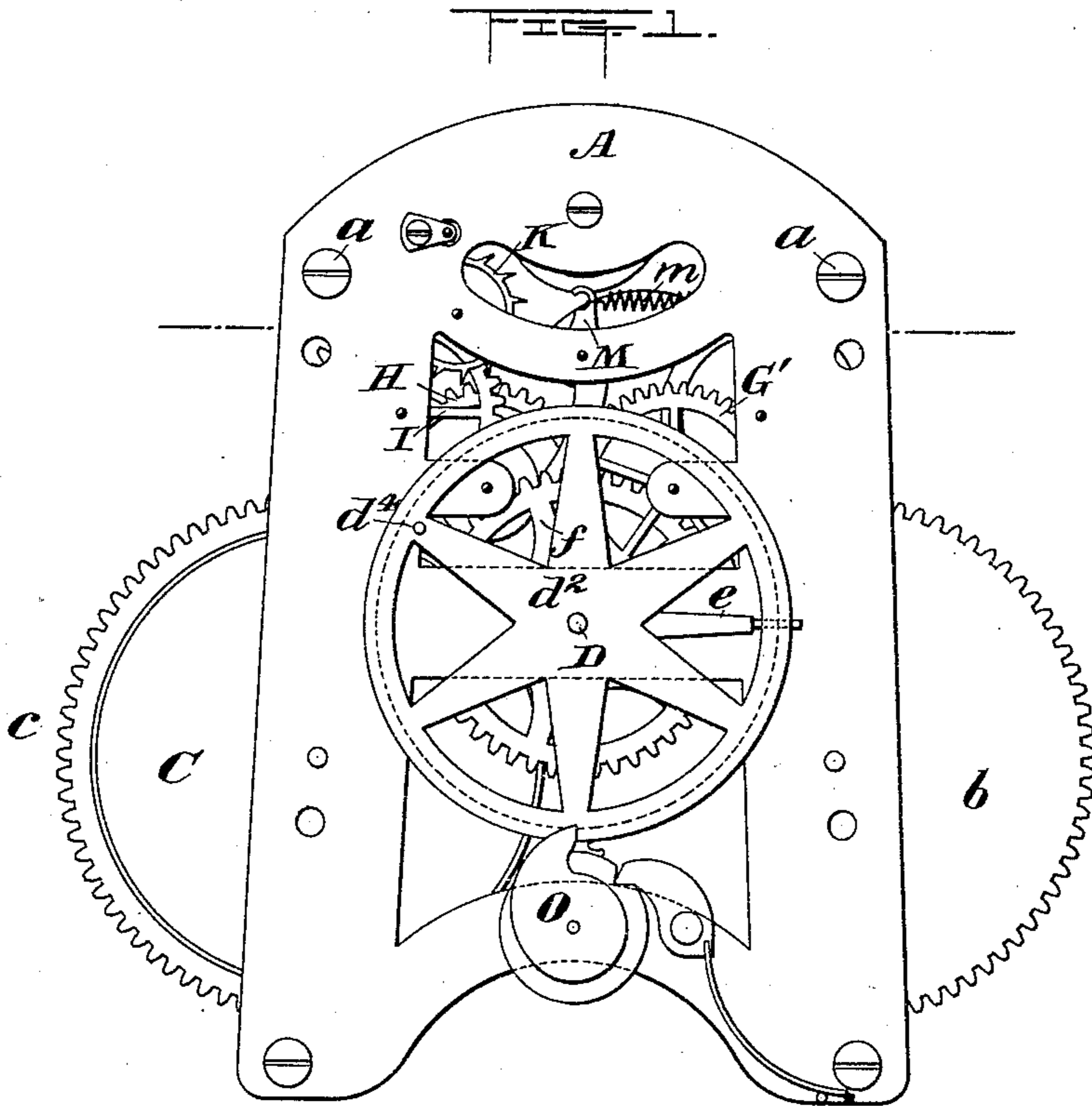
(No Model.)

2 Sheets—Sheet 1.

P. G. GIROUD.
TIME STAMP MOTOR.

No. 547,426.

Patented Oct. 8, 1895.



Witnesses.
A. Leonard.
George Barry.

Inventor.
Peter G. Giroud,
by attorneys.
Brown & Howard

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FIG. 3.

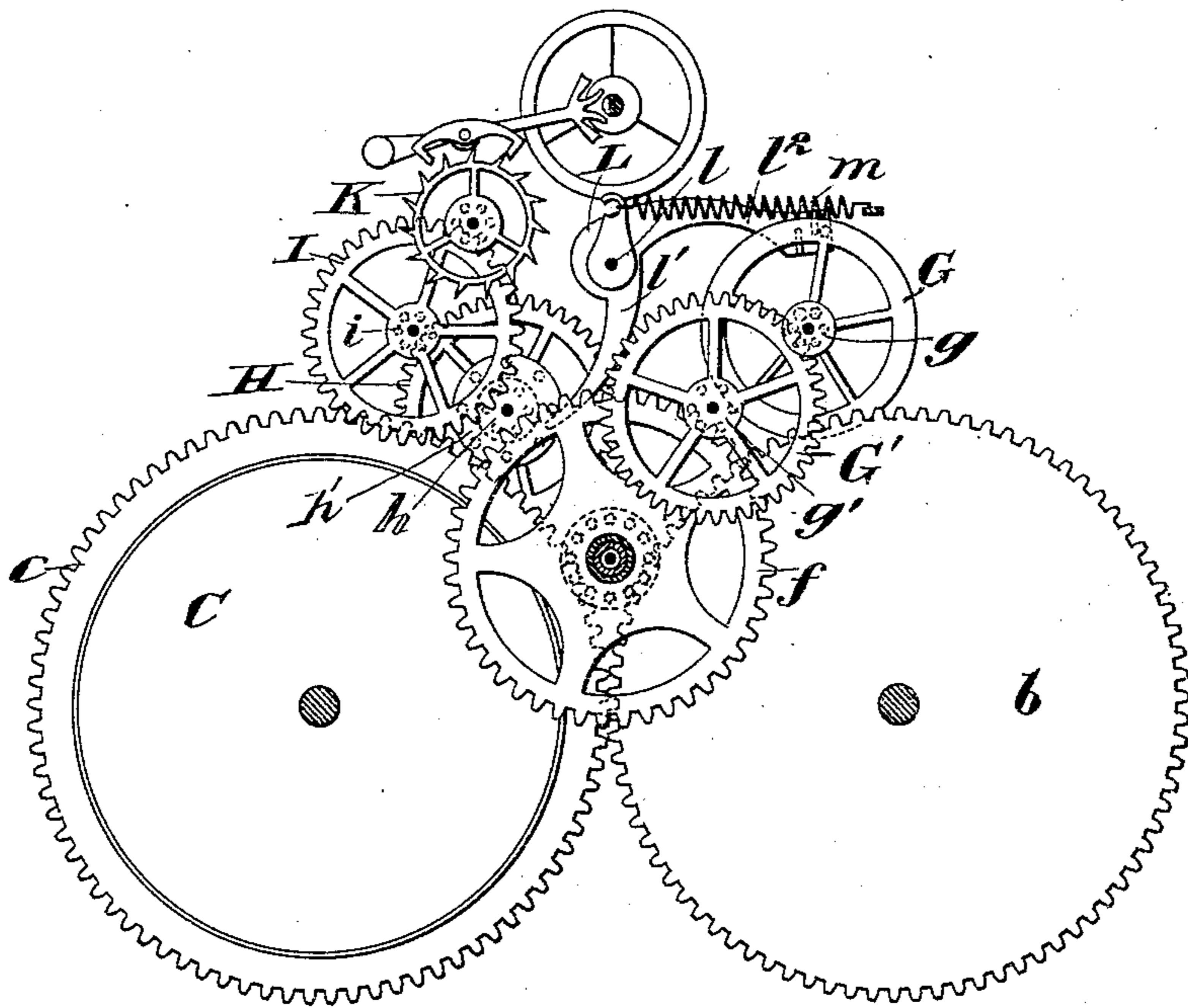


FIG. 4.

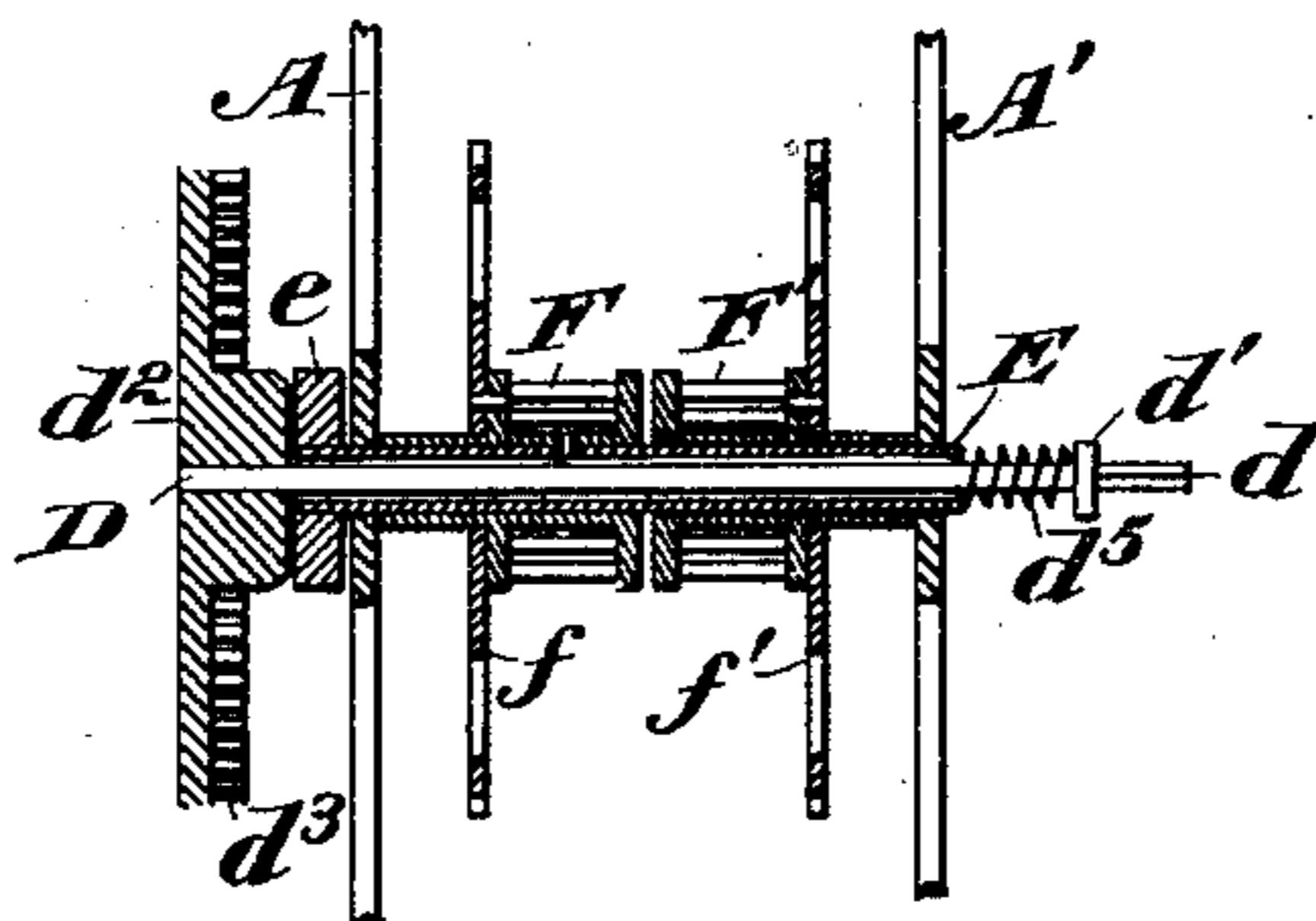
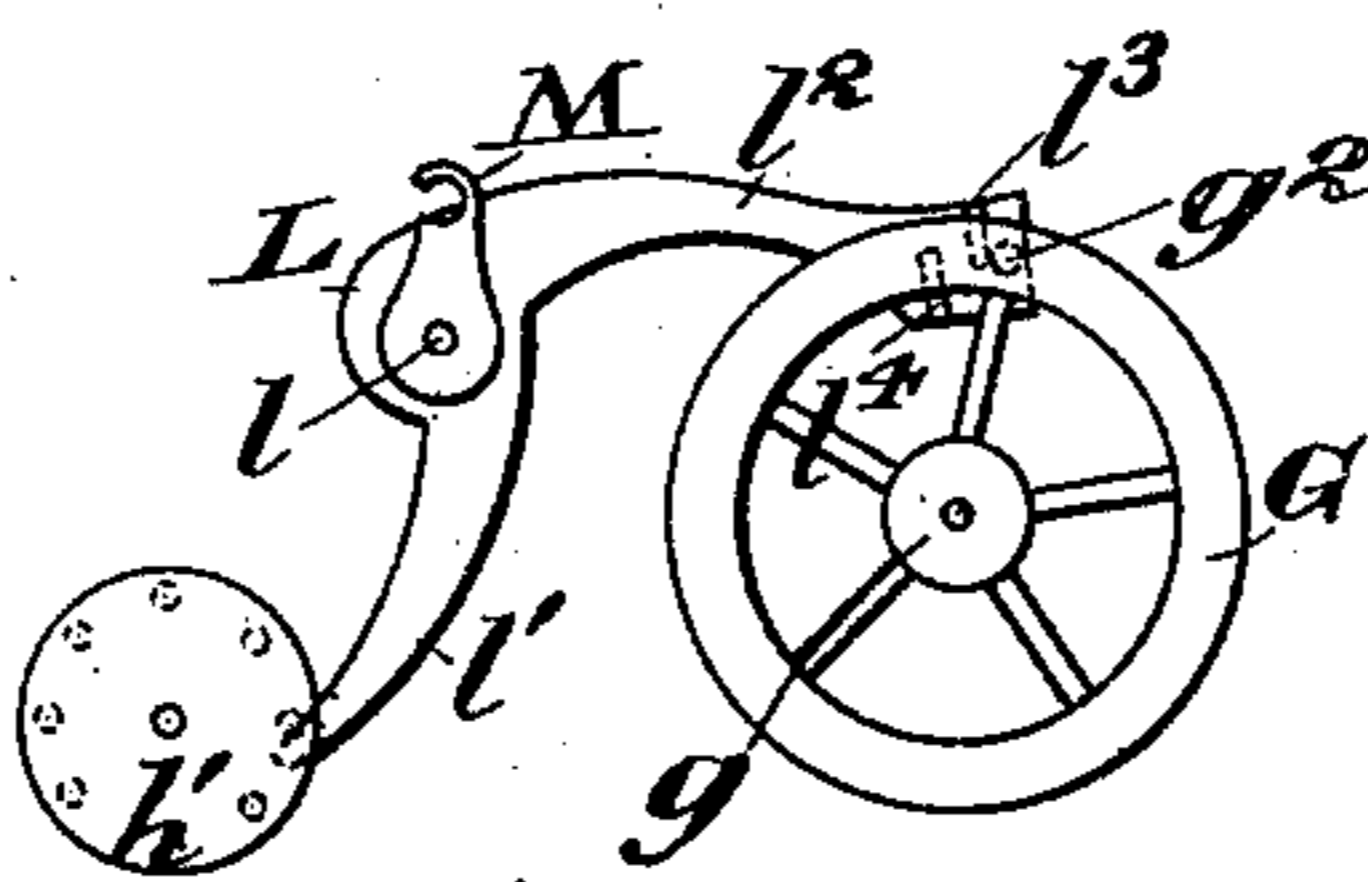


FIG. 5.



Witnesses.

*Edward
George Barry.*

Inventor.
Peter G. Giroud
by attorneys.
Frank Howard

UNITED STATES PATENT OFFICE.

PETER G. GIROUD, OF NEWARK, NEW JERSEY.

TIME-STAMP MOTOR.

SPECIFICATION forming part of Letters Patent No. 547,426, dated October 8, 1895.

Application filed October 10, 1894. Serial No. 525,476. (No model.)

To all whom it may concern:

Be it known that I, PETER G. GIROUD, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Time-Stamp Motors, of which the following is a specification.

My invention relates to an improvement in time-stamp motors in which the time and printing mechanism is advanced at predetermined intervals of time.

The object is to provide simple and effective means for promptly advancing the time-indicating pointers and printing-wheels intermediate of the intervals of rest and in connection therewith, to provide for the setting of the time-wheels and time-indicating hands without disturbing either the time or motor trains and without materially increasing the number of operating parts or their complications.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a view in side elevation of the time and motor gears. Fig. 2 is a top plan view of the same with the escapement removed. Fig. 3 is a view in detail in front elevation of the time and motor gears, the front of the supporting-casing and the power-transmitting wheel being removed. Fig. 4 is a view in detail in longitudinal section from front to rear through the power-transmitting wheel and the driving-pinions mounted about the spindle of the said power-transmitting wheel, and Fig. 5 is a view in detail in side elevation of the trip mechanism through which the time-train regulates the step-by-step movement of the motor.

The casing in which the operative parts are mounted consists of a front plate A and rear plate A' and tie pins or girders a for securing the front and rear plates together at a suitable distance apart.

The spring for actuating the motor-train is housed within a drum B, suitably mounted between the front and rear plates and provided with a driving gear-wheel b, fixed to rotate therewith. The actuating-spring for the time-train is housed within a rotary drum C, suitably mounted between the front and rear plates and provided with a driving gear-wheel c, fixed to rotate therewith.

Intermediate of the gear-wheels b and c I mount a spindle D, extending through from in front of the front plate to the rear of the rear plate and provided on its rear end with a squared portion d for the purpose of attaching thereto a key for turning it. Adjacent to the squared portion d the spindle is provided with a collar or shoulder d' for the purpose of exerting a pressure upon the spindle to slide it longitudinally toward the front. To the front end of the spindle D there is secured a power-transmitting wheel d², provided with an annular series of teeth d³ on the edge of its periphery, and with a crank-pin d⁴ projecting from its front face. The spindle D is loosely mounted in both rotary and longitudinal adjustment within a sleeve E, which in turn is loosely mounted in suitable bearings in the front and rear plates A A', and which sleeve has fixed to its front, intermediate of the wheel d² and the front plate A, an arm e, the free end of which is held normally in engagement with the teeth d³ on the wheel d² by the pressure of a spring d⁵, interposed between the collar or shoulder d' on the spindle and the rear end of the sleeve E. Fixed to rotate with the sleeve E is a pinion F, provided with a toothed wheel f, fixed to rotate with the pinion. There is also loosely mounted on the sleeve E a pinion F', having fixed to rotate therewith a toothed wheel f'.

The drive-wheel b of the motor-gear engages the pinion F, fixed to rotate with the sleeve E, and tends to rotate it and hence the arm e, and when the latter is in its normal engagement with the power-transmitting wheel d² to advance the wheel d². The movement of the pinion F under the pressure of the drive-wheel b is permitted when the stop-wheel G is released by the trip mechanism. Motion is transmitted to the stop-wheel G from the pinion F by means of a pinion g fixed to rotate with the wheel G, in engagement with a toothed wheel G', having a pinion g' fixed to rotate therewith, the pinion g' being engaged with the toothed wheel f, fixed to rotate with the pinion F.

The drive-wheel c of the time-train transmits power through the pinion F' to the toothed wheel f', thence to a pinion h fixed to rotate with the toothed wheel H, thence to a

pinion i fixed to rotate with a toothed wheel I, and thence to the escapement-wheel K. Fixed to rotate with the toothed wheel H is a lantern-pinion h' , the bars of which serve to
 5 actuate the trip-lever for releasing the stop-wheel G, hereinbefore referred to.

The trip-lever is denoted as a whole by L, and is secured to a rocking shaft l , suitably mounted in front and rear frames. One arm
 10 l' of the lever has its end extended into engagement with bars of the lantern-pinion h' , while the other arm l'' of the lever extends into engagement with the stop-wheel G. The stop-wheel is provided with a pin g^2 , project-
 15 ing from its side, and the arm l'' of the trip-lever is provided with two abutments l^3 l^4 , located at the side of its free end and lapping past each other at their free edges and spaced
 20 apart sufficiently to permit the pin g^2 to pass between them. The shaft l , to which the trip-lever is secured, has fixed thereto an arm M, to the free end of which one end of the spring
 25 m is secured, the opposite end of said spring being secured to a suitable support on the front plate. The tension of the spring m is such as to tend to rotate the shaft l in a di-
 30 rection to hold the free end of the arm l'' of the trip-lever as far as possible toward the center of the stop-wheel G. At the same time the free end of the arm l' of the trip-lever is
 35 so located with respect to the bars on the lantern-pinion h' , that before the bar has passed the free end of the arm l' it will have rocked the trip-lever sufficiently to permit the pin g^2
 40 on the stop-wheel to escape under the abutment l^3 on the arm l'' and into contact with the abutment l^4 . In this position the stop-wheel G will be held until the bar on the lantern-pinion h' has passed the free end of the
 45 arm l' , when the tension of the spring m will rock the trip-lever in a direction to permit the pin g^2 to escape over the abutment l^4 and the stop-wheel G be thereby permitted to make nearly a complete revolution, its ar-
 50 rest being caused by the engagement of the pin g^2 with the abutment l^3 , which at this moment is drawn down into its path by the rocking of the trip-lever under the tension of the spring m .

The bars on the lantern-pinion h' may be located at such intervals apart as to operate the trip-lever every minute, half-minute, quar-
 55 ter-minute, or at any other desired interval of time, and it will therefore follow that the rotation of the stop-wheel G will take place at such predetermined intervals of time, and hence, in the manner hereinbefore described, the power transmitting-wheel d^2 will at such
 60 intervals of time act through its crank-pin upon the type-wheels and time-indicating hands under its control.

The type-wheels and time-indicating hands are not shown in connection with the motor which forms the subject-matter of this pres-
 65 ent application, and, so far as the motor hereinabove described is concerned, they may be of any well-known or approved form so long

as they are adapted to be actuated by the interrupted movement of the power-transmitting wheel d^2 . A shaft for transmitting mo-
 70 tion from the wheel d^2 is denoted by P, and the arm p on said shaft is provided with a slot p' for the reception of the crank-pin on the wheel d^2 , the relation of the wheel d^2 to the arm p being such that the wheel d^2 may
 75 be thrown out of engagement with the arm e without disturbing the engagement of the pin d^4 with the slot in the arm p .

No particular description will be made in this present application of the snail-cam O, 80 mounted in the lower portion of the front and rear plates, as its action can only be properly understood in connection with the type-wheels and time-indicating hands, (not shown
 85 herein,) the front and rear plates of the mechanism herein shown and described being utilized simply as a support for said cam-shaft.

By mounting the spindle D, to which the power-transmitting wheel d^2 is secured, so as to permit it to be moved longitudinally 90 against the tension of the spring d^5 out of engagement with the arm e , I provide for rotating said power-transmitting wheel at pleasure so long as it is out of engagement with the arm e and thereby operating the type-wheels 95 and time-indicating hands of the stamp or whatever other mechanism may be driven by said power-transmitting wheel d^2 to set it into the desired position without in any manner
 100 disturbing either the time or motor trains or gear, and at the same time utilizing the said spindle D for purposes of mounting the power-transmitting wheel while in normal engage-
 105 ment with the motor or mechanism. The rotary movement of the stop-wheel G is prompt and rapid, so that the power-transmitting wheel d^2 and hence any mechanism that may be operated thereby will remain at rest with
 110 the exception of brief moments at such intervals as may be determined upon, since no matter how rapid the stop-wheel rotates it will find the abutment l^3 down in position to arrest it, for the reason that the abutment l^3 has been
 115 drawn down into the path of the pin g^2 simultaneously with the passage of the pin over the abutment l^4 .

It is obvious that slight changes might be resorted to in the form and arrangements of the several parts herein described without de-
 120 parting from the spirit and scope of my invention, hence I do not wish to limit myself strictly to the structure herein set forth; but

What I claim is—

1. A time stamp motor comprising a motor train, a time train for controlling the move-
 125 ment of the motor train, a spindle, a power transmitting wheel fixed to the spindle, means for placing the power transmitting wheel out of or under the control of the motor train at pleasure and power transmitting wheels lo-
 130 cated in axial alignment on said spindle and adapted to be independently operated by the actuating wheels of the two trains, substan-
 tially as set forth.

2. A time stamp motor, comprising a motor
train, a time train for controlling the move-
ment of the motor train, a rotary sleeve car-
rying a pinion in gear with the motor train,
5 a spindle mounted loosely within the sleeve,
a power transmitting wheel fixed to the spin-
dle, a connection between said rotary sleeve
and the power transmitting wheel and means
for throwing the power transmitting wheel
10 into and out of engagement with the said ro-
tary sleeve, substantially as set forth.

3. A time stamp motor, comprising a motor
train, a time train for controlling the move-

ment of the motor train, a rotary sleeve, actu-
ated by the motor train, a pinion loosely 15
mounted on the sleeve and engaged with the
time train, a spindle mounted to rotate and
move longitudinally within the sleeve, a
power transmitting wheel carried by the spin-
dle and means for locking the power transmit- 20
ting wheel to and releasing it from the sleeve,
substantially as set forth.

PETER G. GIROUD.

Witnesses:

FREDK. HAYNES,
IRENE B. DECKER.