

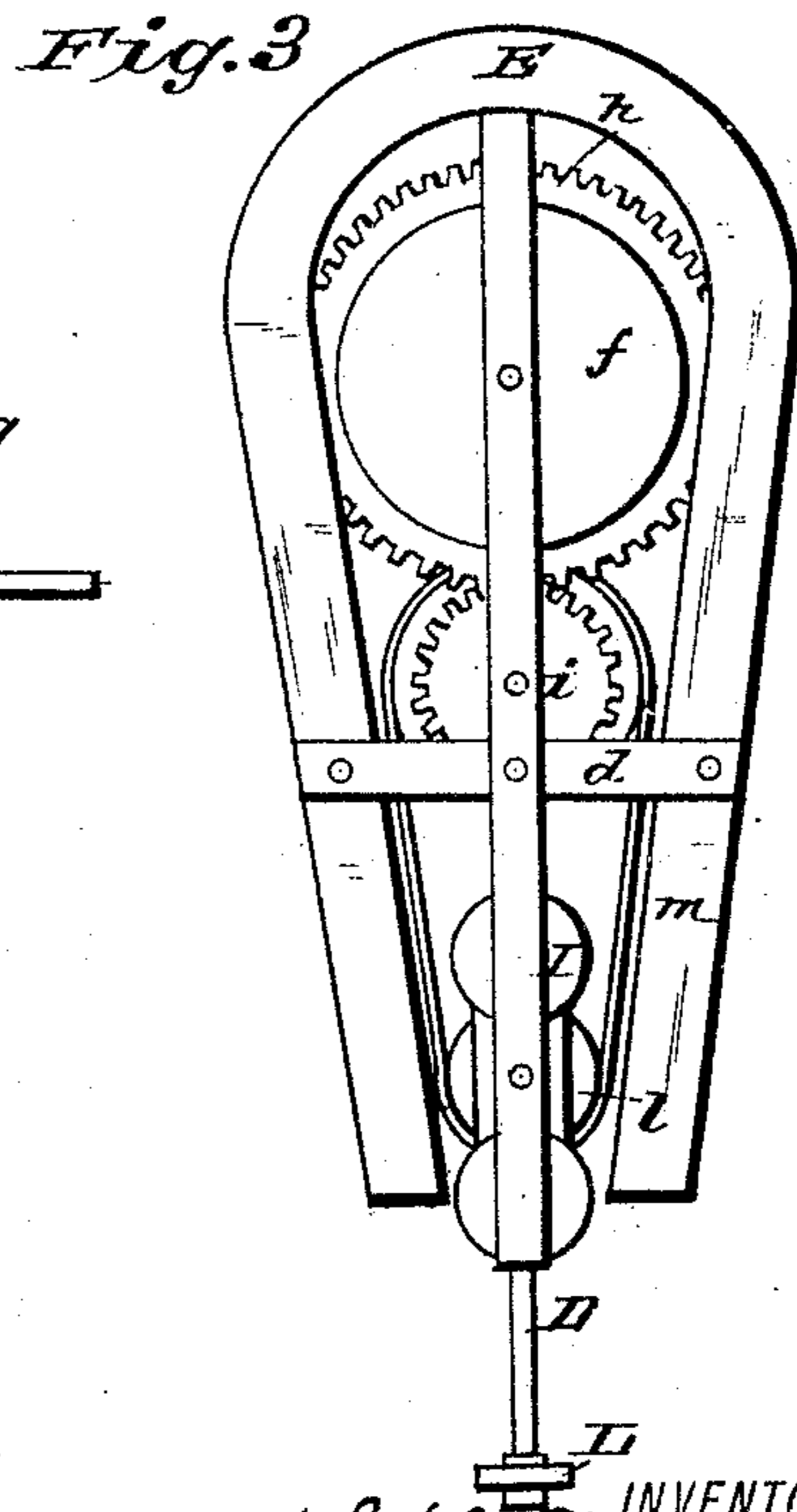
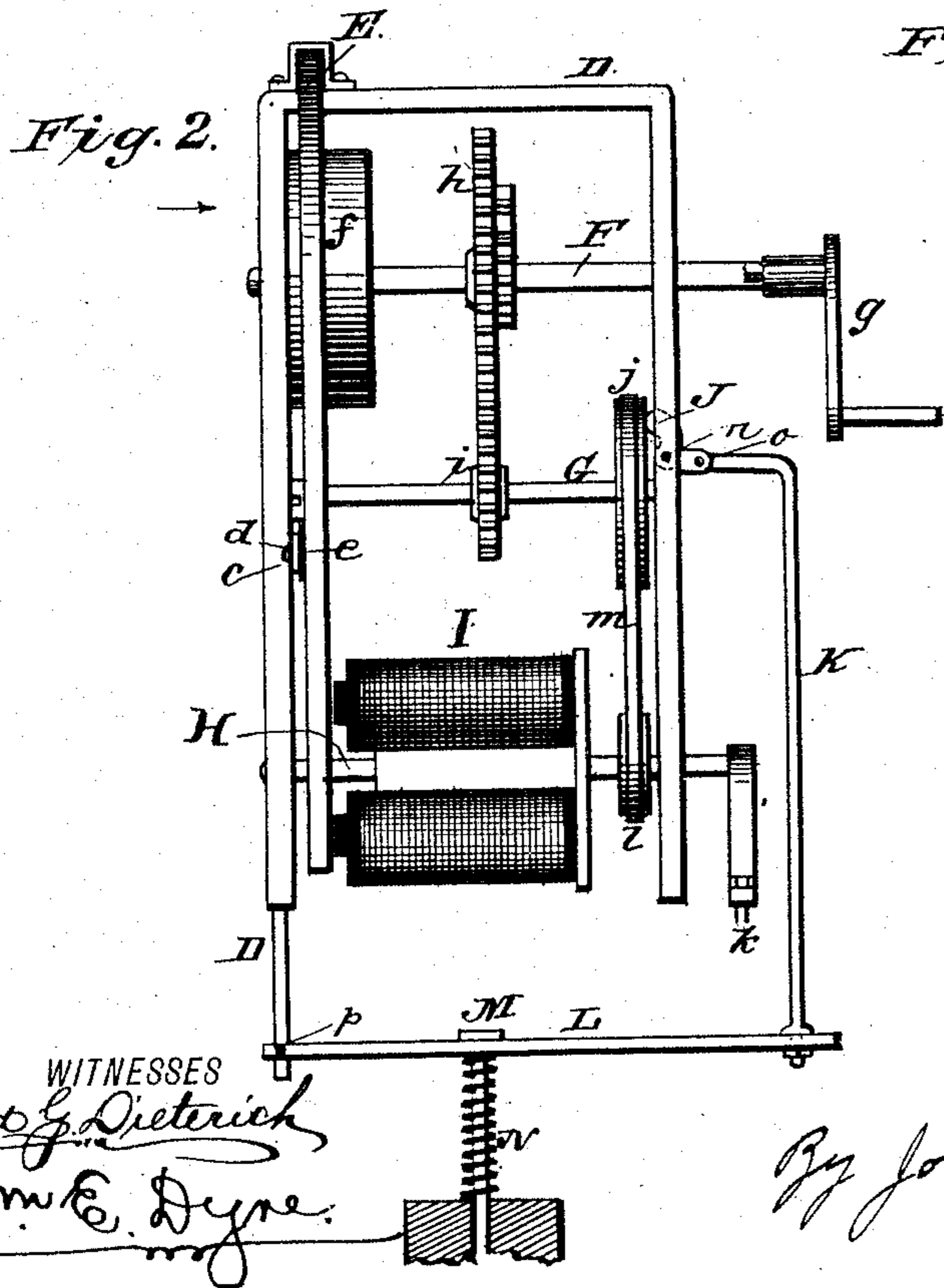
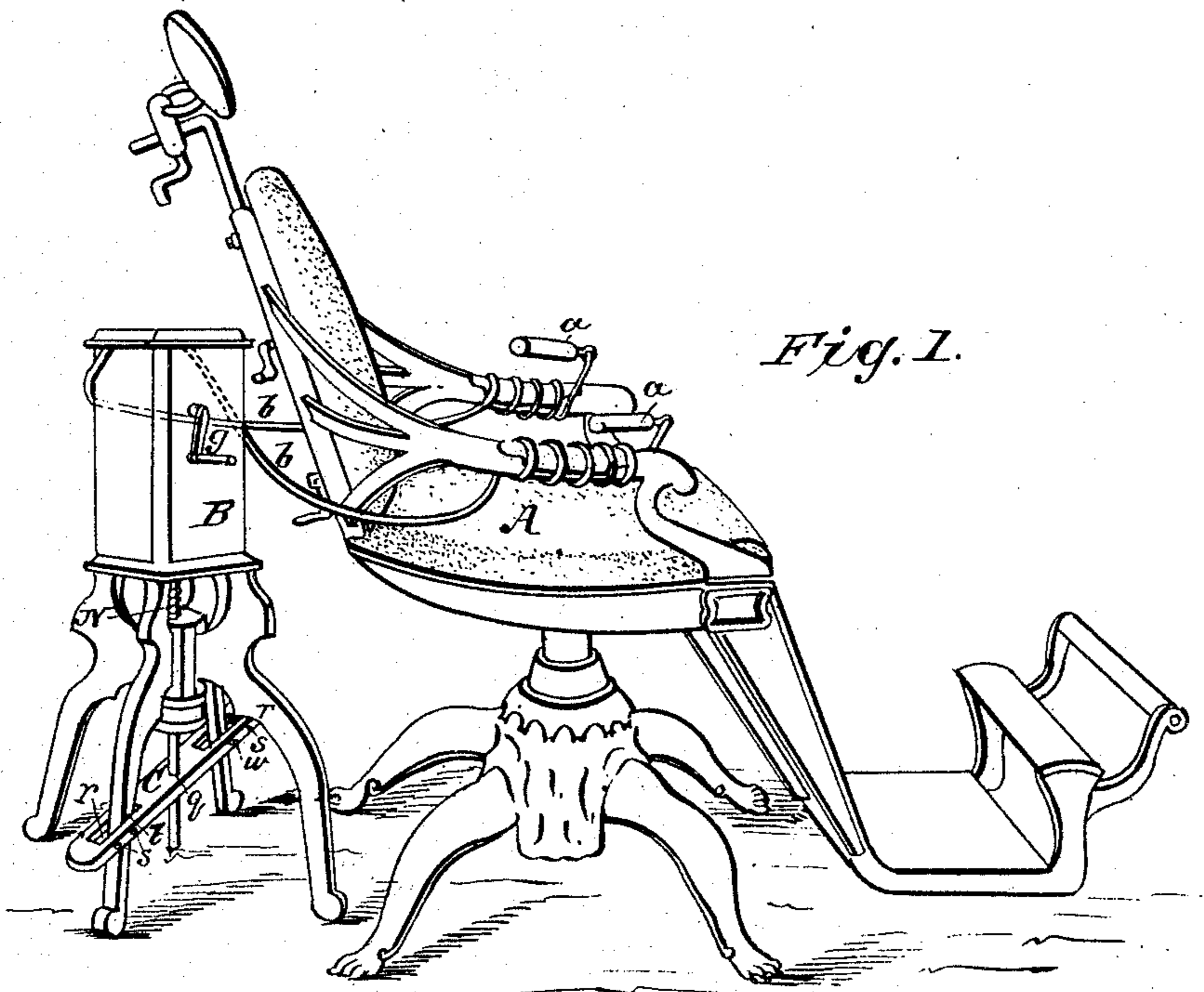
(No Model.)

L. L. DECKARD.

ELECTRICAL APPLIANCE FOR DENTAL CHAIRS.

No. 353,403.

Patented Nov. 30, 1886.



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ELECTRICAL APPLIANCE FOR DENTAL CHAIRS.

SPECIFICATION forming part of Letters Patent No. 353,403, dated November 30, 1886.

Application filed August 24, 1886. Serial No. 211,734. (No model.)

To all whom it may concern:

Be it known that I, LEVI L. DECKARD, a citizen of the United States, residing at Middletown, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Electrical Appliances for Dental Chairs; 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.

My invention relates to an electrical apparatus and its application to dental chairs, and has for its object the administration of electricity as an anæsthetic to persons in an operating-chair preparatory to or coincident with the extracting of teeth, or performing other dental operations more or less painful in their nature.

The invention will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective view of a dental chair provided with my electrical attachment ready for operation; Fig. 2, a side view of the magneto-electric machine; and Fig. 3, an end view of same, looking in the direction of the arrow in Fig. 2.

Reference being had to the drawings and letters marked thereon, A represents a dental chair of ordinary construction.

B is a portable stand incasing and supporting a magneto-electric machine for supplying electricity to the electrodes *a a* through the medium of insulated circuit-wires *b b*, which encircle the arms of the chair A.

C is a right or left foot pedal for controlling the flow and intensity of electricity.

D is a frame in which is placed the mechanism for creating electricity, as will hereinafter be described.

E is a horseshoe-magnet suspended from the upper left-hand corner of frame D, and secured in position at *c* by a cross-bar, *d*, having an insulating substance, *e*—such as gutta-percha, glass, or other non-conducting material—interposed between said bar *d* and magnet E, for the purpose of confining the magnetic current to the magnet.

F, G, and H are shafts supported in frame D. Shaft F carries on one end a drum, *f*, incasing a power-spring, (not shown,) on its op-

posite end a removable crank or key, *g*, for winding the power-spring, and between said drum *f* and crank *g* is loosely mounted master gear-wheel *h*, having attached thereto a pawl, *h'*, and a ratchet, *h''*, secured to the shaft for storing the power of the spring, and to transmit it to shaft G below through the medium of pinion *i*, fastened thereon; and on shaft G is also secured a driving-pulley, *j*. With shaft H revolves electro-magnet I, having its poles in close proximity to those of the horseshoe-magnet E, traveling in a direction at right angles thereto and propelled through the medium of pulley *l* on said shaft H and a belt or cord, *m*, connecting said pulley with pulley *j* above.

J is a brake-shoe, pivoted at *n*, which, in its normal condition, presses against one side of pulley *j* and prevents the machine from running.

K is a brake-rod, pivoted to the shoe J at *o*, and securely fastened at its lower end to a cross-bar, L, which bar is pivoted to the opposite side of frame D at *p*, to allow of a perpendicular movement of the brake-rod K, for the purpose of applying the brake. Permanently secured to bar L is a rod, M, encircled by a spiral spring, N, the lower end of which rests upon the stand, as shown in Fig. 1, and exerts itself in an upward direction against cross-bar L, brake-rod K, and brake-shoe J, thereby holding the latter in frictional contact with pulley *j* until released by pressure upon the pedal C, secured to rod M at *q*, which compresses the spring N, and allows the bar L, rod K, and shoe J to fall by gravity.

The pedal C is provided with an elongated slot, *r*, in both ends thereof, and holes *s* through the same at right angles thereto. Two of the legs on opposite sides of stand B are provided with similar holes, *t*, through which holes *s* and *t* a pin, *u*, is inserted, to form a fulcrum for said pedal and to bind it and one leg together, as shown. From this construction it is obvious that the pedal may be made to operate with the right or left foot by simply placing the pin *u* in one end or the other, as the case may demand.

The spring incased in drum *f* having been wound by the aid of crank *g*, applied to the opposite end of shaft F, and the braking mechanism having been released by press-

ure of the foot upon pedal C, said power-spring exerts itself upon the electro-magnet I through the medium of master-wheel *h*, pinion *i*, pulleys *j* *l*, and cord or belt *m*, thus producing a current of electricity, as before described, which passes from the binding-post *k*, through the circuit-wires *b b*, to the electrodes *a a*, and thence through the body of the patient in the chair, who having grasped the electrodes, one in either hand, the circuit is completed and the desired shock is produced.

Having thus fully described my invention, what I claim is—

1. In a magneto-electric machine, an automatic driving mechanism, a revolving disk, and a brake-shoe in operative contact therewith, in combination with rods, and a pedal having an elongated slot or slots, and guides therefor, substantially as described.

2. A magneto-electric machine having an automatic driving mechanism incased in and supported upon a portable stand, a pedal having an elongated slot or slots therein and

mounted upon opposite legs of the stand, pins for securing either end of the pedal to said legs, and a brake-rod secured to its center, said rod passing through the center of the stand and encircled by a spring pressing against the frame and the stand, in combination with circuit-wires terminating in electrodes, substantially as described.

3. A magneto-electric machine having an automatic driving mechanism supported upon a portable stand, a brake mechanism connected with a pedal attached to said stand, and insulated wires, in combination with a chair, the arms of which are encircled by said wires, terminating in electrodes placed in a convenient position for a patient to hold, substantially as described.

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

LEVI L. DECKARD.

Witnesses:

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