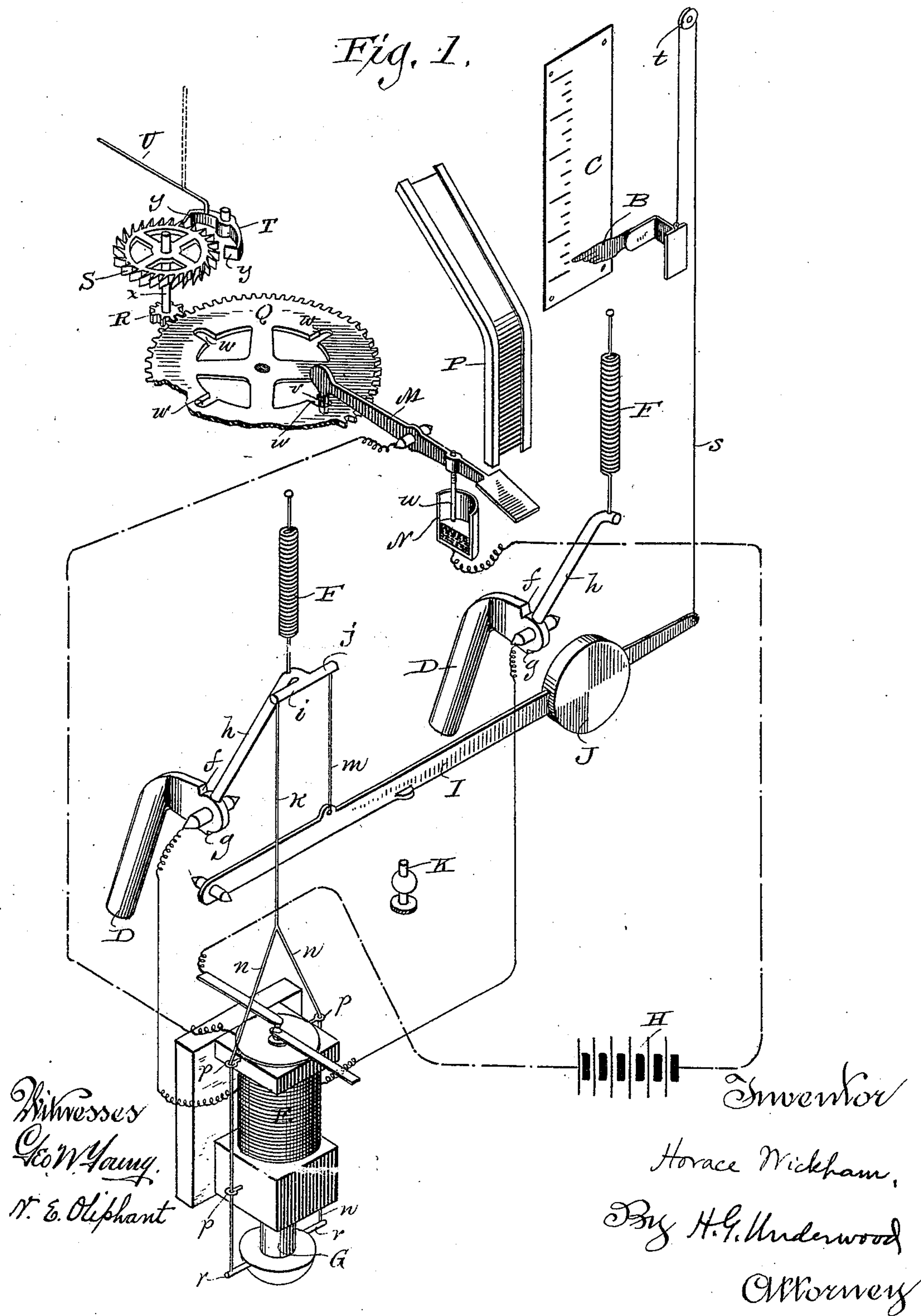


H. WICKHAM.  
COIN CONTROLLED ELECTRICAL APPARATUS.

No. 475,527.

Patented May 24, 1892.

*Fig. 1.*



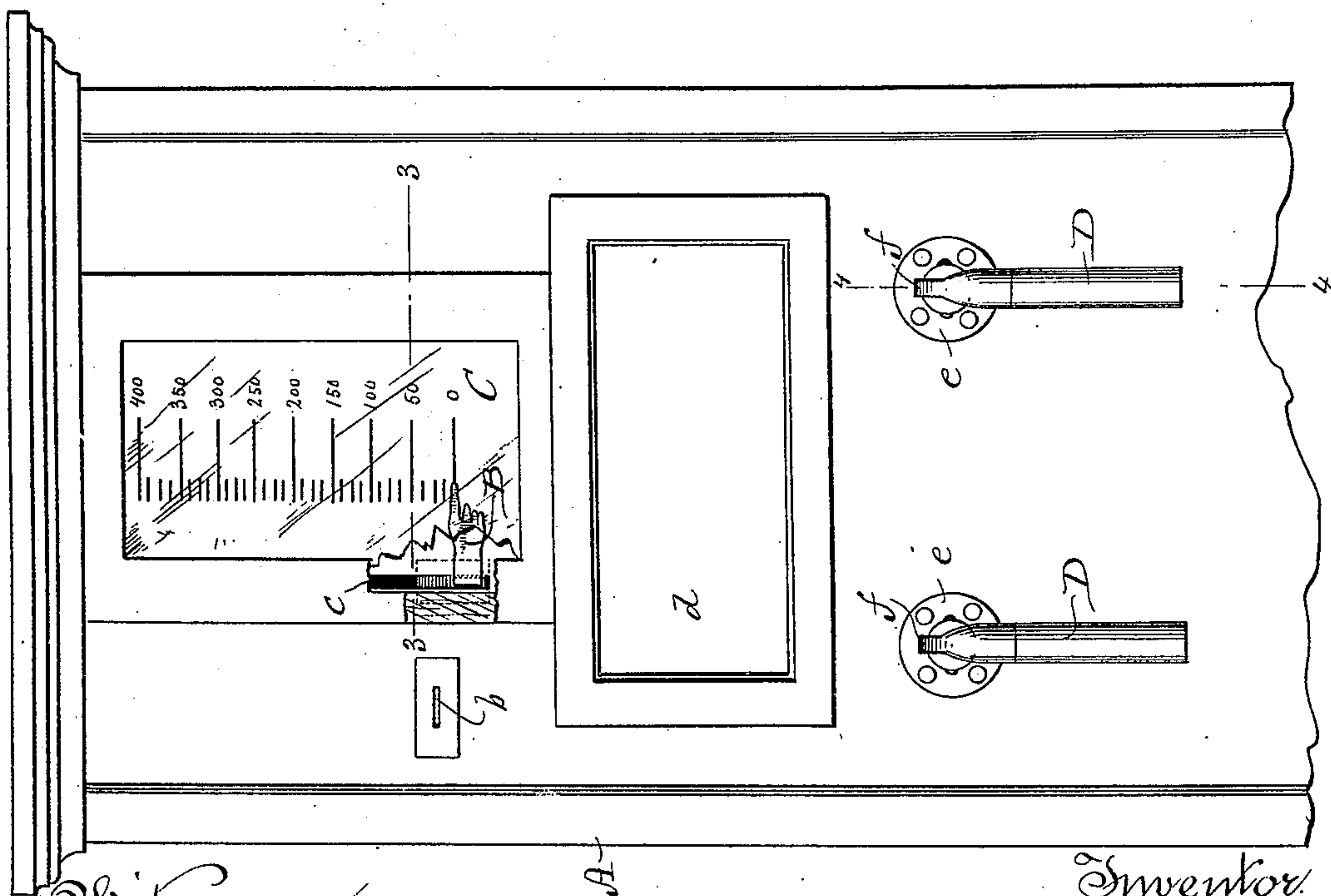
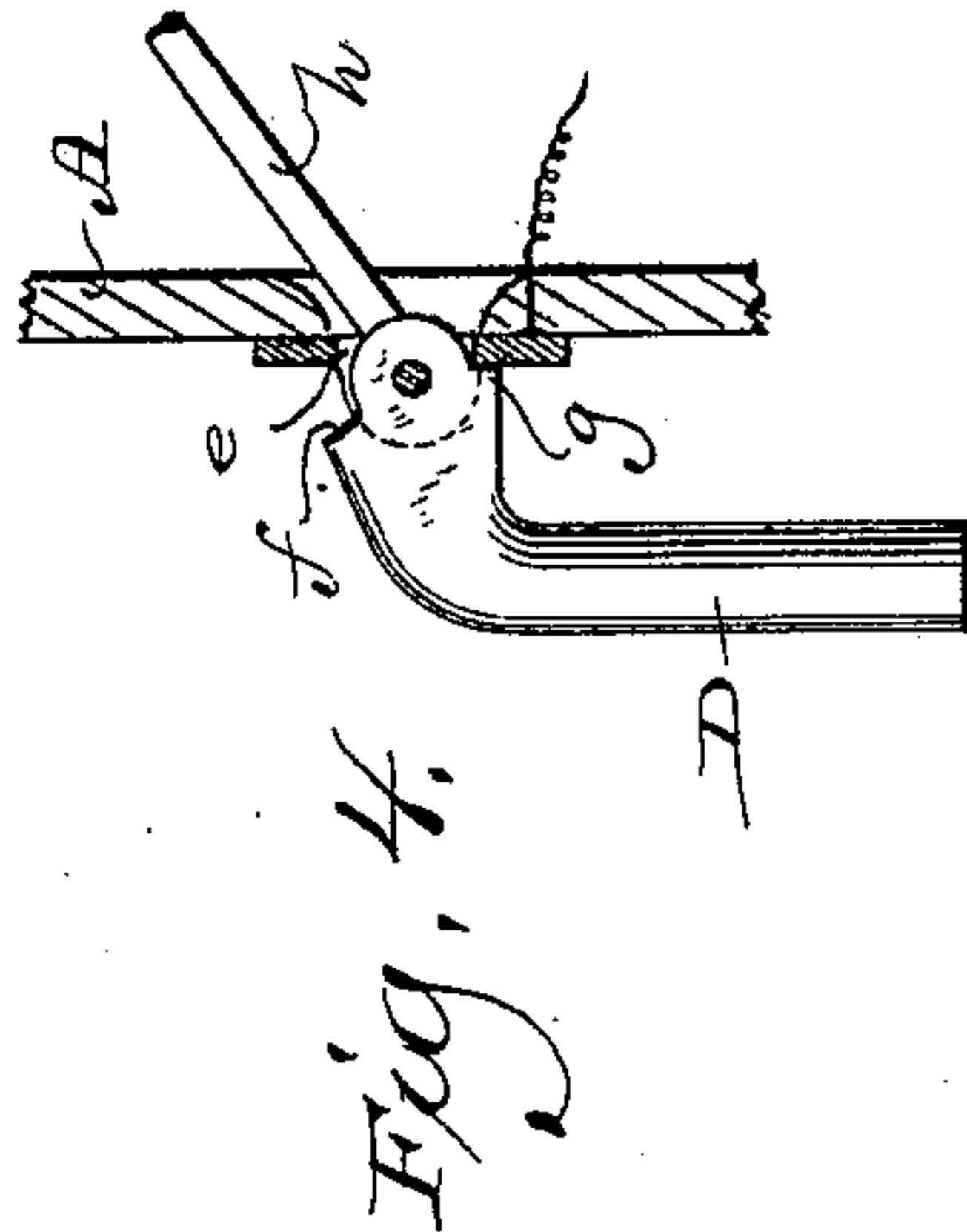
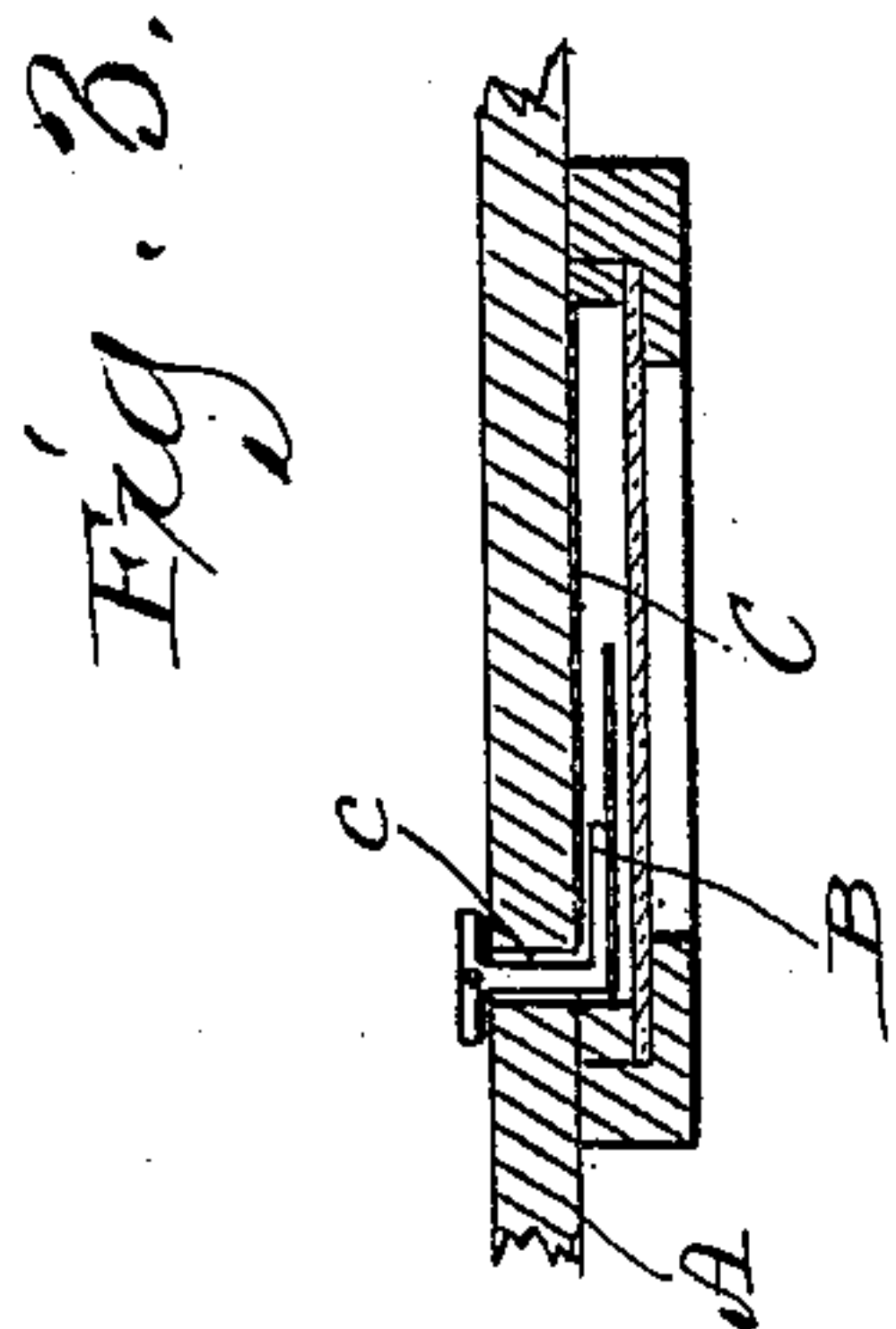
(No Model.)

2 Sheets—Sheet 2.

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Witnesses  
Geo. W. Young  
N. E. Oliphant

Fig. 2.

Inventor  
Horace Wickham,  
By H. G. Underwood  
Attorneys



# UNITED STATES PATENT OFFICE.

HORACE WICKHAM, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO HUGH RYAN  
AND HENRY D. GOODWIN, OF SAME PLACE.

## COIN-CONTROLLED ELECTRICAL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 475,527, dated May 24, 1892.

Application filed December 11, 1891. Serial No. 414,695. (No model.)

*To all whom it may concern:*

Be it known that I, HORACE WICKHAM, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Coin-Controlled Electrical Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to predetermine the duration of an electric current established by a deposited coin operating on a circuit-closer, and also to prevent the person using the apparatus from receiving more of said current than is agreeable.

To this end my invention consists in certain peculiarities of construction and combination of parts, to be hereinafter described with reference to the accompanying drawings, and subsequently claimed.

In the drawings, Figure 1 is a diagram illustrating the relative arrangement of certain of the parts constituting an apparatus constructed according to my invention; Fig. 2, an elevation, partly in section, of a portion of said apparatus as it appears in practice; and Figs. 3 and 4, sections respectively taken on lines 3-3 and 4-4 of Fig. 2.

Referring by letter to the drawings, A represents a casing having the front thereof provided with a coin-slot *b*, and another slot *c*, that permits movement of an indicator B along a scale-chart C, incased in said front of the casing. The casing-front is also preferably provided with a panel *d* for a direction-card, and riveted or otherwise rigidly secured to said front are bearings *e* for pivotal downwardly-extended handles D, that are electrically connected to an induction-coil E, the latter being arranged within the casing. The handles are provided with stop-shoulders *f g*, and these shoulders come against the bearings to limit the movement of said handles in either direction. Extending in from the handles are arms *h*, that connect with springs F, that resist the lift of said handles and automatically return the latter to their normal position when released by the operator. The positive handle has its arm *h* provided with lateral wings *i j*, and depending from these wings are flexible devices *k m*, the first of

these devices being forked at the lower end and having its branches *n* passed through guides *p* on the induction-coil E and joined to lugs *r* on the loose core-sheath G of said coil, the latter being electrically connected to a battery H or other source of electric generation. The flexible device *m* that depends from the wing *j* of the arm *h* on the positive handle is connected to a pivotal lever I, that has a weight J thereon. A flexible device *s*, arranged to work on a pulley *t*, connects the lever I with the indicator B above described, and a stop K is employed to limit the downward movement of said lever.

In circuit with the handles D, induction-coil E, and battery H is a pivotal contact-lever M and a contact-point N, this contact-point being preferably a jar containing mercury, into which a branch *u* of the contact-lever is immersed when the latter is tilted in the proper direction on its pivots. The contact-lever M is arranged so as to have one end thereof beneath a chute P, that registers with the coin-slot *b* in the front of the casing A, and the fall of a coin against said end of this lever will cause the latter to tilt and close the electric circuit, thereby energizing the handles D, that are in circuit with the battery and induction-coil. That end of the contact-lever farthest from the coin-chute P is provided with a lug *v* for engagement with notches *w* in a spur-wheel Q, that engages a pinion R on the arbor *x* of a scape-wheel S, said spur-wheel being driven by any suitable motive power. (Not shown.) The usual vibratory arm T, carrying pallets *y y*, that alternately engage the scape-wheel S, is provided with a governor U, the latter being preferably a rod of flexible metal. The governor-rod U being horizontally disposed, the arm T will vibrate slowly; but if said rod be bent toward a vertical line the vibrations of said arm will be quickened in proportion to the bend. When the contact-lever is tilted, its lug *v* is lifted out of the spur-wheel notch with which it has been engaged, and thus said spur-wheel is permitted to make so much of a revolution as the distance from one to another of the notches therein will permit, the time necessary to the making of this partial revolution being regulated by the governor of



the escapement mechanism. While the spur-wheel S is in travel the lug *v* on the contact-lever M is supported on said wheel, and thus said lever is positively maintained in its tilted position to prevent breaking of the circuit until said lug automatically engages another notch in said spur-wheel.

The electric current received by the person using the apparatus is regulated by the lift of the positive one of the handles D, inasmuch as the lifting of this handle will permit the loose core-sheath G of the induction-coil E to descend by its own gravity, whereby the intensity of said current is increased, while at the same time the indicator B, also connected to said handle, will be run up on the scale-chart C by the descent of the weighted lever I, above described.

By having the handles D so disposed as to require that they be lifted to cause increased intensity of the electric current a person cannot receive more of said current than is agreeable, as muscular contraction or tendency to let go of said handles will permit the latter to return toward their normal position, whereby the core-sheath of the induction-coil is also caused to return toward its normal position and decrease the intensity of said current.

Although I have shown and described an induction-coil provided with an adjustable core-sheet, I may employ such a coil having an adjustable unsheathed core without departure from the spirit of my invention, both forms of the induction-coil being common in the electrical art.

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

1. In a coin-controlled electric apparatus, a circuit making and breaking lever having one end thereof in the path of a deposited coin, a spur-wheel provided with notches for successive engagement with the other end of the lever, a driving-pinion in mesh with the

spur-wheel, a scape-wheel on an arbor to which the driving-pinion is made fast, a vibratory arm having pallets for alternate engagement with the scape-wheel, and a flexible governor-rod attached to said arm, substantially as set forth.

2. In a coin-controlled electric apparatus, a source of electric generation in circuit with an induction-coil, tilt-lever and contact opposed to the lever, a pair of pivotal handles wired to the induction-coil, the loose core-sheath of said coil controlled by one of the handles, a spur-wheel provided with notches for successive engagement with one end of said tilt-lever, a driving-pinion in mesh with the spur-wheel, a scape-wheel on an arbor to which the driving-pinion is made fast, a vibratory arm having pallets for alternate engagement with the scape-wheel, and a flexible governor-rod attached to said arm, substantially as set forth.

3. In a coin-controlled electric apparatus, a circuit making and breaking lever having one end thereof in the path of a deposited coin, a spur-wheel provided with notches for successive engagement with the other end of the lever, and a driving-pinion in mesh with the spur-wheel, a source of electric generation and induction-coil in circuit with said lever, a pair of pivotal handles also in circuit with the aforesaid lever, source of electric generation, and induction-coil, the core-sheath of said coil controlled by one of the handles, a lever connected to the handle controlling the core-sheath, and an indicator controlled by the lever, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

HORACE WICKHAM.

Witnesses:

N. E. OLIPHANT,  
WM. KLUG.