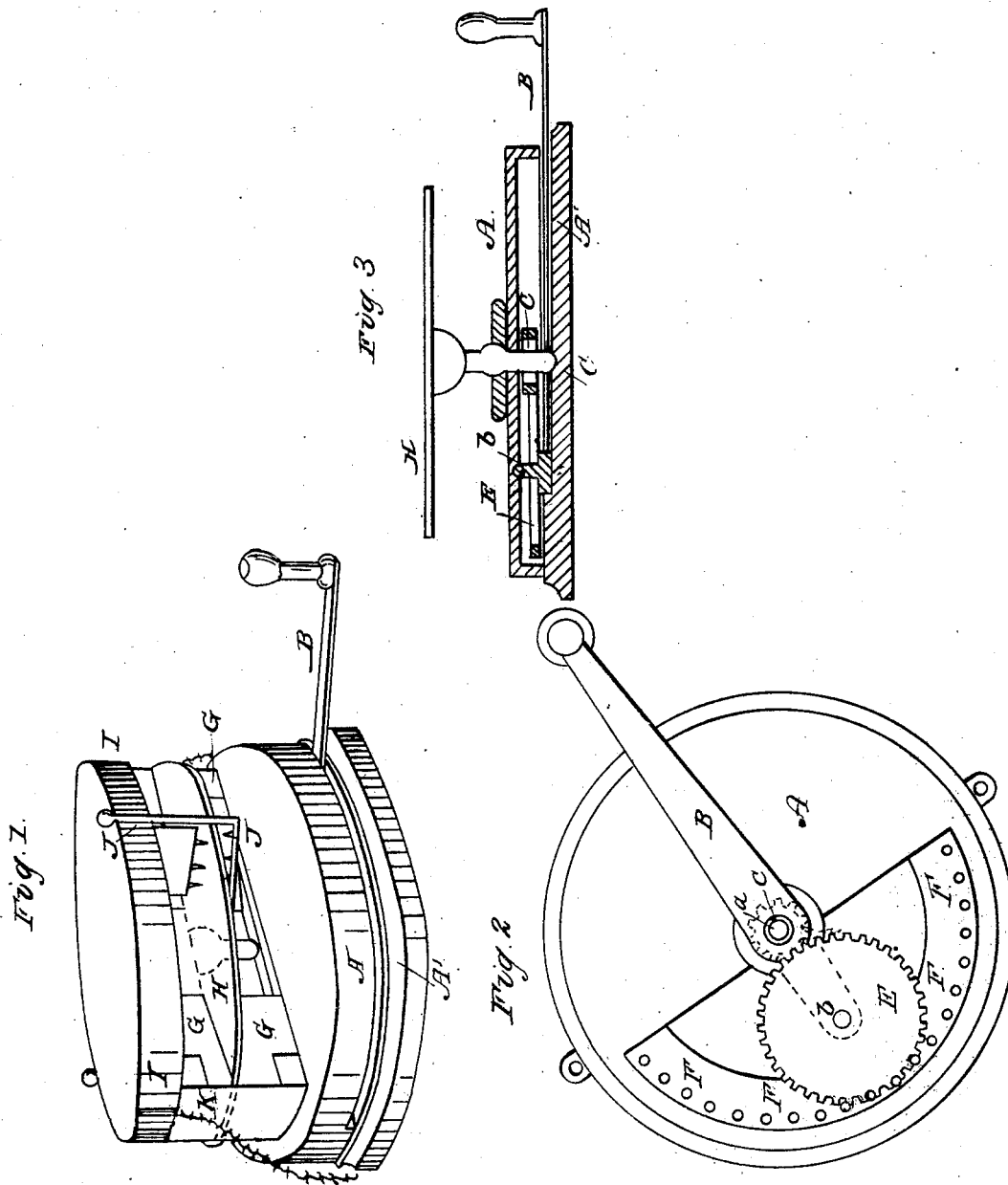


E. COLE.  
Electric Apparatus.

No. 3,191.

Patented July 22, 1843.



# UNITED STATES PATENT OFFICE.

ELIJAH COLE, BY HIS ADMINISTRATOR, EZEKIEL COLE, OF RICHMOND, OHIO.

## IMPROVEMENT IN ELECTRIFYING-MACHINES.

Specification forming part of Letters Patent No. 3,191, dated July 22, 1843.

*To all whom it may concern:*

Be it known that the late ELIJAH COLE, of Richmond, in the county of Jefferson, in the State of Ohio, did invent, and make application for Letters Patent of the United States for, an Improved Electrifying-Machine; that said application was returned to him for amendment, and he having deceased before this was completed, I, EZEKIEL COLE, of Richmond aforesaid, the legal representative of the said ELIJAH COLE, do hereby declare that the following is a full and exact description of the improved electrifying-machine above named.

This improved machine consists of a plate or electric combined in a peculiar manner with a battery, the former of which is to be excited and the latter to receive a charge therefrom.

The principal objects had in view in the construction of this machine are compactness and economy, both of which are effectually attained thereby.

The plate or electric to be excited may consist of window-glass, and is placed horizontally on a vertical shaft, the upper end of which shaft is widened out, and is cemented onto the lower side of the plate. Upon the lower end of this shaft there is a toothed pinion, and into this gears a toothed wheel, which wheel revolves on a center-pin on one end of a lever, and is so arranged and connected as that when the lever is moved back and forth the electric plate is made to rotate. There is a circular wooden base, upon which the machine stands, and this supports the axis and contains the wheels and lever above named. Upon the upper side of this base the cushions are fixed, and these are made double, so as to embrace the electric between them, as in other plate-machines.

The battery which is to receive the charge consists of a series of circular plates of window-glass, which may be of the same diameter with the electric. There may be any desired number of these circular plates—say four, six, eight, or ten—and these, with the exception of the two outer plates of the series, are to be coated on each side with tin-foil, leaving their edges uncoated, in the usual manner, for a suitable distance—say for three-fourths of an inch. These plates are then to be placed on each other and united together by means of a resinous cement or varnish at their edges. The

manner of constructing such batteries of window-glass is well known to electricians, and it is not necessary, therefore, to describe the mode of connecting the respective coatings that are to be charged positively and those also that are to be charged negatively with each other, but merely to state that it is to be done in the known mode of effecting this object. The electric fluid, as it is excited, is collected by points, as in other machines, and is conducted from them to the battery.

In the accompanying drawings, Figure 1 is a perspective view of the machine. A A' are the two circular boards which constitute its base or stand; and in a space left for that purpose between these boards the toothed wheel and pinion are contained. There is also a space between them to allow the lever B, by which the electric is to be rotated, to play back and forth—say to the distance of half a circle.

Fig. 2 is a top view of the lower board, A', showing by dotted lines the place of the pinion C when the two boards are put together, said pinion being on the shaft of the electric, as shown in Fig. 3, which represents the electric and its shaft removed from the machine. The pinion C is fixed on the axis of the electric, which axis passes through the middle of the board A, and has on its lower end a pivot, *c*, that enters the hole *a* in the fulcrum-pin of the lever B, and thus keeps the axis steady. The wheel E gears into the pinion C and revolves on a center-pin, *b*, and is made to rotate by its gearing also into the spaces formed by the wires F F, which are firmly set into the board A' for that purpose. The boards A A' are in contact with each other at their edges for about one-half their circumference around the part where the pins F F are situated; but there is a space between them at the opposite side to admit of the motion of the lever B; and the upper board, A, is also hollowed out, as above named, to allow of the play of the wheel E and its appendages.

G G, Fig. 1, are the rubbers or cushions, which embrace the electric H H between them.

I I is the battery, consisting, as before described, of a number of circular coated plates of glass united at their edges and resting on the upper sides of the rubbers.

J is one of the collecting-wires, of which there are two, furnished with points, as usual. These

wires are connected by strips of foil or otherwise with the sides of the plates of the battery which are to be charged positively.

K is a chain which connects with the negative sides of the plates of the battery. There may be two such chains on opposite sides of the battery. When these chains are laid on the upper plate of the battery and in contact with the collecting-wires, the battery will then become a prime conductor, from which sparks may be taken as from other prime conductors.

Having thus fully described the manner in which the improved electrifying-machine is constructed, what is claimed therein as new, and what it is desired to secure by Letters Patent, is—

The combining of the electric or plate to be excited with the battery, and of operating the same by an arrangement of parts such as is herein described and represented, the electric being placed horizontally, and being made to rotate by means of the lever B and its appendages, the battery also being composed of a series of coated plates, and being connected with the electric, as set forth, and the whole being combined and operating substantially in the manner described.

EZEKIEL COLE.

Attest:

S. STOKELY,

S. M. WILSON.