

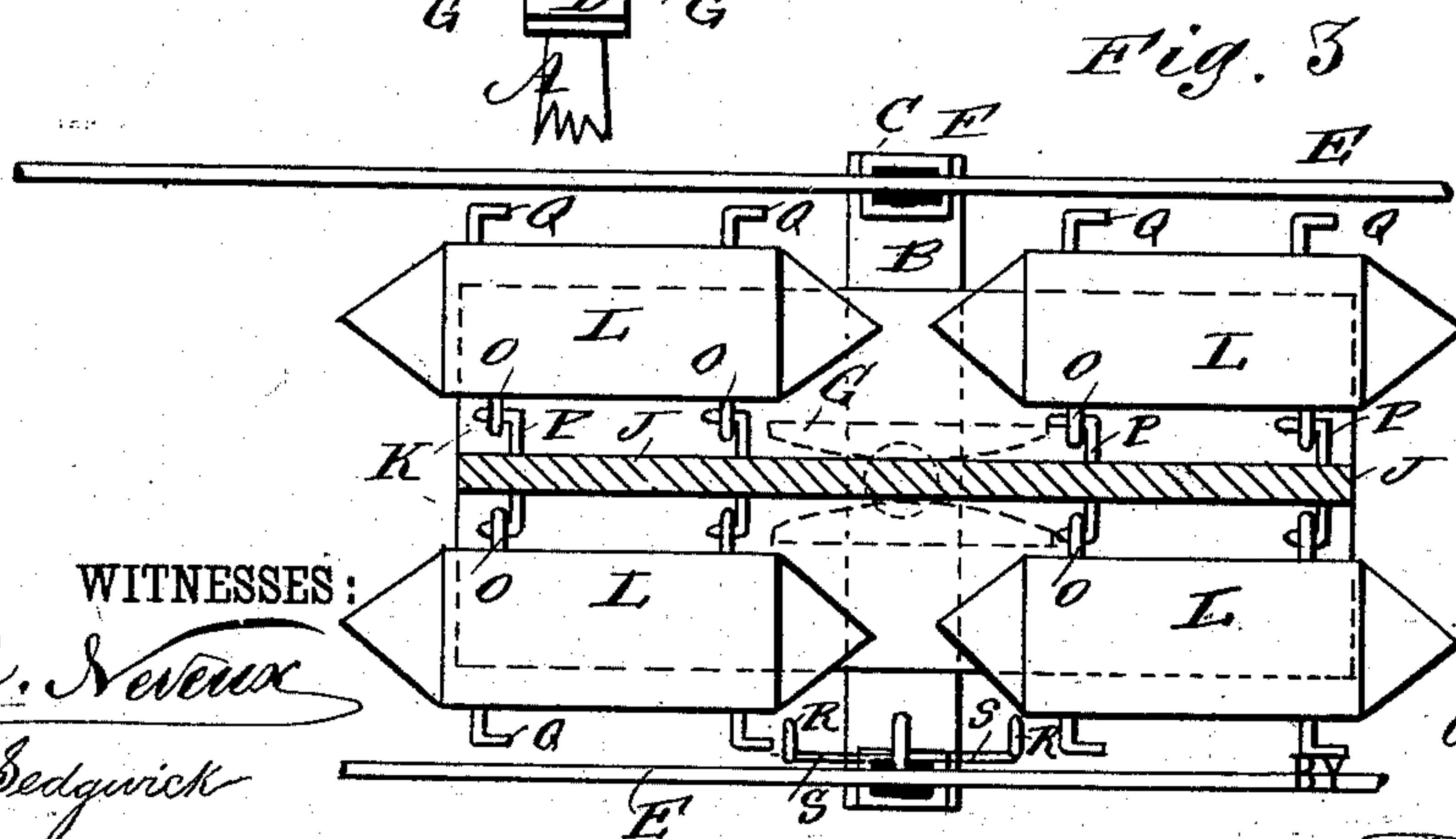
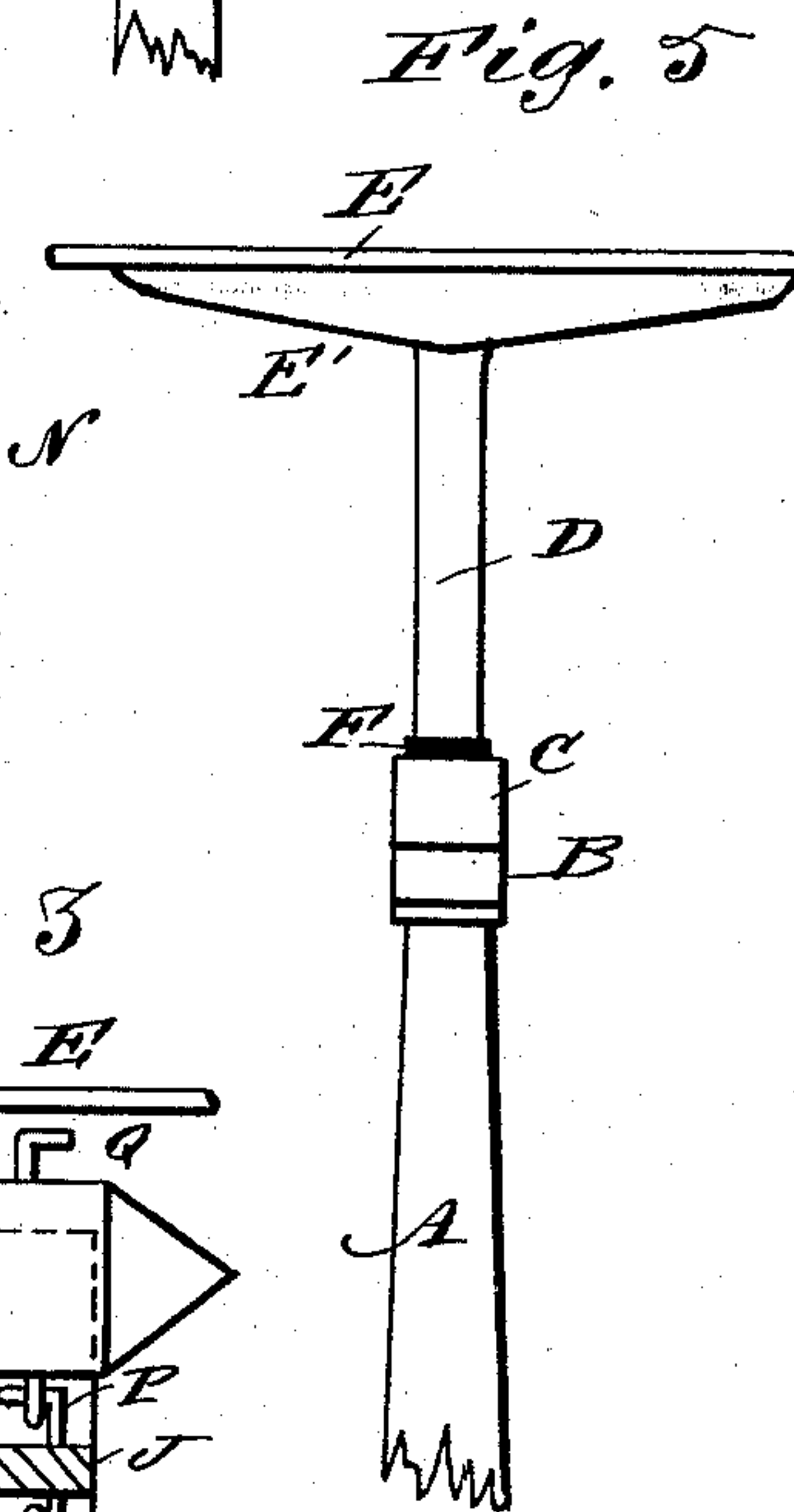
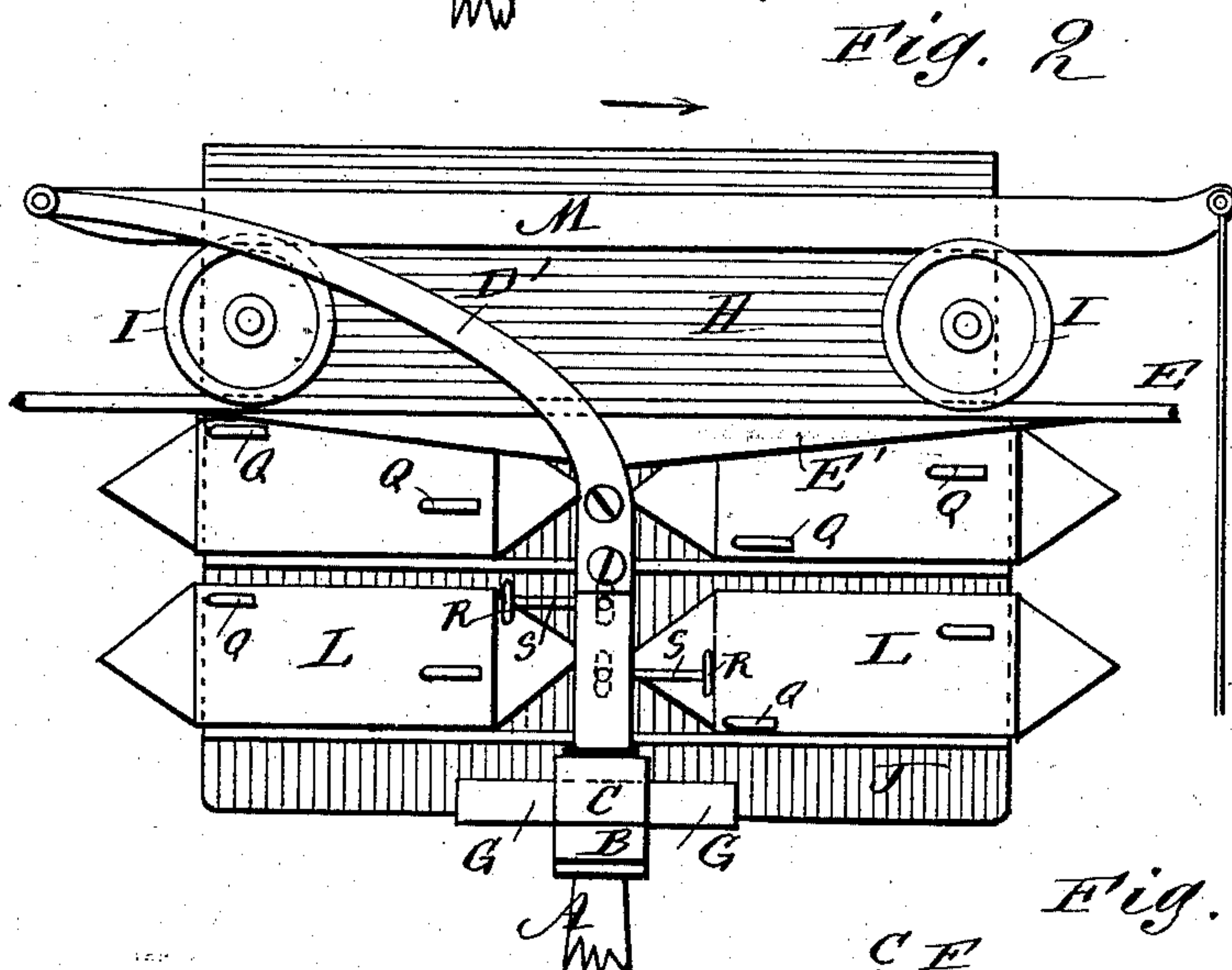
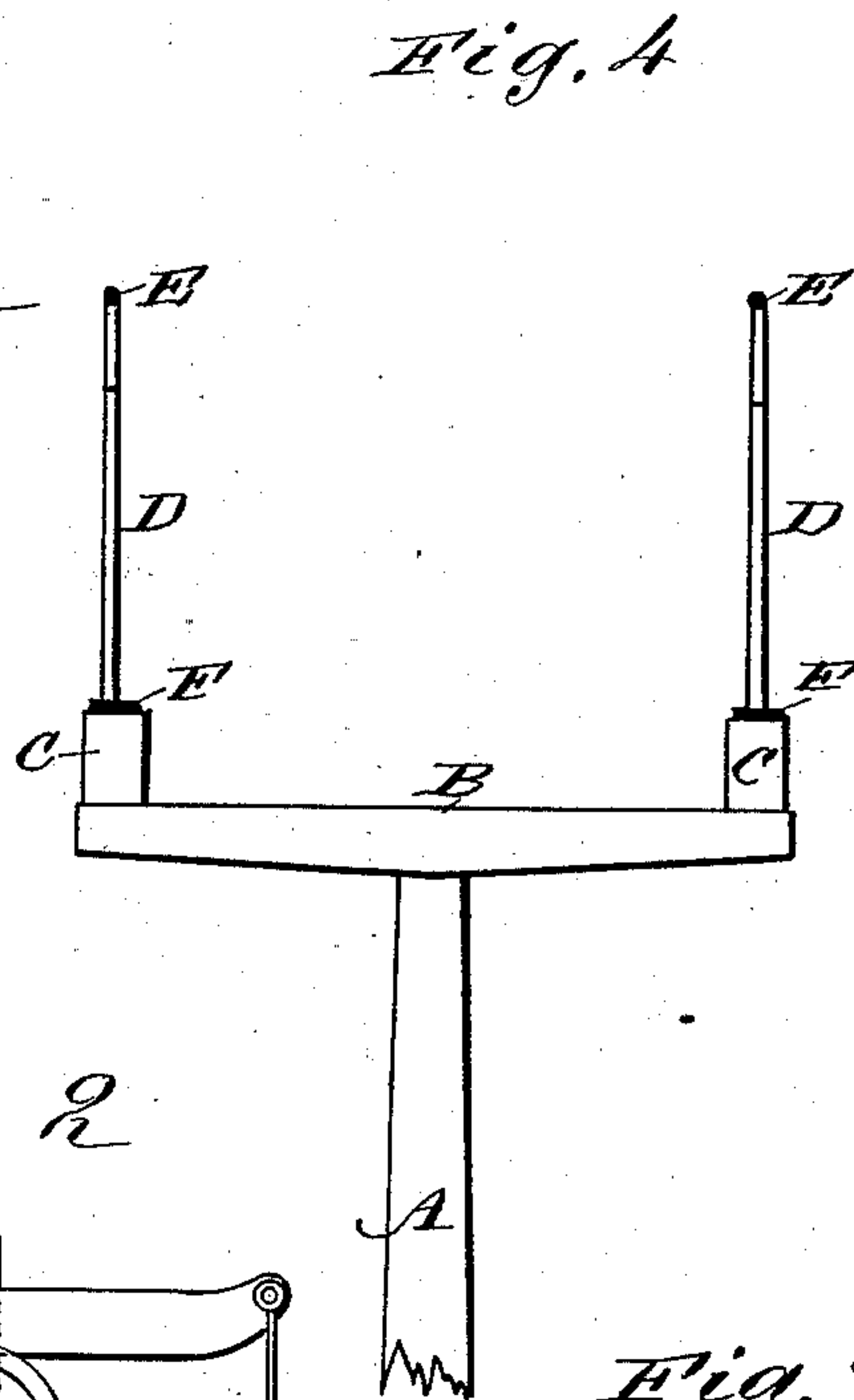
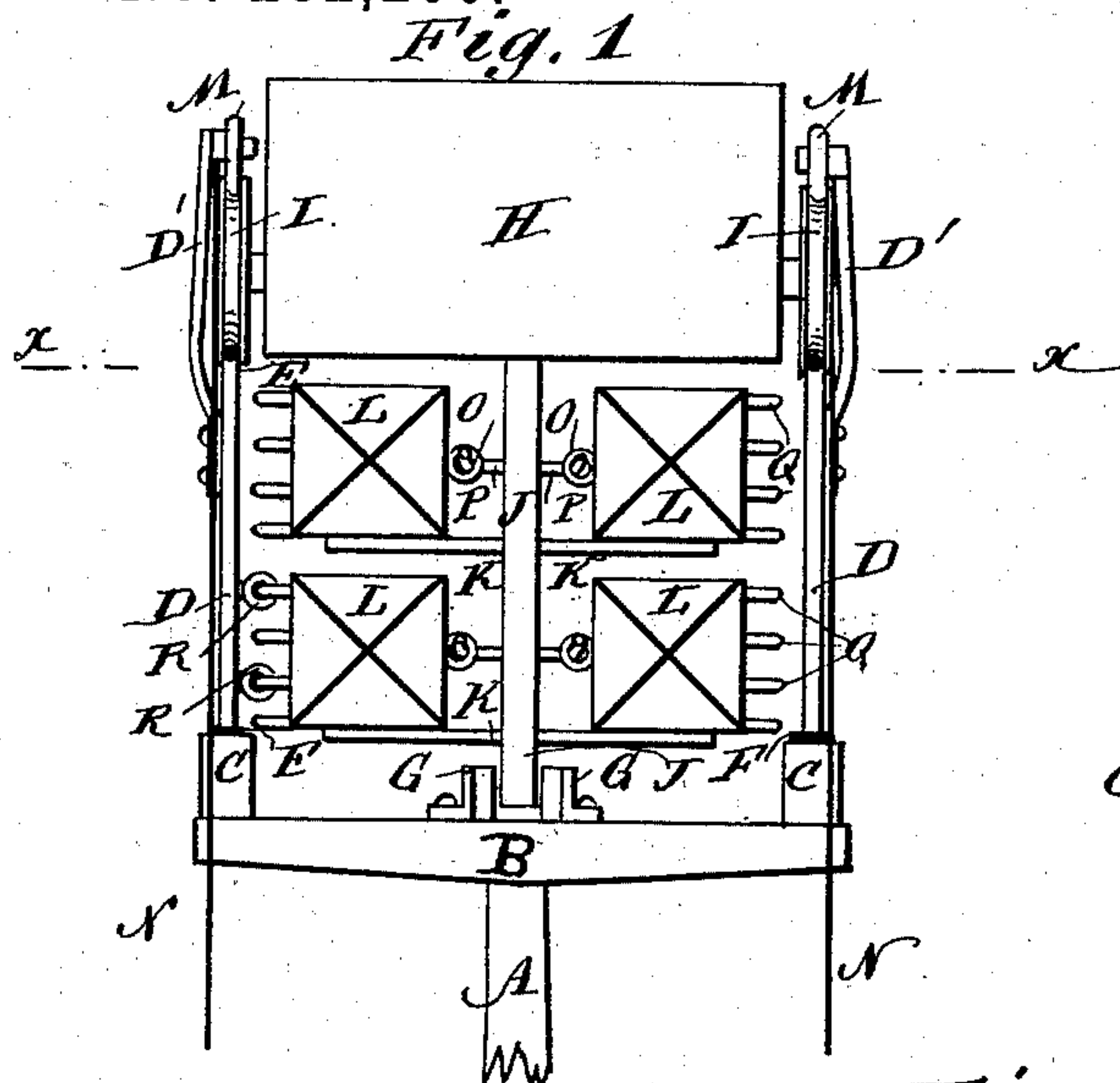
(No Model.)

S. H. KNAPP & A. E. ADAMS.

ELEVATED WIRE RAILWAY.

No. 282,200.

Patented July 31, 1883.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SMITH H. KNAPP AND ALPHEUS E. ADAMS, OF DANBURY, CONNECTICUT.

ELEVATED WIRE RAILWAY.

SPECIFICATION forming part of Letters Patent No. 282,200, dated July 31, 1883.

Application filed February 5, 1883. (No model.)

To all whom it may concern:

Be it known that we, SMITH H. KNAPP and ALPHEUS E. ADAMS, of Danbury, in the county of Fairfield and State of Connecticut, have invented a new and Improved Electric Mail-Carrier, of which the following is a full, clear, and exact description.

The object of our invention is to provide a new and improved device for carrying mail-matter, dispatches, &c., in small cars or carriages, which are to run on wires supported on posts, in the same manner as telegraph-wires, the cars or carriages being provided with a small electromotor, which is operated by the current from a battery in the said car.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is an end elevation of the car, showing the same resting on the track. Fig. 2 is a longitudinal elevation of the same. Fig. 3 is a sectional plan view of the same on the line *x x*, Fig. 1. Fig. 4 is an end view of the upper part of one of the posts. Fig. 5 is a longitudinal view of the same.

On the upper ends of the poles A cross-pieces B are secured, and on the ends of the cross-pieces blocks C are fastened, which support uprights D, on the upper ends of which track-wires E are secured. The poles or posts A are suitably spaced, care being taken not to make the distance between two posts too great. Brackets E' are arranged on the upper ends of the standards D for the purpose of stiffening and supporting the track-wires. At the stations the brackets E' are made longer than at the other parts of the line. The standards D are insulated from the blocks C by means of rubber cushions or other insulating material, F. Two track-plates, G, having segmentally-curved surfaces which face each other, are secured on the middle of the upper surface of each cross-piece B at the stations, which track-plates G form a groove which decreases in width toward the longitudinal middle line of the cross-piece B on the pole, for a purpose that will be described hereinafter.

A small box-car, H, is provided with grooved wheels I, adapted to run on the track-wires E, and from the bottom of the car H a longitudi-

nal central partition, J, projects vertically, which is of such depth that its lower end can pass in the groove formed by the track-plates G, as shown in Figs. 1 and 2. The partition J is provided with one or more laterally-projecting shelves or brackets, K, on each side, which brackets or shelves are adapted to receive boxes L, containing the mail-matter, dispatches, &c. The car H contains an electric motor which acts on one of the axles, and it also contains a battery for producing the electric current and operating the motor. At the stations the standards D are extended upward to form a curved or bent arm, D', at each bracket, to the upper ends of which arms D' brake-levers M are pivoted, which are provided at the free ends with rods N, which extend down to the ground, which rods N can be locked at the lower ends for the purpose of holding the brake-levers M in the desired position. When the car arrives at a station and the wheels I run in between the track-wires E and the levers M, the friction produced will stop the car if the free end of the lever is lowered sufficiently. If the cars are not to be stopped, the brake-lever M can be raised, so that the cars can pass under it without bringing the wheels in contact with the said brake-lever.

The boxes L are each provided on their inner sides—that is, on the sides toward the partition J—with an eye or loop, O, adapted to receive hooks P, projecting from the sides of the partition J, which hooks and eyes serve to hold the boxes L on the shelves or brackets K of the car. Each box L is provided on the outer side, at the front and rear, with a hook, Q, which hooks are adapted to pass into eyes R, held on brackets or arms S of the standards D. The hooks P are not arranged the same on each box L, nor are the eyes R arranged the same at each station; but the box L for a certain station must have its hooks P so arranged that they can and will pass into the eyes R at that station only, and not into the eyes of any other station. In the same manner every other box L has its hooks so arranged that they will pass into the eyes of a certain station, and not into those of any other station. As shown in Fig. 3, the hooks P on the partition J must project in the inverse direction of the hooks Q on

the boxes L. The ends of the boxes L are preferably made pointed or tapered, so that they will cut through the wind more easily.

The operation is as follows: The boxes for the several stations along the line are hung on their proper hooks on the partition J and rest on the brackets or shelves K, the battery and motor are adjusted and the car is started.

When it arrives at the first station the hooks Q of the boxes L for the first station will catch in the eyes R at the said first or corresponding station, and the box will be removed from the partition J and will be held at the station, the car running on to the next station and depositing the proper box at the second station, and so on until all the boxes have been deposited. If the car is to be detained at a station for any reason whatever, or if the speed is to be slackened suddenly, this can be accomplished by lowering the lever M more or less. After the box L has been deposited by the car at any one station an attendant ascends the pole or post A and brings down the box, which is emptied, and then is filled with the mail-matter which is to be delivered at the main station at the return-trip of the car. In order that the car can automatically catch the said box during its return-trip, the box is hung in the eyes R at the station, and when the car comes along the corresponding hooks, P, of the car pass into the eyes O on the box, and thus disengage the box from its support at the station and carry it along, either to the main station or to any other place where the box is to be delivered. In order that the hooks shall never fail to pass into the eyes, and that the box L will always be caught, either by the hooks on the cars or by the hooks on the standards D at the station, it is necessary that the partition J of the car should be perfectly vertical at the station; and for this reason we have provided the curved guide or track plates G on the cross-pieces B at the stations, which track-plates form a groove which is wider at the ends than at the middle, and is adapted to receive the lower end of the partition J, even if the same does not hang exactly vertical, and guide the same in such a manner that when its middle is over the cross-piece B the said partition will hang perfectly vertical.

In the above-described manner the car can be arranged to deliver and collect the mail-boxes automatically. The car can only deliver when running in one direction and collect when running in the other. If desired, two mail-railways may be arranged, one to collect while running in one direction and the other to collect while running in the reverse direction, and one to deliver while running in one direction and the other to deliver while running in the opposite direction.

We have shown a car arranged to carry four boxes, L; but it is evident that the same can be arranged to carry a greater or less number, as may be desired.

The motor in the car can be of any well-known construction, and the battery used must be of such power that it can propel the car and not run down easily.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination, with track-wires, of a car adapted to run on the same, and brake-lever pivoted above the track-wires for the purpose of checking the speed of the cars, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with the track-wires E and the standard D, terminating in curved arms D', of the wheels I and the brake-levers M, pivoted to the ends of the arms D', substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the track-wires E, of the car H, running on the same, and provided with a downwardly-projecting partition, J, and of the track-plates G on the cross-pieces B, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the track-wires E, of the car H, provided with a partition, J, and the track-plates G, having convex surfaces, facing each other, which track-plates are secured on the cross-pieces B, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the poles A, of the cross-pieces B, the standards D, the brackets E', and the track-wires E, supported by the brackets, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with the track-wires E, of the car H, having a downwardly-projecting partition, J, shelves or brackets K, and boxes L, adapted to rest on the said brackets or shelves, substantially as herein shown and described, and for the purpose set forth.

7. The combination, with the track-wires E, of the car H, having a downwardly-projecting partition, J, the shelves or brackets K, the boxes L, provided with eyes O on the sides toward the partition J, and of the hooks P, projecting from the partition J, substantially as herein shown and described, and for the purpose set forth.

8. The combination, with the track-wires E, of the car H, provided with a downwardly-projecting partition, J, of the boxes L, provided with eyes O on the inner sides and hooks Q on the outer sides, of the hooks P on the partition J, and of the eyes R on the arms S of the standards D, substantially as herein shown and described, and for the purpose set forth.

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Witnesses:

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