

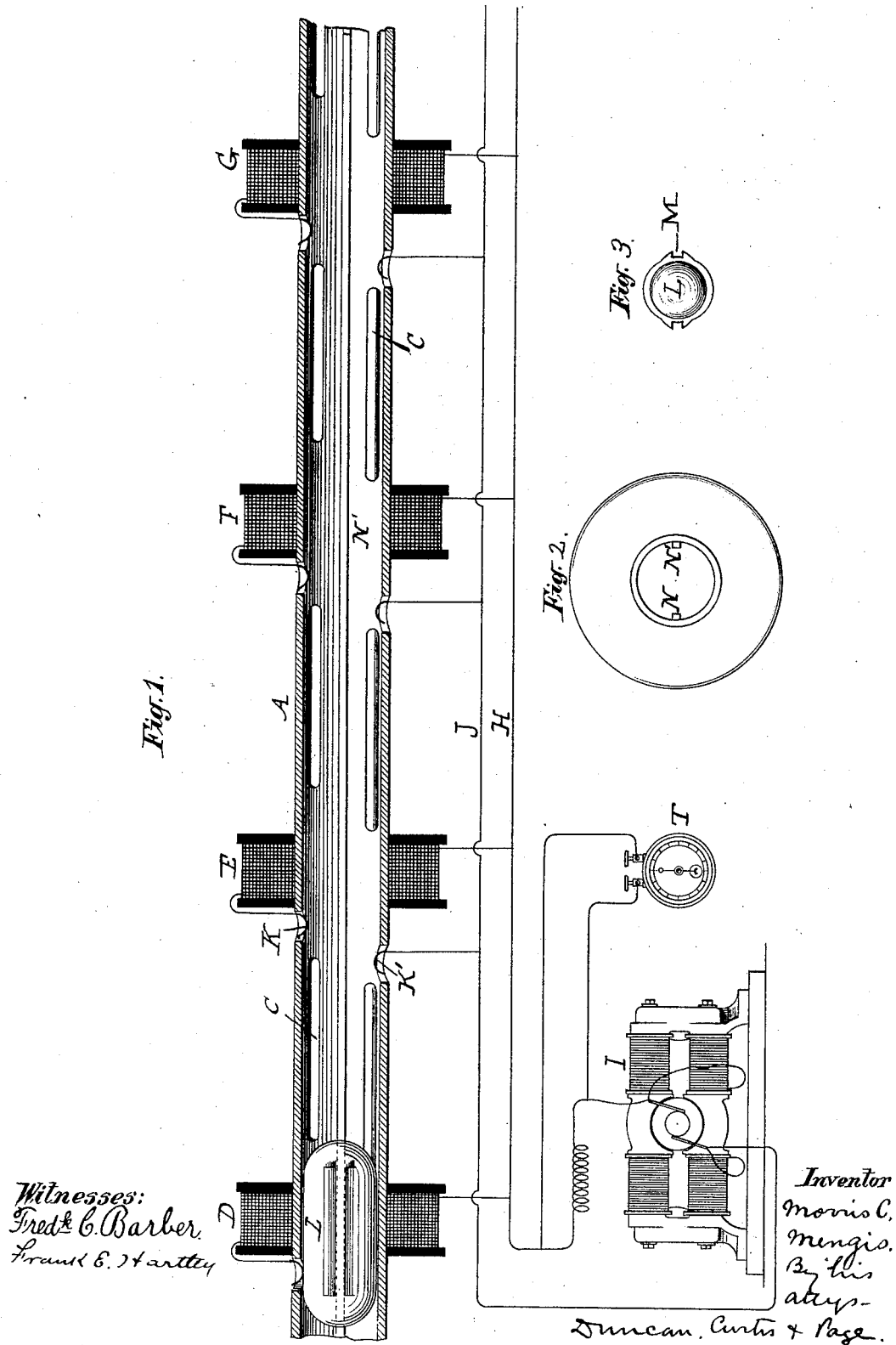
(No Model.)

M. C. MENGIS.

ELECTRO MAGNETIC PARCEL CARRIER.

No. 384,775.

Patented June 19, 1888.



UNITED STATES PATENT OFFICE.

MORRIS C. MENGIS, OF NEW YORK, N. Y.

ELECTRO-MAGNETIC PARCEL-CARRIER.

SPECIFICATION forming part of Letters Patent No. 384,775, dated June 19, 1888.

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To all whom it may concern:

Be it known that I, MORRIS C. MENGIS, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Electro-Magnetic Parcel-Carriers, of which the following is a specification.

This invention is an improvement in appliances for the rapid and automatic transfer from place to place of parcels or packages of goods, mail-matter, and the like. Heretofore devices of this kind have been proposed and various plans of construction described. In one form a number of electro-magnets were placed along a suitable track and a car forming or carrying an armature was used and built in such a manner as to make and break the circuit through the electro-magnets successively, so that the magnet immediately ahead of the car would exert an attractive force upon the car and tend constantly to impel it forward. Another plan is to have a series of soft-iron armatures placed along a track and to place one or more helices upon a car, so that they will surround the chain of armatures. The car is arranged to break the circuit through the helix or helices as soon as their centers have passed the centers of the armatures, so that a continuous progressive movement of the car is maintained. In either of these cases the battery may be carried by the car or placed at any point along the track and the current led to the car or transferred from one magnet to another. Another form has been proposed in which a tube of sheet-iron is surrounded by helices or coils, and a dispatch-box constituting an armature is placed in the tube and arranged to complete the circuit successively through the helices.

My present invention is an improvement upon these forms; and it consists of a tube of any suitable material containing air slots or openings and surrounded by coils or helices. In the tube is a box or carrier, made partially or wholly of iron, so as to constitute an armature. The interior of the tube is provided with guides or tracks, and the carrier is formed with grooves, or is otherwise suitably constructed to slide or travel on said tracks. I also combine with the tube and carrier an electrical indicator to show at any time the position of the carrier. The helices are ar-

ranged to be thrown successively into circuit by the motion of the car, which, as it moves, keeps the current flowing through the helices just ahead of it and interrupts the current through all the others. The car is made with a suitable receptacle to carry packages or parcels, or mail-matter, or the like. It may also be made on a small scale and used as a cash-carrier in stores; but the number of uses to which the invention can be put is very great, and many uses suggest themselves.

In the drawings hereto annexed I have illustrated the invention partly by means of diagrams. Figure 1 is a central longitudinal section of the apparatus, and Fig. 2 is a cross-section of the same. Fig. 3 is an end view of the carrier.

A represents a section of the tube which contains the guide or track for the parcel-carrier. This tube may be made of any rigid material, and may be made in longitudinal sections or in lengths of pipe. It contains slots or openings C, to permit the escape and access of air during the motion of the car, whereby the latter will not be impeded in its progress by the compression of air in front or the formation of a vacuum behind it. Surrounding the tube or guide are a number of helices or coils of insulated wire, D E F G. These coils are placed close together or at given intervals apart and are securely fixed to the guide-tube. One end of each coil is connected to an insulated conductor, H, leading from one pole of a dynamo-machine or other electrical generator, I. The other ends of the coils are connected to springs K in the guide-tube, opposite to which are the springs K', which are insulated from the tube when the latter is of metal and in electrical connection with the insulated conductor J, running from the opposite pole of the generator.

Within the tube a car or box, L, is adapted to slide. I form one or more rails or guides, at opposite sides of the tube and on the interior thereof, and running the whole length of the tube. The sides of the car or carrier are provided with longitudinal grooves M, into which the guides N N' fit. This forms a convenient means of steadying the car or carrier and for directing it in its passage through the tube; but other means may be used for accomplishing the same end. The springs K and K'

extend into the path of movement of the carrier L, and when the latter comes between them it completes the circuit through the coil immediately ahead of itself. If, therefore, at first the car be moved into a position in which it connects two of these springs, the helix, which is brought into circuit by this means, (the car itself being a conductor,) operates to draw the car forward until it occupies a central position with respect to such helix. When the carrier, however, has reached or nearly reached this position, it leaves the springs and throws the helix out of circuit. The next coil may be placed near enough to be thrown into circuit by the carrier just before or just as it breaks the circuit through the first, or, if it be a little farther off, the momentum which the carrier has thus acquired carries it forward a sufficient distance to connect the springs of the next helix ahead, and the same operation is repeated for each helix in succession to the end of the line. It will readily be seen that after the carrier has once acquired a considerable momentum the helices may be placed at greater distances apart than at the beginning of the track, where the movement of the carrier is slower. At and near the ends of the tubes forming the track or guide the slots are omitted, wholly or partially, so that the car as it approaches the end will compress the air ahead of itself, and by thus impinging on an air-cushion will be retarded and finally stopped.

In order to indicate the position of the car at any time, I use any ordinary form of indicator, as T, which may be included directly in the main circuit or in any other circuit. When in the main circuit, it is operated each time that the car closes such circuit, and the number of impulses which it has received will indicate the position of the car. If a supplemental circuit be used, provision must be made for making or breaking it by the moving car.

I may vary the construction of these devices in many ways without departure from my invention. For example, I do not limit myself to any specific means of making and breaking

the circuit through the coils or helices, nor do I confine myself to any specific construction of the guide or track and of the car adapted to travel thereon. With regard to this latter, it may be a cylindrical box made wholly or partially of iron, with an interior space suited to receive the goods of any description which it may be desired to transport. The present construction or arrangement of the apparatus presents many advantages over the forms heretofore known. It is simpler and more efficient and adapted to a greater variety of uses.

What I claim is—

1. The combination, with a tube containing a guide or track and containing slots or air-passages, of a car or carrier formed of a magnetic metal and adapted to slide or travel on said track, coils or helices surrounding the tube, and circuit-closing devices adapted to be operated by the movement of the carrier, whereby the coils are successively brought into and out of circuit, as herein set forth.

2. The combination, with a longitudinally-slotted tubular guide provided with interior longitudinal rails or guides, of a car or carrier of magnetic metal adapted to move on said rails or guides, coils or helices surrounding the tube, and an electric circuit, to one portion of which one end of each coil is connected permanently, and to the other portion of which the opposite ends of the said coils are adapted to be connected successively by circuit-closing springs placed in the path of the carrier and adapted to be operated thereby.

3. The combination, with a tube containing a guide or track and a car or carrier adapted to slide or travel therein, of coils or helices surrounding said track, an electrical indicator, a circuit or circuits including the indicator and the coils, and circuit-closing devices adapted to be operated by the moving car or carrier, as and for the purpose set forth.

MORRIS C. MENGIS.

Witnesses:

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