W. LEWIS.

ELECTRIC MAIL EXCHANGE.

APPLICATION FILED NOV. 12, 1912.

1,053,306.

Patented Feb. 18, 1913.

3 SHEETS—SHEET 1.

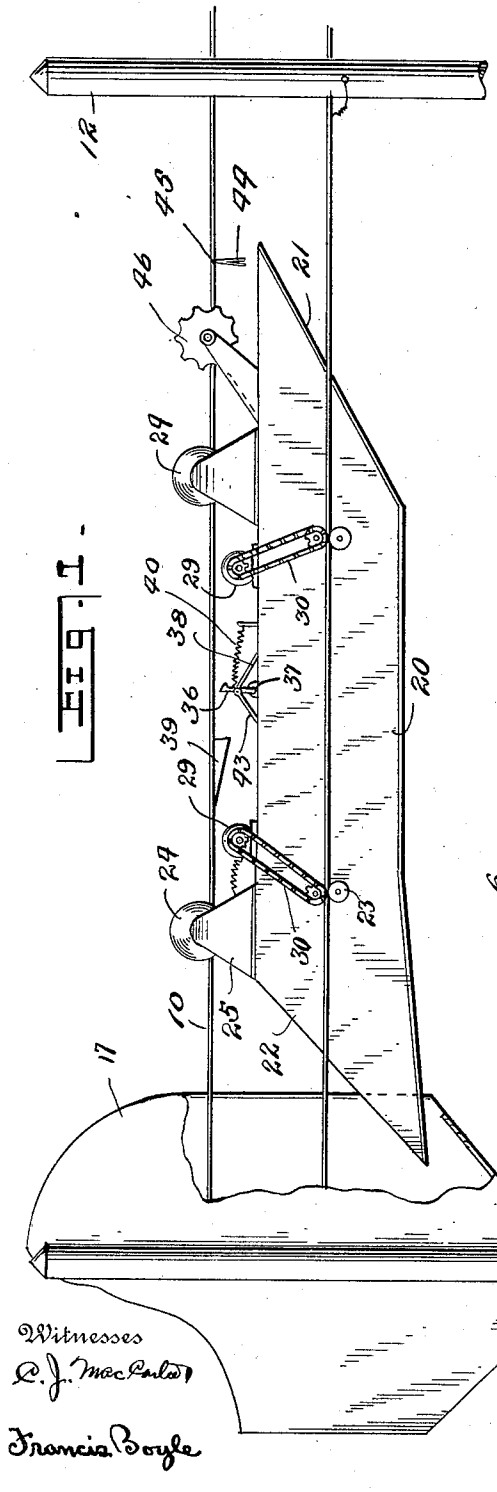

Fig. 4.

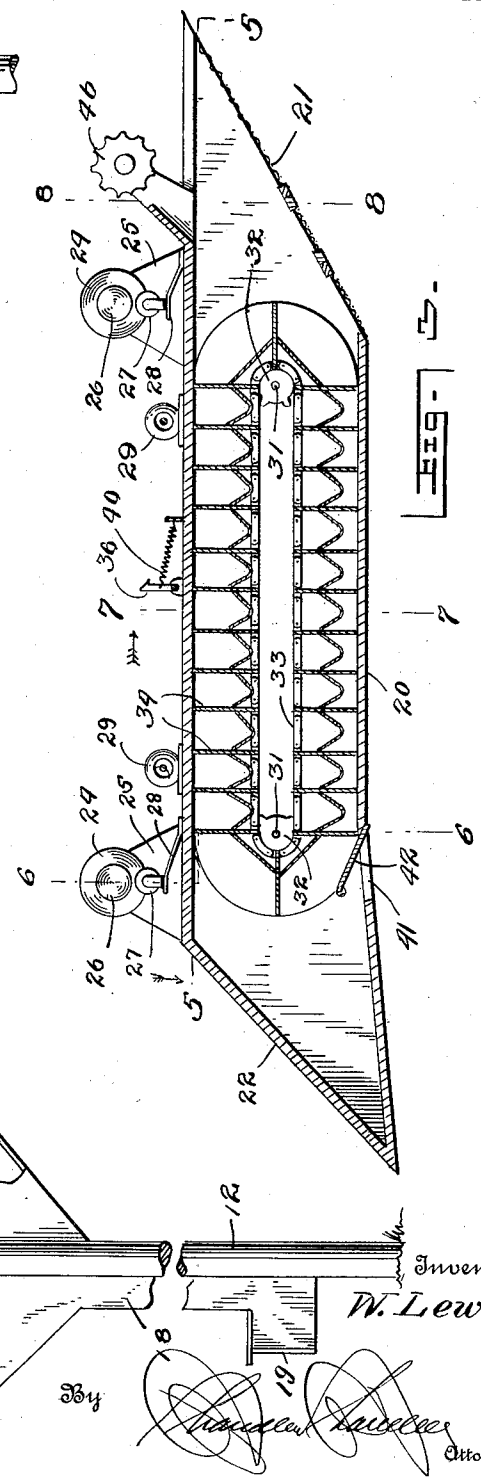

Fig. 5.

Witnesses

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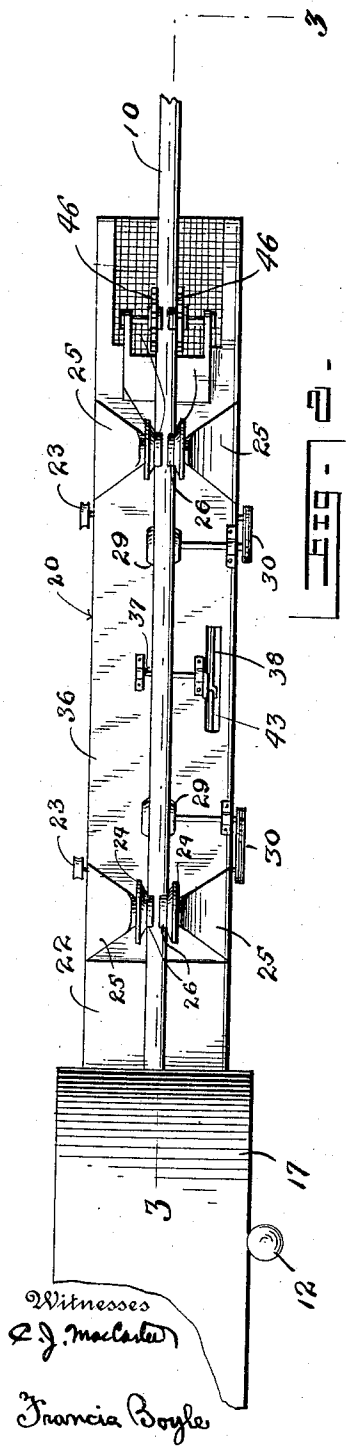

Fig. 3.

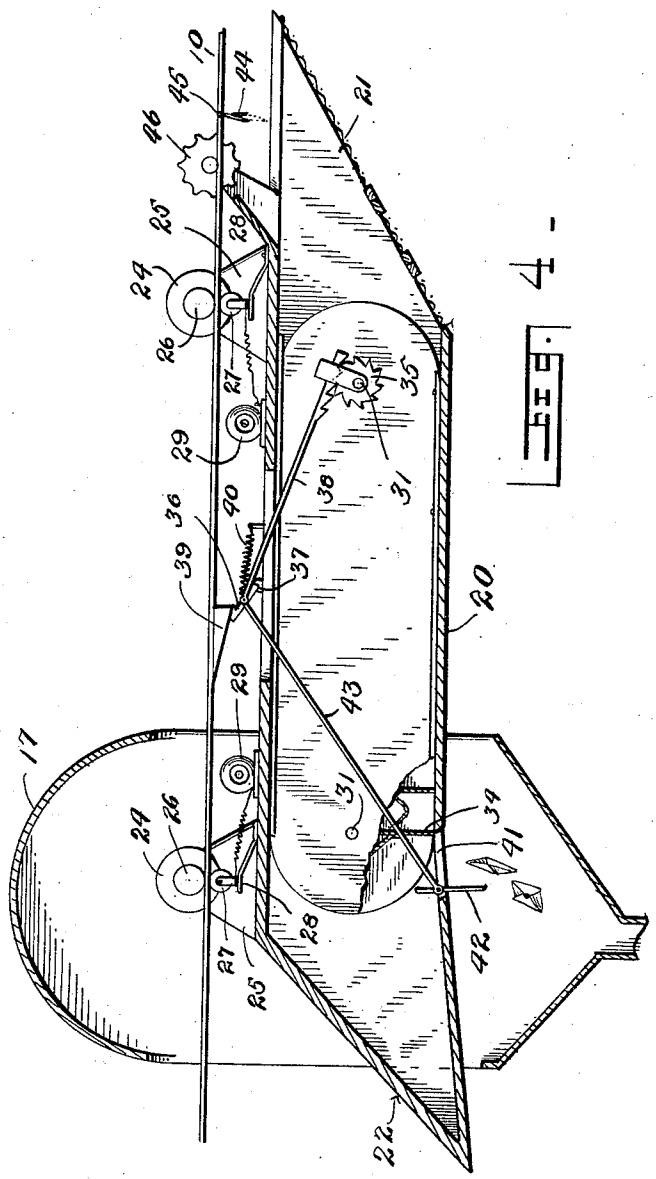

Fig. 4.

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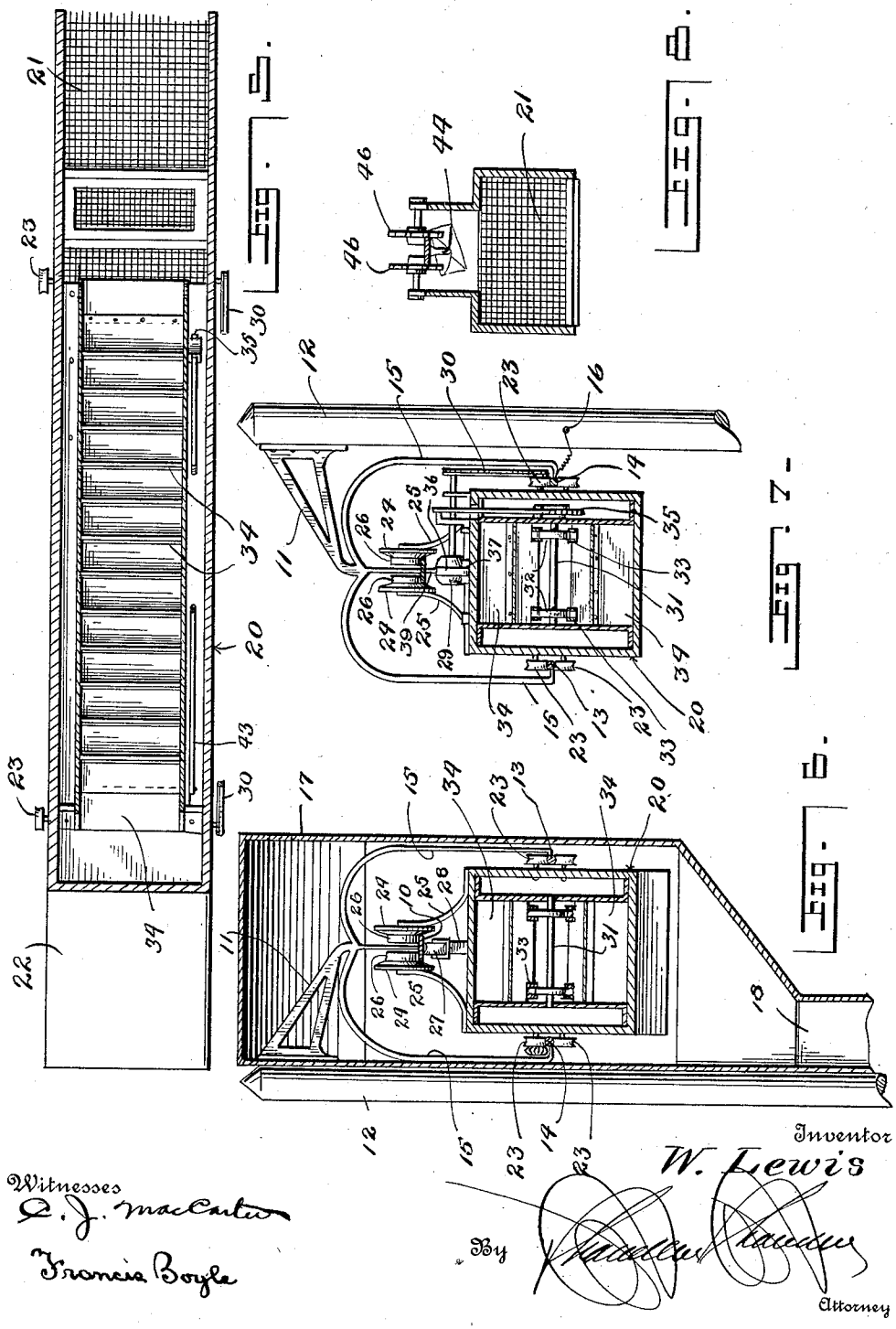
3 SHEETS—SHEET 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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ELECTRIC MAIL-EXCHANGE.

1,053,306. Specification of Letters Patent. Patented Feb. 18, 1913.

Application filed November 12, 1912. Serial No. 730,917.

To all whom it may concern:

Be it known that I, WILLIAM LEWIS, a citizen of the United States, residing at Kampeska, in the county of Codington, State of South Dakota, have invented certain new and useful Improvements in Electric Mail-Exchanges; 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.

This invention relates to automatic mail collecting and delivering apparatus and has for an object to provide a device of this character for use on rural delivery routes, there being a novel series of mail carrying pockets adapted to be filled at the post-office, novel means being employed for removing the mail from these pockets and delivering the same to the respective receiving boxes along the route.

A further object of the invention is to produce a device which will receive mail along the route and carry the same to the post-office.

With the above objects in view the invention consists of certain novel details of construction and combination of parts hereinafter fully described and claimed, it being understood that various modifications may be made in the minor details of construction within the scope of the appended claim.

In the accompanying drawings forming part of this specification:—Figure 1 is a side elevation of the device. Fig. 2 is a plan view of the device. Fig. 3 is a longitudinal sectional view taken on the line 3—3 Fig. 2. Fig 4 is a similar view to Fig. 3 showing the pocket actuating means in active position. Fig. 5 is a horizontal sectional view taken on line 5—5 Fig. 3. Fig. 6 is a vertical sectional view taken on the line 6—6 Fig. 3. Fig. 7 is a vertical sectional view taken on the line 7—7 Fig. 3. Fig. 8 is a vertical sectional view taken on the line 8—8 Fig. 3.

Referring now to the drawings in which like characters of reference designate similar parts, 10 designates a trolley wire which is supported by hangers 11 upon poles 12, and 13 and 14 designate guide wires which are suspended from the hangers 11 by insulated hangers 15, one of these wires being grounded as shown at 16 upon one of the poles.

The above described trolley line is preferably run along the highway from the post-office, and on certain of the poles are arranged hoods 17 which are of the general shape shown in Fig. 1, these hoods being equipped with depending chutes 18 which communicate with the rural mail boxes 19. The mail carrier about to be described travels on the trolley line, and passes through these chutes, delivering the mail to the chutes during passage therethrough.

The mail carrier consists of a substantially oblong car 20 having sloping front and rear walls 21 and 22 so as to present a wind cutting form. The car is supported on the guide wires 13 and 14 by pairs of superposed pulleys 23 arranged on opposite sides of the car and engaging the top and bottom faces of the guide wires. Arranged on the top of the car are spaced trolleys each comprising a pair of disk wheels 24 which are journaled in stiff leaf springs 25 secured to the opposite sides of the car and are provided on their confronting faces with treads 26 which ride on the trolley wire 10 which latter is preferably of ribbon form. A pressure wheel 27 is journaled in a leaf spring 28 carried on top of the car and bears against the bottom face of the trolley wire holding the same in snug contact with said treads.

In the present embodiment of the invention the current from the trolley wire is conducted from each trolley to a related motor 29, the latter being connected by a chain drive 30 to the upper pulley of one of the pairs of pulleys 23, the current being grounded on the chain drive and passing through the guide wire 14 and ground wire 16 into the ground. It is not essential that this particular driving means be used in connection with the present invention, and I do not contemplate being limited to the use of this particular form which is shown merely for the purpose of illustrating one manner of driving the car.

Journaled in the sides of the car near each end is a transverse horizontal shaft 31, each carrying a pair of sprocket wheels 32 within the car, and over complementary pairs of these wheels sprocket chains 33 are trained, these chains traveling together at the same rate of speed. Secured to certain of the links of the chains are parallel plates 34 which coöperate in forming mail receiving pockets. The chains and plates are designed to move in an intermittent manner so as to bring each pair of plates at a cer-

tain point for delivery of the mail held between them.

The means for intermittently actuating the chains consist of a ratchet wheel 35 which is fixed to one of the shafts 31, there being a trip finger 36 pivoted on the top of the car as shown at 37, a spring controlled pawl 38 being pivotally connected to the trip finger and operatively engaging the ratchet wheel. A substantially triangular stop plate 39 is arranged on the trolley wire 10 at each hood 17, and during the advance of the car this stop plate forms an abutment against which the trip finger impinges and is rocked back against the tension of its spring 40, with a resultant drawing back of the pawl. The spring returns the finger to initial position after the latter passes over the stop and simultaneously moves forward the pawl with a resultant actuation of the ratchet wheel and chain one step.

The pockets are equal in number to the number of chutes along the route, and each step actuation of the chains brings a particular pocket into position to discharge its contents into the related chute. It will be here stated that the pocket is brought into position to discharge its contents before the car arrives at the related chute. To discharge the contents of the pocket into the related chute a discharge opening 41 is formed in the bottom of the car near the rear end and is normally closed by an upwardly inclined trap door 42, a link 43 being connected to the trip finger and to the trap door, the link serving to depress the trap door to expose the discharge opening when the trip finger impinges against the stop 39 at that particular chute corresponding to the pocket which is in registration with the trap door, as shown in Fig. 3 with a resultant ejection of the mail carried in the pocket into the chute, the trap door being returned to normal position by the finger when the latter is returned to normal position after passage beyond the stop. By reference to Fig. 3 it will be seen that when the trip finger impinges against any particular stop, the mail in one pocket is discharged while at the same time the next adjacent mail carrying pocket is brought into registration with the trap door ready for discharge of its contents upon the car arriving at the next stop.

For collecting the mail *en route*, a pair of divergent leaf springs 44 are connected at their meetings pivotally to the underneath face of the trolley wire as shown at 45, at each hood and beyond the related stop, these springs being adapted to receive a letter or number of letters, small package or the like. A pair of revoluble toothed wheels 46 are journaled on the top of the car in rear of an opening 47 in said top, these wheels being adapted to engage the letters as shown in Fig. 8 as the car passes over the leaf springs, and remove the letters from the springs in time for the letters to gravitate into the front end of the car through the opening 47. The mail thus collected is carried to the post-office and may be removed from the car to a hinged door 48 disposed in the front wall 21 of the car.

What is claimed, is:—

An automatic mail delivery apparatus including an endless series of mail receiving pockets, a spring controlled trip finger, a pivoted trap door, means connecting said finger with said trap door, and means carried by said trip finger for actuating said pocket step by step, the last named means operating to carry said pockets successively into registration with said trap door, and the first named means operating to open said trap door and discharge the mail from said pockets.

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

WILLIAM LEWIS.

Witnesses:

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J. A. PATERSON.