J. S. JACQUES.

PNEUMATIC DESPATCH TUBE APPARATUS.

APPLICATION FILED AUG. 13, 1909.

974,799.

Patented Nov. 8, 1910.

5 SHEETS—SHEET 1.

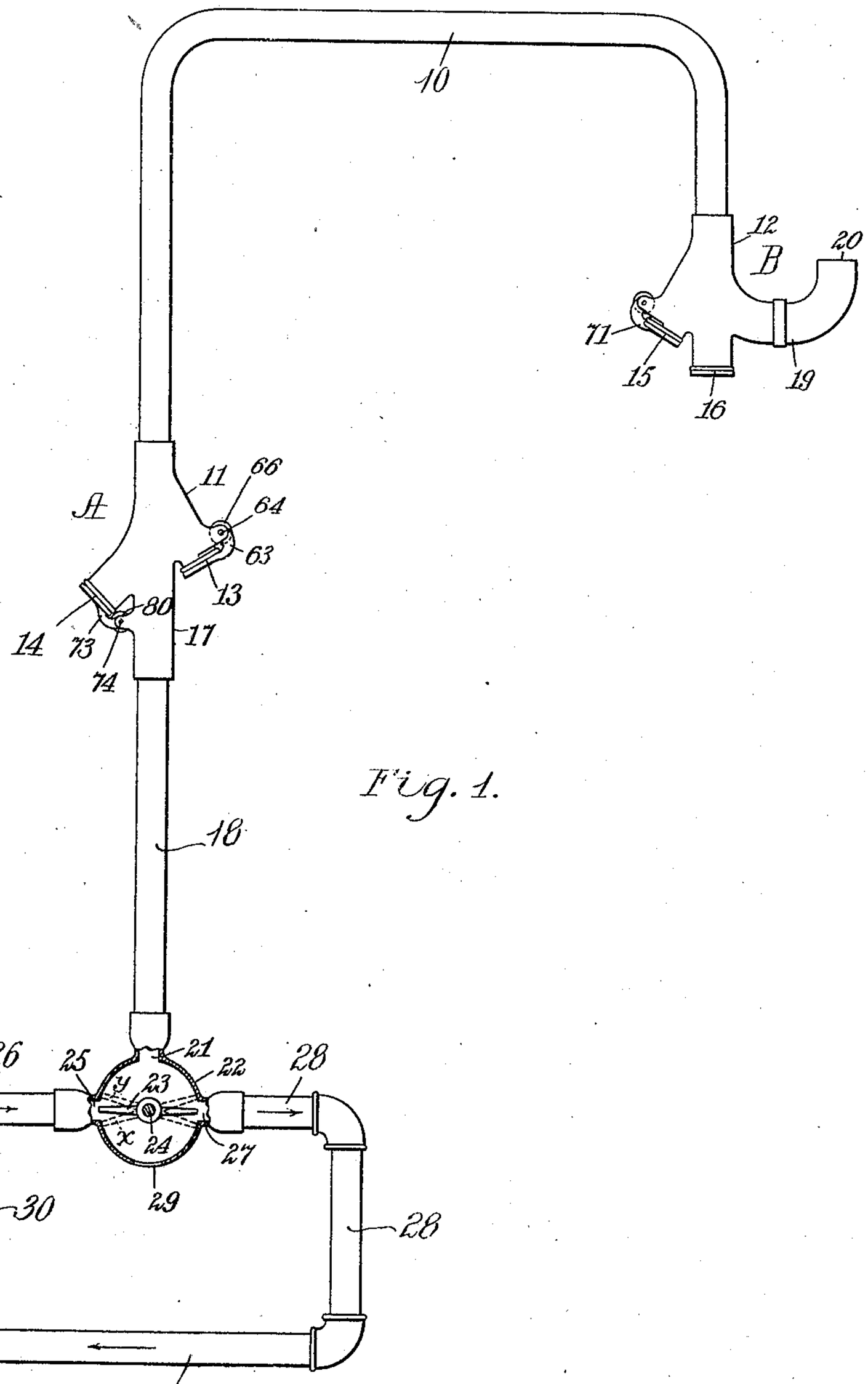

Fig. 1.

Witnesses.

Franklin E. Low.

Sydney E. Taft.

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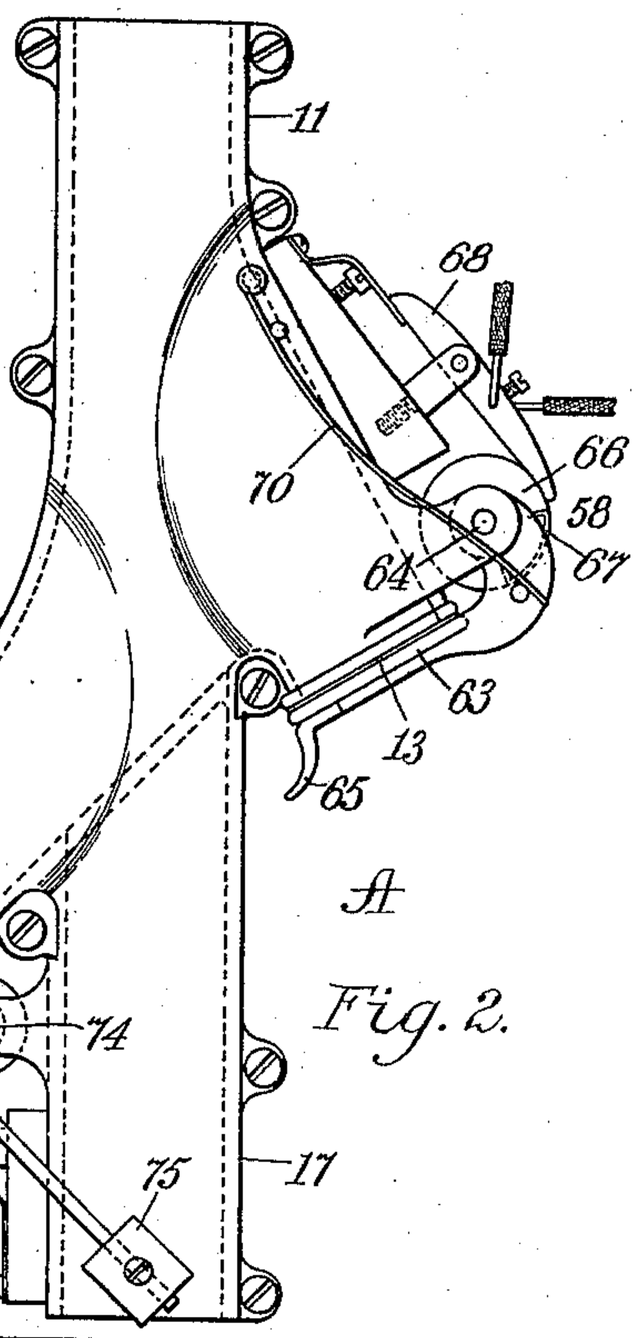

Fig. 2.

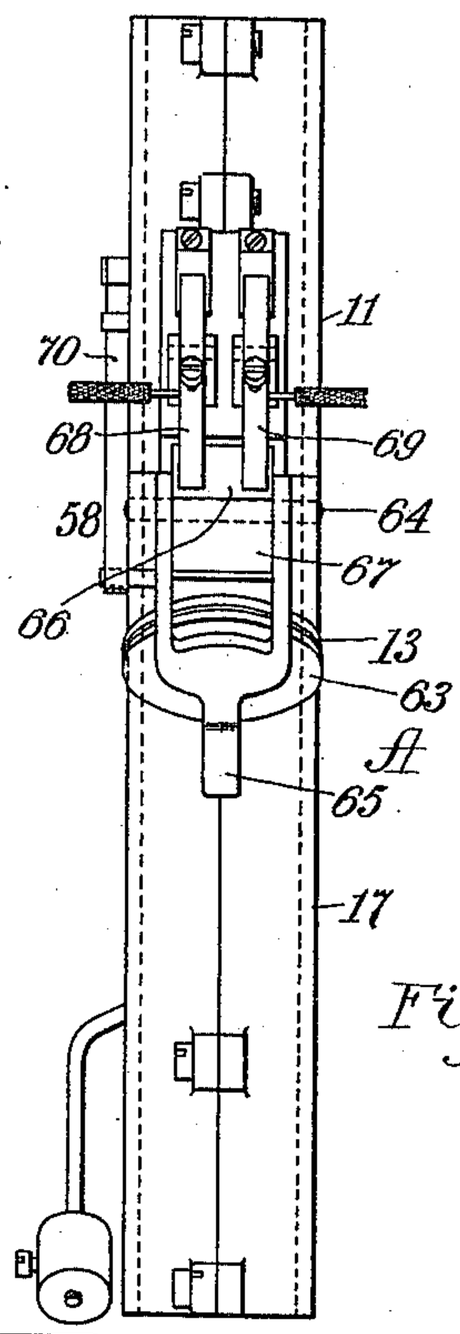

Fig. 3.

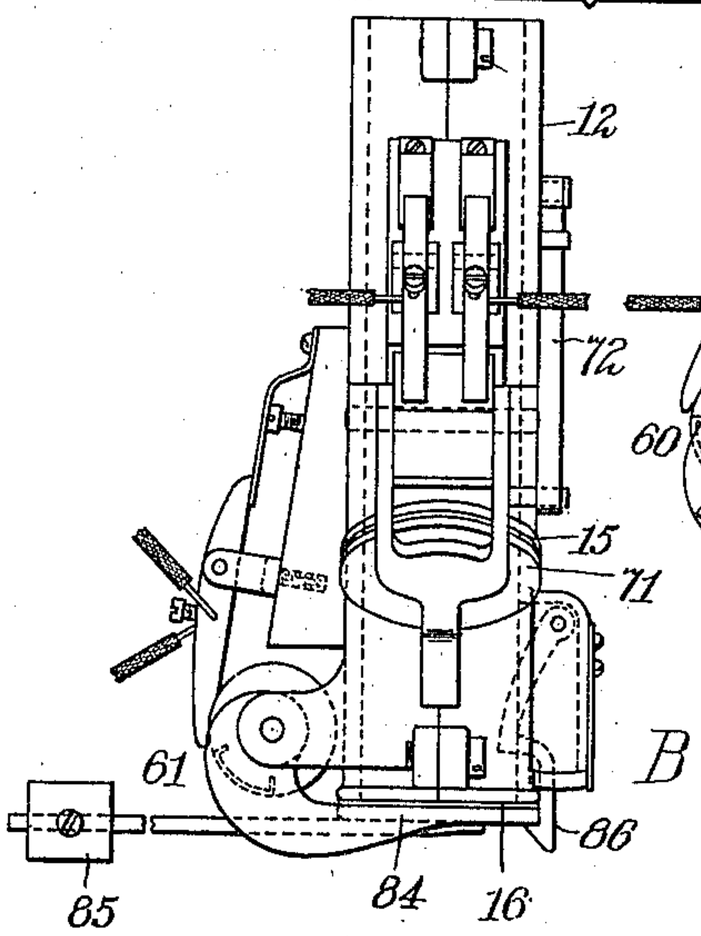

Fig. 5.

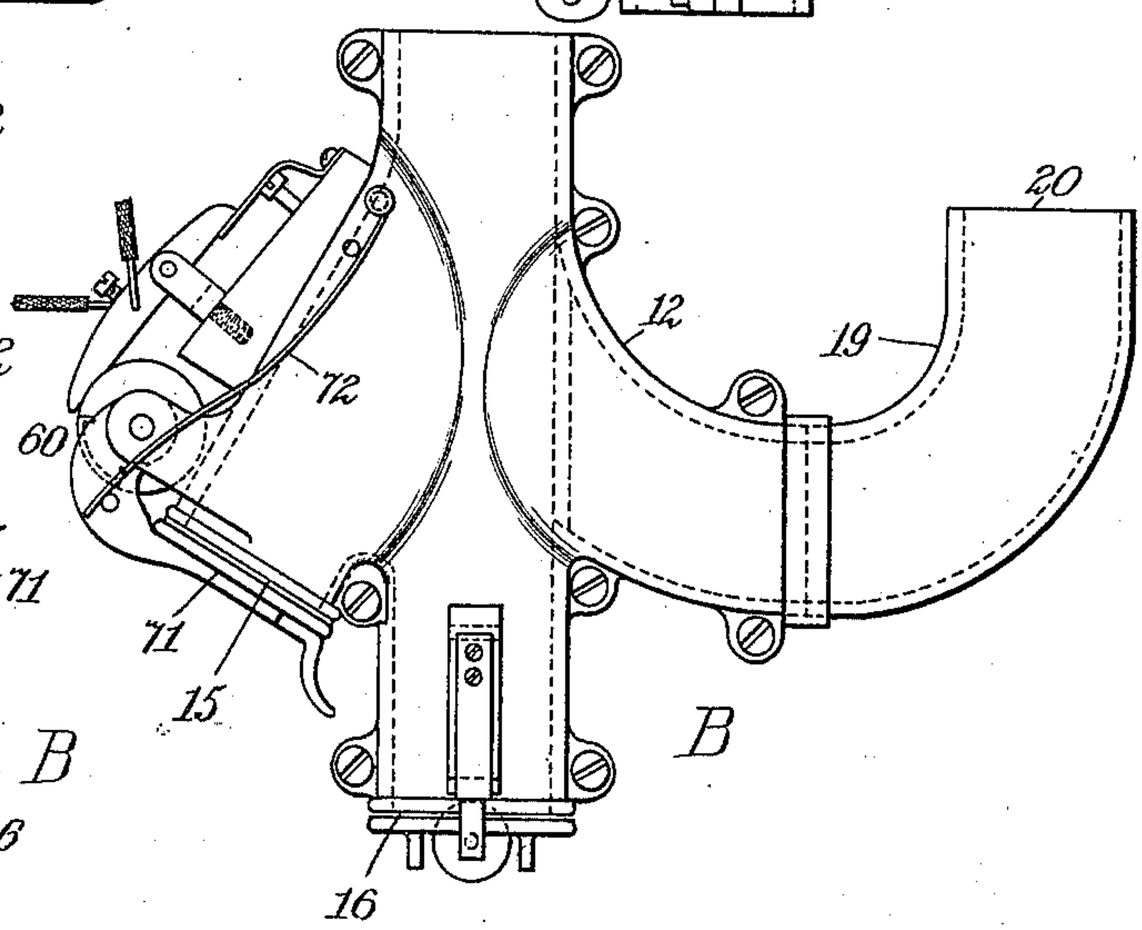

Fig. 4.

Witnesses.

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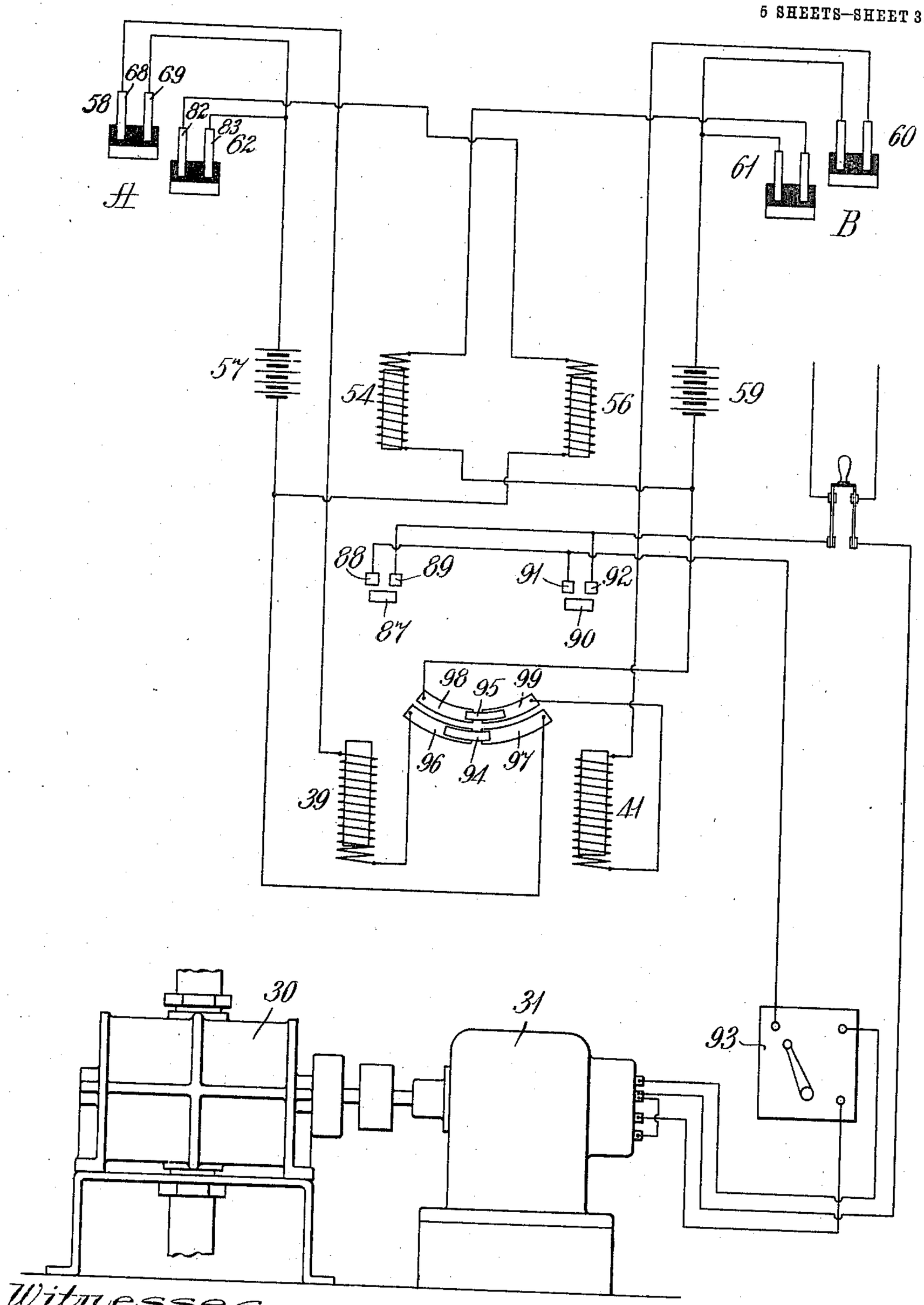

Witnesses.

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Fig. 6.

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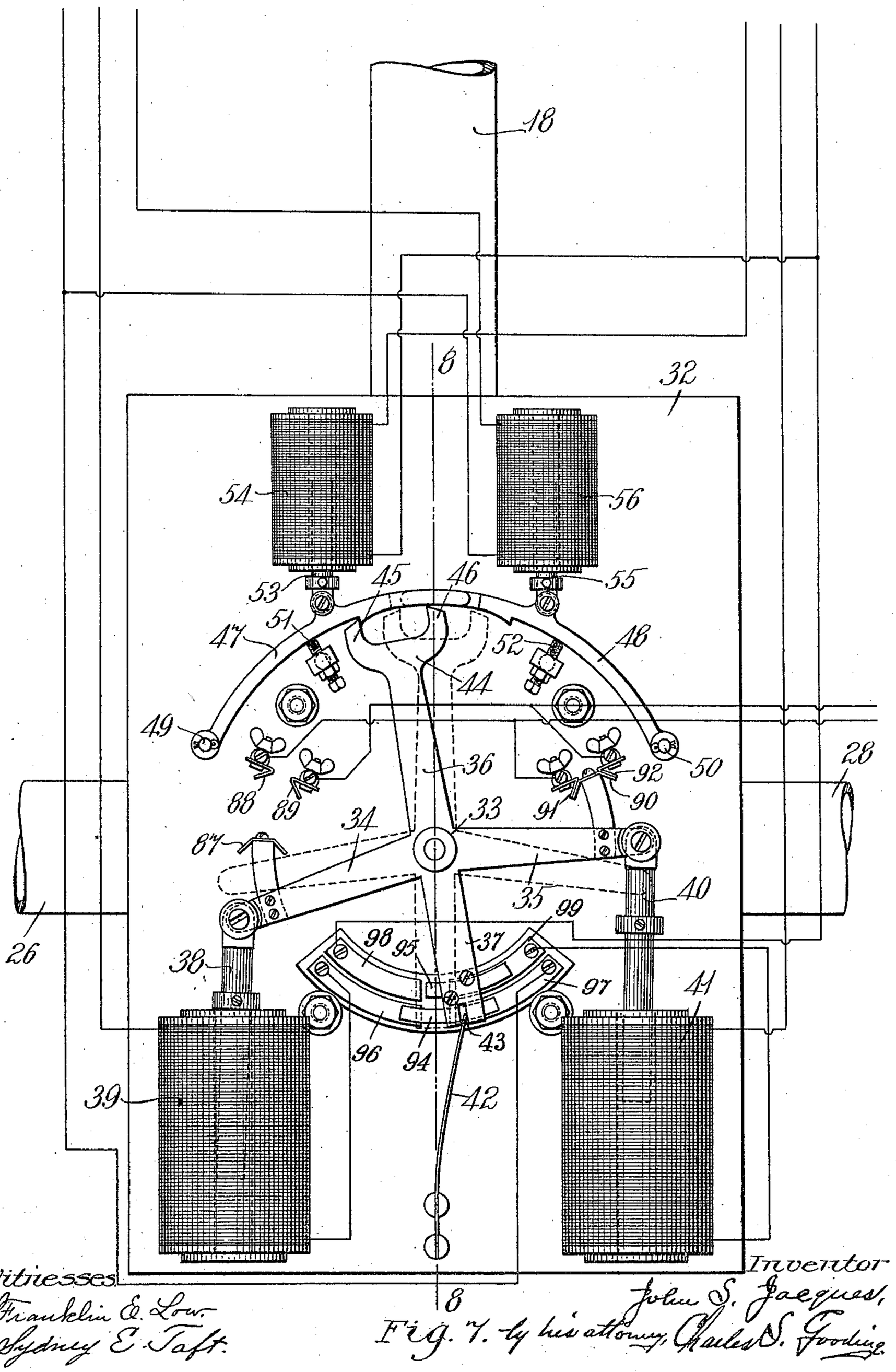

Witnesses:
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Fig. 7.

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5 SHEETS—SHEET 5.

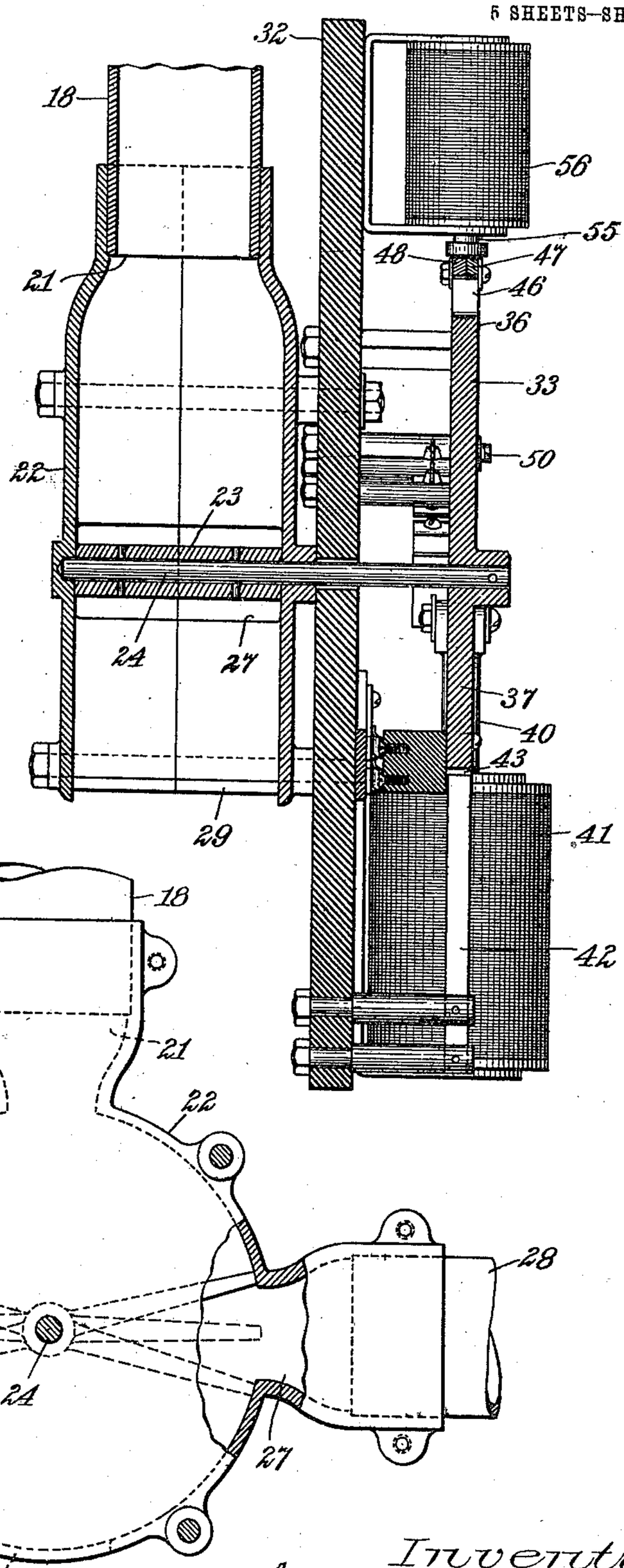

Fig. 8.

Fig. 9.

Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN S. JACQUES, OF HINGHAM, MASSACHUSETTS.

PNEUMATIC-DESPATCH-TUBE APPARATUS.

974,799. Specification of Letters Patent. Patented Nov. 8, 1910.

Application filed August 13, 1909. Serial No. 512,646.

To all whom it may concern:

Be it known that I, JOHN S. JACQUES, a citizen of the United States, residing at Hingham, in the county of Plymouth and State of Massachusetts, have invented new and useful Improvements in Pneumatic-Despatch-Tube Apparatus, of which the following is a specification.

This invention relates to improvements in pneumatic despatch tube apparatus, and the object is to produce an apparatus which shall be capable of operating with the greatest efficiency combined with a minimum of expense of operation and maintenance.

While in the embodiment of my invention herein shown I employ a single transmission tube connecting two stations, my invention is applicable to multiple systems and in a variety of different ways without departing from the spirit of my invention.

The invention consists in the novel features of construction and in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the appended claims.

Referring to the drawings: Figure 1 is a diagrammatic view of a pneumatic despatch tube apparatus embodying my invention showing the arrangement of the transmission tube and its terminals, the air supply pipe, the air pump for producing the air current and the controlling valve for reversing the direction of the air current. Fig. 2 is a detail elevation of one of the terminals. Fig. 3 is a detail elevation of the terminal shown in Fig. 2 and viewed from the right hand side thereof. Fig. 4 is a detail elevation of the other terminal. Fig. 5 is an elevation of the terminal shown in Fig. 4 viewed from the left hand side thereof. Fig. 6 is a diagrammatic view showing all of the electrical devices and wiring of the apparatus, the air pump and the electric motor which drives the same. Fig. 7 is an enlarged detail elevation of the controller. Fig. 8 is a sectional view taken on line 8—8 of Fig. 7, looking toward the right. Fig. 9 is a detail elevation of the controlling valve and its casing, the casing being partly broken away and shown in section.

Like reference characters refer to like parts throughout the several views of the drawings.

In the drawings, 10 is a transmission tube connecting two stations A and B and having terminals 11 and 12 located at said stations, respectively, said terminals being shown in detail in Figs. 2 to 5, inclusive. The terminal 11 is provided with a carrier inlet 13 and a carrier outlet 14 and in like manner the terminal 12 is provided with a carrier inlet 15 and a carrier outlet 16. The terminal 11 has an air inlet and outlet branch 17 which is connected to an air pipe 18, while the terminal 12 has an air inlet and outlet branch 19 having an orifice 20 open to the atmosphere at all times, this branch being turned upwardly to prevent the air currents from blowing downwardly upon the counter at station B.

The air pipe 18 is connected to a passage 21 of a controller valve casing 22 in which is located a controller valve 23 fast to a shaft 24 mounted to rock in said casing. The casing 22 has an air pressure inlet passage 25 to which is connected an air pressure pipe 26, while on the opposite side, said casing is provided with an air outlet passage 27 to which is connected an air tension or suction pipe 28. The casing 22 is also provided with an orifice 29 which is open to the atmosphere at all times.

The air pressure pipe 26 is connected to the outlet of an air current creating device 30 and for this purpose I preferably employ a rotary air pump connected to and adapted to be driven by an electric motor 31 shown in Fig. 6, the suction pipe 28 being connected to the inlet of said air pump.

The controller valve 23 is shown in full lines in Fig. 1 in its initial position. When the controller valve is moved from its initial position to the position *x* shown in dotted lines in Fig. 1, and the air pump is running, atmospheric air will be drawn inwardly through the orifice 29, through the passage 27, suction pipe 28 to the air pump and will be forced outwardly therefrom through the pressure pipe 26, passage 25, past the upper side of the valve 23, through the passage 21, pipe 18 and branch 17 into the terminal 11 and thence through the transmission tube 10 and outwardly through the orifice 20 of the branch 19 to the atmosphere.

When the valve 23 is moved to the position *y* shown in dotted lines in Fig. 1, atmospheric air is drawn inwardly through the orifice 20 of the branch 19 and passes in the reverse direction through the transmission tube 10, thence through the branch 17, pipe 18, passage 21, passage 27 and suction pipe 28 to the air pump 30 and is forced

outwardly therefrom through the air pressure pipe 26, passage 25 and through the orifice 29 to the atmosphere.

I shall now proceed to describe the instrumentalities for controlling the controller valve 23 and the motor 31 which drives the air pump.

Referring now particularly to Figs. 7 and 8, 32 is a base formed of suitable insulating material secured to the controller valve casing 22 and through this base the rock shaft 24 extends, said rock shaft having secured thereto at its outer end a spider 33 having four arms 34, 35, 36 and 37. The arm 34 is pivotally connected to an armature 38 of an electromagnet 39 preferably of the solenoid type and in like manner the arm 35 is pivotally connected to an armature 40 of a solenoid 41. Fast at its lower end to the base 32 is a flat spring 42 which is located at its upper end in a notch 43 formed in the arm 37, said spring being so arranged as to constantly tend to move said arm to a vertical position and consequently tending to hold the controller valve 23 in its initial or mid-position. It will be evident that when the solenoid 39 is energized the armature 38 will be drawn downwardly and the spider 33 will be rocked from its mid-position, as shown in dotted lines in Fig. 7, into the position shown in full lines in said figure, thereby moving the controller valve 23 to the dotted position *x* shown in Fig. 1. When the solenoid 39 is deënergized, the spring 42 will act to return the parts to their initial position. In like manner, when the solenoid 41 is energized, the armature 40 will be drawn downwardly thereby and the controller valve will be moved from its initial position into the dotted position *y* shown in Fig. 1.

If it were not for the provision of a means for holding the valve 23 in either of its two positions *x* and *y*, it would be necessary to pass an electric current through the proper solenoid during the whole time which it is desired to hold said valve in such position and this would result in the consumption of a considerable amount of current. To effect an economy in the current used, I provide a means for holding the valve in one position or the other, as the case may be, after the same has been moved from its initial position so that the solenoid which has moved the valve may be instantly deënergized and the valve will be held in such abnormal position until the holding device is rendered inoperative by suitable means, thereby allowing the valve to resume its initial position. This constitutes one of the principal features of my invention.

In the present embodiment of my invention the arm 36 is provided with a fork 44 having two lugs 45 and 46 preferably beveled on their upper faces, as shown in Fig. 7, these lugs being adapted to engage latches 47 and 48, respectively. The latch 47 is pivoted at 49 on the base 32 and the latch 48 is pivoted at 50 on said base, the downward movement of the former being limited by an adjustable stop screw 51 and the movement of the latter being limited by an adjustable stop screw 52.

It will be evident that when the spider 33 is moved from its mid-position to the position shown in full ines in Fig. 7, the lug 45 will engage the latch 47 and will be held thereby until said latch is lifted out of engagement therewith. In like manner, if the spider 33 be moved from its mid-position toward the right, the lug 46 will engage the latch 48 and will be held thereby until said latch is lifted out of engagement therewith.

The latch 47 is pivotally connected to an armature 53 of an electromagnet 54 preferably of the solenoid type, and in like manner the latch 48 is pivotally connected to an armature 55 of a solenoid 56. It will be evident that when the solenoid 54 is energized, the armature 53 will lift the latch 47 and when the solenoid 56 is energized, the armature 55 will lift the latch 48.

Referring now to Fig. 6, it will be observed that the solenoid 39 is connected in circuit with a battery or other suitable source of current 57 and this circuit is made and broken by a switch 58 which is located at station A. In like manner, the solenoid 41 is connected in circuit with a battery or other suitable source of current 59 and this circuit is made and broken by a switch 60 located at station B. The solenoid 54 is connected in circuit with the battery 59 and this circuit is made and broken by a switch 61 located at station B. In like manner, the solenoid 56 is connected in circuit with the battery 57 and this circuit is made and broken by a switch 62 located at station A.

Referring now to Figs. 2 to 5, inclusive, it will be seen that the carrier inlet 13 of the terminal 11 is normally closed by a cover 63 fast to a rock shaft 64 mounted to rock in suitable bearings on said terminal and the switch 58 is suitably actuated by rocking said cover manually by means of a finger piece 65. The switch 58 preferably consists of a drum 66 formed of insulating material and fast to the rock shaft 64, said drum having thereon a segmental contact plate 67 which is adapted to engage two suitable brushes 68 and 69. The cover 63 is normally held in its closed position by means of a suitably arranged spring 70. When the cover 63 is opened to insert a carrier into the terminal, said cover rocks the drum 66, thereby causing the contact plate 67 to contact with both of the brushes 68 and 69, thereby completing a circuit to the solenoid 39 and energizing the same. The carrier inlet 15 of the terminal 12 is normally closed by a

cover 71 and is normally held closed by a suitable spring 72. The switch 60 is identical in construction with the switch 58 and is actuated by the cover 71 in exactly the same manner in which the switch 58 is actuated by the cover 63, and, therefore, a detailed description of the switch 60 will be unnecessary. The carrier outlet orifice 14 of the terminal 11 is normally closed by a cover 73 which is fast to a rock shaft 74 mounted to rock in suitable bearings, said cover being moved into its closed position by suitable means such as a weight 75 and being normally held in its closed position by means of a pivoted latch 76. The latch 76 is located in a recess 77 formed in an offset in the terminal 11, said latch having formed thereon a cam 78 which normally projects into the terminal in the path of the carrier so that a carrier in approaching the outlet orifice 14 engages said cam on said latch and forces said latch toward the left, Fig. 3, out of engagement with the cover 73, thereby releasing said cover and allowing the same to be opened by said carrier in passing outwardly through the outlet 14. The latch 76 is normally held in the position shown in Fig. 3 by a suitable spring 79 bearing thereagainst. The cover 73 is suitably connected to actuate the switch 62, the same being similar in construction to the switches 58 and 61 hereinbefore described and comprising a drum 80 formed of insulating material fast to the rock shaft 74 and having on its periphery a segmental contact plate 81 which when said drum is rotated by opening the cover is adapted to contact with two suitably supported brushes 82 and 83.

It will be evident that when the carrier passes outwardly through the outlet orifice 14, said carrier will strike the cover 73, thereby rocking the same on its pivot and thus actuating the switch 62 to complete a circuit to the solenoid 56, thereby energizing the same and causing the latch 48 to be lifted, thereby permitting the controller valve 23 to resume its initial position as hereinbefore described. The outlet 16 of the terminal 12 is normally closed by a cover 84, the same being moved into its closed position by a weight 85 and being held normally closed by a latch 86, all identical in construction with the cover, weight and latch of the outlet 14. The switch 61 is also similar to the switch 62 on the terminal 11 and a detailed description of the same will, therefore, be unnecessary.

It will be evident that when the carrier passes toward the outlet 16, the same will actuate the latch 86 to release the cover 84, allowing said cover to be opened by the carrier, said cover actuating the switch 61 to complete a circuit to the solenoid 54, thereby causing the same to be energized and lift the latch 47.

In order that the pump 30 may be started into operation as soon as a carrier is introduced into one of the terminals and its operation discontinued when said carrier passes out through the other terminal, I provide a switch or switches operated by the movement of the spider 33 to complete a circuit from a suitable source of current to the electric motor 31. In the present instance this is accomplished by mounting upon the arm 34 and insulated therefrom a contact member 87 adapted to coöperate with two stationary contact members 88 and 89 and mounting upon the arm 35 and insulated therefrom a contact member 90 adapted to contact with two stationary contact members 91 and 92, all of said stationary contact members being connected in circuit with a suitable rheostat 93 and said rheostat being connected by suitable wiring to the motor 31, the arrangement being such that when the contact member 87 is moved into contact with the contact members 88 and 89 the motor is started into operation and when the contact member 87 is moved out of contact with the members 88 and 89 the circuit is broken and the operation of the motor is discontinued. In like manner, when the member 90 is moved into contact and out of contact with the members 91 and 92 the motor is started and stopped. Thus it will be evident that the motor runs and drives the pump only during the passage of the carrier through the transmission tube. It will be evident that there must be provided some means to prevent the motor from stopping and to prevent the valve 23 from being moved during the passage of a carrier through the transmission tube and to this end I provide suitable means adapted to be operated by each of the solenoids 39 and 41 to render the other inoperative, or in other words, to cut the other out of circuit when the valve is moved from its initial position to either of its abnormal positions. In the present instance this is accomplished by mounting upon the arm 37 two brushes 94 and 95 insulated from said arm, the brush 94 being arranged to coöperate with two contact plates 96 and 97 connected in circuit with the solenoid 39 and the brush 95 being arranged to coöperate with two contact plates 98 and 99 connected in circuit with the solenoid 41.

The length of the brush 95 is such that when the arm 37 moves into the position shown in Fig. 7, said brush passes out of contact with the plate 98, thereby cutting the solenoid 41 out of circuit and rendering the same inoperative. It will be evident then that the solenoid 41 cannot operate until the spider 33 and valve 23 have been released by the latch 47 and allowed to resume their normal positions. In like manner, when the arm 37 is moved toward the left from its initial position the brush 94 passes

out of contact with the plate 97, thereby cutting the solenoid 39 out of circuit and rendering the same inoperative until such time as the latch 48 releases the spider 33 and allows it to resume its normal position.

It will be obvious from the foregoing, therefore, that when a carrier is traversing the transmission tube the controlling valve cannot move and the pump cannot cease to operate until said carrier in passing outwardly through the outlet of the terminal causes the cover thereof to actuate its switch to complete a circuit to either the solenoid 54 or the solenoid 56, as the case may be, thereby causing the spider 33 to be released and return to its normal position under the influence of the spring 42.

The general operation of the apparatus hereinbefore specifically described is as follows: The operator at station A opens the cover 63 and introduces into the terminal the proper distance a carrier of usual and well known construction. Said cover in opening actuates the switch 58, thereby completing a circuit to the solenoid 39 and causing the controller valve 23 to be moved from its initial position to the dotted line position *x* shown in Fig. 1 and at the same time causing a circuit to be completed to the motor 31, thereby starting the pump 30 into operation. Thus a current of air is created in the transmission tube 10, said current traveling from the terminal 11 to the terminal 12, thereby moving the carrier through said tube to and outwardly through the outlet 16.

The carrier in passing through the outlet opens the cover 84, thereby actuating the switch 61 to complete a circuit to the solenoid 54 thus raising the latch 47 and releasing the spider 33, whereupon the spring 42 acts to return said spider and the valve 23 to normal position and at the same time causing the circuit to the motor 31 to be broken, whereupon the pump 30 ceases to operate. In like manner, when the operator at station B opens the cover 71 and introduces a carrier through the inlet 15 into the terminal 12 the motor will be started into operation and the valve 23 will be moved from its initial position to the position *y* thus causing a reversal of the air current, the same acting to move the carrier through the transmission tube to the terminal 11 and outwardly through the outlet 14 and said carrier in passing outwardly therefrom moves the cover 73 thereby actuating the switch 62, thus causing the solenoid 56 to be energized, whereupon the motor is stopped by the controller and the valve 23 is returned to its initial position.

It will be obvious from the foregoing that the apparatus will operate with the greatest efficiency and economy owing to the fact that the pump is operated only during the passage of a carrier through the transmission tube and owing to the further fact that the solenoids are energized only momentarily, the latter resulting in a great saving in the electrical current consumption.

It will be observed incidentally that the two terminals are not connected to each other at all by an electric circuit, but that on the contrary the control is exercised from each of the terminals through the medium of the controller which consists of the controlling valve and other parts operatively connected thereto.

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

1. A despatch tube apparatus having, in combination, a transmission tube, means for creating an air current in said tube, a device controlling said air current, electrically operated means to actuate said device, means to hold said device in its new position after being thus moved, said holding means being distinct from said actuating means, and electrically operated means to actuate said holding means to release said device and allow the same to resume its initial position.

2. A despatch tube apparatus having, in combination, a transmission tube, means for creating an air current in said tube, a device controlling said air current, electrically operated means to actuate said device and start said air current creating means into operation, means to hold said device in its new position after being thus moved, said holding means being distinct from said actuating means, and electrically operated means to actuate said holding means to release said device and to discontinue the operation of said air current creating means.

3. A despatch tube apparatus having, in combination, a transmission tube, means for creating an air current in said tube, a device controlling said air current to cause the same to pass in either direction, electrically operated means to move said device in one direction, electrically operated means to move said device in the opposite direction, means to hold said device after the same has been thus moved in either direction, said holding means being distinct from both of said moving means, and electrically operated means to render said holding means inoperative, thereby to release said device and allow the same to resume its initial position.

4. A despatch tube apparatus, having, in combination, a transmission tube through which carriers are transmitted, a device for producing an air current in said tube, a valve controlling said air current to cause the same to pass in either direction, electrically operated means to move said valve in one direction, electrically operated means to move said valve in the opposite direction, means to hold said valve after the same has been moved in either direction, and two dis-

tinct and independent means to release said holding means to allow said valve to resume its initial position.

5. A despatch tube apparatus having, in combination, a transmission tube through which carriers are transmitted from one station to another, means for creating an air current in said tube, a device controlling said air current, electrically operated means controllable at one of said stations to move said device, means to hold said device in its new position after being thus moved, said holding means being distinct from said moving means, and electrical means operated by the carrier at the other station to actuate said holding means to release said device and allow the same to resume its initial position.

6. A despatch tube apparatus having, in combination, a transmission tube, an air pump for producing an air current in said tube, an electric motor to drive said pump, a device controlling said air current, electrical means to start said motor into operation and move said device into position to direct said air current in one direction in said tube, means to hold said device in said position, said holding means being distinct from said moving means, and electrical means to actuate said holding means to release said valve and to discontinue the operation of said motor.

7. An air current controller for pneumatic despatch tube systems having, in combination, a device to control the flow of an air current, electrical means to move said device from its initial position, means to hold said device after the same has thus been moved, said holding means being distinct from said moving means, and electrical means to actuate said holding means to release said device and allow the same to resume its initial position.

8. An air current controller for pneumatic despatch tube systems having, in combination, a device to control the flow of an air current, electrical means to move said device from its initial position, a latch to lock said device in fixed position after the same has been thus moved, electrical means to actuate said latch to release said device, and means to return said device to its initial position.

9. An air current controller for pneumatic despatch tube systems having, in combination, a two way valve to control the flow of an air current, electrical means to move said valve from its initial position to direct the flow of air in one direction, electrical means to move said valve to direct the flow of air in another direction, means independent of both of said electrical means to hold said valve after the same has been moved from its initial position, and electrical means to release said valve and allow the same to resume its initial position.

10. An air current controller for pneumatic despatch tube systems having, in combination, a two way valve to control the flow of an air current, electrical means to move said valve from its initial position to direct the flow of air in one direction, electrical means to move said valve to direct the flow of air in another direction, means independent of both of said electrical means to hold said valve after the same has been moved from its initial position, electrical means to release said valve, and means to return said valve to its initial position.

11. An air current controller for pneumatic despatch tube systems having, in combination, a two way valve to control the flow of an air current, electro magnetic means to move said valve from its initial position to direct the flow of air in one direction, electro-magnetic means to move said valve from its initial position to direct the flow of air in another direction, means independent of both of said electro-magnetic means to hold said valve after the same has been moved from its initial position, and electro-magnetic means to release said valve and allow the same to resume its normal position.

12. An air current controller having, in combination, a device to control the flow of an air current, two electro-magnets including armatures connected to said device to move the same in opposite directions, respectively, and means operated by each of said electro-magnets to cut the other out of circuit.

13. An air current controller having, in combination, a device to control the flow of an air current, two electro-magnets including armatures connected to said device to move the same in opposite directions, respectively, switches to complete circuits to said armatures, respectively, and means operated by each of said electro-magnets to cut the other out of circuit.

14. An air current controller having, in combination, a device to control the flow of an air current, two electro-magnets including armatures connected to said device to move the same in opposite directions, respectively, from its initial position, switches to complete circuits to said electro-magnets, respectively, means to hold said device after the same has been moved in either direction from its initial position, means operated by each of said electro-magnets to cut the other out of circuit, and means to actuate said holding means to release said device and allow the same to resume its initial position.

15. A despatch tube apparatus having, in combination, a tube, means for creating an air current therein, a device to control the flow of said air current, electro-magnetic means to move said device from its initial position and start said air current creating means, means to hold said device after the

same has been thus moved, said holding means being distinct from said electro-magnetic means, and electro-magnetic means to actuate said holding means to release said device and allow the same to resume its initial position.

16. A pneumatic despatch tube apparatus having, in combination, a tube, electrically controlled means for creating an air current therein, a device to control said air current an electro-magnet including an armature connected to said device to move the same from its initial position, an electric switch connected in circuit with said means and operated by said electro-magnet to start said means into operation when said device is moved from its initial position, a holding device to hold said valve after the same has been moved from its initial position, and an electro-magnet including an armature connected to operate said holding device to release said first-mentioned device and allow the same to resume its initial position.

17. A pneumatic despatch tube apparatus having, in combination, a tube having two terminals, electrically controlled means for creating an air current therein, a device to control said air current, an electro-magnet including an armature connected to said device to move the same from its initial position, an electric switch connected in circuit with said means and operated by said electro-magnet to start said means into operation when said device is moved from its initial position, a holding device to hold said first named device after the same has been moved from its initial position, an electro-magnet including an armature connected to operate said holding device to release said first-mentioned device and allow the same to resume its initial position, an electric switch located at one of said terminals in circuit with said first mentioned electro-magnet, and a second electric switch located at the other of said terminals in circuit with said second-mentioned electro-magnet.

18. A despatch tube apparatus having, in combination, a transmission tube through which carriers are transmitted, means to create an air current therein, a device for reversing the flow of said current, means to move said device from its initial position to cause said current to flow in either direction, means independent of said second-named means to hold said device after the same has been moved in either direction from its initial position, and means to render said holding means inoperative to allow said device to resume its initial position.

19. A despatch tube apparatus having, in combination, a transmission tube through which carriers are transmitted, means to create an air current therein, a device for reversing the flow of said current, electro-magnets to move said device in opposite directions, respectively, to reverse the flow of said current, means independent of said electro-magnets to hold said valve in fixed position after the same has been moved in either direction, and electro-magnetic means to render said holding means inoperative, thereby allowing said device to resume its initial position.

20. A despatch tube apparatus having, in combination, a transmission tube through which carriers are transmitted, means to create an air current therein, a device for reversing the flow of said current, electro-magnets to move said device in opposite directions, respectively, to reverse the flow of said current, means operated by each of said electro-magnets to render the other inoperative, means to hold said device in fixed position after the same has been moved in either direction, and electro-magnetic means to render said holding means inoperative, thereby allowing said device to resume its initial position.

21. A pneumatic despatch apparatus having, in combination, a transmission tube, means for producing an air current in said tube, a device controlling said air current, means to move said device, means to hold said device after the same has been thus moved, said holding means being distinct from said moving means, and means to actuate said holding means to release said device.

22. A pneumatic despatch apparatus having, in combination, a transmission tube, means for producing an air current in said tube, a device controlling said air current, means to move said device and start said air current producing means into operation, means to hold said device after the same has been thus moved, said holding means being distinct from said moving means, and means to actuate said holding means to release said device and to discontinue the operation of said air current producing means.

23. A pneumatic despatch apparatus having, in combination, a transmission tube, means for producing an air current in said tube, a device controlling said air current to cause the same to pass in either direction, means to move said device in one direction, means to move said device in the opposite direction, means to hold said device after the same has been moved in either direction, said holding means being distinct from both of said moving means, and means to actuate said holding means to release said device.

24. A pneumatic despatch apparatus having, in combination, a transmission tube, means for producing an air current in said tube, a device controlling said air current to cause the same to pass in either direction, means to move said device in one direction, means to move said device in the opposite direction, means to hold said device after

the same has been moved in either direction, said holding means being distinct from both of said moving means, and two distinct and independent means to actuate said holding means to release said device.

25. A pneumatic despatch apparatus having, in combination, a transmission tube having two terminals, means for producing an air current in said tube, a device controlling said air current, means controllable at one terminal to move said device, means to hold said device after the same has been thus moved, said holding means being distinct from said moving means, and means operated by a carrier at the other terminal to actuate said holding means to release said device.

26. A pneumatic despatch apparatus having, in combination, a transmission tube, an air pump for producing an air current in said tube, an electric motor to drive said pump, a device controlling said air current, means to start said motor into operation and move said device into position to direct said air current in one direction through said tube, means to hold said device in said position, said holding means being distinct from said moving means, and means to discontinue the operation of said motor and actuate said holding means to release said device.

27. An air current controller for pneumatic despatch apparatus having, in combination, a device to control the flow of an air current, means to move said device from its initial position, means to hold said device after the same has been thus moved, said holding means being distinct from said moving means, and means to actuate said holding means to release said device.

28. An air current controller for pneumatic despatch apparatus having, in combination, a device to control the flow of an air current, means to move said device from its initial position, a latch to lock said device after the same has been thus moved, means to actuate said latch to release said device, and means to return said device to its initial position.

29. An air current controller for pneumatic despatch apparatus having, in combination, a two-way valve to control the flow of an air current, means to move said valve from its initial position to direct the flow of air in one direction, means to move said valve to direct the flow of air in another direction, means to hold said valve after the same has been moved from its initial position, said holding means being distinct from both of said moving means, and means to release said valve and allow the same to resume its initial position.

30. An air current controller for pneumatic despatch apparatus having, in combination, a two-way valve to control the flow of an air current, means to move said valve from its initial position to direct the flow of air in one direction, means to move said valve to direct the flow of air in another direction, means to hold said valve after the same has been moved from its initial position, said holding means being distinct from both of said moving means, means to release said valve, and means to return said valve to its initial position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN S. JACQUES.

Witnesses:
LOUIS A. JONES,
FRANKLIN E. LOW.