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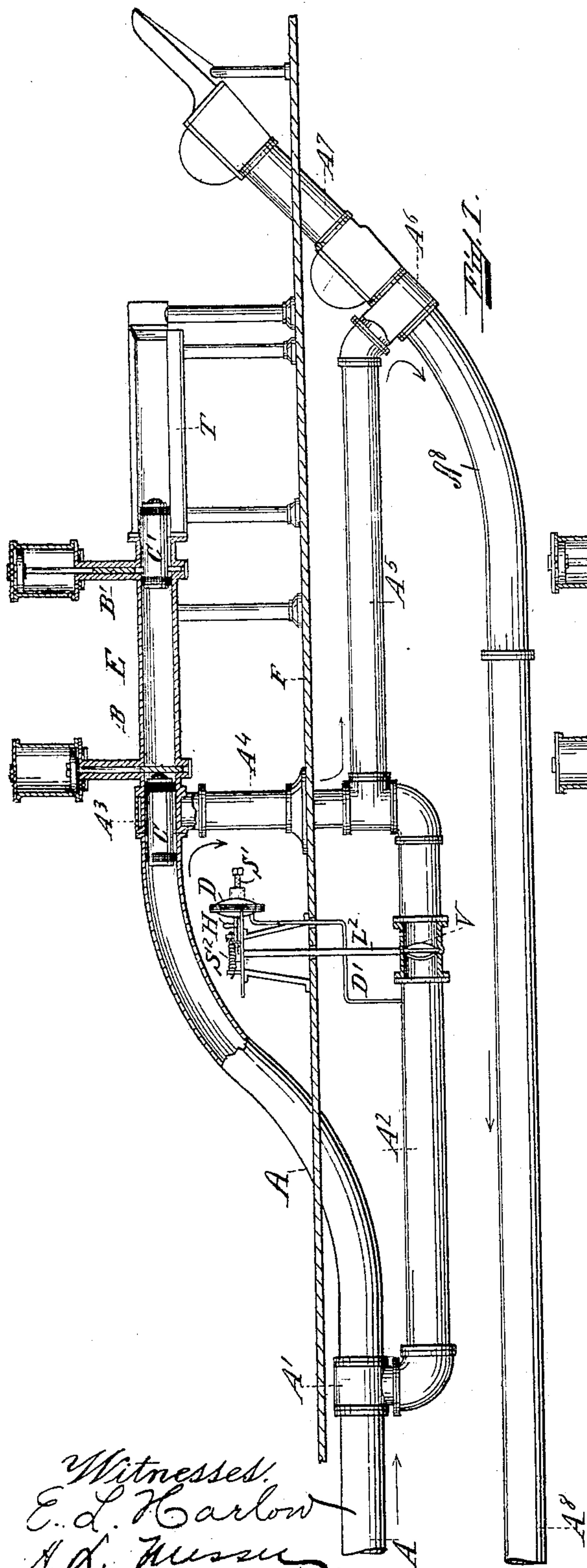
PATENTED OCT. 3, 1905.

C. F. STODDARD.

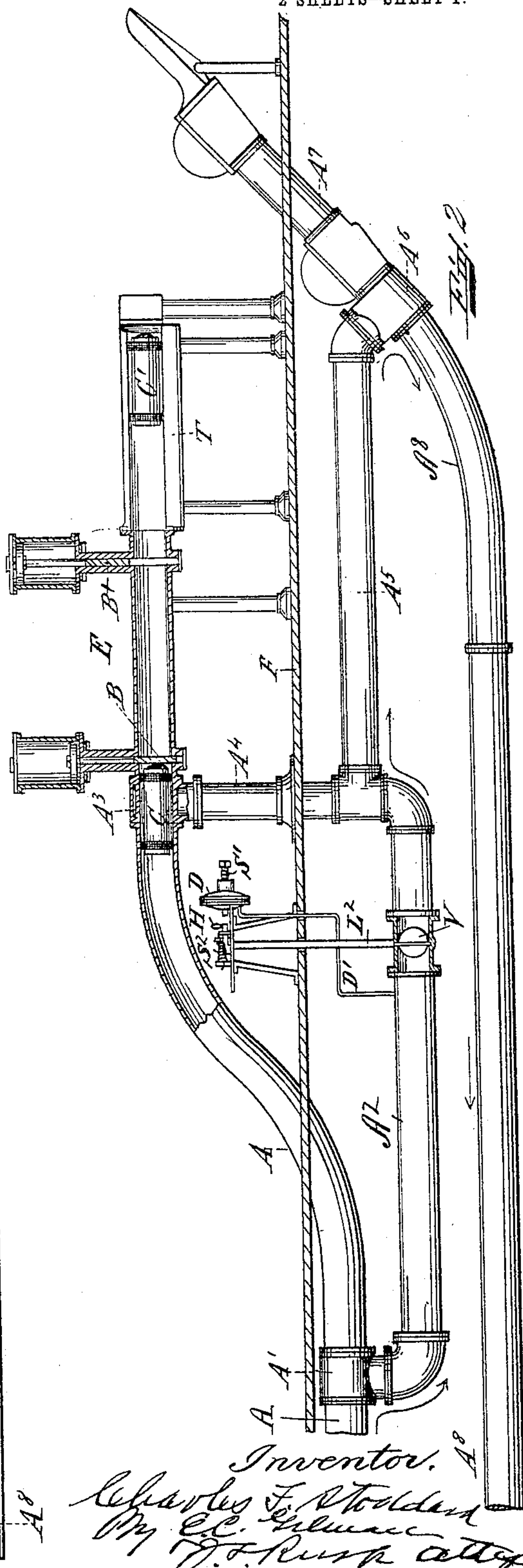
PNEUMATIC DESPATCH APPARATUS.

APPLICATION FILED MAY 13, 1904. RENEWED FEB. 9, 1905.

2 SHEETS—SHEET 1.



Witnesses.
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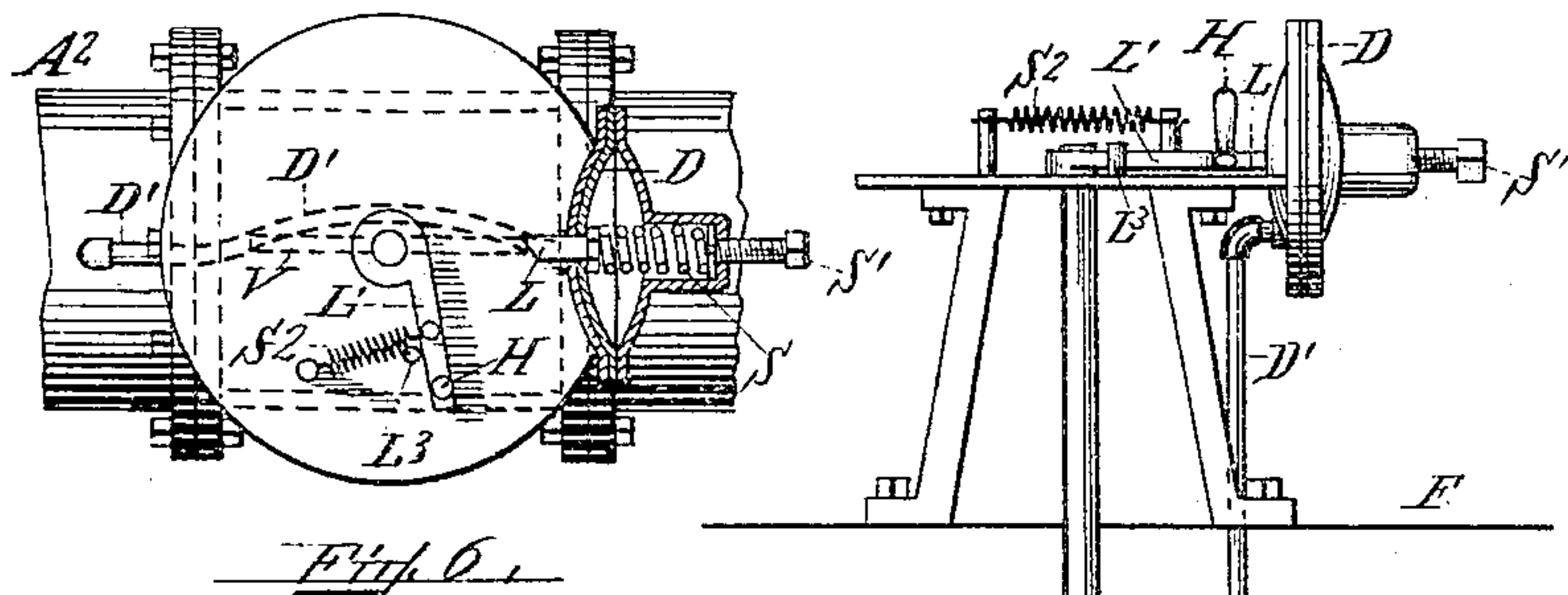


Fig. 1.

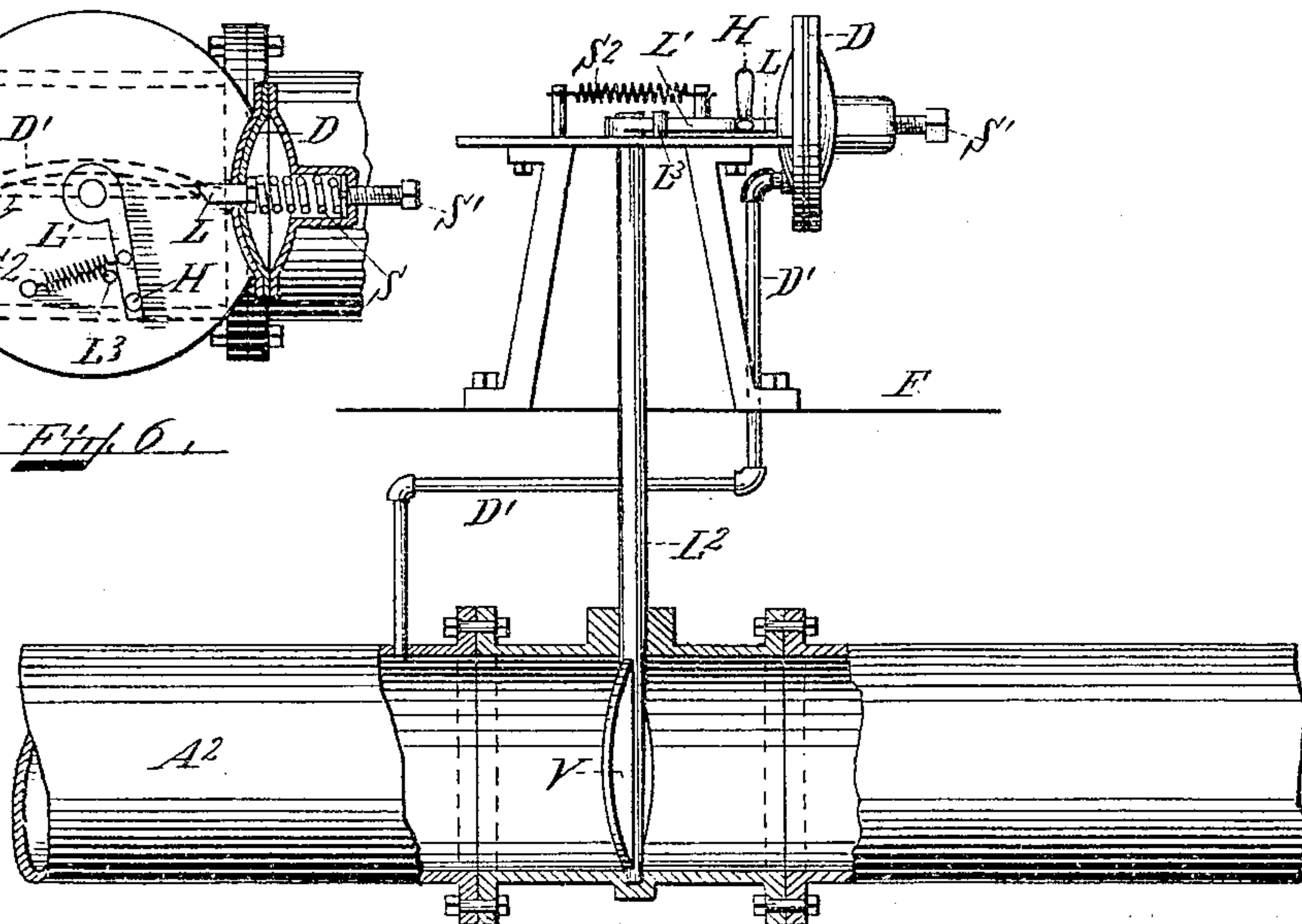


Fig. 2.

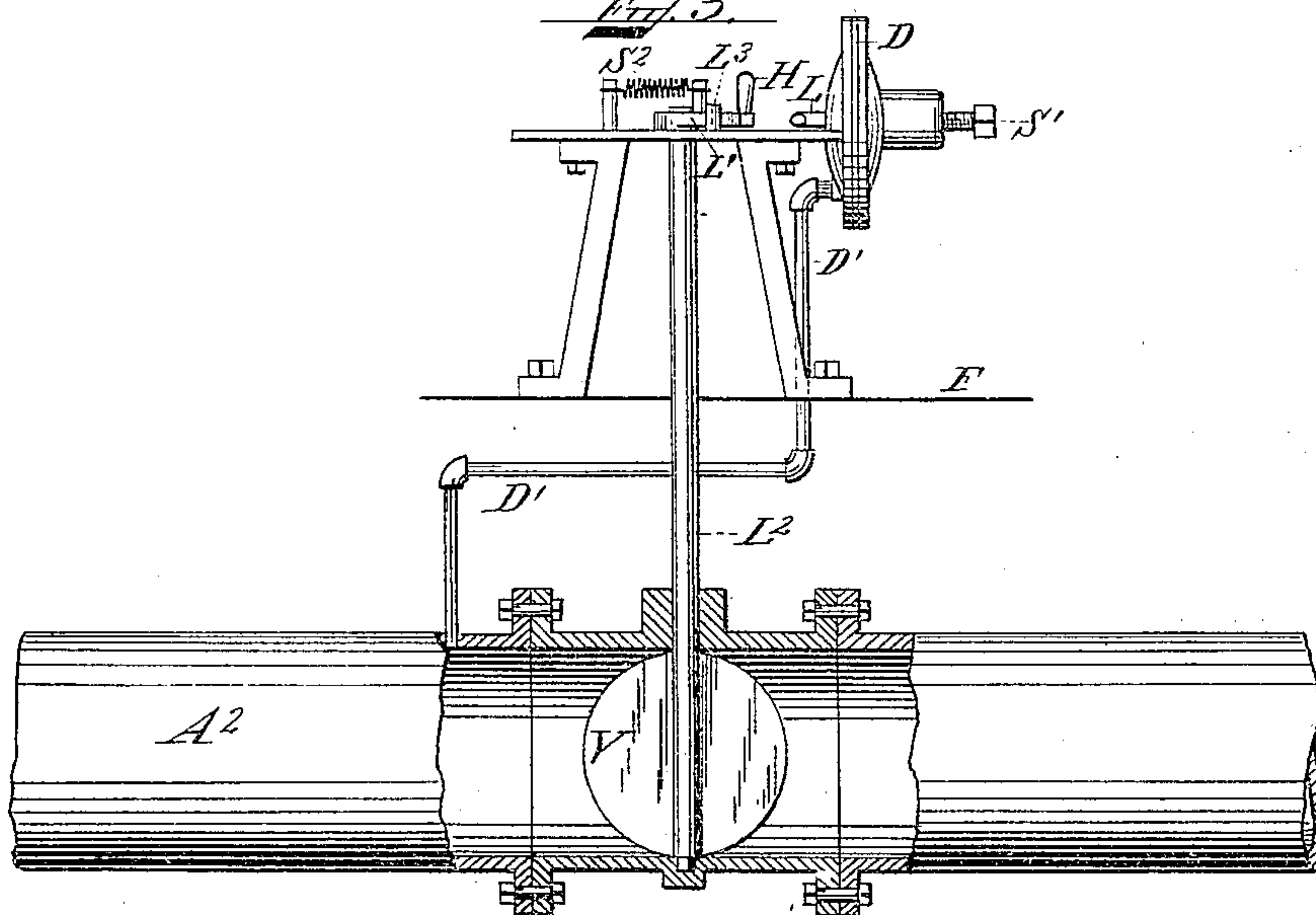


Fig. 3.

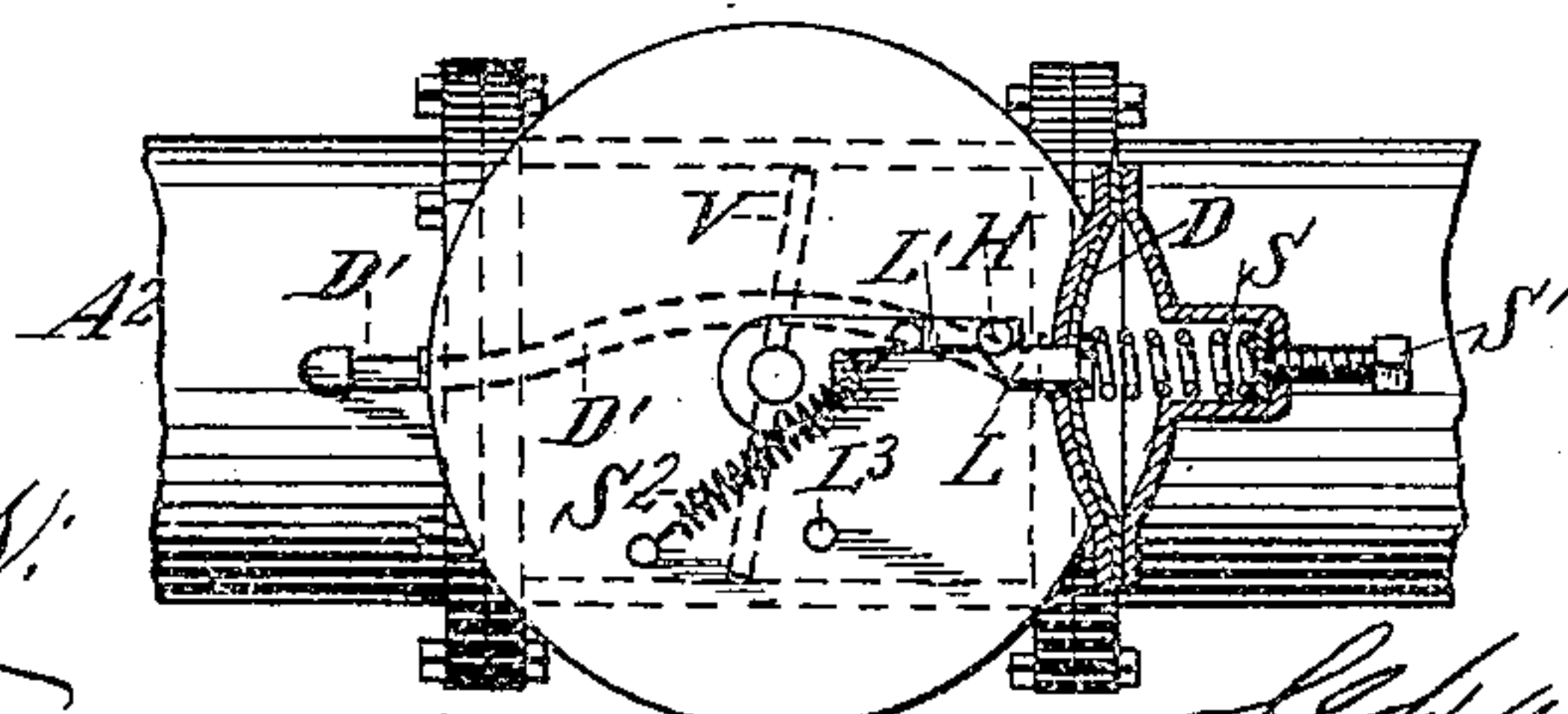


Fig. 4.

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UNITED STATES PATENT OFFICE.

CHARLES F. STODDARD, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO
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PNEUMATIC-DESPATCH APPARATUS.

No. 800,284.

Specification of Letters Patent.

Patented Oct. 3, 1905.

Application filed May 13, 1904. Renewed February 9, 1905. Serial No. 244,905.

To all whom it may concern:

Be it known that I, CHARLES F. STODDARD, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pneumatic-Despatch Apparatus, of which the following is a specification.

My invention relates to new and useful improvements in terminals for pneumatic-despatch-tube apparatus, and especially to such apparatus wherein large carriers are used for the transmission of mail-matter and merchandise.

The object of my invention is to produce a receiving-terminal for pneumatic-despatch-tube apparatus simple and efficient in operation and adapted to keep the pressure in the transmission-tube from rising above normal on account of the receiving-terminal becoming choked by a carrier.

My invention consists of certain novel features hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate a construction embodying my invention, Figure 1 is an elevation of the terminal of a pneumatic-despatch-tube apparatus with part of the receiving-terminal and the by-pass valve shown in section. The receiving-terminal is shown blocked while discharging a carrier and the by-pass valve closed. Fig. 2 is a similar view showing the by-pass valve open. Fig. 3 is an enlarged detail view of the by-pass-valve mechanism closed. Fig. 4 is a similar view showing the same open. Fig. 5 is a plan view of the mechanism shown in Fig. 3. Fig. 6 is a plan view of the mechanism shown in Fig. 4.

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

Some distance from the receiving-terminal E in the transmission-tube A is placed a slotted casing A', which makes an open passage in the transmission-tube A to the by-pass pipe A². Normally the air passes from the tube A along the tubes A⁴ and A⁵, as indicated by arrows in Fig. 1; but in case the carrier C comes into the receiving-terminal when the rear gate B is closed, as shown in Fig. 1, which is the case when the receiving-terminal is discharging a carrier C', this carrier C strikes against the gate B and chokes the slotted casing A³, so that the air cannot pass

through the return-pipes A⁴ A⁵ through the slotted casing A⁶ to the transmitting-terminal A⁷ and back through the return transmission-tube A⁸. The flow of air being stopped, the pressure then accumulates back of the carrier C in the transmission-tube A and the by-pass pipe A² as far as the by-pass valve V. This abnormal pressure is communicated to the front side of the diaphragm D (shown in Figs. 5 and 6) through the pipe D'. The spring S is adjusted by the screw S' so that it holds the diaphragm D in the position shown in Fig. 5 until the pressure on the front side of the diaphragm D rises sufficiently to force the diaphragm D back against the pressure of the spring S, so that the latch L, which is securely fastened to the diaphragm D, is drawn away from the arm L', thereby allowing the spring S² to throw the arm L' into the position shown in Fig. 6. To the arm L' is securely fastened the shaft L², to which in turn is securely fastened the valve V, so that when the arm L' moves from the position shown in Fig. 5 to that shown in Fig. 6 the valve V moves likewise, thereby making a passage for the air along the tube A⁵, (indicated by the arrows in Fig. 2,) which releases the pressure piled up in the transmission-tube A into the transmission-tube A⁸ through the slotted casing A⁶. The object of this automatic by-pass valve is to keep the pressure when the slotted casing A³ is choked by a carrier from accumulating in the transmission-tube A to such an extent as to cause trouble at the compressor end of the line. The handle H on the arm L' is for the purpose of swinging the valve back into its normal position after the carrier C has passed out of the slotted casing A³. The receiving-terminal is provided with two gates B B', which work like a lock, one gate always being closed to prevent the escape of the air under pressure in the transmission-tube into the atmosphere. These gates B B' may be operated in the manner shown and described in United States Letters Patent No. 742,516, dated October 27, 1903, and issued to the American Pneumatic Service Company, of Dover, Delaware, as my assignee.

In Fig. 1 the carrier C' is shown just emerging from under the outer gate B'. Fig. 2 shows the condition an instant later, the carrier C' having been discharged onto the receiving-table T. F is the floor. L³ is a stop

for the arm L'. The spring S is adjusted so that a predetermined rise of pressure in the transmission-tube A will be sufficient to trip the arm L'. The slotted casings A' and A⁶

5 are similar in construction to the slotted casing A³, which is of well-known construction.

I do not limit myself to the arrangement and construction shown, as the same may be varied without departing from the spirit of my invention.

10 Having thus described the nature of my invention and set forth a construction embodying the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a pneumatic-despatch-tube apparatus, a transmission-tube, a receiving-terminal for the carriers with which said transmission-tube communicates, and means for automatically relieving a rise in the pressure in the transmission-tube to reduce the pressure on the carriers in the terminal.

2. In a pneumatic-despatch-tube apparatus, a transmission-tube, a receiving-terminal for the carriers with which said transmission-tube communicates, and means automatically operated by a rise in the pressure in the transmission-tube for relieving said rise in pressure in the transmission-tube to reduce the pressure on the carriers in the terminal.

3. In a pneumatic-despatch-tube apparatus, a transmission-tube, a receiving-terminal for the carriers with which said transmission-tube communicates, a tube connected to said transmission-tube for the escape of air from said transmission-tube, a valve controlling the flow of air through said tube, and means for automatically opening said valve to relieve a rise in the pressure in the transmission-tube to reduce the pressure on the carriers in the terminal.

4. In a pneumatic-despatch-tube apparatus, a transmission-tube, a receiving-terminal for the carriers with which said transmission-tube communicates, a tube connected to said transmission-tube for the escape of air from said transmission-tube, a valve controlling the flow of air through said tube, and means operated by a rise in the pressure in the transmission-tube for automatically opening said valve to relieve said rise in the pressure in the transmission-tube to reduce the pressure on the carriers in the terminal.

5. In a pneumatic-despatch-tube apparatus, a transmission-tube—a receiving-terminal for the carriers with which said transmission-tube communicates, a tube connected to said transmission-tube for the escape of air from said transmission-tube, a valve controlling the flow of air through said tube, a locking device for holding said valve closed, and means operated by a rise in the pressure in the transmission-

tube for automatically opening said valve to relieve the pressure in the transmission-tube to reduce the pressure on the carriers in the terminal.

6. In a pneumatic-despatch-tube apparatus, a transmission-tube, a receiving-terminal for the carriers with which said transmission-tube communicates, a tube connected to said transmission-tube for the escape of air from said transmission-tube, a valve controlling the flow of air through said tube, a locking device for holding said valve closed, means operated by a rise in pressure in the transmission-tube for automatically opening said valve to relieve said rise in pressure in the transmission-tube to reduce the pressure on the carriers in the terminal, and means for normally closing said valve.

7. In a pneumatic-despatch-tube apparatus, a transmission-tube, a receiving-terminal for the carriers with which said transmission-tube communicates, a tube connected to said transmission-tube for the escape of air from said transmission-tube and leading to the return transmission-tube, a valve controlling the flow of air through said tube, and means for relieving a rise in the pressure in the transmission-tube to reduce the pressure on the carriers in the terminal.

8. In a pneumatic-despatch-tube apparatus, a transmission-tube, a receiving-terminal for the carriers with which said transmission-tube communicates, a tube connected to said transmission-tube for the escape of air from said transmission-tube and leading to the return transmission-tube, a valve controlling the flow of air through said tube, and means automatically operated by a rise in the pressure in the transmission-tube for relieving said rise in pressure to reduce the pressure on the carriers in the terminal.

9. In a pneumatic-despatch-tube apparatus, a transmission-tube, a receiving-terminal for the carriers with which said transmission-tube communicates, a tube connected to said transmission-tube for the escape of air from said transmission-tube and leading to the return transmission-tube, a valve controlling the flow of air through said tube, a locking device for holding said valve closed, and means operated by a rise in pressure in the transmission-tube for automatically unlocking and opening said valve to relieve said rise in pressure to reduce the pressure on the carriers in the terminal.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 6th day of May, A. D. 1904.

CHARLES F. STODDARD.

Witnesses:

A. R. LARRABEE,
A. L. MESSER.