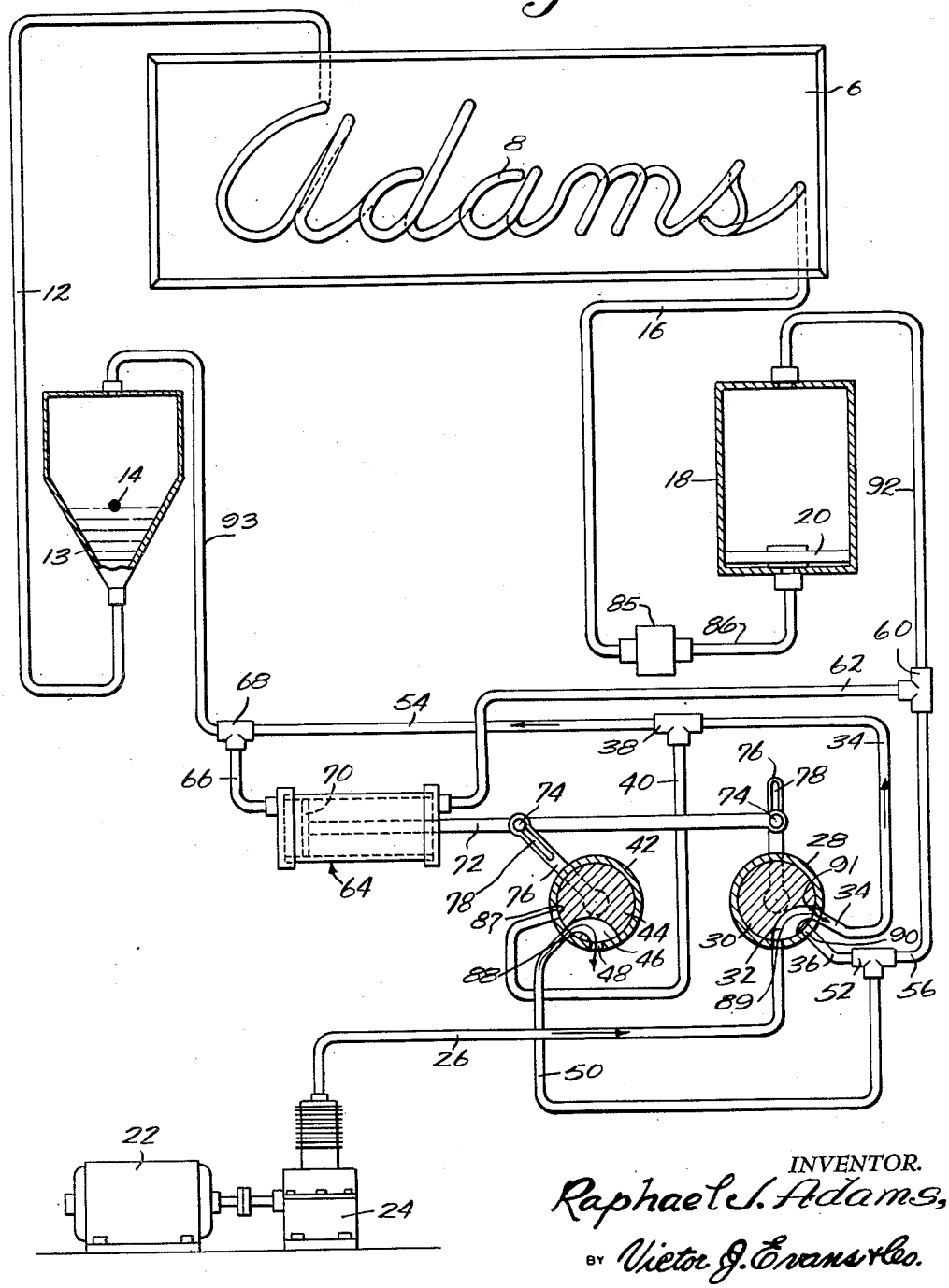
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Fig. 1.



INVENTOR.
Raphael J. Adams,
BY Victor J. Evans & Co.

ATTORNEYS

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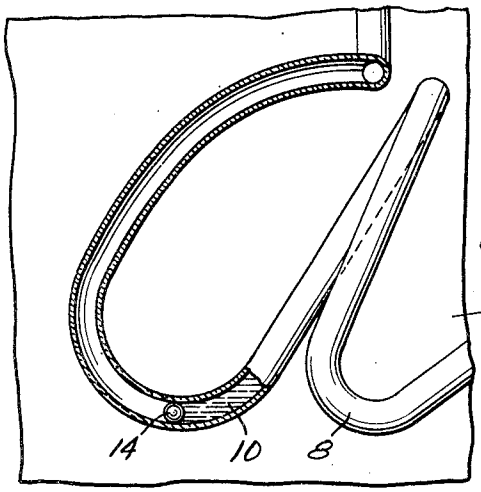


Fig. 2.

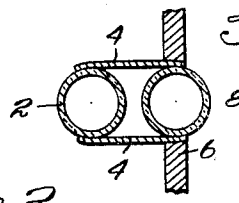


Fig. 3.

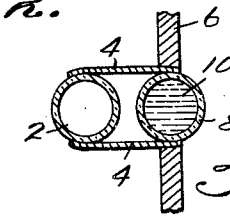
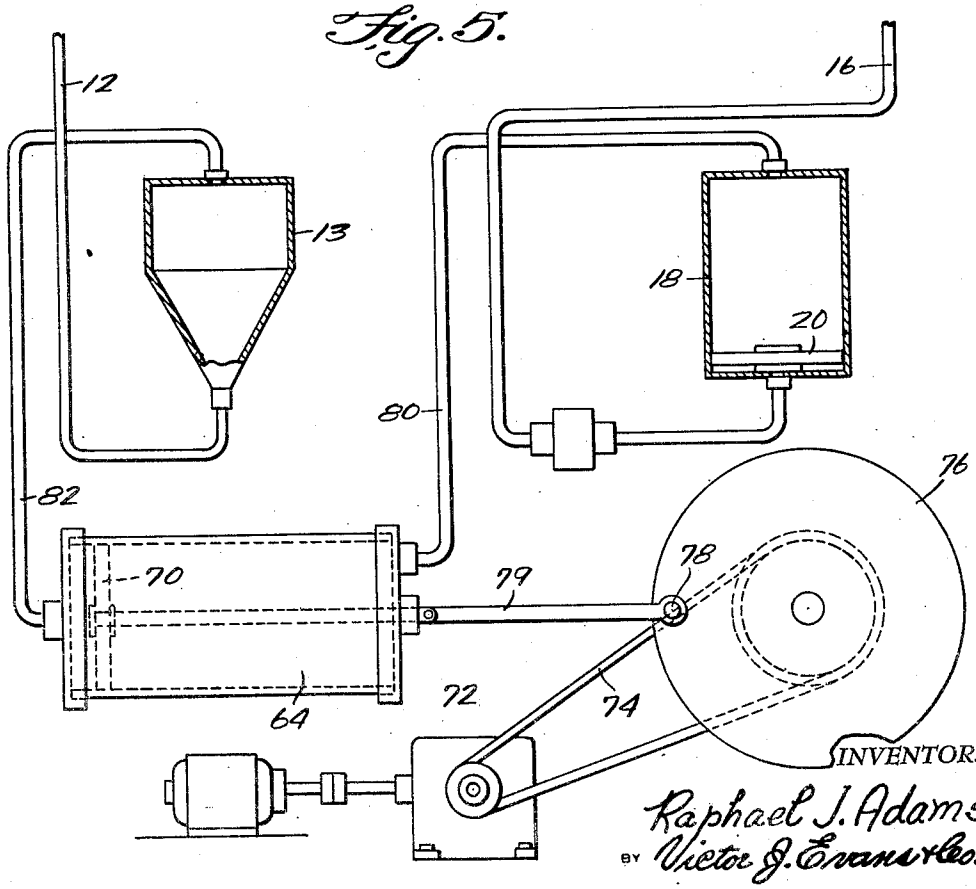


Fig. 4.

Fig. 5.



INVENTOR.
Raphael J. Adams
BY Victor J. Evans & Co.

ATTORNEYS

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Raphael J. Adams, Olympia, Wash.

Application January 12, 1949, Serial No. 70,533

1 Claim. (Cl. 40—130)

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My present invention relates to an improved advertising sign and particularly to the type of sign comprising a gas-filled illuminating tube of the neon type formed to represent script and provided with a co-extensive tube in front thereof adapted to be alternately filled and emptied by mechanical means of an opaque fluid having definite ends to the fluid column so that the movement of the fluid will give the effect of writing to the sign by apparent animation.

The invention includes the means for pumping and controlling the fluid in sequential movement in the type to provide the desired results.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention according to the best mode I have thus far devised, but it will be understood that various changes and alterations may be made in the exemplified structure within the scope of the appended claim.

In the drawings:

Fig. 1 is a diagrammatic view of the sign showing the routes of movement for air and fluid.

Fig. 2 is an enlarged view partially in section of the fluid filled tube.

Figs. 3 and 4 are transverse sectional views through the gas and fluid tubes and the supporting board.

Fig. 5 is a diagrammatic view of a modified form of the pumping and supply means for the fluid tube.

Referring now to the drawings wherein I have illustrated the present preferred form of my invention, I use a neon gas filled tube 2 of the conventional type which may be fashioned into any suitable advertising form similar to the script shown.

This neon tube is secured in opaque walls 4 secured to the sign board 6 and the glass tube 8 is co-extensive with the tube 2 and is located between the walls and immediately in front of the neon tube.

In order to progressively show the illuminated neon tube I propose to move a body of opaque fluid through the tube 8 so that the glowing tube will progressively be run simulating the writing of the script.

To accomplish this result I use an opaque fluid column 10 in tube 8 and the tube end 12 leads to a conical reservoir 13. A sponge rubber ball 14 is located in the tube 8 and follows the column clearing the inner wall of the tube and this ball floats on the top of the fluid body in the reservoir.

The other end 16 of tube 8 connects with cylinder 18 having a free piston 20, the free piston

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being movable by air pressure, as will be hereinafter described there being a fitting in the pipe 16.

A motor 22 operates an air compressor 24 and pipe 26 carries air under pressure to valve casing 28 having valve 30 with its port 32 providing communication selectively between pipe 26 and pipes 34 and 36.

Pipe 34 carries air under pressure to coupling 38 and pipe 40 carries air to valve casing 42 having valve 44 and its port 46 providing selective communication between vent 48 and pipe 50, with pipe 40. Pipe 50 connects with coupling 52 in pipe 36.

From coupling 38 pipe 54 carries air to the reservoir 13 and from couling 52 pipe 56 carries air to cylinder 18 while coupling 60 and pipe 62 communicate with cylinder 64 from which pipe 66 connects with coupling 68 in pipe 54.

A piston 70 in cylinder 64 has a rod 72 which through pins 74 actuates the valve arms 76 slotted at 78, to rotate the valves 30 and 44 as the piston 70 reciprocates.

In use, when the motor and compressor are actuated, air will move through valve casing 28 and 44 so that the fluid 10 will be moved through pipe 8 to the cylinder 18. Then, the piston 70 will be actuated simultaneously and when the piston 70 reaches the end of its stroke and when the column has reached the cylinder 18 and the free piston 20 is in its raised position, then the valves are moved by the rod 72 so that the air pressure will be directed through the pipe 56 to the upper portion of the piston 20 to thereby return the fluid in the column to the reservoir 12.

The ball 14 effects a definite end to the column and also acts to clean the tube as it is forced therethrough. A fitting 85 serves to connect the tube 16 to a conduit 86 which communicates with the lower end of the cylinder 18. The valve casing 42 is provided with the port 48, and a further pair of spaced ports 87 and 88. The other valve casing 28 is provided with a plurality of spaced openings or ports 89, 90 and 91. A conduit 92 extends from the fitting 60 to the top of the cylinder 18, and a tube section 93 leads from the fitting 68 to the top of the reservoir 13.

In use, the motor 22 may be connected to a suitable source of electrical energy to operate the air compressor 24. With the parts positioned, as shown in Figure 1, air from the compressor 24 passes through the pipe 26, then through the port 89, and then through the passageway 32 and through the port 91 and into the tube 34.

This air under pressure then passes through the fitting **38**, through the tube **54** and through the tube **93** into the top of the reservoir **13**. This causes the fluid in the reservoir **13** to be forced through the bottom of the reservoir **13** through the tube **12** and then through the pipe **8**, next through the tube **16**, through the fitting **85** and into the lower end of the cylinder **18** whereby the piston **20** is raised upwardly.

Simultaneously, some of the compressed air is passing through the fitting **68** through the pipe **66** to the left end of the cylinder **64** so that the piston **70** is moved from left to right, Figure 1, and this causes the rod **72** to be shifted whereby the rods **76** swing in a clockwise direction to shift the valves **30** and **44** in their respective casings. With the parts in this last named position, the compressed air from the pipe **26** now passes through the tube **26**, through the valve casings, and into the pipe **56** and from the pipe **56**, the air goes through the fitting **60** so that some of the compressed air enters the top of the cylinder **18** to force the piston **20** downwardly. As the piston **20** moves downwardly in the cylinder **18**, the fluid will be forced in a reverse direction through the tube **8** and back through the tube **12** to the reservoir **13**. Simultaneously, a portion of the compressed air will pass through the fitting **60**, through the tube **62** and into the right end of the cylinder **64** to move the piston **70** from right to left, Figure 1. This cycle of operation is continuously repeated so that the fluid passing through the tube **8** creates the effect or illusion of the sign being written.

In Fig. 5 the need for the valves and air compressor is eliminated by means of pulley drive

72 for belt **74** which drives the wheel **76** having an eccentric pin **78** driving the articulated piston rod **79**. Thus the piston **70** moves the air through pipes **80** and **82** to the reservoir **13** and cylinder **18** alternately, the air also moving the fluid column as described.

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

An advertising sign for simulating script writing comprising a neon tube, a hollow tube having the same configuration as said neon tube and arranged in front of the latter, an opaque fluid column adapted to move through said hollow tube, a floatable ball adapted to move through said hollow tube, and means for sequentially moving the fluid column in reverse directions through the hollow tube, said means comprising an air compressor, a motor for operating said air compressor, conduit means for conducting air from said compressor to said fluid column, and valve means for controlling the direction of flow of air through said conduit means.

RAPHAEL J. ADAMS.

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