

1,271,562.

Patented July 9, 1918.

Fig. 1.

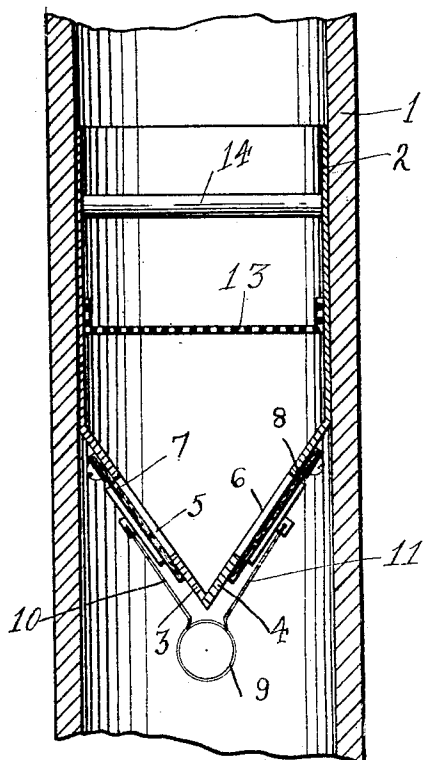


Fig. 2.

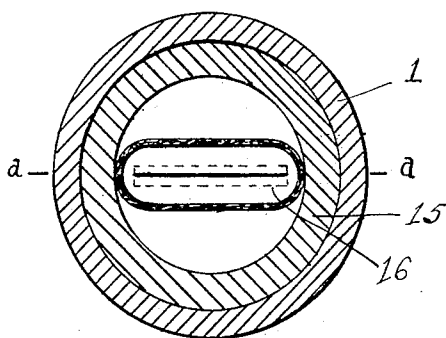
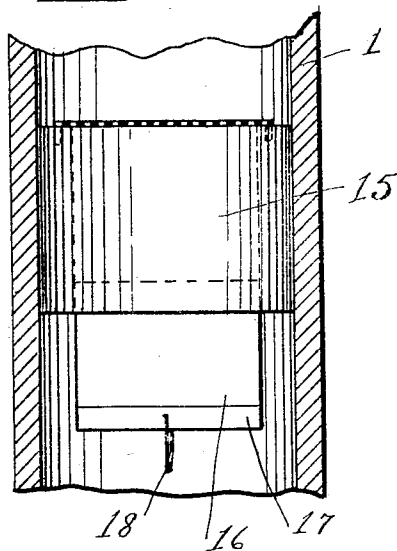


Fig. 3.



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AIR-PUMPER CHECK.

1,271,562.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROBERT A. GALLY, a citizen of the United States, and residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Air-Pumper Checks, of which the following is a specification.

Air check valves formerly used in air service to player pianos etc. have usually been placed in one of the chests or air boxes of the apparatus, as in the patent to White #1,168,924, while the more convenient removable form of check used in the air pressure service for beer barrels has not been adapted to the lower air tension and larger air quantity called for in the player pianos, where in the present invention a highly efficient, simple, and removable check is produced for the player piano or the like and combined therewith is a dust collector made in the one removable unit with the air check.

In the drawings, Figure 1 is a vertical section of an air supply pipe showing the combined air check and dust collector, Figs. 2 and 3 show another form of the device made of a wooden main part instead of metal, Fig. 2 being a plan view, and Fig. 3 a vertical section across line *a-a* of Fig. 2.

A rubber hose or similar air service pipe 1 is commonly used to connect the main part or action of a player piano to the foot or power pumper. As such a pipe 1 is usually removably attached to nipples or flanges of the action and pumper, it is most convenient to insert into the pipe 1 a removable air check means having its cylindrical pipe or main part 2 closely sliding into the inside of the pipe 1. To insure a quiet flow of air by means of a current having no turns or eddies, the lower part of the main part 1 is slanted to a V-shape having two faces 3, 4, with a hole or port 5, 6 in each said face. At the upper end of each face 3, 4, is attached a flap valve 7, 8, which will draw open to an easy, free flow of air whenever such air is drawn in a downward direction through the pipe 1, the main part 2 and ports 5 and 6, and whenever the air is drawn in the upward direction the same valves 7 and 8 will be promptly yet quietly drawn to their seats 3 and 4, being aided thereto, and also prevented from dropping away from their seats when not held by upward air draft, by means of an assisting spring 9 whose two

arms 10, 11, straddle the two valves and the apex of the V-shaped main part 2 and press the two valves 7, 8, lightly to their seats 3, 4.

In a part of the main part 2 and attached to and removable therewith from the pipe 1, is a dust sieve or collector 13 of metal wire screening or the like, this collector 13 being at the inner or service side of the valves 7, 8 for any air that may pass through the said valves, so that these valves may be protected from dust or dirt causing air leakage through them when the air draft is in the direction to close and seal them.

To enable the easy cleaning of dirt from the collector 13, or the cleaning of the valves 7, 8, or the regulating of the spring 9, the entire air check and dust collector is made a unit for removal together from the pipe 1, a brass rod or handle 14 being set across the upper part of the cylindrical main part 2 for convenience of taking hold of for removal of the device from the pipe 1.

A modified form of the same device is shown in Figs. 2 and 3, the main part thereof being of wood turned to a cylindrical form to fit into the bore of the pipe 1 and the check valve 16 is formed of a flattened tube of flexible leather set into an opening in the lower end of the main part 15, and the lower and free end of this leather valve 16 has a flat member 17 across each outer flat side of the leather valve 16, and a spring 18 engages both the said flat members 17 and thus prevents any undue flaring or slapping of the valve 16 from the flow of air therethrough.

When in use in any suitable apparatus having air flow from two sources or directions, the flow of air through the pipe 1 toward the point of the V-shaped end of the check pipe 2 is allowed to pass freely past that V-shaped end 3, 4, through the ports 5 and 6, the check valves 7 and 8 then being drawn open by such air flow, but when a flow of air is attempted in the opposite direction, these valves 7 and 8 are closed thereby and no air is then allowed to pass through the check means.

Many other modifications may be made without departing from the gist of what I claim as my invention, which is:—

1. An air service pipe; and an air check main part therein extending across the entire cross section and interior of the said

pipe including two seat faces of converging lines and having a windway through each said face; and two flap valves each attached over one of said seat faces of the said main part at a distance from each other at their places of attachment and when in seated positions approaching each other at their ends distant from their places of attachment, the said two valves disposed across the said windways at one end of the said main part.

2. An air service pipe and, an air check therein having two valves oppositely disposed to be seated toward each other in a direction transverse the said pipe, and spring means extending around the end of said check and to the two more distant parts

of the faces of said two valves, and engaging both the said valves and adapted to press each said valve toward the other said valve.

3. An air service pipe and, an air check therein having two flap valves disposed at an angle to each other, the apex of the said angle being at one end of the said check, and a spring extended from one of said valves to the other of said valves and around the said apex, the said spring adapted to press the two said valves toward each other.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."