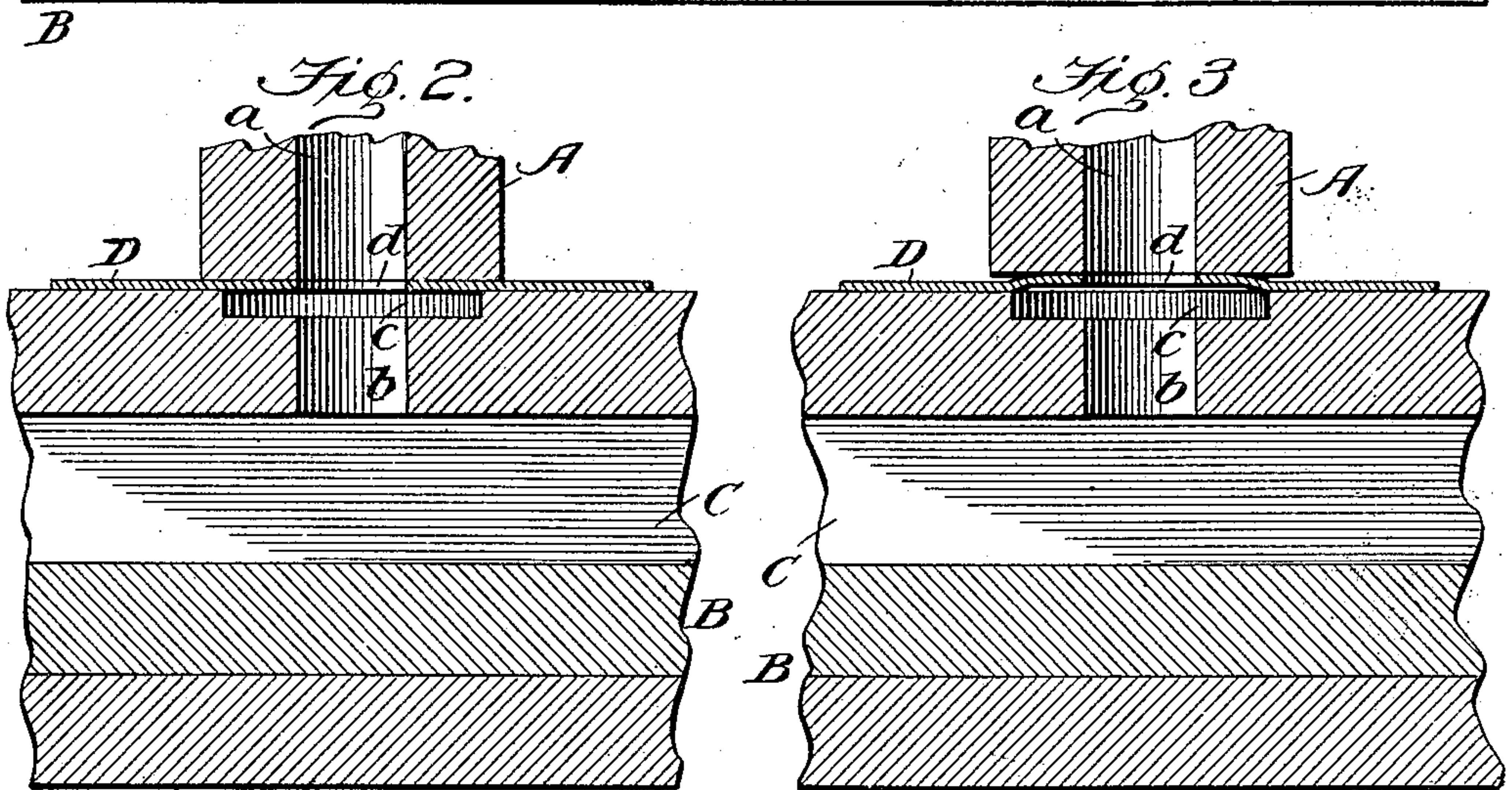
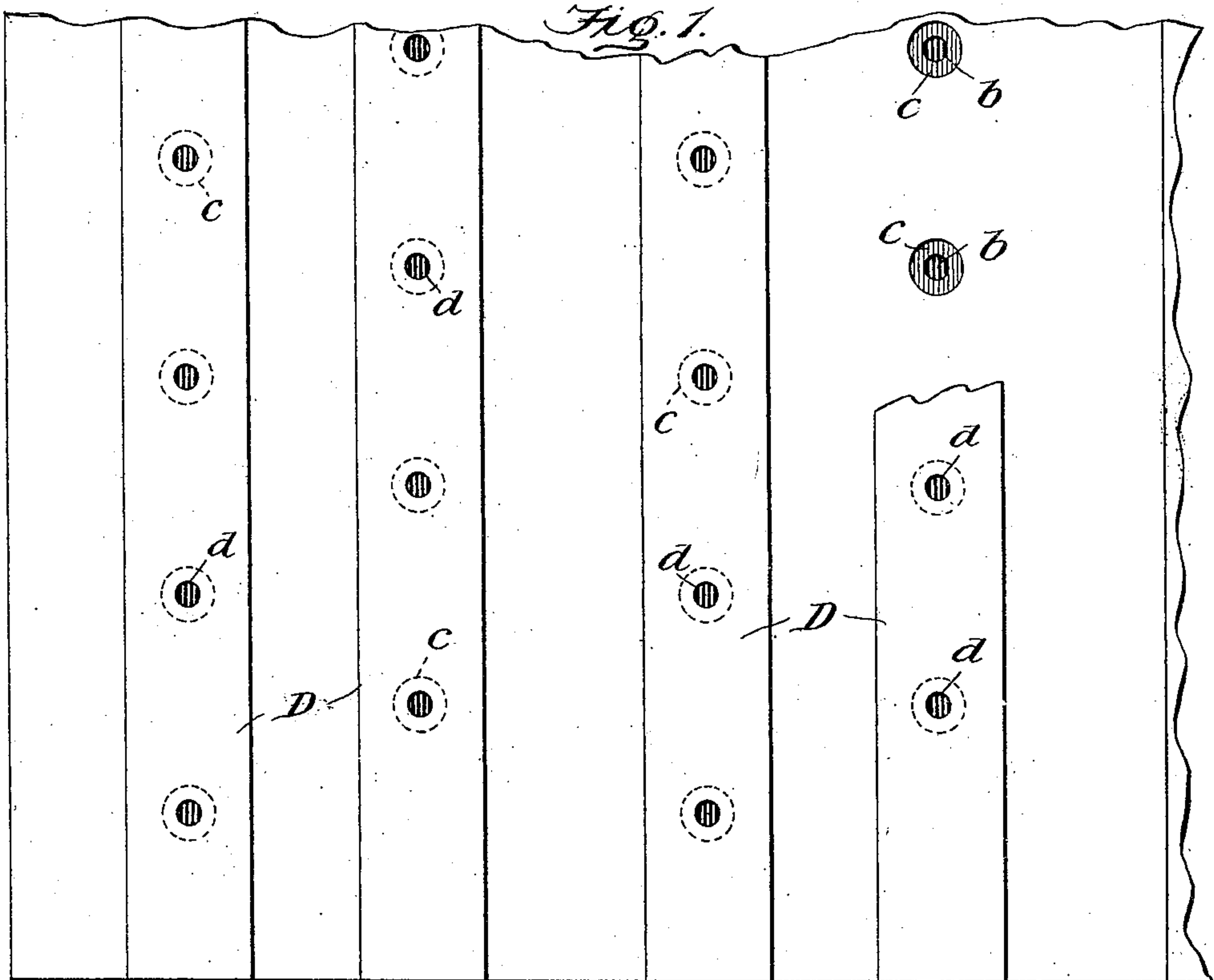


No. 840,408.

PATENTED JAN. 1, 1907.

P. WIRSCHING.
SELF ACTING MEMBRANE PACKING.
APPLICATION FILED SEPT. 29, 1905.



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SELF-ACTING MEMBRANE-PACKING.

No. 840,408.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed September 29, 1905. Serial No. 280,702.

To all whom it may concern:

Be it known that I, PHILIPP WIRSCHING, a citizen of the United States, residing at Salem, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Self-Acting Membrane-Packings; 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.

My invention relates to a new and improved form of packing for pressure-joints, but has particular reference to what may be termed a "self-acting membrane-packing" for the wind-chests of pipe-organs, in which connection it was originally designed for use. It, however, is adapted for use wherever there is a pressure-joint to be packed for the purpose of preventing what is technically termed "running of the wind."

The invention will be hereinafter particularly described, and then pointed out in the claims following.

In the accompanying drawings, which form part of this application, and whereon corresponding letters of reference indicate the same parts in the several views, Figure 1 represents in plan the bottom board of a wind-chest for pipe-organs, fitted with several packing-membranes forming part of my invention, one of said membranes broken away, disclosing two of the ports which it guards. Fig. 2 is a vertical fragmentary section through said bottom board, the lower edge of a pipe-bar, and an interposed packing-membrane embodying my invention. Fig. 3 is also a vertical fragmentary section corresponding with Fig. 2, except that the packing is here shown in action.

Reference being had to the drawings and letters thereon, A B C represent, respectively, pipe-bars, a bottom board, and one windway or groove in the latter. These are of ordinary construction individually and collectively considered, and are here employed merely as an example of one application of my present invention.

Communication is established between inlet-ducts *a* of pipe-bars A and the grooves C of bottom board B by means of outlet-ports *b*, as best shown by Figs. 2 and 3.

Surrounding each of the ports *b* is a de-

pression or air-pocket *c*, formed in the upper surface of board B for purposes that will later appear. This feature, however, while desirable, is by no means essential to the successful use and operation of my invention.

To the surface of board B my improved packing-membranes D are secured by their edges immediately beneath pipe-bars A, which joint they thus serve to pack against leakage. These membranes, formed of any suitable flexible material, such as leather, by preference correspond in length with that of the pipe-bars which they pack. Obviously, however, this matter of length is wholly immaterial, since they may as well constitute individual membranes D for each port or joint packed, if preferred; but in any event the membranes D are perforated by air passages or ports *d*, in register with ducts *a* of the pipe-bars, and also with ports *b* of the bottom board or their equivalents. In this arrangement and embodiment of my invention, it will be observed, the air-pockets *c* are partly covered by those portions of the ported membranes D immediately surrounding the ports or air-passages *d* therein, thus insuring flexibility of the membranes at these points, and otherwise assisting in the operation of automatically and pneumatically packing the joints.

The operation may be briefly stated as follows: Air or other fluid pressure, from any source of supply (not shown) traversing grooves, such as C, in the bottom board B of a wind-chest of an organ has egress through outlet-port *b*, air-pocket *c*, to inlet-duct *a* of the pipe-bars A, and thence to its point of utilization—for example, the interior of a bellows-pneumatic or other motor. (Not shown.) In the present illustrations the pipe-bars A and the surface of bottom board B are packed by the interposed membranes D against leakage of the comparatively high pressure contained in said grooves, outlet-ports, air-pockets, and inlet-ducts. In the event of shrinkage of the pipe-bars A, as indicated by Fig. 3, or of any insufficient joining at points where my improved form of packing is employed such defect is instantly cured by action of the packing itself, for obviously the upward pressure of air in pocket *c* lifts the flexible edges of packing D in its passage upward through the port or perfora-

tion of said packing-membrane, thus automatically preventing leakage to the atmosphere.

Having thus described my invention in its preferred form of construction and usefulness, I desire it understood that same may be variously changed and modified without departing from the spirit of my invention as herein-after claimed. Neither do I limit myself to the packing of joints in a pipe-organ, since the invention is equally effective in similarly packing pressure-joints in general, especially ported pressure-joints, regardless of whether the fluid employed is air, steam, or gas.

What I now claim, and desire to secure by Letters Patent, is—

1. The combination with adjacent members of a pressure-joint, of an outlet-port in at least one of said members, and a self-acting packing for said joint comprising a ported flexible membrane secured around said outlet-port and adapted to be flexed by pressure from within, substantially as described.

2. The combination with adjacent members of a pressure-joint, of an outlet-port in at least one of said members, and a self-acting packing for said joint comprising a ported flexible membrane secured by its edges around said outlet-port and adapted to be flexed by pressure from within, substantially as described.

3. The combination with adjacent mem-

bers of a pressure-joint, of an outlet-port in at least one of said members, and a self-acting packing for said joint comprising a ported flexible membrane in concentric arrangement with relation to said outlet-port and adapted to be flexed by pressure from within, substantially as described.

4. The combination with adjacent members of a pressure-joint, of an outlet-port in at least one of said members, a self-acting packing for said joint comprising a ported flexible membrane secured around said outlet-port, and an air-pocket adjacent to said membrane in direct communication with the outlet-port aforesaid, substantially as described.

5. The combination with adjacent members of a pressure-joint, of an outlet-port in at least one of said members, a self-acting packing for said joint comprising a ported flexible membrane secured around said outlet-port, and an air-pocket adjacent to said membrane in register with the port aforesaid but of larger diameter, substantially as described.

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

PHILIPP WIRSCHING.

Witnesses:

WM. E. DYRE,
HUGH M. STERLING.