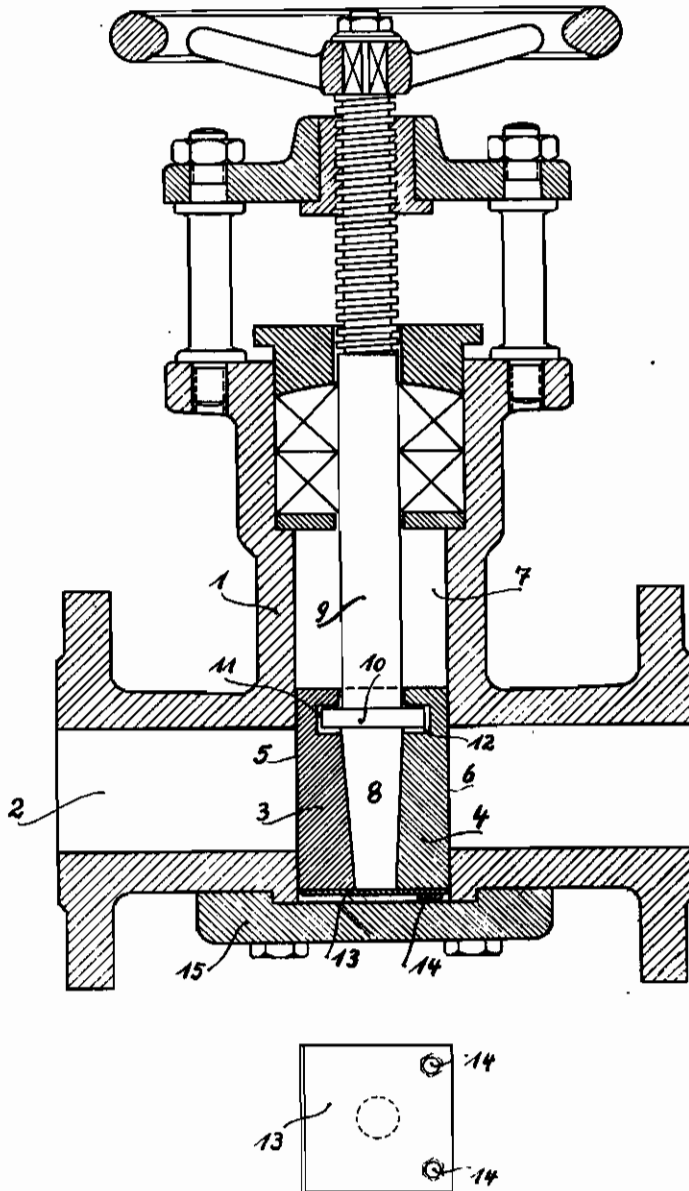


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SLIDE VALVES FOR LIQUIDS AND VAPORS WITH  
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# ALIEN PROPERTY CUSTODIAN

## SLIDE VALVES FOR LIQUIDS AND VAPORS WITH BILATERALLY ACTING GATES

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in the Alien Property Custodian

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In case of slide valves for liquids and vapors with bilaterally acting gates, handling and especially pressing the gates against the valve passages offers considerable difficulties. If—as it has already been proposed—the lock faces and the gates to be applied on these faces are wedge-shaped, the shutting of the valve requires considerable energy, and a high wear will result thereof, which soon renders the apparatus unfit. Sometimes, there are used pressure rolls or balls for pressing the wedge-shaped end of the valve spindle against the gates, which rolls or balls render the head piece of the valve very complicated and the valve itself very expensive.

Object of the present invention is a slide valve for liquids of all sorts as well as for vapors having bilaterally acting gates, offering the advantage of highest simplicity and, therefore, of absolute working reliability, as it does not require any additional pressing members for the gates and, therefore, can act very simply and safely.

For this purpose, the valve being of known nature and having a straight passage, is provided with two laterally acting gates, the straight and smooth lock faces of which can be put tightly against the passage openings of the valve to be shut off, which, however, have a conical bore between each other, into which fits the end of the valve spindle being formed conical according to this bore. In addition to this, the valve spindle itself has, somewhat above its conical end, an annular flange which gears under clearance space into corresponding annular recesses of the two gates.

The lower conical opening of the two gates is closed by means of an elastic plate, which is fixed to one of the two gates, the gates having still so much clearance in their lowermost position that the elastic plate can give way when the spindle is turned further. In addition to this, the elasticity of the plate is of such a nature that the plate, when moving the gates downward to their locking position, does not detach itself from the gates, thus ensuring them to be guided in an absolutely straight direction until the said position. Only if the gates have reached their lowermost position, in which they are to place themselves laterally against the locking faces of the valve, the elastic plate gives way downward when the valve spindle is turned further, so that now the wedge-shaped end of the spindle can start operating by spreading the two gates apart and forcing them firmly against their seats.

At the lower end of the gates, the valve casing is open and can be closed by a removable cover.

The drawing shows a cross-section of a slide

valve for liquids and vapors according to the present invention:

The valve 1 of known nature has a straight passage 2, which is shut off by a bilaterally acting lock. The locking is effected by two gates 3 and 4, the exterior faces 5 and 6 of which are flat and rectilinear and pass into the upward directed canal 7 of the valve. The interior faces of the two gates have a conical bore, into which gears the end 8 of the valve spindle 9 being of corresponding conical shape. Somewhat above its conical end the valve spindle has an annular flange 10, which gears under clearance into corresponding recesses 11 and 12 of the gates.

At their lower ends, the gates are covered by an elastic plate 13, which is fixed to one of the two gates by means of screws 14.

At the lower ends of its gates, the valve according to the present invention has a cleaning inlet being closed by means of a cover plate 15, which can be unscrewed.

If the passage 2 of the valve is to be shut by means of the two gates 3 and 4, the spindle 9 is turned downwards by the hand wheel. When passing down, the two plates 3 and 4 slide along the inner walls of the valve top 7, without the wedge-shaped end 8 of ——— the valve spindle spreading in any manner the gates apart, such spreading being prevented by the elastic bottom plate 13, which is constructed in such a manner that it remains in its closing position as long as the frictional force only is to be surmounted. However, as soon as the gates 3 and 4 have reached their lowermost position and are to be pressed against their tightening faces, i. e. when the fixing screws 14 touch the bottom of the valve, the elastic bottom plate 13 gives way when the spindle is turned further downwards, so that the end 8 of the valve spindle can get further into the space between the gates 3 and 4 and will spread them apart (press them outward).

In order to open the valve, the spindle 9 is turned upwards, the spreading pressure upon the gates 3 and 4 releasing, and the cover plate 15 being shut again. After the collar 10 has touched the recess in the gates 3 and 4, these ones are carried upwards, easily sliding along the walls.

The removable bottom plate 15 of the valve covers a cleaning inlet which permits to eliminate eventual impurities from the bottom of the gates.

As for the rest, the valve provided with a lock according to the present invention may be of any shape: e. h. it may be a flat as well as a round valve.

BERNHARD VERVOORT.