

No. 763,123.

PATENTED JUNE 21, 1904.

F. STAHL.
VALVE.

APPLICATION FILED NOV. 5, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

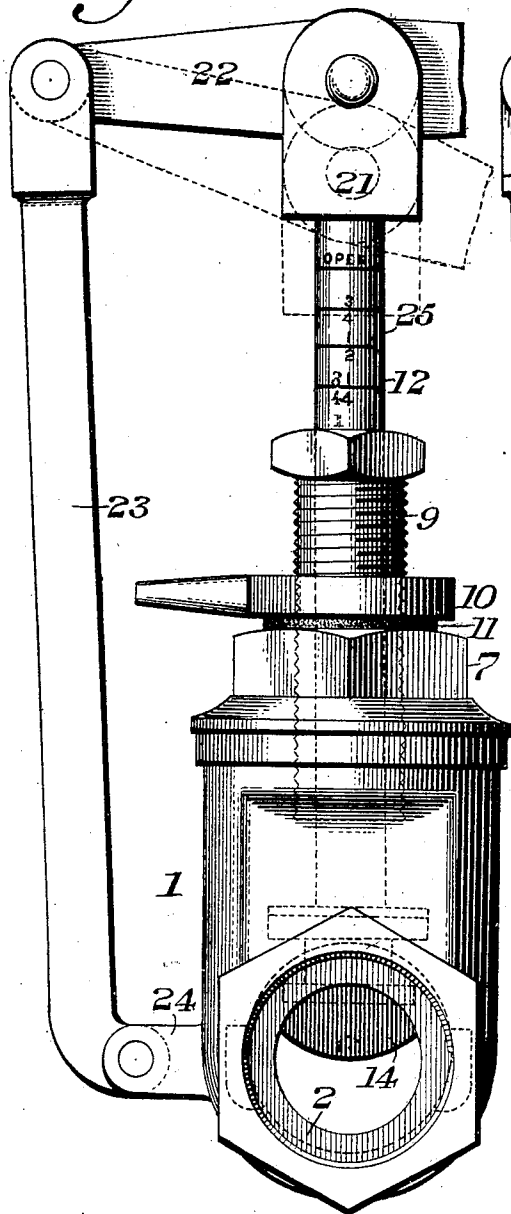
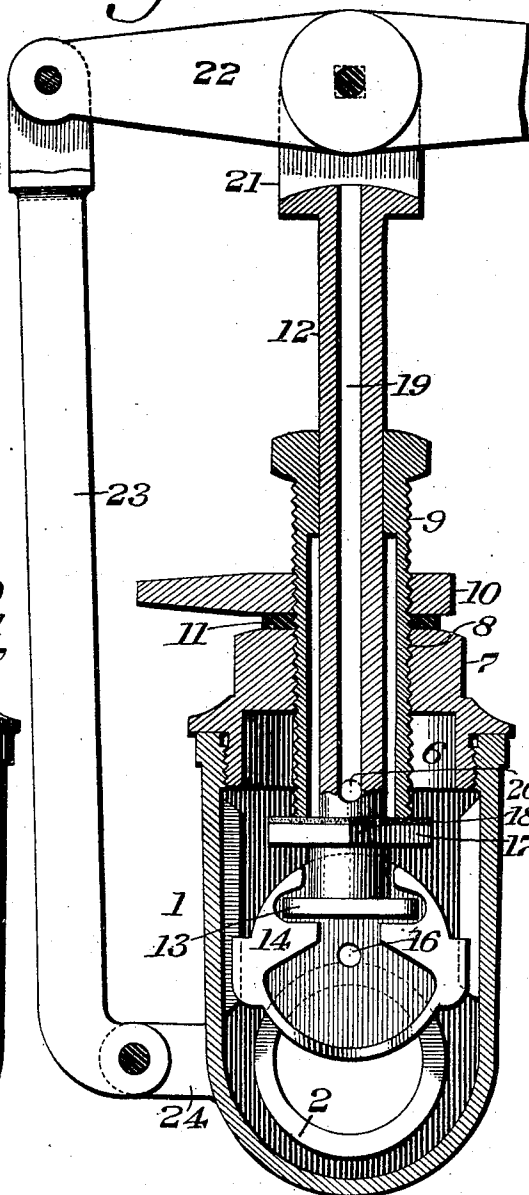


Fig. 2.



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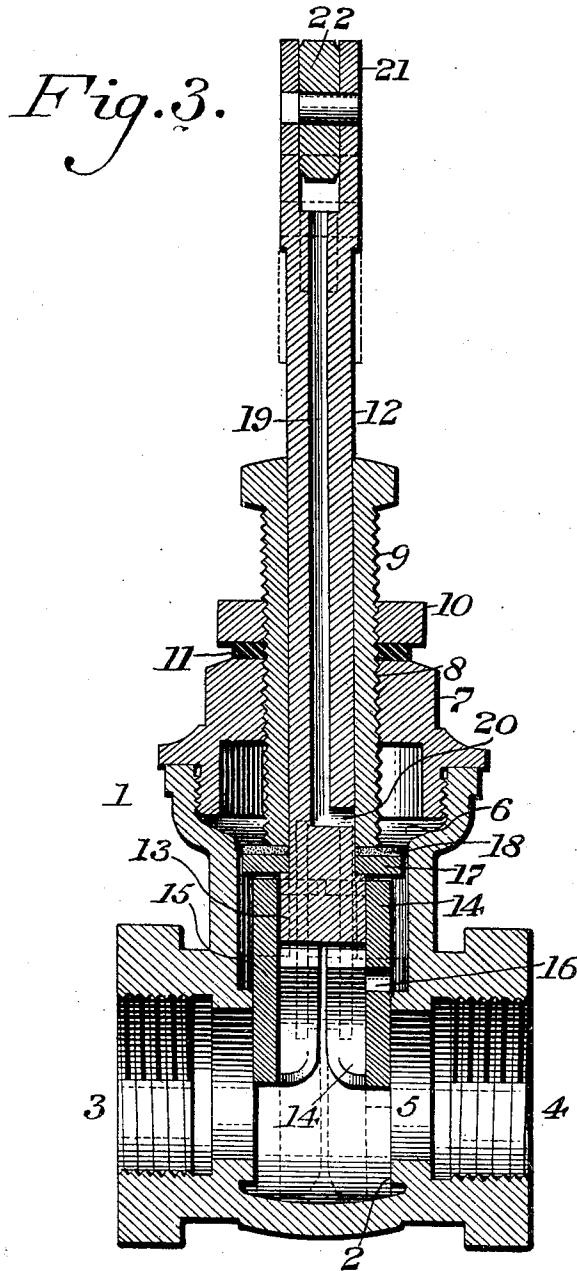
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UNITED STATES PATENT OFFICE.

FRANK STAHL, OF WYNDMOOR, PENNSYLVANIA, ASSIGNOR TO NELSON VALVE COMPANY, A CORPORATION OF NEW JERSEY.

VALVE.

SPECIFICATION forming part of Letters Patent No. 763,123, dated June 21, 1904.

Application filed November 5, 1903. Serial No. 179,912. (No model.)

To all whom it may concern:

Be it known that I, FRANK STAHL, a citizen of the United States, residing at Wyndmoor, in the county of Montgomery, State of Pennsylvania, have invented a new and useful Improvement in Valves, of which the following is a specification.

My invention relates to valves, and particularly to such as are used between an air-compressor and a storage-reservoir.

It consists of means for opening the valve to any predetermined extent and for setting the same to prevent its further opening.

It also consists of means by which the pressure in the reservoir may be exhausted when the valve is closed.

It further consists of novel details of construction, all as will be hereinafter fully set forth, and particularly pointed out in the claims.

Figure 1 represents an end elevation of a gate-valve embodying my invention. Figs. 2 and 3 represent, respectively, transverse and longitudinal vertical sections of the same.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a casing provided with a valve-seat 2 and with apertures 3 and 4, threaded for connection with suitable pipes. (Not shown.) Above the main chamber 5 of the valve is an auxiliary chamber 6, closed by a bonnet 7. The bonnet 7 is threaded at 8 to receive a threaded sleeve 9, on which is a jam-nut 10. A washer 11 may be provided between the jam-nut 10 and the bonnet 7. Within the sleeve 9 is a longitudinally-movable valve-stem 12, provided at its lower end with a head 13, adapted to loosely engage a pair of disks 14 15, which form a valve and are seated in the portions 2. In the disk 14 is a central aperture 16, the function of which will hereinafter appear. Secured on the valve-stem 12 above the head 13 is a metal washer 17, above which is a packing-washer 18. The upper portion of the stem 12 has a longitudinal bore 19, having an aperture 20 at its lower end. At the upper end of the stem 12 is a fork 21, adapted to receive a lever 22, which may be connected

by a link 23 with a lug 24 at the side of the casing 1. At the upper part of the stem 12 is inscribed a plurality of characters 25, the function of which will hereinafter appear.

The operation is as follows: Assuming that the valve is assembled as shown and has its opening 3 connected to a compressor or the like and its opening 4 connected to a reservoir for compressed air or other fluid, (neither of which are shown,) the disk 14, containing the opening 16, will be on the side toward the reservoir. When the sleeve 9 is screwed down to the position shown in the drawings, the valve may be raised so as to open to one-half its capacity. This will be indicated by the line adjacent the character "1/2" on the stem 12, which line will coincide with the upper end of the threaded sleeve 9. It is evident that by loosening the jam-nut 10 the sleeve 9 may be partially unscrewed out of the bonnet 7, so that the valve may be opened to a greater extent. By sufficiently unscrewing the sleeve the line adjacent the word "Open" will coincide with the upper end of the sleeve 9 when the valve is entirely clear of the chamber 5 in the casing 1. When the valve is closed, as shown in dotted lines, Figs. 1 and 3, air may freely exhaust from the reservoir through the aperture 16 in the disk 14 between the disks 14 15 into the chamber 6 and thence through the aperture 20 and bore 19 to the atmosphere. This relieves all pressure in the reservoir as soon as the valve is closed and the requirement for compressed fluid ceases. The valve may be held tightly to its seat by a weight at the end of the lever 22 or in any other well-known manner. It is obvious that when the valve is wholly or partially open—say as shown in full lines in the drawings—the aperture 16 has no communication with the lower portion of the casing 1, in addition to which the aperture 20 is sealed from any communication with the chamber 6 by reason of its having been drawn up in the sleeve 9 and, further, by reason of the washer 18, which is pressed between the metal washer 17 and the foot of the sleeve, so that no escape of fluid is possible. By means of the washer 11, which is packed between

the jam-nut 10 and the bonnet 7, any escape of air in this direction from the chamber 6 will be prevented.

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

1. A gate-valve comprising a casing, a pair of valve-disks one of which is apertured, a stem by which said disks are moved and a passage in said stem communicating with said aperture when said disks are lowered, whereby exhaust is permitted through one end of said casing.

2. A gate-valve comprising a casing, a plurality of chambers in said casing, disks, one of which is apertured, forming a valve, a stem by which said disks are moved whereby

said aperture is brought alternatively in communication with either of said chambers and an exhaust-passage from the upper of said chambers.

3. A gate-valve comprising a casing, a plurality of chambers in said casing, disks, one of which is apertured, forming a valve, a stem by which said disks are moved whereby said aperture is brought alternatively in communication with either of said chambers and an exhaust-passage in said stem communicating with the upper of said chambers when said valve is closed.

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Witnesses:

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