Nov. 1, 1932. H. SCHMITT 1,885,864

STOP VALVE

Filed April 4, 1931

Fig. 1.

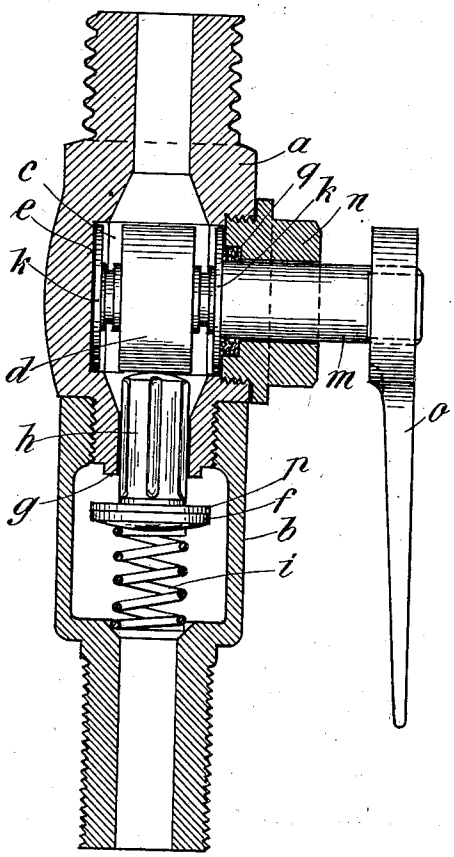


Fig. 2.

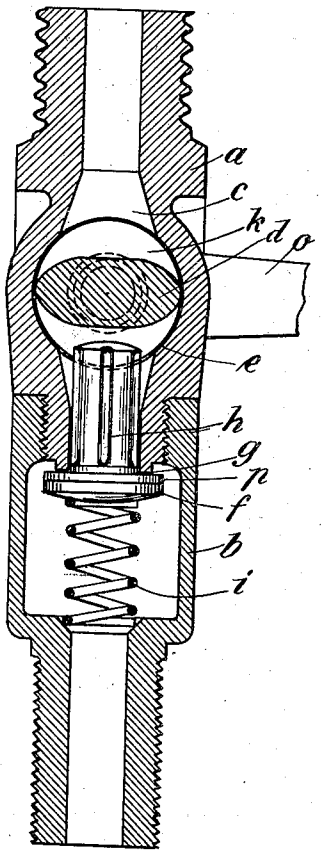
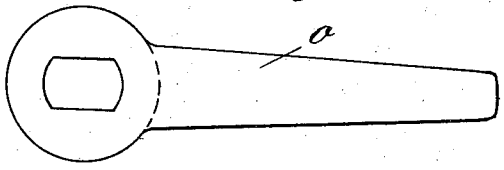


Fig. 3.



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UNITED STATES PATENT OFFICE

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STOP VALVE

Application filed April 4, 1931, Serial No. 527,692, and in Germany July 25, 1930.

This invention relates to a stop valve for steam, water, gas and compressed air, especially for pneumatic hammers and similar pneumatic tools with check-valve actuated by an eccentric. According to the invention the valve chest is constructed as a casing and the eccentric as an operating member acting in axial direction upon the valve so that it moves the valve away from its seat when being turned with its longitudinal axis in the direction of the axis of the valve, the pressure medium being allowed to pass along both sides of the narrow portion of the eccentric.

An embodiment of the invention is illustrated by way of example in the accompanying drawing in which:—

Fig. 1 is a longitudinal section through the valve chest, the eccentric being shown in elevation.

Fig. 2 is a longitudinal section taken at an angle of 90° relative to the section shown in Fig. 1, the eccentric being shown in different position.

Fig. 3 shows the eccentric operating lever in elevation.

The housing is composed of two parts *a* and *b*, the part *a* being constructed as a casing comprising a chamber *c*, in which an eccentric *d* is located. This eccentric is preferably of oval shape and has on each side a circular guide disc *k*. These guide discs *k* fit each into a circular cavity *e* and are guided in these cavities. The eccentric *d* has further a lateral extension *m* extending through a stuffing box *n* from the housing and carrying a lever *o*. A packing *q* in the stuffing box *n* packs tightly the extension of the eccentric. A check valve *f* in the part *b* of the housing is controlled by a spring *i* and pressed against its seat by the action of this spring and by the pressure of the compressed air. The seat of the check valve *f* is formed by a face *g* on the inlet to the casing *a* and which is adapted to be engaged by a packing disc *p* on the valve plate *f*. A guide pin *h* extending from the check valve projects into the casing *a*, the central axis of this guide pin being in alignment with the central axis of the eccentric *d*.

Fig. 1 shows the valve in the open position. The guide pin *h* has vertical grooves in its outer circumference serving as passages for the compressed air. If the cock is adjusted so that the longitudinal axis of the eccentric *d* that is the longer diameter of the oval formed by the central plane of the eccentric is in alinement with the central axis of the valve, the valve is moved from its seat, and the compressed air can pass through the cock casing along the sides of the narrow portion of the eccentric. If the eccentric is turned 90°, so that its longitudinal axis is standing transversely to the central axis of the valve, as shown in Fig. 2, the valve is closed by the pressure of the compressed air and of the spring *i*.

The advantage of the arrangement consists in that the valve can be operated like a cock, without any alteration of the character of a check valve.

I claim:—

A stop valve for steam, water, gas and compressed air, especially for pneumatic hammers, comprising in combination a casing having a circular cavity in two opposite sides, an oval eccentric, circular discs one on each side of said eccentric fitting into said circular cavities, a handle on said eccentric, a check valve projecting into said casing, said eccentric adapted to act in axial direction upon said check valve and to move said valve away from its seat so that the pressure medium can pass through if said eccentric is turned with its longitudinal axis in the axial direction of said check valve.

In testimony whereof I affix my signature.

HEINRICH SCHMITT.