

No. 686,736.

Patented Nov. 19, 1901.

E. JOSSE.

PRESSURE VALVE FOR COMPRESSORS.

(Application filed Nov. 26, 1900.)

(No Model.)

Fig. 1.

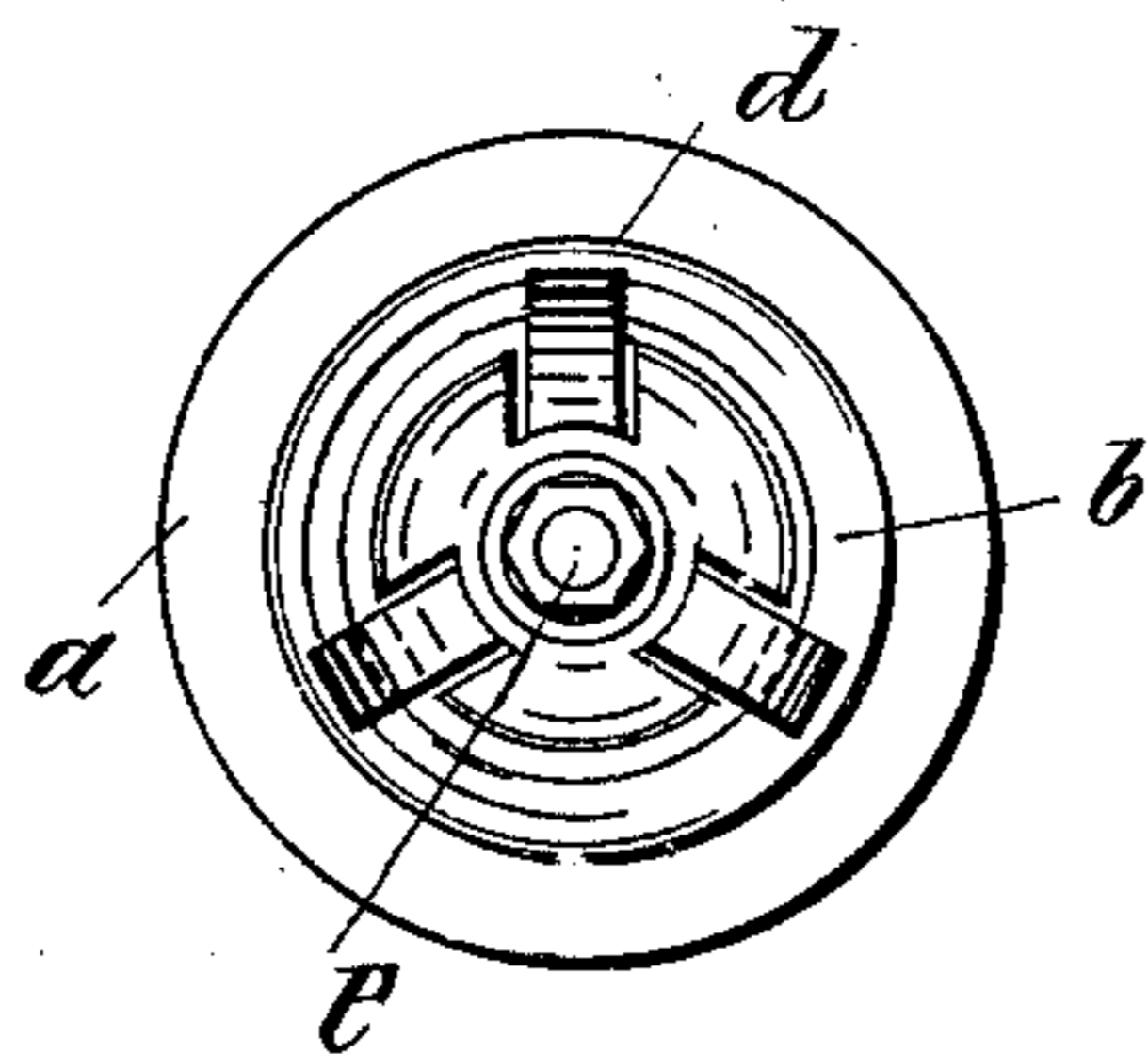


Fig. 3.

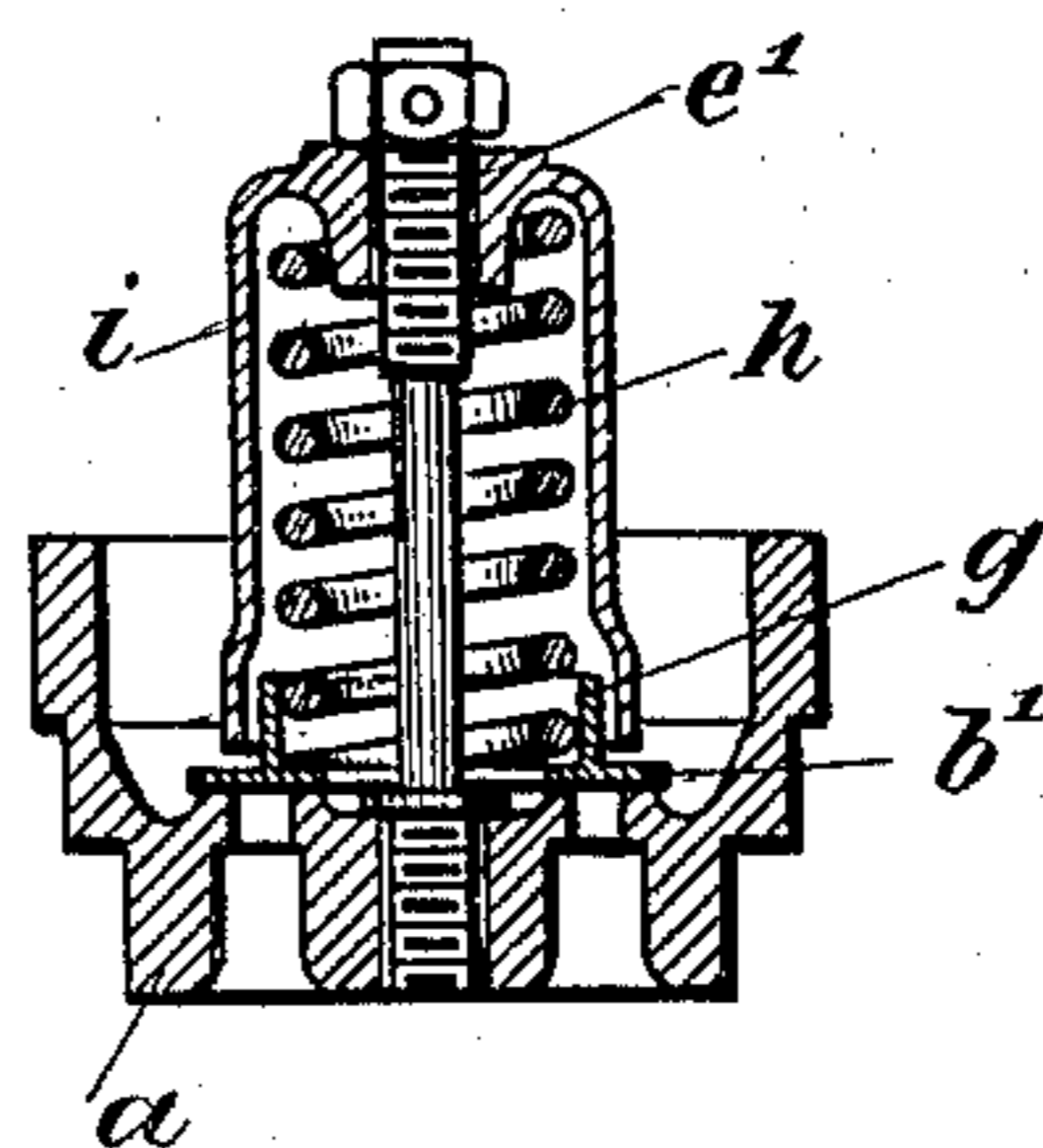


Fig. 2.

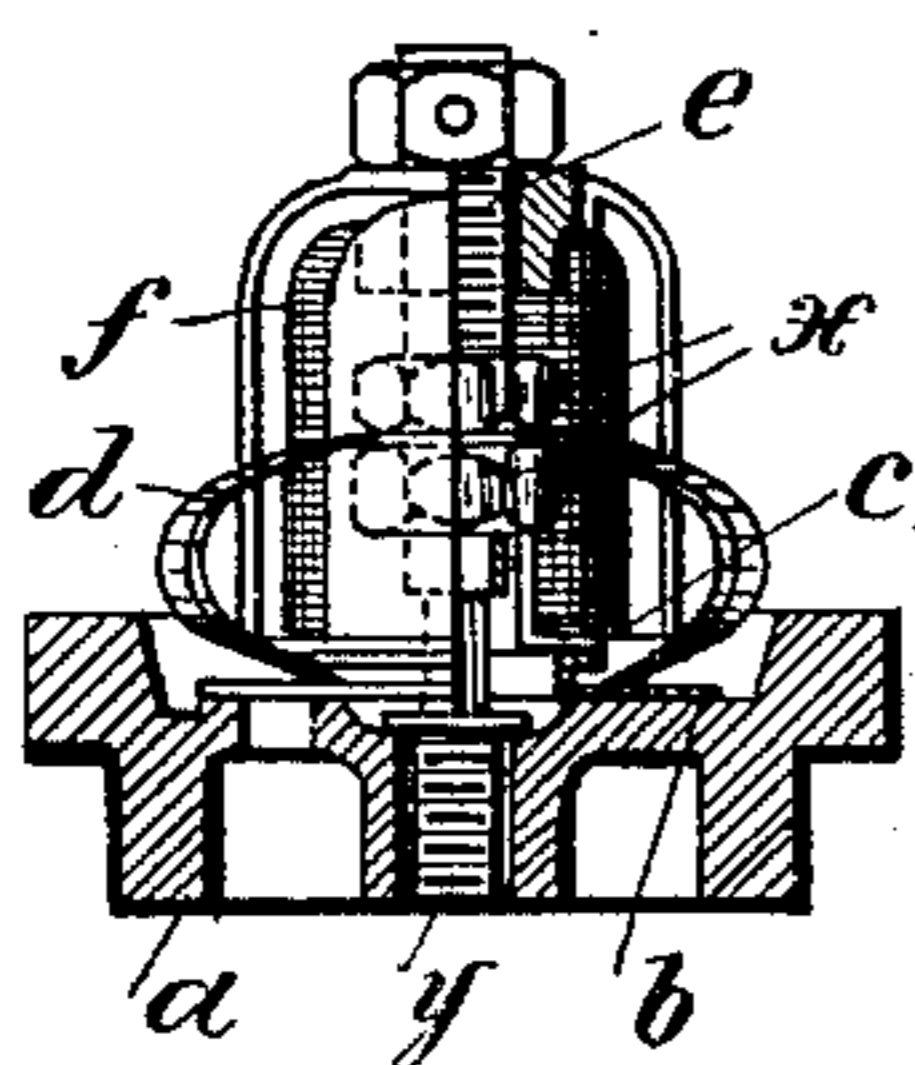
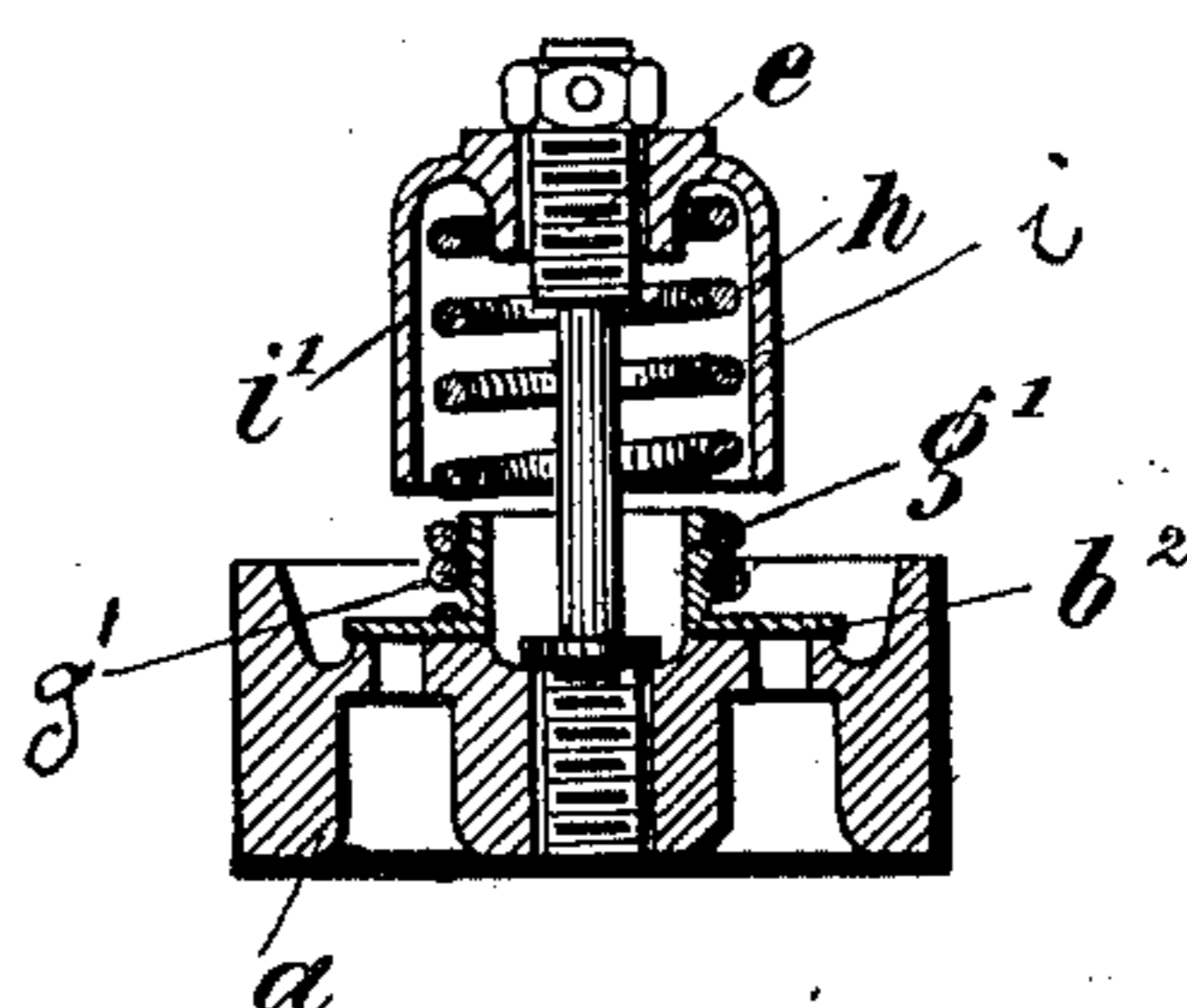


Fig. 4.



Witnesses:
Charles Smith
Geo. Chase

Inventor
Emil Josse.
by Briesen & Knauth
his Attorneys.

UNITED STATES PATENT OFFICE.

EMIL JOSSE, OF WILMERSDORF, GERMANY.

PRESSURE-VALVE FOR COMPRESSORS.

SPECIFICATION forming part of Letters Patent No. 686,736, dated November 19, 1901.

Application filed November 26, 1900. Serial No. 37,774. (No model.)

To all whom it may concern:

Be it known that I, EMIL JOSSE, a subject of the German Emperor, residing at Wilmersdorf, Germany, have invented certain new and useful Improvements in Pressure-Valves for Compressors, of which the following is a specification.

The object of my invention is to provide a simple and efficient pressure-valve for compressors, and especially sulfuric-acid and ammonia compressors.

To this end my invention consists in the novel arrangement and combination of parts to be hereinafter described and claimed.

In the accompanying drawings, wherein like reference-letters indicate corresponding parts in the various views, Figure 1 is a top view of one form of pressure-valve embodying my invention. Fig. 2 is a central longitudinal sectional view of the same with parts in elevation. Fig. 3 is a central longitudinal sectional view of another form of pressure-valve, and Fig. 4 is a like view of a further modification of valve embodying my invention.

Referring first to Figs. 1 and 2, it will be seen that the valve proper comprises a plate *b*, having a central opening and an outwardly-directed flange or collar *c*. A leaf-spring *d* is employed to maintain the valve upon its seat and to guide it in its movement. This leaf-spring comprises a plurality of separate arms, a free end of each of which projects beneath the collar *c* on the valve proper, as represented in Fig. 2. This leaf-spring is supported upon a screw-threaded spindle *e* and may be adjusted thereon by means of the nuts *x*, so as to vary the tension of the spring upon the valve. This spindle *e* is supported in place, as indicated at *y*, and projects through the central opening in the valve proper. Adjustably supported upon the spindle *e* is a casing or cap *f*, which is slitted for the reception of the arms of the leaf-spring *d*. This cap or casing *f* constitutes a protecting means and guide for the spring and valve and at the same time limits the upward movement of the valve *b*. The valve proper, *b*, coöperates with an annular valve-seat *a*, which may be secured to the cylinder-head or other convenient place, and a suitable cir-

cular channel or passage extends through said seat.

In the construction shown in Fig. 3 the centrally-apertured plate *b* of the valve is provided with an upwardly-extending cylindrical flange *g*, with which a spiral spring *h* coöperates. A cap *i* is adjustably secured to a screw-threaded spindle *e'*. This cap constitutes an abutment for the upper end of the spring *h* and a protecting means therefor and at the same time serves as a guide for the valve *b'* and likewise limits the upward movement thereof. Thus it will be seen that the lower portion of the cap surrounds the flange *g* on the valve and coöperates therewith to guide the valve in its movement, whereas the lower edge of the cap constitutes an abutment to limit the upward movement of the valve.

In Fig. 4 a somewhat similar arrangement to that disclosed in Fig. 3 is shown. In Fig. 4, however, the flange *g'* is contained within the coiled spring *i* instead of being located outside of it, as in Fig. 3. Furthermore, in the construction shown in Fig. 4 the cap *i'* does not project as far toward the valve *b'* as does the cap shown in Fig. 3.

It will be observed that in all of the constructions shown the caps or casings *f*, *i*, and *i'* constitute means for protecting and guiding the springs and valves in the movement of the valves and that in each instance the tension of the spring and limit of movement of the valve may be regulated by the adjusting means. It will likewise be observed that the spring itself in each instance tends to guide the valve in its movement.

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

1. The combination of an annular valve-seat, a valve proper coöperating therewith, said valve proper comprising a plate having a collar thereon and a spring engaging said collar to guide the valve proper in its movement and to normally maintain the valve on its seat.

2. The combination of an annular valve-seat, a valve proper coöperating therewith, said valve proper comprising a plate having a collar thereon and a leaf-spring having a

plurality of arms which are adapted to engage said collar and guide the valve in its movement.

3. The combination of an annular valve-seat, a valve proper coöperating therewith, said valve proper having a collar thereon, a spring which coöperates with said collar and tends to guide the valve in its movement, a cap for said spring and means for adjusting the cap in order to regulate the limit of movement of the valve.

4. The combination of an annular valve-seat, a valve proper coöperating therewith, said valve proper having a collar thereon, a leaf-spring having a plurality of arms which coöperate with said collar and tend to guide

the valve in its movement, a slitted cap for guiding the arms of said leaf-spring and means for adjusting the cap in order to regulate the limit of movement of the valve.

5. The combination of an annular valve-seat, a valve proper coöperating therewith, said valve proper having a collar thereon, a leaf-spring, a slitted cap which coöperates with the collar to guide the valve in its movement and means for adjusting the cap in order to regulate the limit of movement of the valve.

EMIL JOSSE.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.