

No. 770,043.

PATENTED SEPT. 13, 1904.

P. BODE & M. KEGLER.
SAFETY VALVE.

APPLICATION FILED NOV. 9, 1903.

NO MODEL.

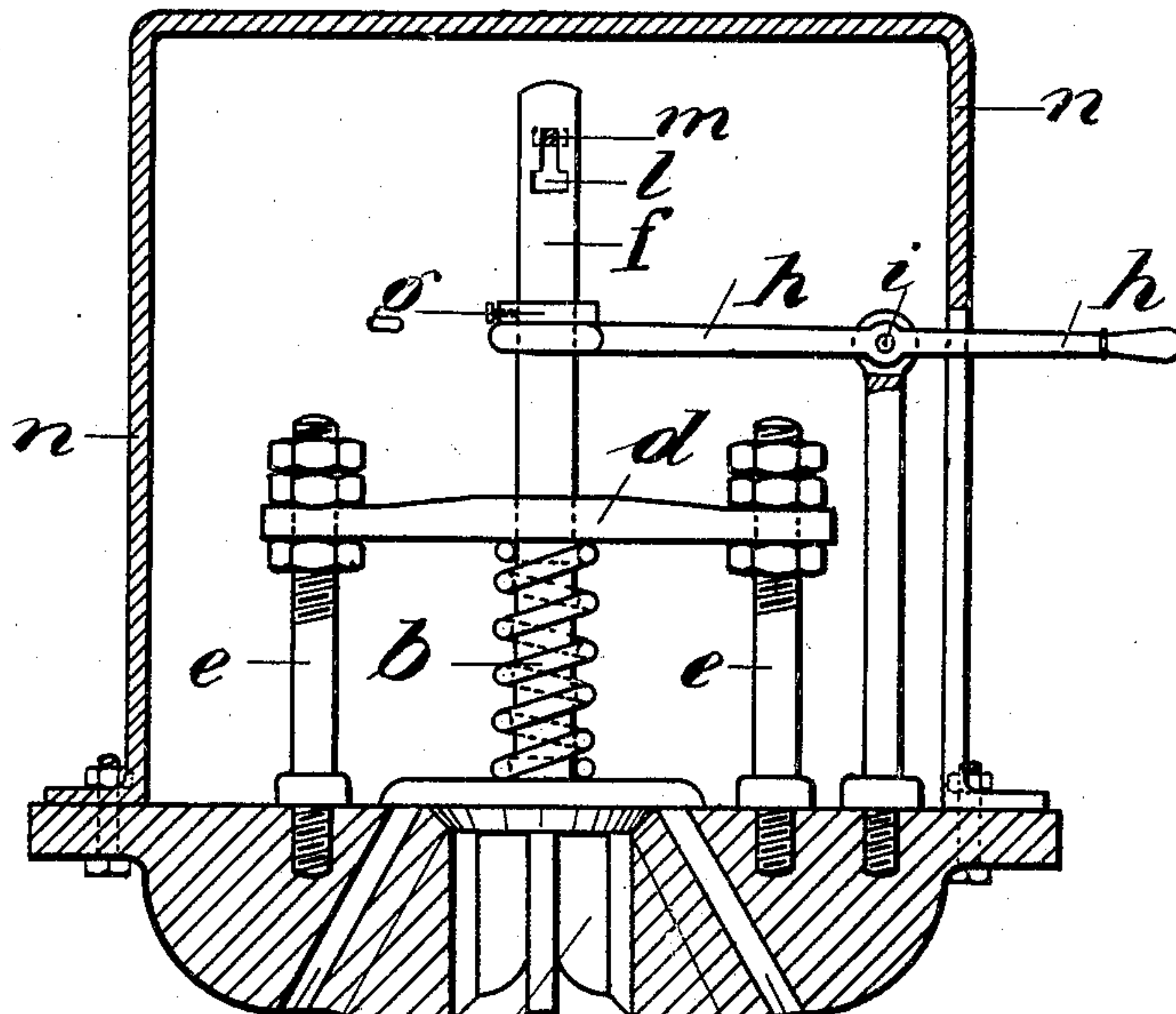


Fig. 1. *k c a c k*

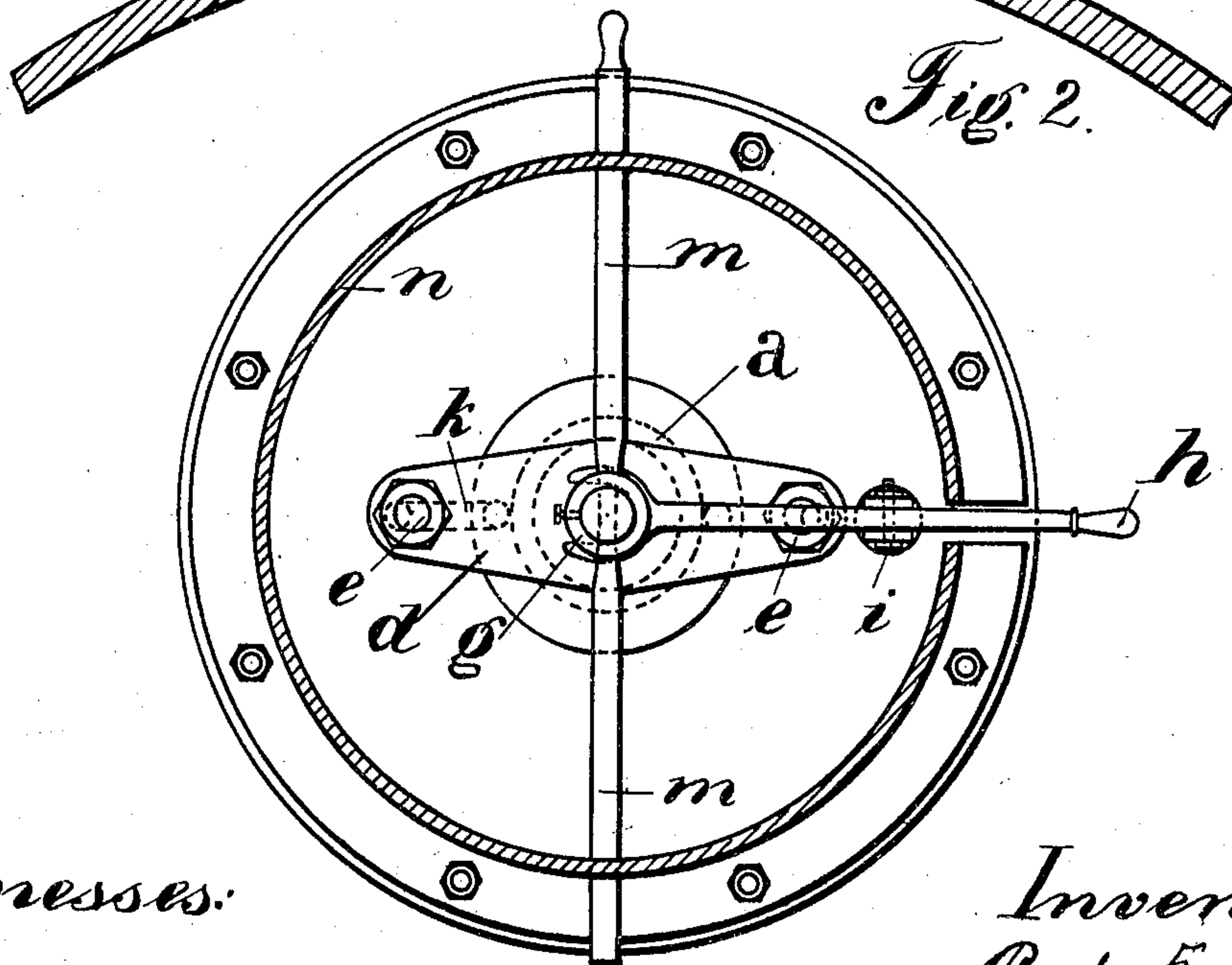


Fig. 2.

Witnesses:

Joseph Hoffmann

William Esserwein.

Inventors.

Paul Bode

Martin Kögler.

UNITED STATES PATENT OFFICE.

PAUL BODE AND MARTIN KEGLER, OF DUISBURG, GERMANY.

SAFETY-VALVE.

SPECIFICATION forming part of Letters Patent No. 770,043, dated September 13, 1904.

Application filed November 9, 1903. Serial No. 180,377. (No model.)

To all whom it may concern:

Be it known that we, PAUL BODE, of 4 Liethen street, and MARTIN KEGLER, of 15 Sedan street, Duisburg, Rhine Province, in the Kingdom of Prussia and the German Empire, have invented certain new and useful Improvements in Safety-Valves, of which the following is a specification.

By this construction of safety-valve it is impossible to overload the spring or weight for the purpose of increasing the working pressure beyond the safe limit.

Figure 1 is a vertical section through such a valve. Fig. 2 is a plan view.

The valve *a* is kept upon its seat *c* by a spring *b*, or it might be a weight. The spring is between the valve *a* and the cross-bar *d*, which is adjustably mounted on two threaded studs *e*, provided with nuts. The valve stem or guide *f* passes through the cross-bar *d* and has a collar *g* for engagement with the inner end of the lever *h* for opening the valve to act against. This lever is fulcrumed on a pin *i* and serves to raise the valve *a* from its seat to permit the steam to escape from below the valve through the passages *k*. The valve-stem is at its upper end provided with a slot *l*, having an upper narrow part and a lower wide part. In this slot is a safety-bolt *m*, which, with its narrow central part, fits in the upper narrow part of the slot, the bolt having first with its under end been entered into the wide part of the slot. The whole valve device is inclosed in a housing *n*, which is provided with a slot for the lever *h* and two guide-slots for the safety-bolt *m*.

The mode of action is as follows: If the pressure below the valve exceeds the assumed safe limit, the valve *a* yields and rises and allows the steam to escape. The said limit for

the pressure may be altered by adjusting the spring—viz., shifting the cross-bar *d* or by increasing the weight on the valve; but a lightening of the spring can only take place after the housing *n* has been taken off. In order to do that, it is, however, necessary first to open the valve by means of the lever *h*. Then the safety-bolt can be withdrawn from the housing and then this housing unscrewed. Not till then—that is, till the valve has no pressure under it—can it be regulated. It is consequently impossible to lighten the spring and increase the load on the valve while under pressure, and thus it becomes more difficult to transgress the official regulation relative to safety-valves and explosions are rendered less possible.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is—

1. In combination with a suitably-held valve the stem thereof, means for operating the valve, a housing inclosing the valve with means carried by the housing for engagement with said stem whereby the latter must be raised to permit removal of the housing.

2. In combination with the stem of a suitably-held valve having a T-shaped slot formed therein, a housing inclosing the stem and carrying means extending into said slot, whereby said stem must be raised to permit removal of the housing.

In witness whereof we have hereunto set our hands in presence of two witnesses.

PAUL BODE.
MARTIN KEGLER.

Witnesses:

JOSEF SCHAEFFERZ,
WILLIAM ESSENWEIN.