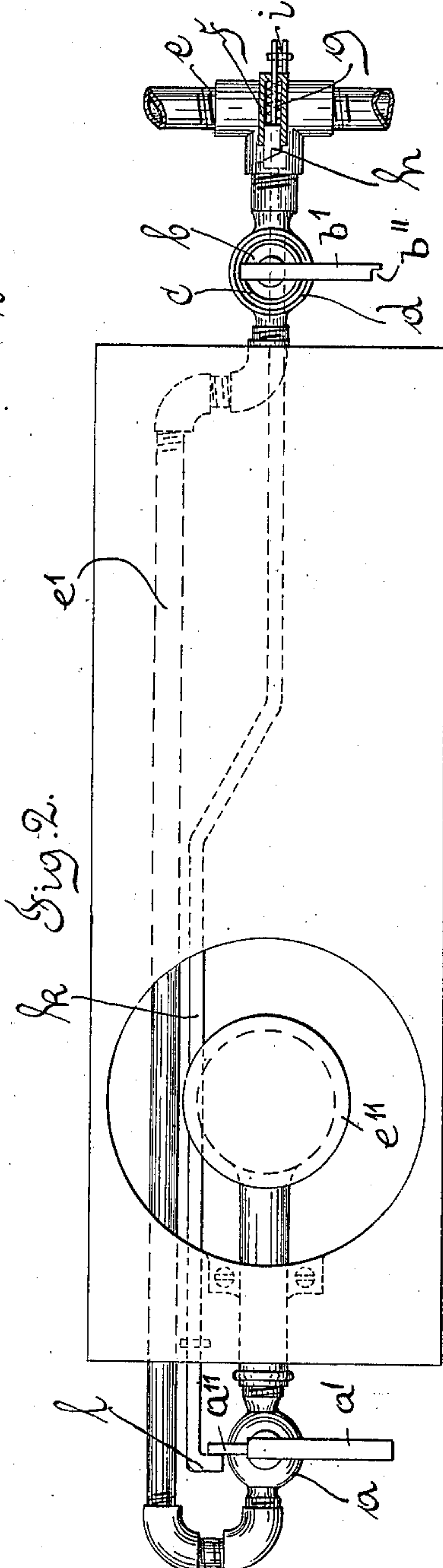
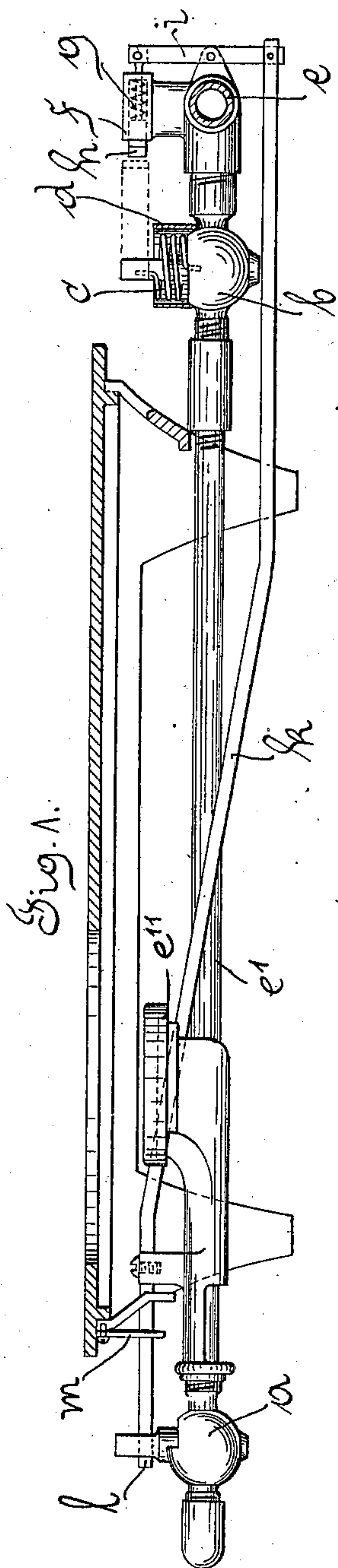


L. FRIEDRICH.
SAFETY DEVICE FOR VALVES.
APPLICATION FILED AUG. 24, 1910.

996,013.

Patented June 20, 1911.



Witnesses:
Amorill
S. Ford

Inventor: Louis Friedrichs,
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UNITED STATES PATENT OFFICE.

LOUIS FRIEDRICHS, OF GÖTTINGEN, GERMANY.

SAFETY DEVICE FOR VALVES.

996,013.

Specification of Letters Patent. Patented June 20, 1911.

Application filed August 24, 1910. Serial No. 578,796.

To all whom it may concern:

Be it known that I, LOUIS FRIEDRICHS, a subject of the German Emperor, residing at Göttingen, in the German Empire, have invented a certain new and useful Improvement in Safety Devices for Valves, of which the following is a specification.

The present invention relates to valves, and more particularly to gas valves or cocks used in connection with gas cooking-stoves and the like, and its object is to provide simple and reliable means for preventing loss of gas and accidents due to accidental opening of easily accessible valves, or to tampering with such valves by children.

The invention substantially consists in combining two valves in series with each other, with means operative so that one of said valves is automatically closed when the other valve is closed, but that the automatically closed valve is not opened by the act of opening the second valve.

The invention is illustrated in the annexed drawings, in which—

Figure 1 is a side view of the mechanism and Fig. 2 a plan view, both views being partly in section.

In the drawings a represents a regulating cock arranged in series with a main cock b to control the flow of gas from the pipe e through pipe e^1 to burner e^{11} . The handle lever b^1 of the cock b is connected to a coiled spring c in a casing d ; this spring c keeps the cock b normally closed. A guide f adjacent the cock b contains a slidable member or catch h , beveled at its left hand end, and a spring g acting on the catch h normally thrusts same to the limit of its movement toward the left. The catch is connected to one arm of a double-armed lever i , the other arm of which is connected to a rod k . The latter is slidable in a slotted hanger m and has a lateral projection l at its left hand end, located in the path of a projection a^{11} fixed to the handle a^1 of the cock a .

For opening the main cock b the handle b^1 is rotated toward the pipe e from the position in which it is shown in Fig. 2 to the position indicated by dotted lines in Fig. 1. Shortly before the end of this movement the handle b^1 abuts against the beveled end of the catch h and pushes the catch to the right and the spring g then thrusts the catch back again to normal position, so that it engages

a notch b^{11} at the end of the handle, and thus prevents the closing of cock b by spring c .

The flow of gas to the burner can then be regulated in the usual way by means of the cock a . For turning off the gas by means of this regulating cock the handle a^1 is rotated anti-clockwise into the position in which it is best shown in Fig. 2. This causes the projection a^{11} to thrust the projection l and rod k toward the left. By this means the lever i is rocked so that it pulls the catch h out of engagement with the handle b^1 whereupon the spring c closes the main cock b .

When the handle a^1 is released the compressed spring g expands and rocks the lever i so that the rod k is pulled back toward the right. The handle a^1 is slightly rotated by this action, but not to such extent as to open the cock a , and even if the latter were opened, no escape of gas would result, the main cock b being closed.

It will be clear that before a supply of gas can be obtained at the burner e^{11} by opening the regulating cock a , the main cock b must be opened and held in open position against the action of the spring c . No escape of gas can result from the opening of the regulating cock alone.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

The combination with a fluid conduit and two valves arranged in series in said conduit of a device for automatically closing one of said valves, a lever fixed to said automatically closable valve, a spring pressed catch adapted to engage said lever when the automatically closable valve is moved to open position, a projection fixed to the other valve, a slidable rod, a lever connecting said rod to said catch, and a projection on said rod located in the path of the projection fixed to the second valve so that by the act of closing said second valve the rod is displaced and removes the catch from the position in which it engages the automatically closable valve.

In witness whereof I have signed this specification in the presence of two witnesses.

LOUIS FRIEDRICHS.

Witnesses:

R. P. THOMPSON,
M. BEHNE.