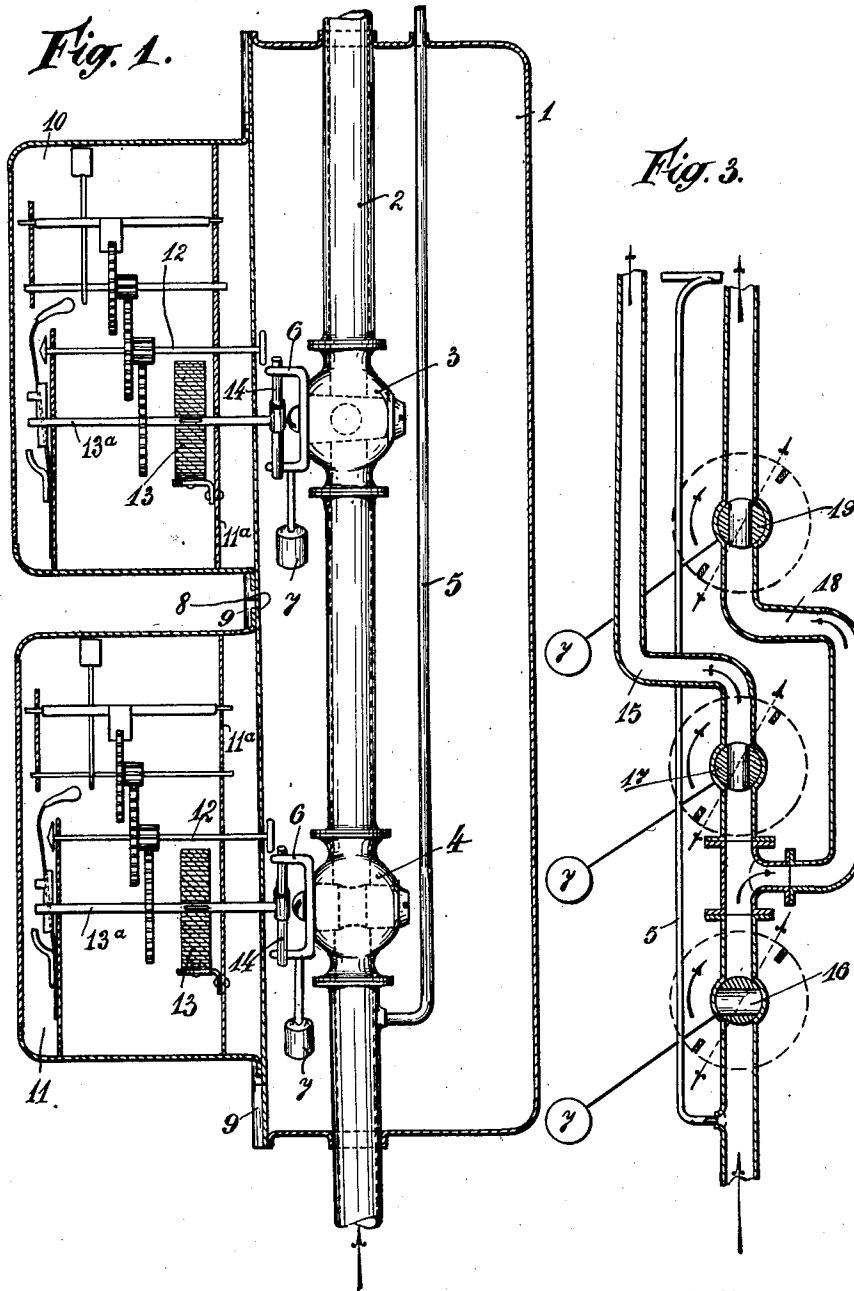


B. SCHEIDEMANN.  
 APPARATUS FOR CONTROLLING GAS COCKS AND ELECTRIC LIGHT SWITCHES.  
 APPLICATION FILED DEC. 28, 1910.

1,007,894.

Patented Nov. 7, 1911.  
 2 SHEETS—SHEET 1.



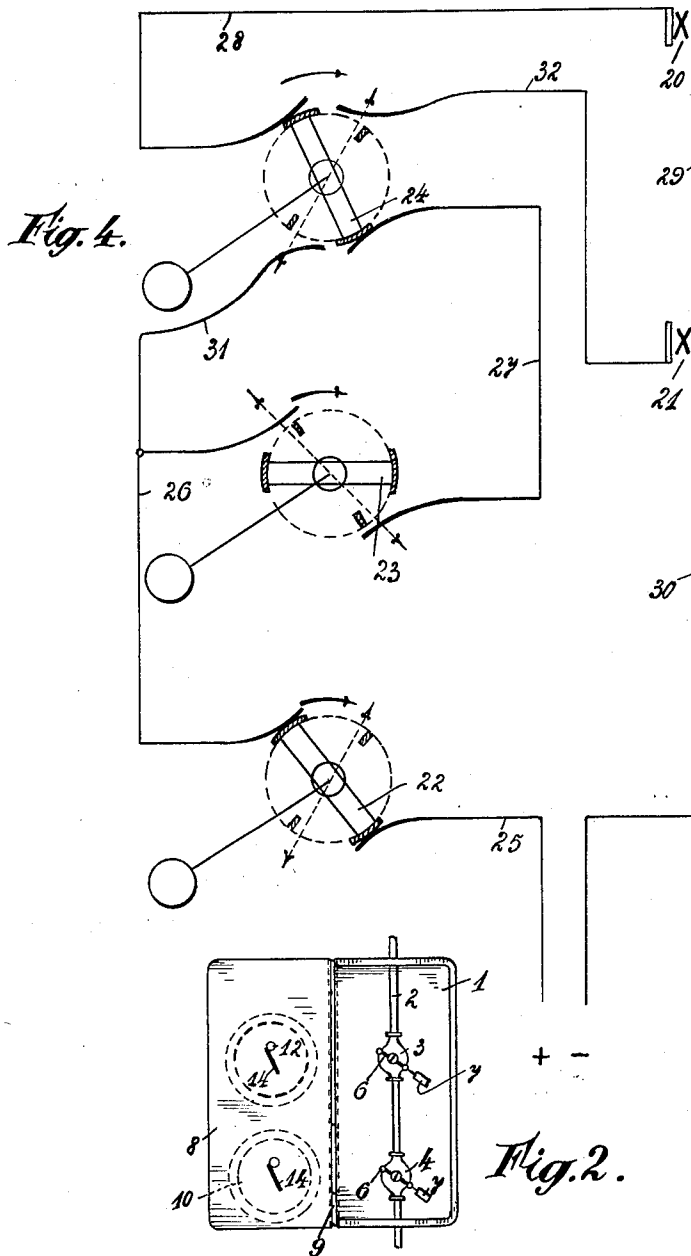
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# UNITED STATES PATENT OFFICE.

BRUNO SCHEIDEMANN, OF BERLIN, GERMANY, ASSIGNOR OF ONE-HALF TO THE FIRM OF GEBRÜDER NEUMANN, OF BERLIN, GERMANY.

APPARATUS FOR CONTROLLING GAS-COCKS AND ELECTRIC-LIGHT SWITCHES.

1,007,894.

Specification of Letters Patent.

Patented Nov. 7, 1911.

Application filed December 28, 1910. Serial No. 599,668.

*To all whom it may concern:*

Be it known that I, BRUNO SCHEIDEMANN, a subject of the German Emperor, and residing at Berlin, Germany, have invented  
5 certain new and useful Improvements in Apparatus for Controlling Gas-Cocks and Electric-Light Switches, of which the following is a specification.

This invention relates to automatic means  
10 for operating the closure members of gas-pipes or the switches of electrical conductors.

According to the invention a number of gas-pipe closure-members or electric  
15 switches, which are operated by one or more clockwork mechanisms, is provided which is equal to the number of opening and closing movements of the closure members to be made in a definite time, *e. g.* in twenty-  
20 four hours, or equal to the number of connections and disconnections of electric conductors to be brought about in said time.

The invention comprehends special means for connecting the gas-pipe closure members  
25 *e. g.* gas-cocks, or the electric switches with the clockwork mechanisms. This connection is such that a clutch member on an axle of each clockwork is located in such manner in the range of a clutch member connected with  
30 the appertaining gas-cock or switch that, when the clockwork is released at a desired moment, the two clutch members engage one another and the gas-cock or electric switch is moved. The gas-cock or electric switch is  
35 held in this position until it is disconnected by hand.

All the clockwork mechanisms and cocks or switches are simultaneously disconnected, according to the invention, by the cocks or  
40 switches being arranged in one casing and the clockwork mechanisms in the cover of this casing, the clutch members of the clockwork mechanisms projecting into the casing when the cover thereof is closed. By open-  
45 ing the cover, the clutch members of the clockwork mechanisms are brought out of the range of the clutch members of the cocks or switches, and in order that the cocks or switches shall automatically return into  
50 their initial positions when they are disconnected, they are provided with weights or springs.

Some illustrative embodiments of the invention are represented by way of example  
55 in the accompanying drawings, wherein:—

Figure 1 is a side elevation, partly in section, showing one form of the invention comprising two gas-cocks for one single principal flame; Fig. 2 is a front elevation, on a smaller scale, showing the same form  
60 when the cover of the casing is open; Fig. 3 diagrammatically shows another form comprising three gas-cocks used for controlling two principal flames, and Fig. 4 is a diagram showing another form, in which two electric  
65 lamps or groups of lamps are controlled by means of three switches.

Referring firstly to Figs. 1 and 2, the gas-cocks 3 and 4 are interposed in the vertical conductor or main gas-pipe 2 in the fixed  
70 casing 1. The by-pass pipe 5 branches off from the main pipe 2 in front of the gas-cock 4. On each spigot of the cocks 3 and 4 is a U-shaped clutch member 6 carrying a weight 7. The cover or lid 8, attached by  
75 hinges 9 to the casing 1, carries the two clockwork mechanisms 10 and 11 which serve for actuating the two cocks 3 and 4 and comprise, in known manner, both regulating mechanism 12, driving mechanism 13,  
80 and toothed wheel gearing, releasing springs and dials. On each axle 13<sup>a</sup> of the driving mechanism is the clutch member 14 which, in the illustrative embodiment, consists of a  
85 rod which, when the cover of the casing 1 is closed, is located in the plane of rotation of the clutch member 6 of the appertaining cock 3 or 4, so that the axles 13<sup>a</sup> must, of course, pass through the walls 11<sup>a</sup> in the  
90 covers 11 and enter into the casing 1. This form of apparatus according to the invention operates as follows:—It will be assumed that the principal flame at the burner  
95 attached to the pipe 2 is to be lighted at 6 p. m. and extinguished at 10 p. m. The clockwork appertaining to the cock 3 will accordingly be so set that the driving mechanism 13 of the same operates at 6 p. m. and rotates  
100 its axle 13<sup>a</sup> and the rod 14. The other clockwork appertaining to the cock 4 is set correspondingly to 10 p. m. After the members 6 and 14 of the two cocks have been disconnected by opening the cover 8 of the casing 1, the cock 3 is closed and the  
105 cock 4 is open, as shown in Fig. 1. Now as soon as the clutch member 14 appertaining to the cock 3 is rotated at 6 p. m. by the mechanism 13, its rotatory motion is imparted to the clutch member 6 of the spigot of the cock, whereupon the cock 3 is opened. 110

Therefore both the cocks 3 and 4 are open, so that gas can now flow to the principal burner which is ignited by means of the by-pass flame burning at the pipe 5. As soon as the mechanism 13 of the clockwork appertaining to the second cock 4 operates at 10 p. m., the appertaining spigot is rotated and therefore the cock 4 is closed, whereby the flame at the burner fed by the pipe 2 is extinguished. The clutch members 6 of the two cocks 3 and 4 are held against the action of the weights 7 by the mechanisms 13 of the two clocks in the position which they occupy at 10 p. m. A readjustment takes place the next day solely by the cover 8 of the casing being opened, when, as soon as the clutch members 14 come out of reach of the clutch members 6, the latter swing automatically under the action of their weights 7 into the position shown in Fig. 2, so that the cock 3 is closed again and the cock 4 opened. When the cover 8 is closed the coupling members 14 move into the plane of rotation of the clutch members 6 in order to actuate the gas-cocks again corresponding to the adjustment of the clocks at 6 or 10 p. m. or at any other desired time which is set.

In the illustrative embodiment according to Fig. 3 the switching apparatus controls two principal flames. Two gas-cocks 16 and 17 are interposed in the gas-pipe 15 leading to the one principal burner, and between these the pipe 18 leading to the second principal burner branches off. A third gas-cock 19 is interposed in the latter pipe. Each of these three cocks is provided, as in the illustrative embodiment according to Fig. 1, both with a clockwork mechanism 10 and clutch members 14, 6, and also with a weight 7 or a spring. The by-pass pipe 5 branches off in front of the bottom gas-cock 16 and is used for both the principal burners. Instead of leading to single burners, the pipes 15 and 18 may lead to groups of burners which are to be ignited or extinguished in succession.

The form of apparatus according to Fig. 3 operates as follows:—It is assumed that, for the purpose of illuminating windows of stores, the groups of lamps connected to the two pipes 15 and 18 are to be ignited simultaneously at 6 p. m. and that the one group of lamps is to be extinguished at 9 p. m. when the store is closed and the second group of lamps at midnight. To this end, the clockwork appertaining to the gas-cock 16 is set to 6 p. m., that of the gas-cock 17 to 9 p. m. and that of the cock 19 to midnight. The gas-cock 16 is closed in its preparatory or normal position, and the two cocks 17 and 19 are open, as shown in Fig. 3. At 6 p. m. the stopcock 16 is opened, so that as the other two cocks 17 and 19 are already open, the two groups of lamps can be ignited. At 9 p. m. the cock 17 is closed and therefore the group of lamps connected

to the pipe 15 is extinguished; the group of lamps connected to the cock 19 is extinguished at midnight. The three cocks are reset in the manner described above with reference to Figs. 1 and 2.

Fig. 4 illustrates the corresponding employment of the principle of the invention, as described above with reference to Fig. 3, to electric conductors for the purpose of separately switching into and out of circuit the two lamps or groups of lamps 20 and 21 by means of the switches 22, 23 and 24. The group of lamps 21 appertains to the switch 24 and the group of lamps 20 to the switch 23. In the illustrative embodiment shown in Fig. 4 the switches are in the preparatory position; neither of the groups of lamps 20 or 21 is connected in circuit. Now if it is wished to connect in circuit the one group of lamps 20 at 6 p. m., the switch 23 is moved by its clockwork into the position shown in dotted lines, and the following circuit is closed:— + pole of the source of current, feeder 25, switch 22, conductor 26, switch 23, conductor 27, switch 24, conductor 28, group of lamps 20, feeder 29, 30,— pole of the source of current; only the group of lamps 20 is therefore connected in circuit. Now if at 9 p. m. the group of lamps 21 alone is to be connected in circuit, the clockwork of the switch 24 must be set to this time, whereupon this switch will then be moved into the position indicated by dotted lines. The previously closed circuit will therefore be interrupted between the conductors 27 and 28 and the following circuit closed: + pole of the source of current, feeder 25, switch 22, conductor 26, 31, switch 24, conductor 32, group of lamps 21, feeder 30,— pole of the source of current; the group of lamps 20 is therefore disconnected and the group of lamps 21 connected in circuit. If the group of lamps 21 is to be switched off at midnight, the clockwork of the switch 22 must be set correspondingly so that the switch will be moved into the position indicated in dotted lines at this time. All the circuits will then be open.

The hereindescribed constructional forms of the invention may be modified. For example, all the gascocks or switches may be actuated by one single clockwork, presupposing that for each gas-cock or switch a special adjusting or coupling device is provided.

The invention may be employed for various purposes. It is suitable both for turning on and off street lamps or the main pipes leading to the same, and also for domestic and business purposes and the like. By correspondingly increasing the number of gas-cocks or switches any desired number of groups of lamps can be either successively connected in circuit and disconnected, or connected simultaneously and disconnected

in succession, or connected in succession and disconnected simultaneously.

I claim:—

1. In means for controlling sources of  
5 light, the combination, with the conductors  
leading to one or more sources of light, of  
a plurality of devices interposed in the con-  
ductor for opening and closing the same,  
yieldable means for normally holding cer-  
10 tain of said devices closed and other of said  
devices open, an adjustable clockwork mech-  
anism releasably clutching each of said de-  
vices for moving the same separately from  
normal position at a predetermined time,  
15 and means for releasing the clockwork  
mechanism from the devices to permit the  
yieldable means to return the devices to  
normal position.

2. In means for controlling sources of  
20 light, the combination, with the conductors  
leading to one or more sources of light, of  
a plurality of devices interposed in the con-  
ductor for opening and closing the same, a  
weighted lever secured to each of said de-  
25 vices for holding certain of the devices nor-  
mally closed and other of the devices nor-  
mally open, an adjustable clockwork mech-  
anism releasably clutching each of said  
devices respectively for moving them sepa-  
30 rately from normal position at a predeter-  
mined different time, and means for releas-  
ing the clockwork mechanism from the  
vices to permit the devices to assume their  
normal position under the action of the  
35 weighted lever.

3. In means for controlling sources of  
light, the combination, with the conductors  
leading to one or more sources of light, of  
a plurality of cut-off devices interposed in  
40 said conductor for opening and closing the  
same, yieldable means for holding certain of  
the devices normally closed and certain of  
them normally open, adjustable clockwork

mechanisms, one for each device, adapted to  
clutch and operate the same and to be re- 45  
leased therefrom when moved away from  
the devices, and a casing supporting the  
mechanisms and by which the mechanisms  
may be moved away from the devices when  
the casing is moved, whereupon the devices 50  
assume their normal positions under the ac-  
tion of the yielding means.

4. The combination, with a gas-pipe hav-  
ing one or more gas-burners connected there-  
with, of a plurality of gas-cocks, each pro- 55  
vided with a gravity-operated clutch-mem-  
ber, in the gas-pipe, a casing, having a  
hinged cover, inclosing said gas-cocks, a plu-  
rality of axles in said cover each carrying  
a clutch-member normally detachably en- 60  
gaging a gravity-operated clutch-member,  
and a plurality of clock-driven mechanisms  
in said cover each adapted to drive one of  
said axles at a predetermined time, the num-  
ber of said gas-cocks being equal to the 65  
number of movements requisite for lighting  
and extinguishing the burners within a  
given time.

5. The combination, with a gas-pipe hav-  
ing one or more burners connected there- 70  
with, of two gas-cocks interposed in the  
pipe, weighted clutch-members fixed to the  
spigots of the cocks, a casing having a  
hinged cover inclosing said cocks and the  
clutch-members attached thereto, and clock- 75  
driven mechanisms in the cover, normally  
detachably connected to the clutch-members,  
one of said cocks being normally closed and  
the other normally open.

In testimony whereof, I affix my signature 80  
in the presence of two witnesses.

BRUNO SCHEIDEMANN.

Witnesses:

HENRY HASPER,  
WOLDEMAR HAUPT.