

(No Model.)

J. F. BLAKE.
ELECTRICAL CONTACT MECHANISM.

No. 530,004.

Patented Nov. 27, 1894.

Fig. 1.

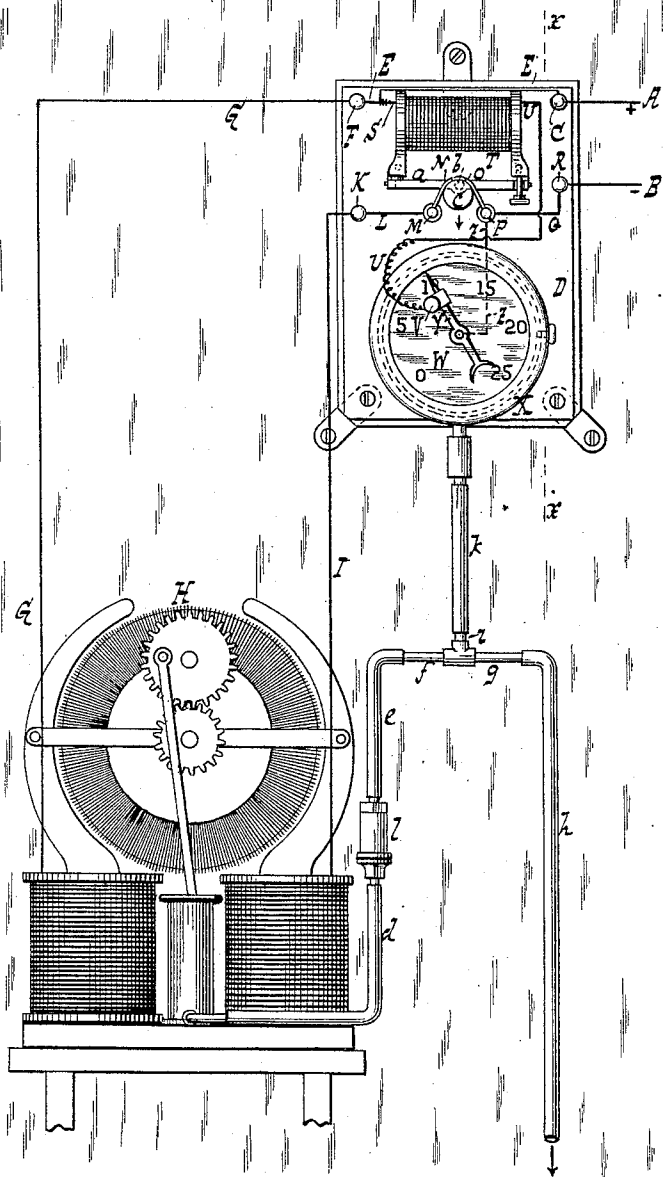
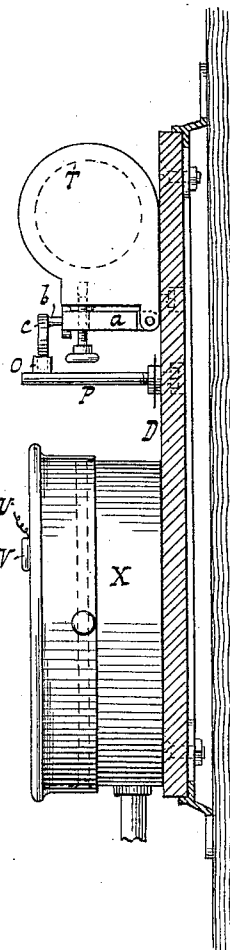


Fig. 2.



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ELECTRICAL-CONTACT MECHANISM.

SPECIFICATION forming part of Letters Patent No. 530,004, dated November 27, 1894.

Application filed June 21, 1894. Serial No. 515,272. (No model.)

To all whom it may concern:

Be it known that I, JOHN FEGGETTER BLAKE, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Electrical-Contact Mechanism, of which the following is a specification.

This invention relates to certain improvements in electrical contact mechanism, and the object of the invention is to obtain a contact mechanism which will make firm and reliable connection and clean breaks, and the invention resides in the novel features of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a front elevation of the contact mechanism. Fig. 2 is a section along $x x$ Fig. 1.

In the drawings the letters A B indicate electrical conductors connecting with the opposite poles of a battery or generator. (Not shown.) The conductor A extends to a binding post C which with various other parts is advantageously supported on a slab or support D of stone or non-combustible material which will avoid the danger of fire from arcs or sparking.

From binding post C extends a conductor E to binding post F whence conductor G extends to the pump or motor H, the return conductor I extending from the motor to binding post K whence conductor L extends to arm or rod M carrying a contact or spring finger N. The contact or spring finger O is carried on arm or rod P whence conductor Q extends to binding post R with which conductor B communicates.

From conductor E extends a branch S to the electro magnet T. The branch current flowing through the coil of magnet T passes thence along conductor U to a contact V supported on the insulator or glass face W of a pressure gage X. This contact or stud V can be moved by the rotation of the glass or crystal W so as to come opposite any desired figure on the gage dial, and as the index Y of the gage rests against said stud V said index will be set or moved with the stud and will remain in contact with the stud until the pressure indicated by the gage exceeds that indicated

by the figure to which the stud V and index Y have been set by the rotation of the glass W. The index Y communicates with conductor Z extending to conductor Q. The armature a of electro magnet T carries a stud or axle b on which the rotary disk c is eccentrically mounted. Supposing the conducting index Y to contact with V then the current passes along conductors A E S U Y Z Q and B so as to vitalize magnet T whereupon armature a is attracted to force disk c into contact with the fingers N O so that a current can pass along conductors A E G to motor H, and return along conductors I L through contacts N c O and along conductors Q B. Should the axle or shaft b of disk c not be placed accurately midway between contact fingers N O, the eccentric disk c contacting in consequence first with but one of said fingers will by such one sided contact be rotated or swung on shaft b so as to make accurate contact also with the other finger. Should the armature a be released so as to move away from magnet T and the disk c stick or adhere somewhat to one of the fingers N or O the movement of shaft b with armature a away from magnet T will cause disk c to promptly break contact with the other finger. The device thus secures firm and reliable contact as also clean breaks. The coil of magnet T can be made to serve as a resistance so that the greater part of the current will pass along conductor G to actuate motor H, or if desired other resistances could be placed in the circuit of branch S. Supposing the glass W is turned to make contact V carry index Y to indicate for example the figure 10 and the pump H to be forcing air or pressure through connections $d e f g h$ into a cask or receptacle (not shown), then as soon as the generated pressure exceeds the figure indicated by index Y, such pressure passing to the gage through connections $i k$ will move the index Y beyond the said figure so as to break the contact with post V, whereupon the magnet T becoming devitalized will release armature a so that disk c breaks contact with fingers N O to break the circuit actuating pump H. If the pressure in tubes $h g i k$ drops to or below the desired figure the index Y will move back to restore the circuit vitalizing magnet T

which then actuates its armature to cause disk *c* to close the circuit at the fingers *N O* whereupon the pump *H* is again started.

5 In order that any pressure generated or remaining in tubes *g h* will not oppose the starting of the pump or motor *H*, a check valve *l* is placed between tubes or conduits *d e* which valve allows the generated pressure to pass from the pump to tube *h*, while shutting such
10 generated pressure off from tube *d* and from the pump when the latter has stopped, the generated or remaining pressure however being left free to act in tubes *h g i k* so as to act on index *Y*.

15 What I claim as new, and desire to secure by Letters Patent, is—

1. A base or support and a pressure actuated index, combined with a circuit closer actuated by said index, an electro magnet, an
20 armature actuated by the electro magnet, and a second circuit closer composed of an arm or

shaft carried by the armature, an eccentric disk rotatably mounted on said shaft, and contacts placed within reach of the eccentric disk and serving to turn the latter and cause
25 it to make accurate contact with both contacts, substantially as described.

2. A circuit closer comprising a suitably actuated arm or shaft, a rotatable disk eccentrically mounted on the shaft, and contacts
30 placed within reach of the eccentric disk and adapted to be rotated by one of the contacts for causing it to make accurate contact with both contacts, substantially as described.

In testimony whereof I have hereunto set
35 my hand in the presence of two subscribing witnesses.

JOHN FEGGETTER BLAKE.

Witnesses:

CHARLES F. BOLLMANN,
RICHARD F. JAHN.