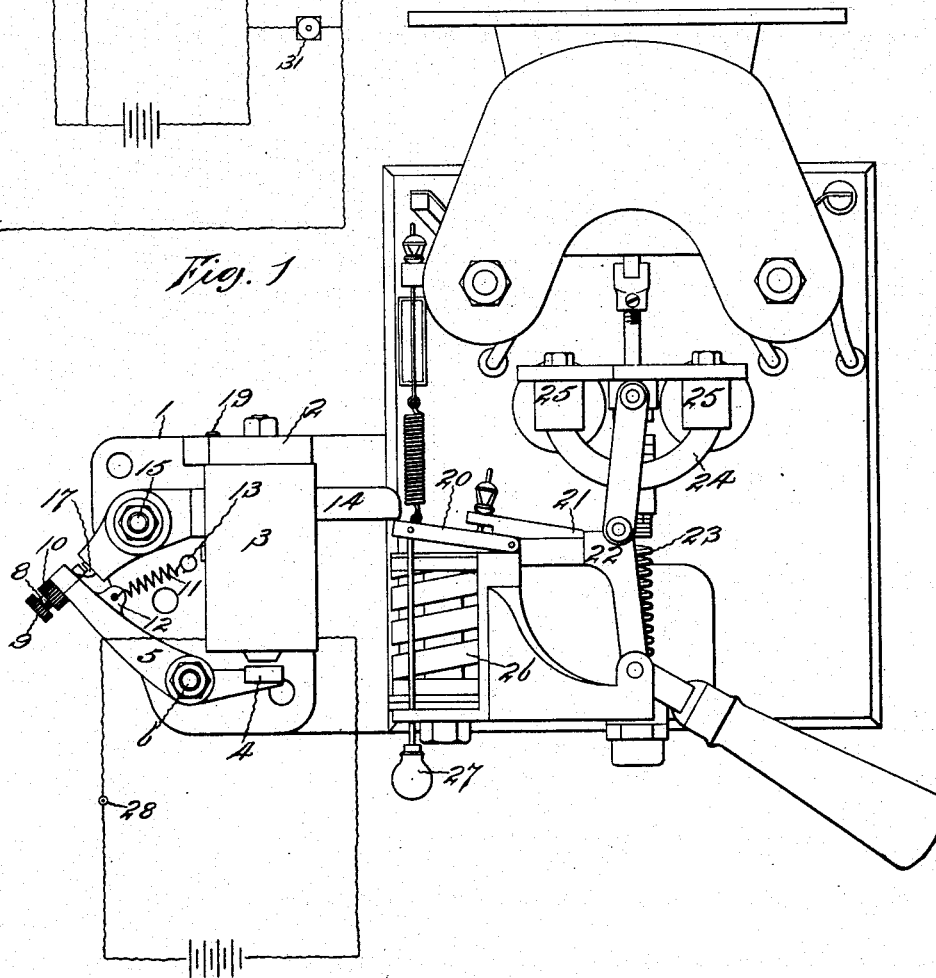
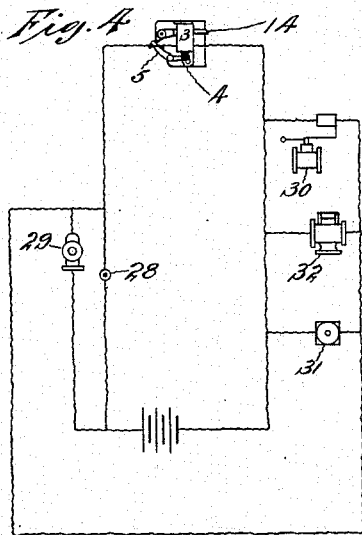


A. J. PURINTON.
CIRCUIT BREAKER TRIP.

(Application filed May 9, 1900.)

2 Sheets—Sheet 1.

(No Model.)



Witnesses:

V. R. Holcomb.

C. A. Burtland.

Inventor:

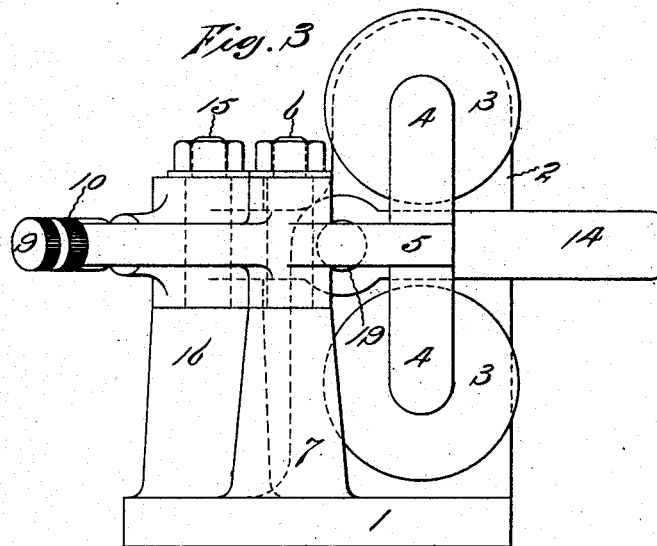
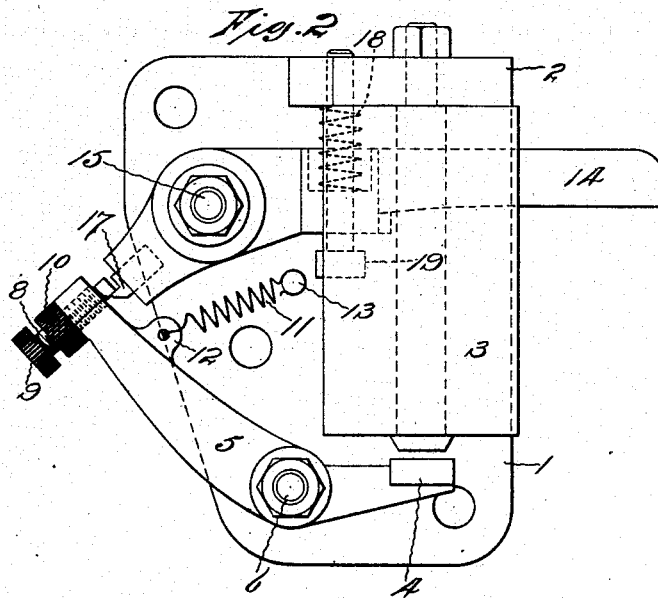
Arthur J. Purinton, by
Harry R. Williams
att'y.

A. J. PURINTON.
CIRCUIT BREAKER TRIP.

(Application filed May 9, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:
V. R. Holcomb.
C. E. Beckman.

Inventor:
Arthur J. Purinton, by
Harry R. Williams
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UNITED STATES PATENT OFFICE.

ARTHUR J. PURINTON, OF WATERBURY, CONNECTICUT.

CIRCUIT-BREAKER TRIP.

SPECIFICATION forming part of Letters Patent No. 676,849, dated June 18, 1901.

Application filed May 9, 1900. Serial No. 16,024. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR J. PURINTON, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Circuit-Breaker Trips, of which the following is a specification.

This invention relates to an electric trip that is adapted to mechanically set in operation an electric-circuit breaker when a button of an emergency-circuit in which it is connected is pressed or when such a circuit is closed by the action of any other apparatus.

The object of the invention is to provide a very simple electrically-operated trip that can be easily attached to a switchboard in such relation to a circuit-breaker that when the trip-lever is released it will cause the circuit-breaker catch-lever to move and release the contact-moving parts of the circuit-breaker.

The trip that is illustrated in the accompanying drawings as embodying the invention has a base supporting two magnets, the armatures of which are attached to a catch-lever that is arranged to hold the trip-lever with its operating-spring under tension until the magnets attract the armatures and cause the catch to release the trip.

Figure 1 of the views shows in plan a common magnetic blow-out circuit-breaker with one of the emergency-trips attached and also diagrammatically illustrating a safety and emergency system for power plants. Fig. 2 shows, on a larger scale, a plan of the trip. Fig. 3 shows an edge view of the trip. Fig. 4 is a diagrammatical view of an emergency and safety system for shutting down power plants with which the trip may be employed.

The base 1 of the trip may be formed of metal or of insulating material. A standard 2 extends outwardly from one edge of the base, and fastened to this standard are a pair of magnets 3. The armatures 4 of the magnets are attached to one end of a catch-lever 5, that is pivoted upon a stud 6, projecting from a post 7, which extends outwardly from the base. Passing through a threaded perforation in the other end of this lever is a threaded stud 8, having a head 9, by means of which

it may be turned, and bearing a lock-nut 10, by which it may be fastened in position. A spring 11, having one end fastened in the eye of the lug 12 and the other end fastened to a post 13, holds the lever, with the armature, away from the magnet-poles.

The trip-lever 14 is pivoted upon a stud 15, projecting from a post 16, that extends outwardly from the base. The end of this lever that is adjacent to the catch-lever is provided with a trip-stud 17, that is engaged by the catch-stud 8. The other end of the trip-lever extends between the magnet-coils and is forced from the standard 2 by a spring 18 on a stud 19, that projects from the standard parallel with the magnets.

The magnetic blow-out circuit-breaker shown is one of those which are in general use in electric-power stations.

The base of the trip is attached to the switchboard adjacent to the circuit-breaker in such position that the end of the long arm of the trip-lever projects into the path of the catch-armature 20 of the circuit-breaker. When the catch-lever releases the trip-lever, the trip-spring causes the trip-lever to engage and oscillate the circuit-breaker catch-armature 20, and this so moves the catch 21 from the joint 22 that the spring 23 may draw the main-circuit-connecting contacts 24 from the main-circuit terminals 25 in the usual manner. The trip-lever does not prevent the catch-armature of the circuit-breaker from being electrically operated by the main-line magnet 26 nor from being mechanically operated by the handle 27.

The trip-magnets may be connected with an electric circuit that may be closed by a push-button 28, placed at any desired locality in the plant, or it may be connected with a circuit which is adapted to be closed by an engine, pulley, or shaft speed-limit 29 of the nature illustrated and described in patent of July 5, 1898, No. 606,877, or it may be connected with a circuit which is adapted to operate an emergency throttle-valve 30, similar to that of patent of January 30, 1900, No. 642,257. The trip-magnets may also be connected with the circuit in such a system for stopping engines as is set forth in reissue patent of January 29, 1900, No. 11,804, which contains an engine-stop 31 of the nature of

that of patent of May 31, 1898, No. 604,840, and a vacuum-breaker 32, like that shown in the said Reissue Patent No. 11,804, or in an entire emergency and safety system for shutting down a power plant containing all of these apparatus, as indicated by the diagrammatical view, Fig. 4.

I claim as my invention—

The combination with a circuit-breaker catch, the spring for pulling the catch in one direction and the magnet for attracting the catch in the opposite direction of a trip-lever engaging the circuit-breaker catch, a spring

adapted to force the trip-lever so as to cause the circuit-breaker catch to move against the pull of its spring, a catch-lever, a spring adapted to hold the catch-lever in engagement with the trip-lever, an armature attached to the catch-lever and a magnet embracing the trip-lever and arranged to attract the armature against the pull of the catch-lever spring, substantially as specified.

ARTHUR J. PURINTON.

Witnesses:

S. ALICE HUDSON,
ERNEST S. BENTON.