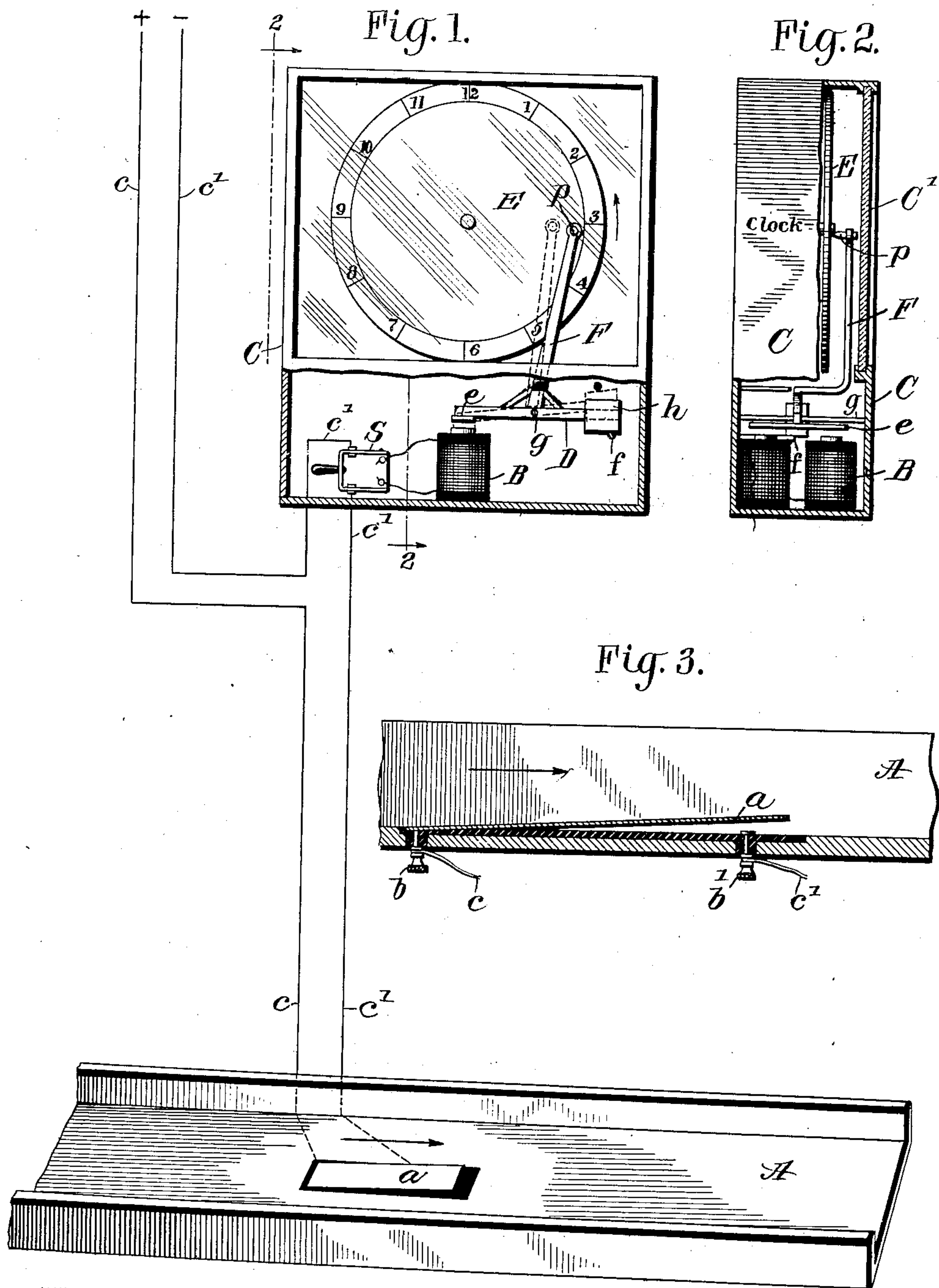


No. 898,313.

PATENTED SEPT. 8, 1908.

W. D. CAIN & W. H. WILLIAMS.  
ELECTRIC RECORDER FOR ICE PLANTS.

APPLICATION FILED MAY 9, 1908.



WITNESSES  
*Samuel E. Wade.*  
*Edw. W. Byn.*

INVENTORS  
 WILLIAM D. CAIN  
 WADE H. WILLIAMS  
 BY *Munn & Co.*  
 ATTORNEYS.

# UNITED STATES PATENT OFFICE.

WILLIAM DOSS CAIN AND WADE HAMPTON WILLIAMS, OF DURANT, OKLAHOMA.

## ELECTRIC RECORDER FOR ICE PLANTS.

No. 898,313.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed May 9, 1908. Serial No. 431,878.

*To all whom it may concern:*

Be it known that we, WILLIAM D. CAIN and WADE H. WILLIAMS, citizens of the United States, residing at Durant, in the county of Bryan and State of Oklahoma, have invented a new and useful Improvement in Electric Recorders for Ice Plants, of which the following is a specification.

Our invention is in the nature of an electric recorder for ice plants designed to show the number of blocks of ice drawn and put into the storage vault and also the time that each block was drawn.

The invention consists in the combination of a time dial rotated by a clock mechanism, a pen or pencil arranged to bear upon said dial, and an electro-magnetic operating device arranged to swing the pen or pencil across said dial, said electro-magnetic operating device being operated by a circuit and a circuit closer located in the ice chute and closed by the transit of a block of ice, as hereinafter more fully described with reference to the drawing, in which

Figure 1 is a front elevation, partly in section, of the registering device shown in connection with the electric circuit and the ice chute containing the circuit closer. Fig. 2 is a sectional end view of the register taken on line 2—2 of Fig. 1 and looking in the direction of the arrow and Fig. 3 is an enlarged sectional detail of the circuit closer in the ice chute.

In the drawing, A represents the ice chute through which the blocks of ice after being drawn from the cans are slid into the storage vault, such chute being arranged at a slight inclination.

In the bottom of the ice chute is arranged a depressible metal plate *a* in electrical connection at one end with a binding post *b* and circuit wire *c* and adapted to come in contact with another binding post *b'* connected to a circuit wire *c'*. The two binding posts are insulated from each other and the metal plate *a*, which is a yielding spring plate, is normally in an elevated position as seen in Fig. 3, but when it is depressed by the passage of a block of ice along the chute in the direction of the arrow it makes electrical connection between the two binding posts and

by closing an electric circuit operates the recorder above through the two wires *c c'*.

The wires *c c'* receive the electric current of a battery, or other source of supply, and transmit it through a switch *S* to the coil of an electro-magnet *B* located in the lower part of a casing *C*. This casing contains a clock mechanism and its hour hand shaft bears a rotary dial *E* of card board divided into the hour subdivisions, such card board dials being arranged in sets and interchangeably attached to the hour hand shaft, so that when a record is made on one it can be removed and a fresh one substituted therefor.

Just above the electro-magnet *B* there is arranged an armature *e* attached to the end of a lever *D* fulcrumed upon a stationary center *g* and having on the side opposite the armature a weight *h* which normally rests upon a stop *f* and holds the armature *e* a predetermined distance above the poles of the electro-magnet *B*. To the lever *D* is rigidly attached an upwardly projecting arm *F* carrying at its upper end a pencil or pen *p* which presses against the rotating dial and is adapted to trace a record thereon.

Now assuming that it is 3 o'clock and a block of ice has just been slid over the chute, the closure of the electric circuit causes the armature *e* to be momentarily attracted by the electro-magnet and the lever *D* and tracer arm *F* are thrown to the dotted line position, causing the pen or pencil to trace a record toward the center of the dial and back again, thus plainly showing that at 3 o'clock a block of ice was drawn and put into the vault and making a permanent record thereof. In like manner each block of ice is registered at the time of its transfer.

The recording instrument may be located either in the ice factory, or in an office at any remote point from the ice factory by simply extending the circuit wires to the desired point.

We claim—

A device for recording the passage of blocks of ice, consisting of an inclined ice chute, a flat metallic strip of spring metal secured at one end to the bottom of said chute, and having its free end extending toward the lower end of said chute, a binding post located ad-



jacent to the free end of said strip and arranged for contact with the latter, a time dial with means for rotating it, an electro-magnet, a lever with armature and trace arm, and a  
5 tracing point bearing on the time dial, a weight attached to said lever, and connections between said metallic strip and said electro-magnet, whereby the latter is operated when

the strip is forced against its contact by the downward passage of a block of ice.

WILLIAM DOSS CAIN.

WADE HAMPTON WILLIAMS.

Witnesses:

S. H. KYLE,

ROBT. CROCKETT.