(No Model.)

W. FIX & C. HERRMANN.

DISTRICT TELEGRAPH CALL BOX.

No. 304,518. Patented Sept. 2, 1884.

Fig. 1.

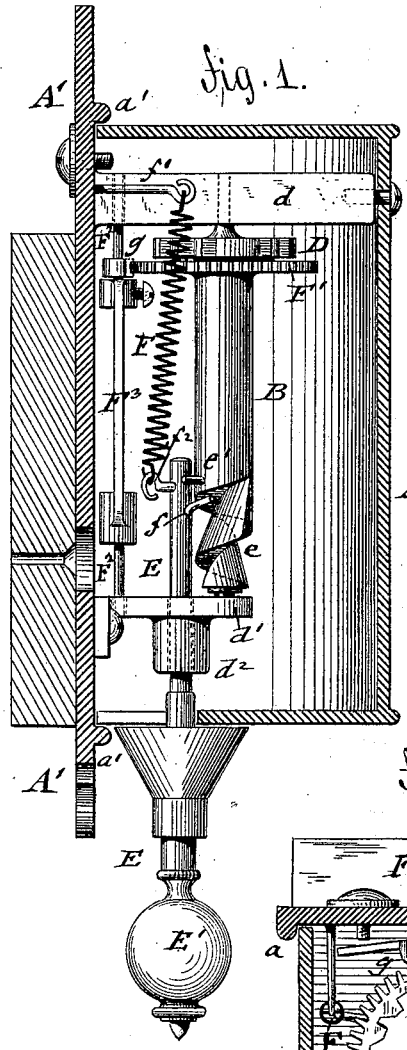


Fig. 2.

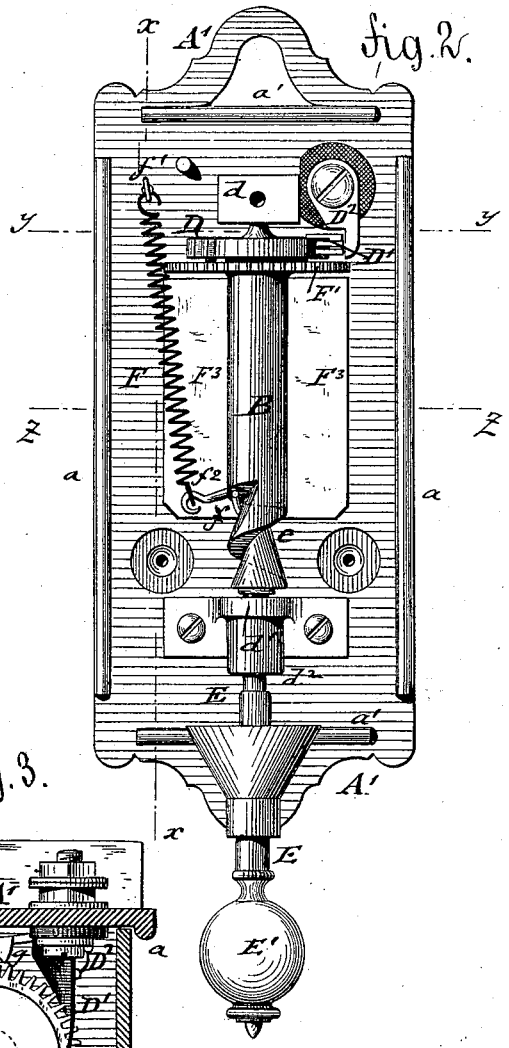


Fig. 3.

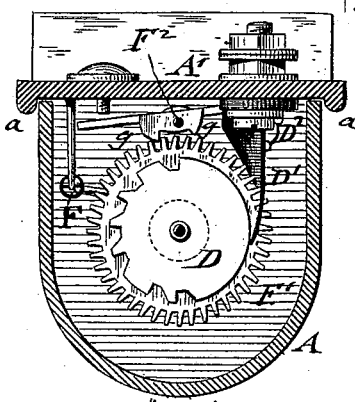
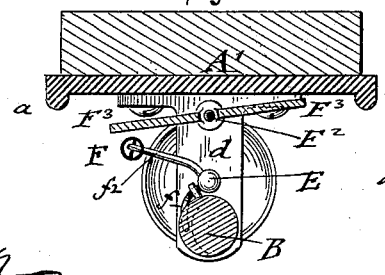


Fig. 4.



WITNESSES:

John R. Rosenbaum.

Carl Kapp

INVENTORS

William Fix

and Charles Herrmann

BY Lapsley & Rogener

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM FIX AND CHARLES HERRMANN, OF NEW YORK, N. Y.

DISTRICT-TELEGRAPH CALL-BOX.

SPECIFICATION forming part of Letters Patent No. 304,518, dated September 2, 1884.

Application filed March 13, 1884. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM FIX and CHARLES HERRMANN, of the city, county, and State of New York, have invented certain new and useful Improvements in District-Telegraph Call-Boxes, of which the following is a specification.

This invention has reference to an improved district-telegraph call-box, in which the expensive train of gear-wheels by which motion has heretofore been transmitted to the circuit-breaking wheel is substituted by a simpler actuating mechanism; and the invention consists of a circuit-breaking wheel that is applied to a vertical shaft turning in bracket-bearings of the inclosing-casing, said shaft having at one end a spiral groove flaring at one side, into which projects a pin at the inner end of a spring-actuated slide-rod having an exterior knob. An escapement-wheel on the shaft of the circuit-breaking wheel is engaged by pallets of a vertical spindle, having weighted wings that retard the motion of the circuit-breaking wheel. A stop-pin on the shaft of the circuit-breaking wheel forms contact with the slide-rod when the rotation of the circuit-breaking wheel has been completed.

In the accompanying drawings, Figure 1 represents a vertical transverse section on line *x x*, Fig. 2, of our improved call-box for district telegraphs. Fig. 2 is a front elevation of the same with the casing removed; and Figs. 3 and 4 are horizontal sections, respectively, on line *y y* and *z z*, Fig. 2.

Similar letters of reference indicate corresponding parts.

A in the drawings represents the semi-cylindrical cover of our improved call-box for district telegraphs, which is attached to a cast-iron rear plate, A′, having side and end flanges, *a a′*. The cover A is closed at the ends. At the interior of the casing A A′ is supported in bearings of brackets *d d′* of the rear plate, A′, a cylindrical shaft, B, to one end of which the circuit-breaking wheel D is applied. A circuit-breaking contact-spring, D′, is attached to an insulated lug, D^2, that is connected to the line in the usual manner. The lower end of the cylindrical shaft B has a spiral groove, *e*, which is flaring at one side, and immediately above said groove a stop-pin, *e′*. A slide-rod, E, is guided in a sleeve, d^2, of the lower bracket, *d′*, and an opening of the bottom of the box A, and provided at its outer end with a pendent knob, E′. A laterally-extending pin, *f*, projects from the inner end of the slide-rod E into the spiral groove of the cylindrical shaft B. To a fixed hook, *f′*, of the rear plate, and a hook, f^2, at the inner end of the slide-rod E, is further applied a strong spiral spring, F, which actuates the entire mechanism by returning the slide-rod E into normal position within the box after it has been pulled out by the knob E′. When the slide-rod E is pulled outwardly by the knob E′, the pin *f* of the slide-rod E moves over the flaring side of the spiral groove *e* of the shaft B without turning the same around its axis, while at the moment when the knob E′ is released the spiral spring F acts upon the slide-rod E, and imparts by the pressure of the laterally-projecting pin *f* on the abutting side of the spiral groove *e* an axial motion to the shaft B and the circuit-breaking wheel D, until the slide-rod E is drawn in again into the path of the stop-pin *e′*, which abuts against the slide-rod and stops the shaft B, as shown in Fig. 1. The spiral groove *e* of the shaft B is of such length that a full revolution of the circuit-breaking wheel is produced by the action of the slide-rod on the same. To prevent the too rapid turning of the circuit-breaking wheel D, an escapement-wheel, F′, is arranged above the wheel D on the shaft B, the teeth of which are alternately engaged by oscillating pallets *g g* of a spindle, F^2, that turns in bearings of the brackets *d d′*. The spindle F^2 is provided with wings F^3, of suitable weight, the inertia of which retards the motion of the pallets, so that the circuit-breaking wheel is prevented from completing too quickly its rotation.

As nearly all the parts of the call-box are of cast metal and quickly assembled, the same can be made at comparatively small expense, especially as the coil-spring and motion-transmitting gearing of the call-boxes heretofore in use are dispensed with.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination of a cylindrical shaft having a circuit-breaking wheel at one end

and a spiral groove at the other end, said groove being flaring at one side, with a spring-actuated slide-rod having a pin at its inner end and a knob at its outer end, said pin engaging the spiral groove, and being adapted to pass over the same in one direction without turning the shaft, while imparting an axial motion to the same when moving in opposite direction, substantially as set forth.

2. The combination of a cylindrical shaft, B, having a circuit-breaking wheel, D, at one end, a spiral groove, *e*, at the other end, and a projecting stop-pin, *e'*, above the spiral groove *e*, with a spring-actuated slide-rod, E, having an exterior knob, E', and a pin, *f*, projecting into the spiral groove of the shaft, said groove being flaring at one side, so as to admit the passage of the pin *f* in one direction, while causing the engagement of the pin *f* with the groove *e*, and the rotating of the shaft B when the slide-rod E is moved in opposite direction until stopped by the pin *e'*, substantially as set forth.

3. The combination of a cylindrical shaft having a circuit-breaking wheel at one end and a spiral groove at the other end, a spring-actuated slide-rod adapted to clear said groove when moved in one direction and to engage the groove and rotate the shaft when moved in opposite direction, and an escapement mechanism whereby the rotation of the shaft and circuit-breaking wheel is retarded, substantially as set forth.

4. The combination of a cylindrical shaft, B, having a circuit-breaking wheel, D, at one end, a spiral groove, *e*, flaring at one side at the other end, and a stop-pin, *e'*, a spring-actuated slide-rod, E, having a pin, *f*, engaging said groove *e*, an escapement-wheel, F', pallets *g g*, and a spindle, F^2, having weighted wings F^3, substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

WILLIAM FIX.
CHARLES HERRMANN.

Witnesses:
PAUL GOEPEL,
SIDNEY MANN.