S. WEEKS.

Compound Switch for Fire-Alarm Telegraphs.

No. 161,721. Patented April 6, 1875.

Fig. 1

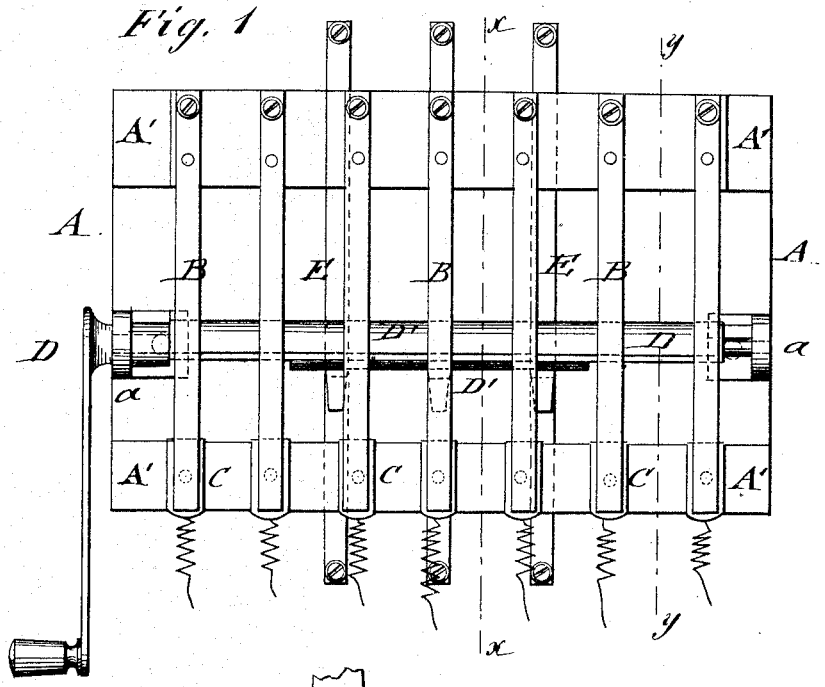


Fig. 2

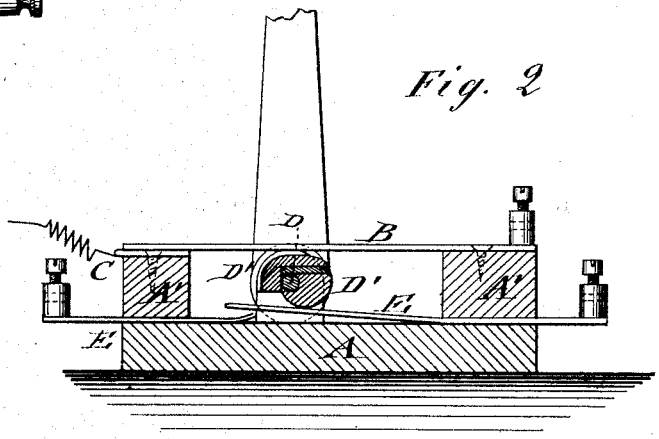
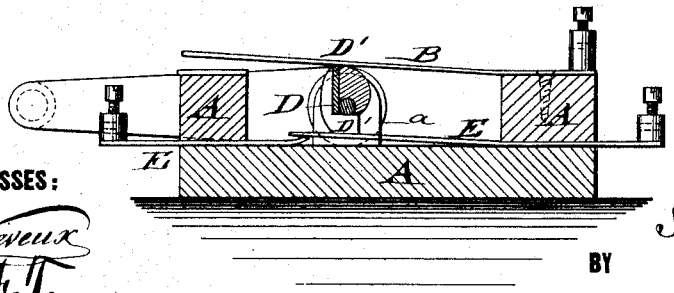


Fig. 3



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SAMUEL WEEKS, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN COMPOUND SWITCHES FOR FIRE-ALARM TELEGRAPHS.

Specification forming part of Letters Patent No. **161,721**, dated April 6, 1875; application filed January 11, 1875.

To all whom it may concern:

Be it known that I, SAMUEL WEEKS, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and Improved Compound Switch for Fire-Alarm Telegraph, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view of my improved compound switch for fire-alarm telegraphs; Figs. 2 and 3, respectively, vertical transverse sections of the same on the lines *x x* and *y y*, showing the switch as set for closing the fire-alarm circuit, and also as thrown out of the main circuit.

Similar letters of reference indicate corresponding parts.

My invention relates to improvements in compound switches for fire-alarm-telegraph purposes, so that by one single movement a whole series of switches may be thrown in or out of circuit in an easy and convenient manner, without requiring the time consuming shifting or manipulating of the separate switches before the bells are rung, as at present.

My invention consists of a series of metallic spring-fingers, which are secured to one side of the switch-frame, and thrown by their free ends in or off contact with metallic plates at the other side of the switch-frame by the action of a pivoted insulated crank-shaft with cam-pieces, which close simultaneously with the opening of the upper fingers by one cam-piece, another set of spring-fingers for establishing the galvanometer, test battery, and local currents, while breaking them, when closing the upper fingers for giving the bell-alarm.

In the drawing, A represents the switch-frame, which is provided with parallel side pieces A′, for applying the upper switch-fingers in a raised position above the lower or local switch parts. A series of metallic spring-fingers, B, are attached to the top of one piece, A′, and extended laterally to the opposite piece, where their free ends may be brought in contact with metallic plates C, which are connected with the repeater or instrument through which the bells are struck for an alarm. The fixed ends of the fingers B are connected by the usual wire-fastening screws with the main alarm-battery, and produce, by the contact of the free ends of the fingers with the repeater, the striking of the alarm-bells. An insulated crank-shaft, D, is pivoted to end bearings *a* of switch-frame, being arranged in longitudinal direction below the upper fingers, and constructed with projecting cam parts D′ at diametrically opposite points—one to be thrown into contact with the upper fingers for raising them and breaking the main alarm-circuit, the other to press at the same time on spring-fingers E, arranged near the bottom of the switch-frame. These fingers E are fastened to the side pieces A′, and joined at their free ends, nearly midway between the same, by the action of the lower cam D′.

The lower spring-fingers E close the circuits of the main galvanometer, local and test batteries, when the upper finger contacts are broken, and open these circuits by turning the crank-shaft D, so that the cams D′ are intermediately between the upper and lower fingers, and allow the simultaneous closing of the alarm-battery circuit by the upper contacts. A mere quadrantal turn of the crank-shaft throws all the switches of the fire-alarm stations instantly into contact, and produces the striking of the fire-bells without the least delay, while the return motion of the crank-shaft breaks the main circuit and closes the local circuit, forming thus a very useful, simple, and effective switching-instrument for fire-alarm-telegraph purposes.

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

A compound switch for fire-alarm telegraphs, for throwing by one movement a series of switches into circuit, composed of a series of upper switch-fingers, establishing and breaking circuit of main alarm-battery, and of a set of lower spring-fingers for closing and opening the local batteries, in combination with an intermediate insulated crank-shaft, with opposite non-conducting cam-extensions, so arranged that a turn of the crank-shaft causes simultaneously the contact of the upper fingers and the disconnecting of the lower, or the breaking of contact of the upper and the closing of the lower, substantially in the manner and for the purpose set forth.

SAMUEL WEEKS.

Witnesses:

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