

F. B. PERRY.
SIGNAL SET.

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1,355,259.

Patented Oct. 12, 1920.

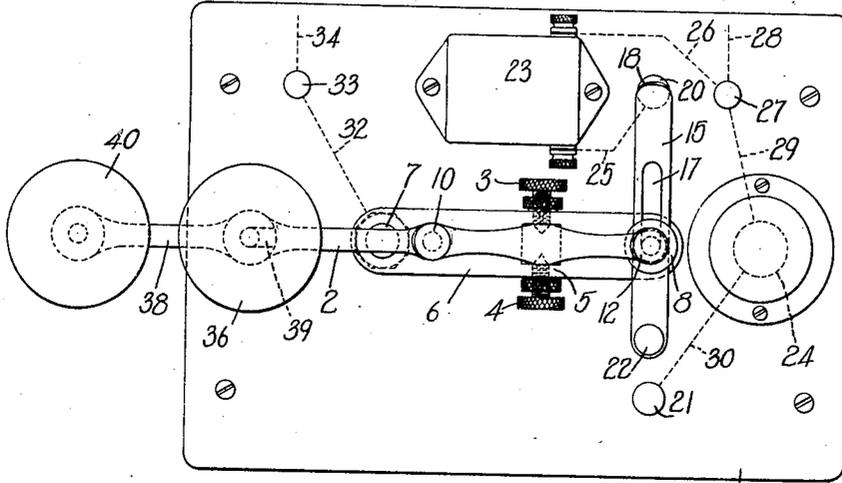


Fig. 1.

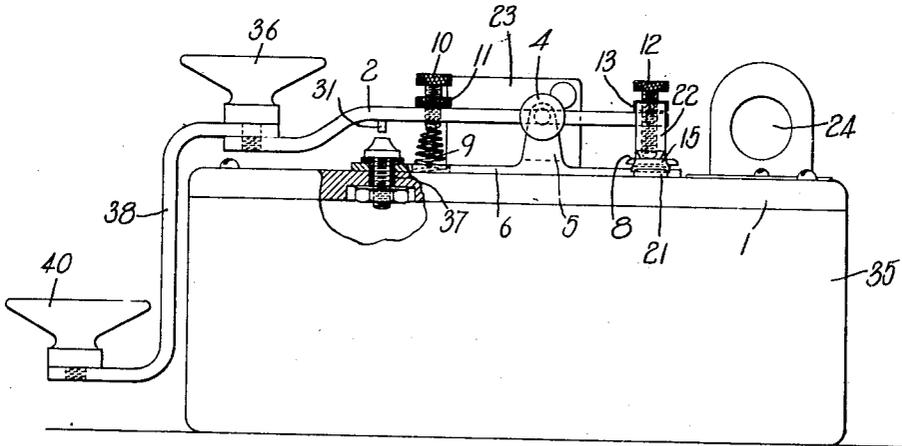


Fig. 2.

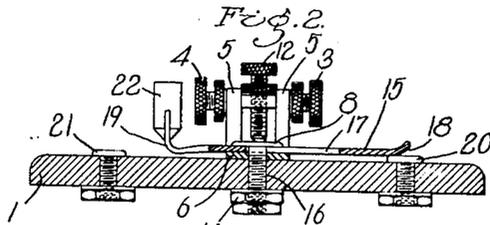


Fig. 3.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK B. PERRY, a citizen of the United States, residing at Newton Center, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Signal Sets, of which the following is a specification.

This invention relates to improvements in signaling instruments and has for its object to provide a compact, simple and neat instrument for instructive purposes in the telegraphic art.

Another object of the invention is to provide a simple switch adapted to be used to electrically connect predetermined instruments with the operating key.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims.

Referring to the drawings:

Figure 1 is a plan view of a signaling instrument embodying my invention.

Fig. 2 is a side elevation of the same.

Fig. 3 is a detail sectional view taken substantially in a vertical plane extending transversely of Fig. 1 through the centers of the contacts 20 and 21 and longitudinally of the switch 15.

Like numerals refer to like parts in all views of the drawings.

In the drawings, 1 is a base, constructed preferably of insulating material and upon which the various elements embodying the instrument are mounted, including a transmitting key 2, which is pivotally mounted upon center screws 3 and 4 arranged in ears 5 projecting upwardly from a plate 6, which is secured by screws 7 and 8 to the base 1. The key 2 is recessed to receive the pivotal screws 3 and 4 which preferably have conical ends adapted to provide ample support for said key without necessitating the formation of extensions at opposite sides of the axial portion of said key.

The screws 3 and 4 are preferably adjustable relatively to each other to compensate for wear. The key 2 is adapted to be rocked upon the pivotal screws 3 and 4 by means of a thumb piece 36 which is screwed to one end thereof, and the movement of said key is limited in one direction by the en-

gagement of a contact 31 secured to said key with an electric contact, in the present instance consisting of the screw 7, which secures the plate 6 to the base 1 directly beneath the contact 31, said screw 7 being insulated from said plate 6 by an insulating bushing 37.

A spring 9 is interposed between the key 2 and said base 1 and is adjustable relatively thereto by means of a screw 10 which has screw threaded engagement with said key and engages the upper end of said spring. A nut 11 is adapted to lock said screw in its adjusted position. Upon the opposite side of the axis of said key from that engaged by said spring 9 is a stop screw 12 also having screw threaded engagement with said key and adapted to limit the pivotal movement of said key by said spring, and a nut 13 is adapted to secure the screw 12 in its adjusted position.

The screw 8, by means of which one end of the plate 6 is secured to the base 1, is preferably disposed so as to be engaged by the stop screw 12 of the key, and this screw 8 extends downwardly through the base and has a nut 14 for securing the same in position on said base.

The function of the screw 8 is two fold, that is, in addition to the securing of said plate 6 to the base, it is also adapted to secure a switch 15 in electrical contact with said plate 6. The shank 16 of the screw 8 passes through a slot 17 in said switch 15 and the head of said screw is preferably large enough to provide sufficient friction to prevent said switch from moving without assistance.

Said switch is preferably elongated and disposed substantially at right angles to the plate 6, opposite ends of said switch being turned slightly upward, as at 18 and 19, to ride upon electrical contacts 20 and 21 respectively secured to the base 1 and at such distances from the screw 8 that said switch may be moved into a central position where it will engage neither one of the contacts 20 and 21, but said switch may be moved either into engagement with the contact 20 or into engagement with the contact 21 so as to provide electrical connection between said contacts and said plate.

To facilitate the movement of said switch,

a finger piece 22 is secured to one end thereof, preferably the end 19, which is extended upwardly a considerable distance to support said finger piece. Said switch is also permitted both to be pivotally and slidably moved between the head of the screw 8 and said plate so that by swinging the same to one side all danger of contact between one or the other of the contact members 20 and 21 will be prevented, which is especially important when the instrument is not in use.

When the same is to be operated, said switch may be reciprocated to engage one or the other of said contacts. The reason for providing the switch 15 and the two contact members 20 and 21 is to enable the operator to connect the key either with an audible indicator, such as a buzzer 23, or a visible signaling member, such as a hooded electric light 24, so that the pupil may become proficient in receiving messages either by ear or by sight.

The preferred method of connecting the buzzer 23 and the light 24 with said terminals is as follows:

The buzzer 23 has a conductor 25 extending from one of its terminals to the electric contact 20. The other terminal of said buzzer is connected by a conductor 26 preferably with the binding post 27, which may be connected by means of a conductor 28 to any suitable source of supply. The light 24 is connected by a conductor 29 with the binding post 27 and through another conductor 30 with the electric contact 21.

When the switch 15 is moved so as to engage the contact 20, as shown in Figs. 1 and 3, and the key 2 is depressed to cause the contact 31 to engage the electric contact 7, an electric current will pass through the binding post 27, conductor 26, buzzer 23 and switch 15 to the plate 6, thence through the key 2, electric contact 7, through a conductor 32, which extends from said contact 7 to the binding post 33, and this binding post is, in turn, connected by a conductor 34 with the source.

In a similar manner, when the switch 15 is moved into engagement with the contact 21 a current will pass from the binding post 27 through the light 24, conductor 30 and switch 15 to said key and produce thereby a visible signal, where before an audible signal was produced.

In the present structure the base 1 is mounted upon a container 35 especially provided to contain a battery for the purpose of supplying electric currents to the indicators hereinbefore described, the poles of which battery may be connected to the binding posts 27 and 33. When this container is employed, the thumb piece 36 will be elevated to such a height that it will be inconvenient and awkward for the operator and to overcome this disadvantage the key 2 is

provided with an extension 38, which is preferably slotted at 39 and adapted to be inserted between the thumb piece 36 and the end of the key 2 and firmly secured there-to. This extension projects over the base 1 downwardly to a point near the bottom of the container 35 and has secured at the lower end thereof a second thumb piece 40, thus bringing said thumb piece 40 close to the surface upon which the arm of the operator rests during the operation of the instrument.

Having thus specifically described my invention what I claim and desire by Letters Patent to secure is:

1. A signaling instrument having, in combination, a plate, a key pivotally mounted upon said plate, a base, an electric contact on said base, a switch pivotally connected with said plate and also adapted to slide longitudinally into and out of engagement with said electric contact to make and break electric communication between said electric contact and said plate, and means for securing said plate to said base, said means being also adapted to secure said switch in slidable electrical contact with said plate.

2. A signaling instrument having, in combination, a base, a plate on said base, screws adapted to secure said plate to said base, a switch pivoted to and slidable longitudinally upon said plate adapted to be held in electrical contact therewith by one of said screws, a plurality of electric contacts on said base adapted to be engaged by opposite ends of said switch to provide electrical connection between said electric contact and said plate, a key pivoted upon said plate, and a second electric contact on said base, adapted to be engaged by said key to provide electrical connection between said key and said plate.

3. A signaling instrument having, in combination, a base, a battery container arranged beneath said base, a key pivotally mounted upon said base, an electric contact on said base, adapted to be engaged by said key, an indicator having electrical connection with said key and said electric contact, adapted to be energized by the engagement of said key with said electric contact, a detachable extension on said key, adapted to project over the end of said base downwardly and terminating adjacent to the bottom of said container and a finger piece secured to the lower end of said extension.

4. A signaling instrument having, in combination, a plate, screws adapted to fasten said plate, one of said screws constituting an electric contact member, means for insulating said electric contact member from said plate, a key pivotally mounted upon said plate, adapted to contact with said electric contact member, a plurality of signaling devices, and a switch pivotally connected

with said plate by the other of said screws
and also adapted to slide longitudinally upon
said plate beneath the head of said last-
named screw and adapted to provide elec-
5 trical connection between each of said signal-
ing devices and said plate.
In testimony whereof I have hereunto set

my hand in presence of two subscribing wit-
nesses.

FRANK B. PERRY.

Witnesses:

CHARLES S. GOODING,
SYDNEY E. TAFT.