C. N. BROWN.

SIGNAL.

APPLICATION FILED JAN. 14, 1908.

914,235. Patented Mar. 2, 1909.

2 SHEETS—SHEET 1.

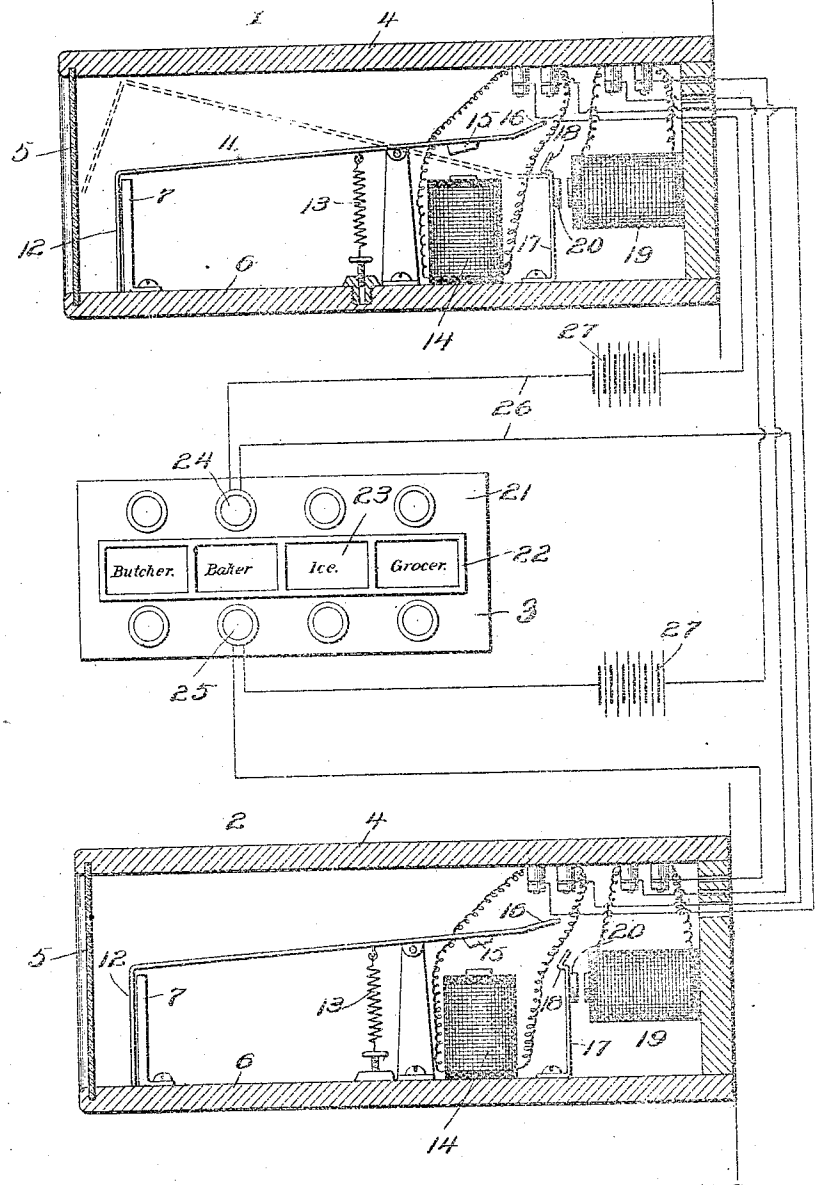


Fig. 1.

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Fig. 2.

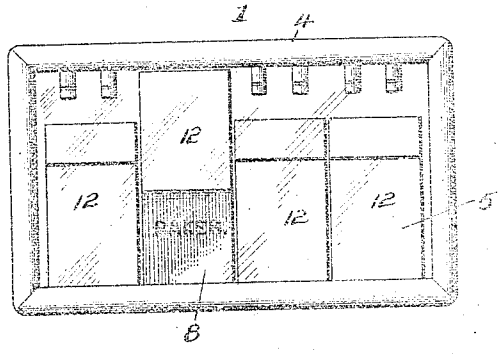
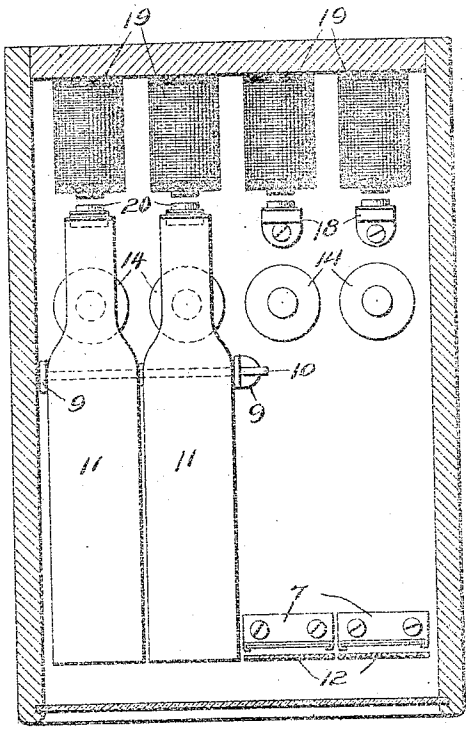


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SIGNAL.

No. 914,235. Specification of Letters Patent. Patented March 2, 1909.

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To all whom it may concern:

Be it known that I, CLAUDE N. BROWN, a citizen of the United States, residing at Richmondville, in the county of Schoharie and State of New York, have invented new and useful Improvements in Signals, of which the following is a specification.

The invention relates generally to an improvement in signaling devices, and particularly to a signaling apparatus primarily adapted for domestic use and serving as a convenient means for notifying one or more tradesmen that their services or goods are required.

The main object of the present invention is the production of a signaling apparatus including duplicate signaling devices located respectively at the operating point and at the receiving point and a controlling device located at the operating point, the controlling device serving to simultaneously and similarly operate both signaling devices, so that an identical signal is indicated at both the operating and receiving point.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a view illustrating both signaling devices and the controlling device, the controlling device being shown in elevation and the signaling device partly in section and partly in elevation. Fig. 2 is a front elevation of one of the signaling devices. Fig. 3 is a longitudinal section partly in plan of one of the signaling devices.

Referring particularly to the accompanying drawings, it will be noted that, as shown in Fig. 1, the present improvement includes distinct signaling devices 1 and 2, the former, which may be hereinafter termed the test device, is located at the operating point and serves to indicate to the operator the condition and operation of the remote signaling device and the latter, which may be hereinafter termed the call device, is located at the remote point readily accessible to the tradesmen or others for whom the apparatus is designed. With the signaling device is used a controlling device 3, also located at the operating point, and by means of which both the test and call devices are controlled.

As the call and test devices are of duplicate construction a detailed description of one will suffice for both. In structure each of said devices includes a casing 4, preferably of rectangular construction, though any desired shape and size is contemplated. The casing is preferably a wooden structure of such ornamental character as may be desired, the face or forward wall of the casing being preferably formed by a glass or other transparent section 5. Within the casing immediately in rear of the forward wall there is secured to the base or bottom 6 a series of uprights 7, preferably arranged in alinement transverse the casing and in an appropriate number corresponding to the number of calls for which the machine is adapted.

The uprights 7 may be of any desired form, being preferably metallic strips or plates, as shown, formed on their front faces with means, such as flanges or clips, adapted for the removable insertion of cards 8, the arrangement being such that the cards are thus supported in upright position and in a manner to render the face of the cards freely visible through the transparent wall 5 of the casing. These cards are separately inscribed to indicate any desired data, in the present instance the cards bearing the names of different tradesmen, as shown. In rear of the uprights 7, the base 6 is provided with vertically extending posts 9, in which is supported a transversely disposed shaft 10, the shaft extending transverse and practically of the entire width of the casing. Mounted on the shaft are a series of independently movable shutters 11, each of which preferably comprises a metallic strip of a length to extend in both directions beyond the shaft 10, the forward end of the strip extending slightly in advance of the uprights 7 and having a downwardly turned end 12 of a size to overlie and conceal the particular card when the shutter is in closed or normal position.

It is understood, of course, that any desired number of uprights 7 are contemplated, and that there is provided for each upright an independent shutter 11, which shutters, when in their normal position, will through the medium of the depending portion 12 effectually conceal the card carried by the particular upright. Between the upright and shaft 10 each shutter is provided with a coil spring 13 terminally connected to the shutter and to the base 6, whereby the shutter is normally maintained in closed or card concealing position. Directly in rear of the

shaft 10 there is secured upon the base 6 of the casing a series of electro-magnets 14, one of such magnets being disposed immediately beneath the rearward extension of each shutter. Secured upon the under surface of the rearward extension of each shutter is a contact block or armature 15, designed to be attracted by the core of the magnet upon the energization of the latter, whereby the shutter is moved upon its pivotal shaft 10, it being understood that the parts are so arranged that in the movement of the shutter under the influence of the electro-magnet the card sealing section 12 of the shutter will be elevated from in front of the particular card and expose the same to view through the wall 5 of the casing. The rearward extension of the shutter, which is preferably slightly reduced in width for convenience is terminally formed with a slightly upward inclined lip 16, and secured upon the base 6 in position to receive and engage the lip 16 is a spring finger 17, which at an appropriate point in its length is formed with an offset shoulder or catch 18, designed to receive the lip 16 of the shutter and retain the same in elevated position after actuation of the shutter by the electro-magnet 14. The rear wall of the casing is provided with a series of electro-magnets 19, one for each shutter, said electro-magnets projecting forwardly from the rear wall and having their cores disposed respectively directly in rear of the spring fingers 17. Each of the fingers 17 is also provided on its rear surface with a contact block or armature 20, arranged and designed to be attracted by the core of the electro-magnet 19 upon the energization of the latter, the movement of the spring finger under the influence of the electro-magnet serving to release the lip 16 of the particular shutter and permit the shutter, under the influence of gravity and the coil spring 13, to return to normal or card concealing position.

The controlling device is in the form of a rectangular base 21, centrally of which is secured a plurality of card receiving frames 22, designed respectively to removably receive cards 23, which cards are inscribed to correspond with the card 8 in the test and call devices. Above and below the frames 22, the base 21 is provided with push buttons 24 and 25 respectively, the former being in electrical circuit with the electro-magnets 14 of both the test and call apparatus, while the latter is in electrical circuit with the electro-magnets 19 of both the test and call apparatus, it being understood, of course, that the push buttons 24 and 25, corresponding to a particular card on the controlling device, are in electrical circuit with the particular electro-magnets controlling the shutter arranged to expose or conceal the same card in the test and call devices. The circuits, including the usual conductors 26, are energized by batteries 27 in the usual manner, said circuits being of all metallic construction and broken only at the respective push buttons.

With the parts constructed and arranged as shown the operation of my improved signaling apparatus is as follows, it being understood that the controlling device 3 and test device 1 are located at the operating point, as in the kitchen of a house, while the call device 2 is located at a remote point accessible to the tradesmen, as in the front vestibule or similar position. Assuming that the house holder desires to give an order to the baker, the push button 24 corresponding to the card inscribed "Baker" of the controlling device 3 is pressed, with the effect to energize those electro-magnets 14 of both the test and call devices which are adapted to influence the particular shutters coöperating with the particular card 8, which is also inscribed "Baker". The energization of these electro-magnets will, through the armatures 15, depress the rearward extensions of the particular shutters and elevate the depending portions 12 from in front of the particular cards with the effect to render these cards visible through the transparent walls 5 of the casings. The operation of the shutters will cause the lips 16 thereof to engage the latches 18, with the effect to hold these shutters elevated with the cards exposed. The tradesman called for having noted the signal for his presence and received the order or other instructions, the button 25 arranged below the card "Baker" of the controlling device is pressed with the effect to energize the particular electro-magnets 19 of both the call and test devices, thereby withdrawing the catches 18 from engagement with the shutters and releasing the latter to the influence of the spring 13 for return to normal or card concealing positions. By the use of a test and call device the operator can at any time determine the condition of the remote call device by an inspection of the test device, thereby becoming advised as to whether or not the proper calls have been made and are indicated.

The device is particularly appropriate for apartment houses, as by its use any householder can indicate a desire for the services or goods of any particular tradesman, and the latter learning the desire for his goods by an inspection of the call device can communicate with the particular apartment through the convenient speaking tube or telephone and thereby receive orders without the delay or annoyance incident to a personal visit to the apartment. Time and labor incident to the usual method of conveying orders are thus saved, as is also the unnecessary visits of tradesmen whose goods are not desired at the particular time. The signaling device may be of any size and

may be adapted for any number of tradesmen or other purposes, neither the size, form, nor the material of which they are constructed forming any part of the present invention.

Having thus described the invention what is claimed as new, is:—

1. A signaling apparatus including a signaling device and a controlling device, the signaling device comprising a casing having a series of independent distinctly inscribed cards, a series of shutters normally concealing the inscription on the cards, an electro-magnet for operating each shutter, a catch for locking each shutter in operated position, and an electro-magnet for releasing the catch, the controlling device comprising a series of cards corresponding to the cards in the signaling device, a contact means for each card of the controlling device energizing one of the electro-magnets in the signaling device, and a contact device for each card of the controlling device for energizing the remaining electro-magnet of each shutter in the signaling device.

2. A signaling apparatus comprising a signaling device, a controlling device, and a test device, the signaling device comprising a casing having a series of independent distinctly inscribed cards, a series of shutters normally concealing the inscription on the cards, an electro-magnet for operating each shutter, a catch for locking each shutter in operated position, and an electro-magnet for releasing the catch, the controlling device comprising a series of cards corresponding to the cards in the signaling device, a contact means for each card of the controlling device energizing one of the electro-magnets in the signaling device, and a contact device for each card of the controlling device for energizing the remaining electro-magnet of each shutter in the signaling device, said test device being arranged adjacent and operated by the controlling device for indicating the operation of the signaling device.

In testimony whereof I affix my signature in presence of two witnesses.

CLAUDE N. BROWN.

Witnesses:

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JOEL C. WALDORF.