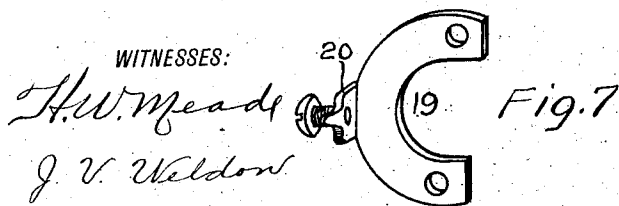
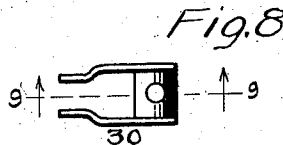
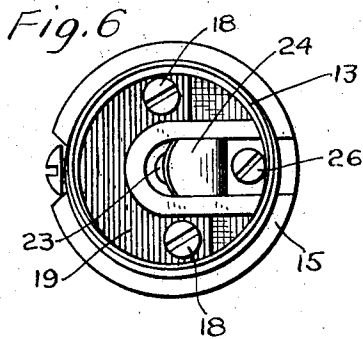
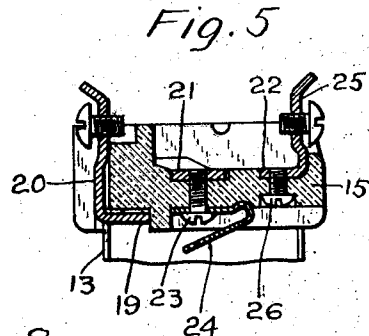
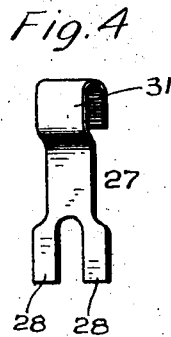
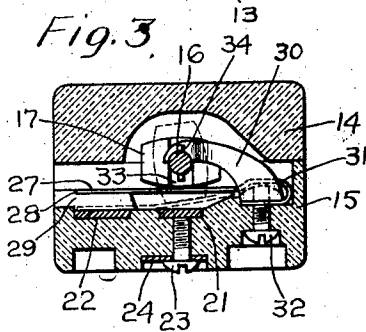
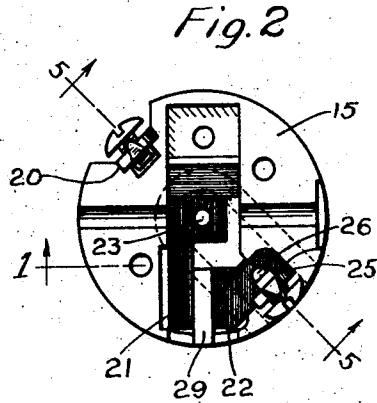
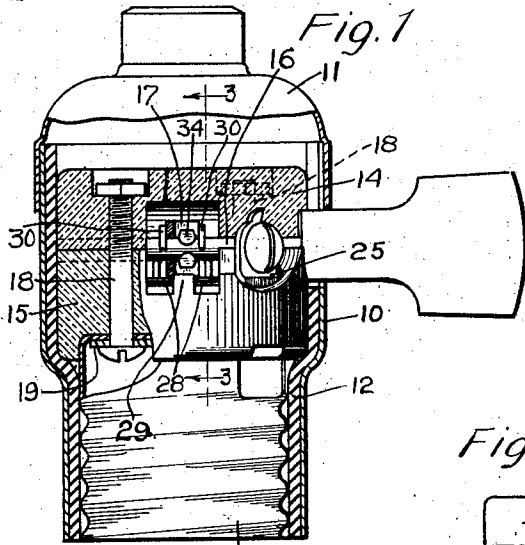


H. HUBBELL.
KEY SOCKET.
APPLICATION FILED OCT. 3, 1911.

1,048,168.

Patented Dec. 24, 1912.



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KEY-SOCKET.

1,048,168.

Specification of Letters Patent.

Patented Dec. 24, 1912.

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To all whom it may concern:

Be it known that I, HARVEY HUBBELL, a citizen of the United States, residing at Bridgeport, county of Fairfax, State of Connecticut, have invented an Improvement in Key-Sockets, of which the following is a specification.

This invention has for its general object to simplify and cheapen the construction and to improve the operation of key sockets and especially to provide a key socket of greatly increased capacity, in which all the mechanism shall be carried by one insulating block, the other insulating block serving merely as a cover therefor, and a single bracket serving to retain both the shaft and the spring contact in place. I am thus enabled to produce an exceedingly simple socket in which there are few parts and the parts are inexpensive to produce and easy to assemble, and in which the mechanism is always accessible for adjustment and trial in assembling.

With these and other objects in view I have devised the novel double break key socket which I will now describe, referring to the accompanying drawing forming a part of this specification and using reference characters to indicate the several parts.

Figure 1 is a view partly in elevation and partly in section, illustrating the construction and operation of my novel socket; Fig. 2 a plan view of the lower insulating block with the shaft, bracket and spring contact removed; Fig. 3 a section on the line 3—3 in Fig. 1, looking in the direction of the arrows; Fig. 4 a perspective of the spring contact detached; Fig. 5 a section on the line 5—5 in Fig. 2, looking in the direction of the arrows; Fig. 6 an inverted plan view with the socket shell removed; Fig. 7 a perspective of the yoke piece detached; Fig. 8 a plan view of the bracket detached; and Fig. 9 is a section of the bracket on the line 9—9 in Fig. 8.

10 denotes the socket shell, 11 the cap, 12 the insulating lining, 13 the screw shell and 14 and 15 the insulating blocks, which I term for convenience upper and lower insulating blocks respectively. The insulating blocks lie in contact with each other and are provided with complementary half-grooves in which is journaled a shaft 16 carrying a snap cam 17. The insulating blocks are secured together by screws 18 which also pass through a yoke piece 19 and through the bot-

tom of the screw shell. This yoke piece has formed integral therewith a binding post 20.

21 and 22 denote contact plates upon the upper face of the lower insulating block. Contact plate 21 is secured in place by means of a screw 23 which also secures the center contact 24 in place. Contact plate 22 has formed integral therewith a binding post 25 and is secured in place by a screw 26.

27 denotes a spring contact, the free end of which is bifurcated to form two contact fingers 28 which are adapted to engage contact plates 21 and 22. It should be noted that the contact plates and also the contact fingers are separated by an insulating barrier 29 which is formed integral with the lower insulating block.

30 denotes a double bracket, the arms of which overlie the shaft and retain it securely in place, said arms being shown as provided with half sockets which receive the shaft (see Fig. 3). The rear end of the spring contact is offset and recurved to form a loop 31 which receives the base of the bracket, by which it is retained in place, as clearly shown in Fig. 3.

32 denotes a screw by which the bracket, and with it the spring contact, is secured to the lower insulating block.

When the contact fingers are in engagement with contact plates 21 and 22 the circuit between center contact 24 and binding post 25 is completed. When, however, the spring contact is permitted to rise to carry the contact fingers simultaneously out of engagement with the contact plates, there results a double break in the circuit, that is between one finger and contact plate 21 and between the other finger and contact plate 22. This double break in connection with the insulating barrier by which the contact plates and the contact fingers are separated makes it possible to give to a socket adapted to carry a certain potential a much more compact arrangement of parts than has heretofore been possible, or, stated differently, with a socket of a given size embodying my present invention it is possible to employ a current of much higher potential, with the same separation of contacts, than is possible with sockets as ordinarily constructed. The spring contact is normally raised, as in full lines in Fig. 3, by its own resiliency. In order to depress the spring contact to the position shown in dotted lines in Fig. 3 and close the circuit, I provide snap cam 17

which is loosely mounted on the shaft and is provided with a recess 33 which loosely receives lugs 34 projecting from the shaft. The contact plates, spring contact and bracket lie in recesses in the upper face of the lower insulating block. The cam is retained against longitudinal movement on the shaft by the arms of the bracket between which it lies (see Fig. 1).

Having thus described my invention I claim:

1. A key socket comprising an insulating block, spaced apart contacts carried thereby, a spring contact plate arranged to engage said contacts, a rotatable shaft also supported by said block, a snap cam loosely supported by said shaft and arranged to operate said contact plate, and means independent of the supporting means for said shaft for clamping one end of said contact plate against one face of said block, said clamping means also including means for preventing endwise movement of said snap cam.

2. A key socket comprising an insulating block, contacts carried by said block, a spring contact plate, a shaft rotatably supported by said insulating block, a bracket secured to said block and independent of the support for said shaft, said bracket being provided with spaced apart arms, one end of said spring contact plate being clamped between the bracket and said block, the other end of said contact plate being arranged to engage with said contacts, and a snap cam loosely mounted on said shaft between the arms of said bracket.

3. A key socket comprising an insulating block, contacts carried by said block, a spring contact plate, a shaft mounted in said block, a bracket secured to said block and independent of the support for said shaft, said bracket having a base and spaced apart arms, a securing screw carried by said block and engaging said base, one end of

said contact plate being clamped between said block and base, and a snap cam carried by said shaft and located between said arms for moving said contact plate into engagement with said contacts.

4. A key socket comprising an insulating block, spaced apart contacts carried by said block, a spring contact plate arranged to engage said contacts, one end of said plate being curved to form a loop, a rotatable shaft also supported by said block, a bracket around which said loop is passed, said bracket being independent of the support for said shaft and provided with spaced apart arms, means for clamping the looped portion of the contact plate between the bracket and said block, and means carried by said shaft and located between the arms of the bracket for moving said contact plate into engagement with the spaced apart contacts.

5. A key socket comprising an insulating block, spaced apart contacts carried thereby, a rotatable shaft mounted in said block, a bracket provided with spaced apart arms, said bracket being independent of the means for supporting said shaft, a spring contact plate having one end clamped between said bracket and one face of said block, the other end of said plate being provided with spaced apart contact fingers, and means carried by said shaft and located between the arms of said bracket for moving said contact fingers into engagement with said contacts, said base being provided with an insulating barrier interposed between said contacts and said fingers.

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

HARVEY HUBBELL.

Witnesses:

A. M. WOOSTER,
S. W. ATHERTON.