

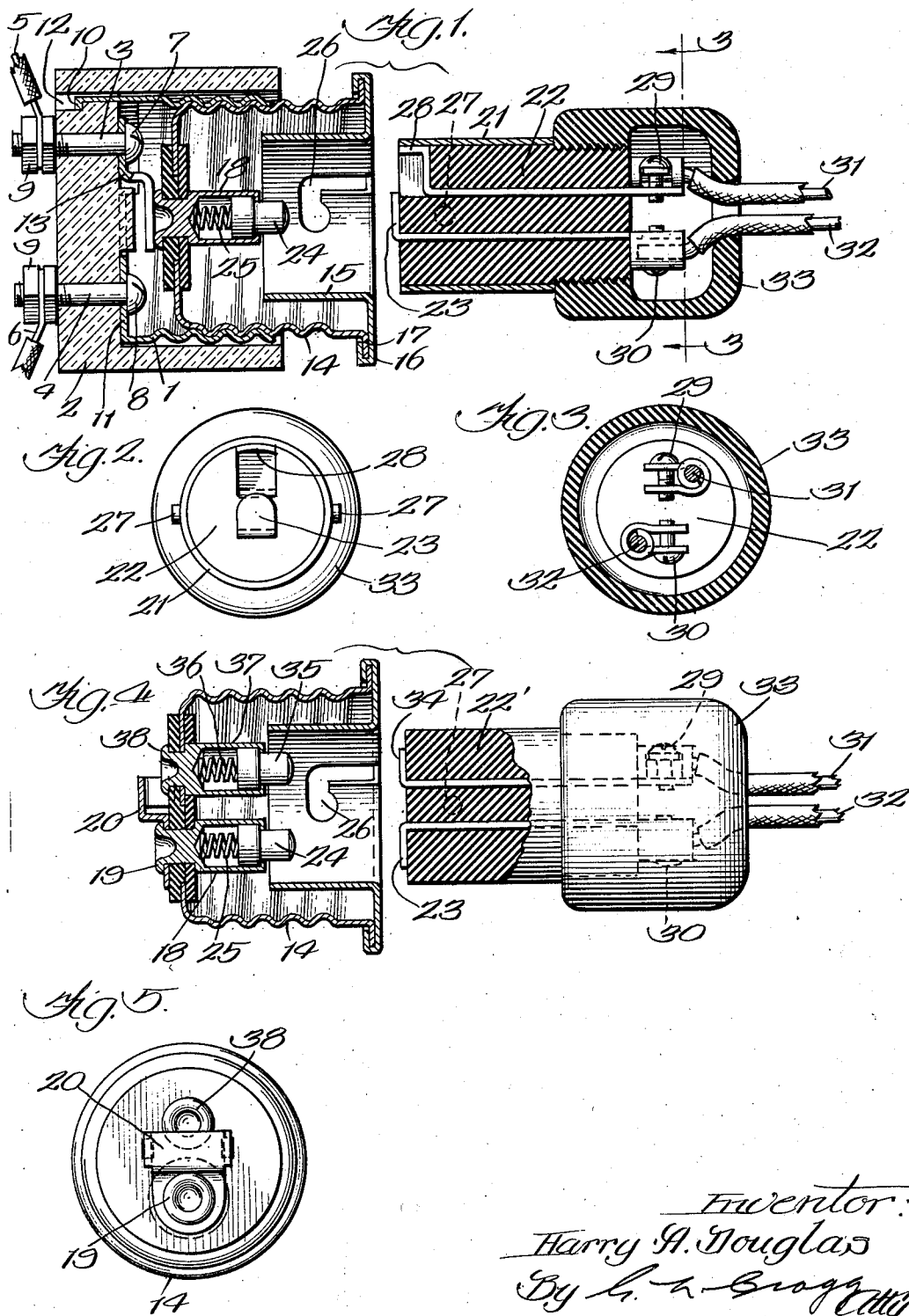
Nov. 3, 1925.

1,559,684

H. A. DOUGLAS

SOCKET

Filed Oct. 20, 1923



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Patented Nov. 3, 1925.

1,559,684

UNITED STATES PATENT OFFICE.

HARRY A. DOUGLAS, OF BRONSON, MICHIGAN.

SOCKET.

Application filed October 20, 1923. Serial No. 669,788.

To all whom it may concern:

Be it known that I, HARRY A. DOUGLAS, citizen of the United States, residing at Bronson, in the county of Branch and State of Michigan, have invented a certain new and useful Improvement in Sockets, of which the following is a full, clear, concise, and exact description.

My invention relates to sockets that are provided to receive circuit connecting plugs and resides in the provision of a device whereby a given socket may be adapted to receive a smaller plug than that for which it was originally designed. The invention has for another of its objects the provision of means whereby such a socket may receive a plug of different construction from that which is capable of being received by such a socket when unequipped with the device of my invention.

My invention is of particular utility in connection with interiorly threaded sockets of the Edison type, and when the device of my invention is applied to such a socket, such device is inclusive of a supplemental socket in threaded engagement with the main socket and equipped with contacts adapted for electrical connection with the contacts in the main socket and so positioned or related as to be engageable with supplemental contacts upon the plug which is suited to the supplemental socket.

The invention will be more fully explained in connection with the accompanying drawing in which Fig. 1 is a longitudinal sectional view of a combined main and supplemental socket structure and a plug receivable in the supplemental socket. Fig. 2 is an end view of the plug; Fig. 3 is a sectional view on line 3—3 of Fig. 1; Fig. 4 is a longitudinal sectional view of a modified socket structure and a complementary plug which is shown partially in elevation; and Fig. 5 is an end view of the plug shown in Fig. 4.

Like parts are indicated by similar characters of reference throughout the different figures.

The main interiorly threaded metallic socket 1 is of a common construction. It is carried by a mounting base 2, of insulation, which may also enclose it, as illustrated. This mounting base carries 2 binding posts 3 and 4 with which the circuit wires 5 and 6 are connected. The binding posts are provided with heads 7 and 8 upon their in-

ner ends and are threaded at their outer ends. These binding posts receive simple clamping nuts 9 between which the circuit wires 5 and 6 are held and which cooperate with the heads 7 and 8 of the binding posts to secure these posts in firm assembly with the mounting base 2. The socket 1 is shown as having 2 ear formations 10 and 11, ear formation 10 passing into an angular slot 12 formed in the mounting base and engaging the shoulder in this slot. The ear 11 is clamped between the binding post head 8 and the mounting base. A leaf spring contact 13 has one end clamped between the binding post head 7 and the mounting base, the other end of this leaf spring contact extending across the axis of the socket and being sufficiently spaced apart from the mounting base to permit it to be flexed toward this base.

The supplemental metallic socket includes a body portion 14 threaded within the main socket 1, this body portion of the supplemental socket carrying a plug receiving metallic shell 15 at its forward end and projecting within the bore of the body portion 14. The shell 15 desirably includes a folded flange 16 that grips the rim 17 of the body portion 14. The shell 15 is preferably co-axial with the main socket 1. A contacting element is carried by the body portion 14 of the supplemental socket, this contacting element including a metallic spring barrel 18 which has a head 19 riveted upon but insulated from the part 14. In the construction of Fig. 1, the spring barrel 18 is co-axial with the main and supplemental sockets but in the construction of Fig. 4 it is placed alongside of the axis of the sockets, the 2 structures being adapted for the reception of different kinds of plugs, as will later more fully appear. In the structure of Fig. 1 the head of the spring barrel is directly engaged with the portion of the leaf spring contact 13 that extends across the axis of the socket 1.

In the construction of Fig. 4 the head 19 is electrically continued by means of a contacting element 20 which is clamped in position by the head 19 and which extends across the axis of the main and supplemental sockets to be engageable with the leaf spring contacting 13. In the structure of Fig. 1 the metallic body portion 14 serves to convey current to the shell 15 and this shell is electrically engaged by the metallic sheath 21

of the plug 22 insertable in the shell 15. The plug 22 in the structure of Fig. 1 is provided with a second contact 23 which is engageable with the contact 24 that is forwardly spring pressed by the coil spring 25 within the spring barrel 18. As illustrated, shell 15 is smooth or unthreaded upon its interior and is formed with one or more bayonet channels 26 capable of receiving bayonet pins 27 carried by plug 22, such bayonet pins and channels serving to maintain the plug and supplemental socket in assembly with the contacts 23 and 24 in firm engagement. The sheath 21 in the structure of Fig. 1 is connected with the current conducting spring 28 that extends through the insulating body of said plug to the outer end thereof beyond which it projects. The contact 23 is in the form of a strip of metal which is also continued through the insulating body of the plug 22 and projects beyond the same. The outer ends of the strips 23 and 28 are equipped with binding screws 29 and 30 that receive current conductors 31 and 32. A cap 33 is screwed upon the body of the plug 22 and is formed with a hole through which the conductors 31 and 32 pass.

The structure illustrated in Fig. 4 will now be more particularly referred to. The plug 22' of this figure is unprovided with a metallic sheath and is therefore equipped with a conducting strip 34 which takes the place of this metallic sheath. The plug 22' has the contact element 23 which is similar to the contact element 23 of the plug 22 and which is engageable with the contact 24 forwardly pressed by the spring 25. The contact 34 of the plug 22' is engageable with a contact 35 which is forwardly pressed by a spring 36 located within a spring barrel 37 and having a head 38 which is electrically connected with the metallic body portion 14. The structure shown in Fig. 1 is a single pole structure, while the structure shown in Fig. 2 is a double pole structure.

The device of my invention enables the

use of slip-in plugs in conjunction with threaded sockets, according to the embodiment of the invention illustrated, but to which the invention is not to be limited.

It is obvious that changes may be made without departing from the spirit of my invention.

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

1. The combination with a metallic socket; of a mounting base of insulation for said socket; two binding posts upon said base; and a leaf spring contact within said socket secured to said base by one of said binding posts and extending across the axis of said socket which has an ear portion secured to said base by the other binding post.

2. The combination with an interiorly threaded main metallic socket; of a contact within said socket; a supplemental metallic socket screwed into the main socket and provided with a plug receiving metallic shell carried by and within the same and formed with a bayonet channel in its side; and a contacting element upon the supplemental socket and having one contacting portion engaging the aforesaid contact and another contacting portion spring pressed forwardly.

3. The combination with an interiorly threaded main metallic socket; of a contact within said socket; a supplemental metallic socket screwed into the main socket and provided with a plug receiving metallic shell carried by and within the same and formed with a bayonet channel in its side; and a contacting element upon the supplemental socket and having one contacting portion engaging the aforesaid contact and another contacting portion within the supplemental socket.

In witness whereof, I hereunto subscribe my name this fourth day of October A. D., 1923.

HARRY A. DOUGLAS.