

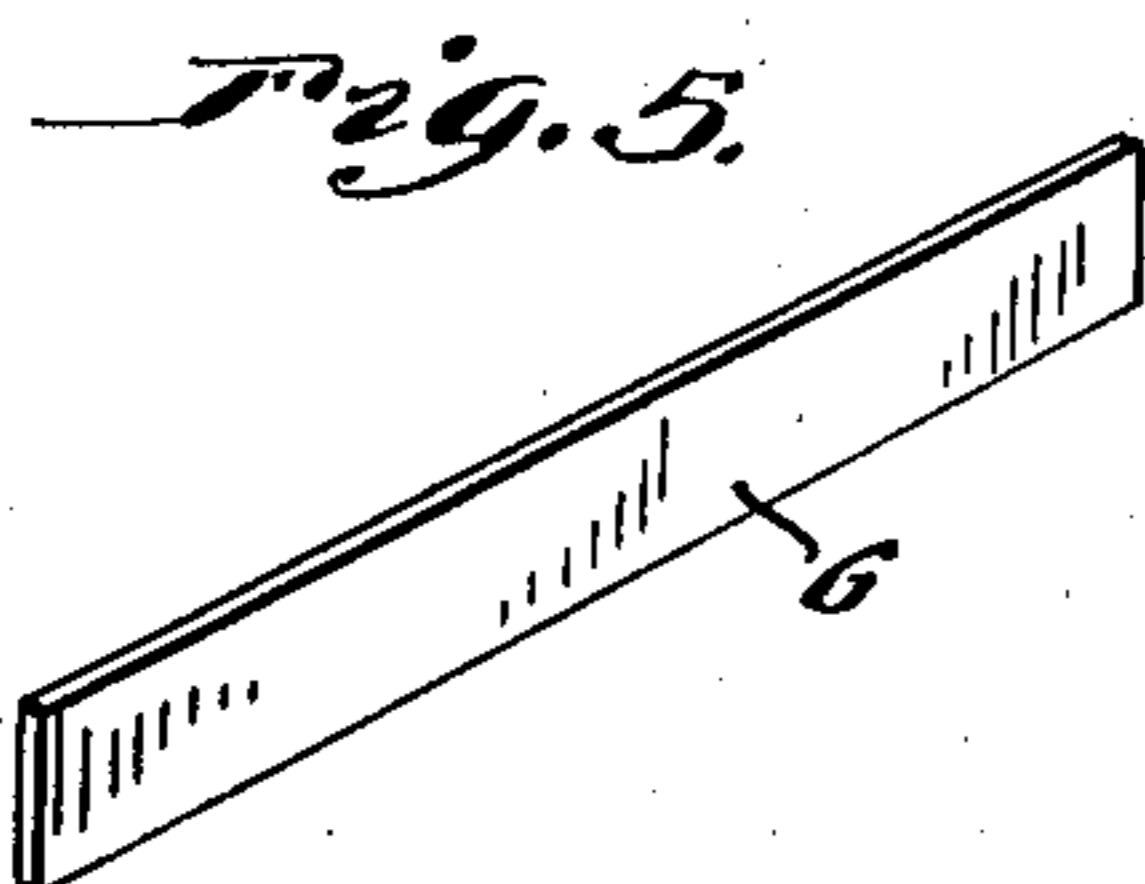
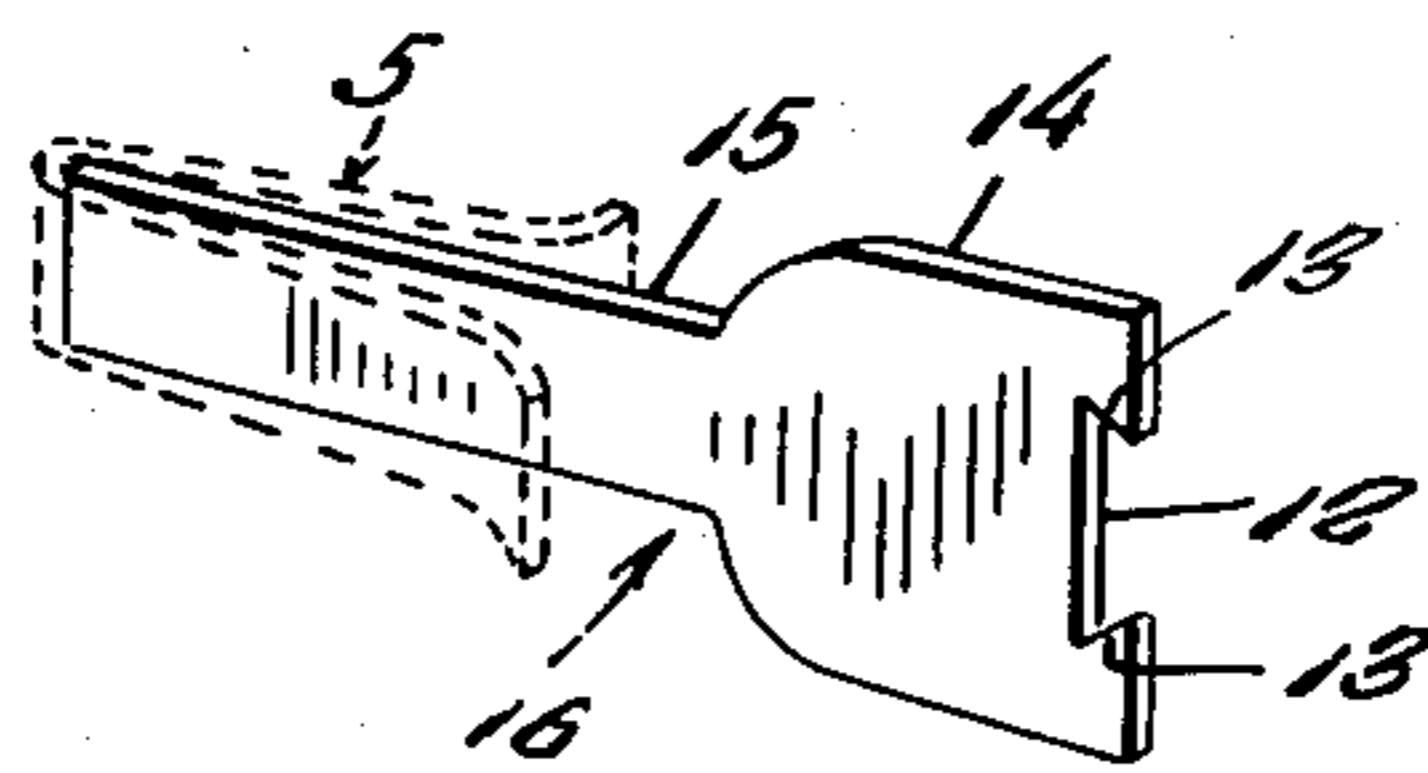
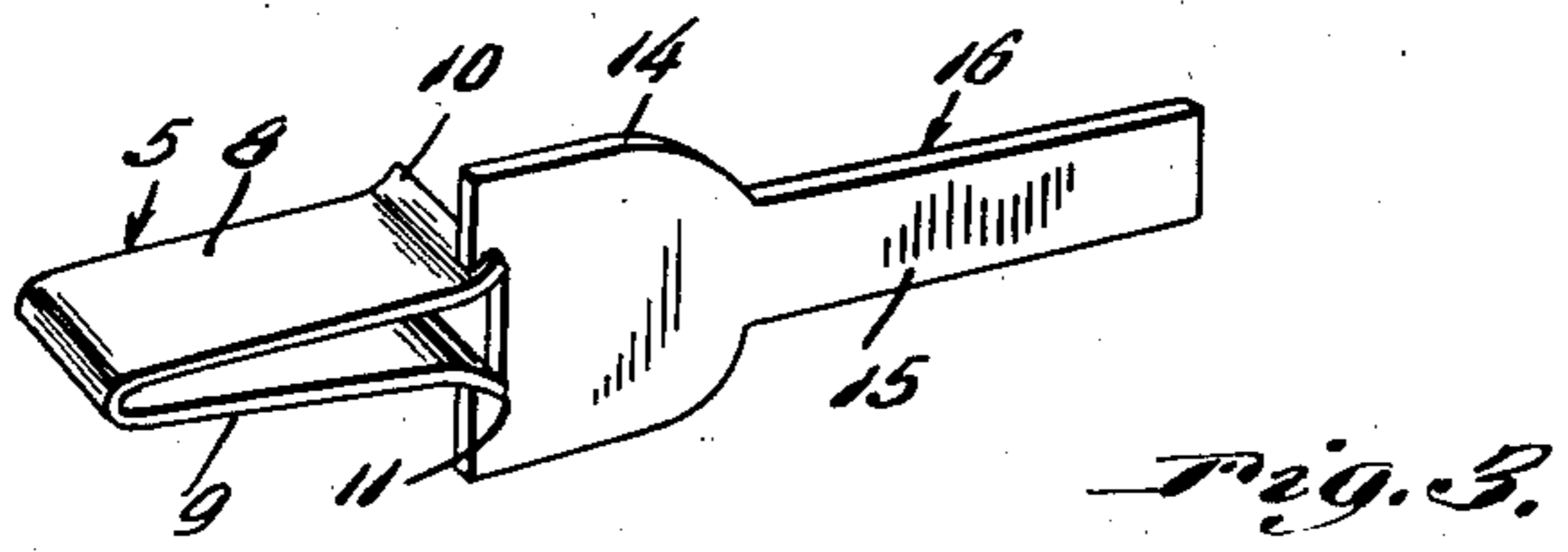
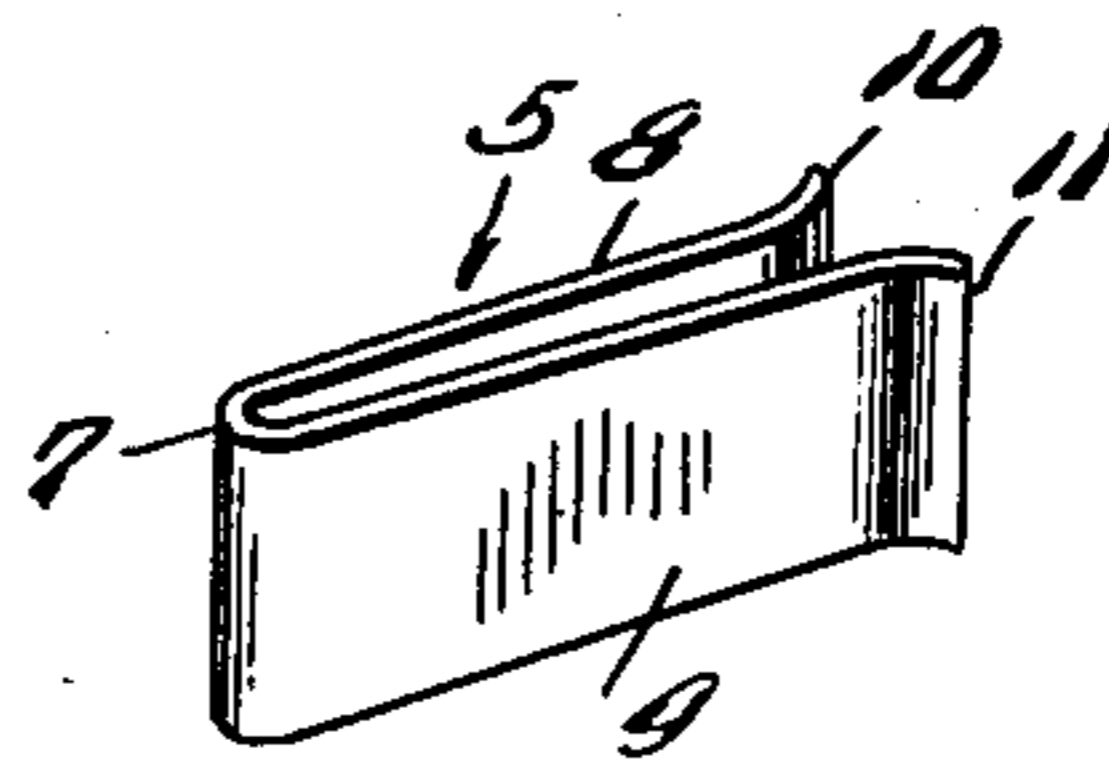
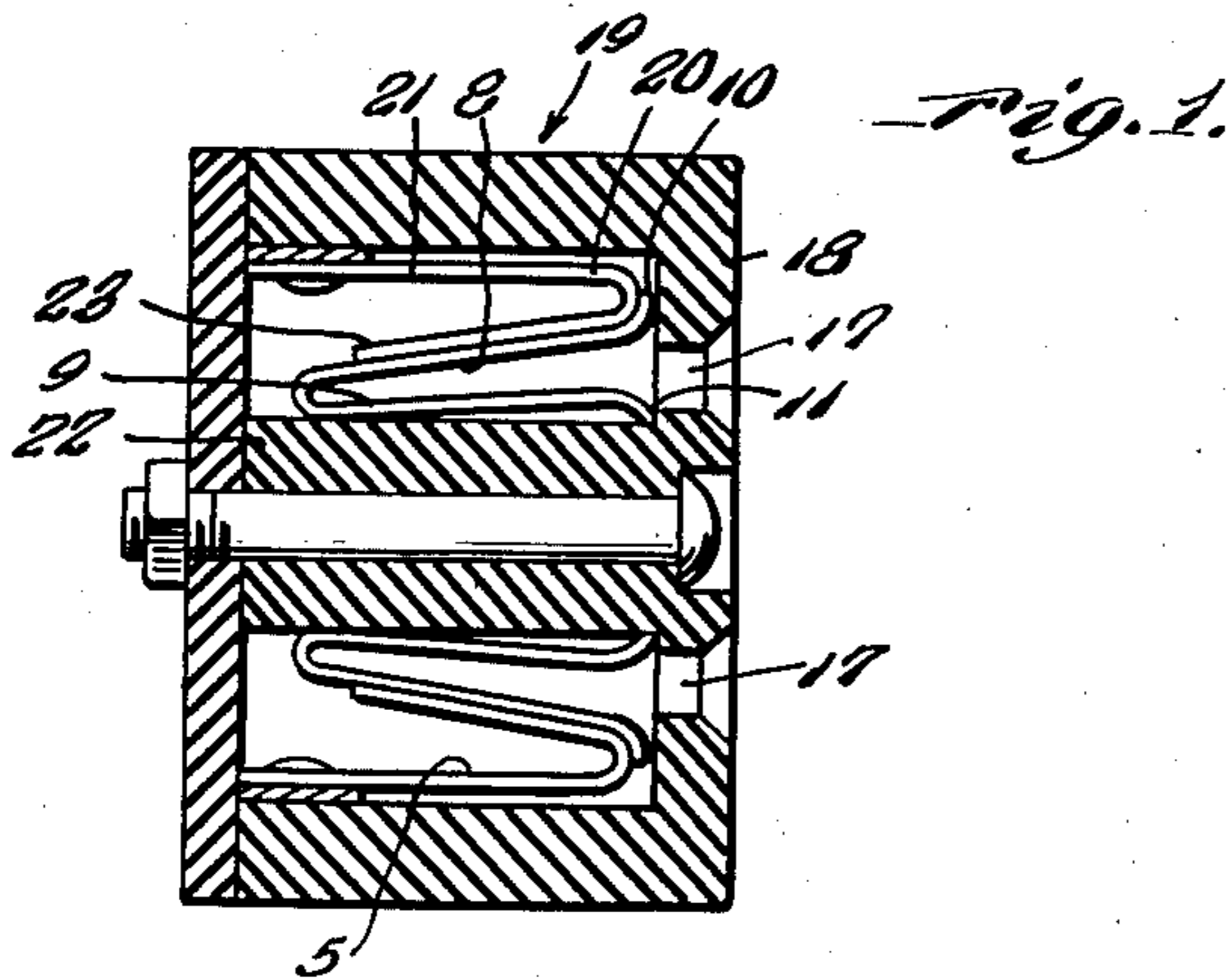
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J. W. HUNT

2,259,207

CONTACT SHIM FOR ELECTRICAL RECEPTACLES

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CONTACT SHIM FOR ELECTRICAL
RECEPTACLES

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1 Claim. (Cl. 173—338)

My invention relates to means for improving the mechanical and electrical efficiency of the spring contacts in electrical plug receptacles which have been subjected to long service and have become worn or relaxed, and the primary object of my invention is to provide simple and effective means of this character which are readily applied to the receptacles without cutting off the house current or other electrical system, and without danger to the person applying the same.

Other important objects and advantages of my invention will be apparent from a reading of the following description taken in connection with the appended drawing wherein for purposes of illustration I have shown a preferred embodiment of my invention.

In the drawing:

Figure 1 is a general vertical longitudinal sectional view taken through a generally conventional form of electrical receptacle showing means in accordance with the present invention applied thereto.

Figure 2 is a perspective view of one of the spring shims.

Figure 3 is a perspective view taken at right angles to Figure 1 and showing the insulated applicator connected to the shim.

Figure 4 is a perspective view showing an advanced position of the applicator with respect to one of the shims.

Figure 5 is a perspective view of the flat bar material from which the spring shims are made.

Electrical plug receptacles are in many cases subjected to much wear and tear because of the frequent and careless connection and disconnection of electrical plugs therewith, so that after a certain amount of service the contacts of these receptacles relax, become loose, or are worn to such an extent that the blades of the plug no longer make a good mechanical and electrical connection with the spring contacts of the receptacle. In order to remedy this situation and restore a good mechanical and electrical connection between the blades of the plug and the spring contacts of the receptacle, at small cost and little trouble, I have provided spring shims which can be sold in dime stores on cards together with an insulated applicator so that anyone can readily restore the efficiency of the receptacles in his home or other place and thereby avoid the necessity of removal of the receptacles for repair, involving cutting off the current supply and the expense of the repairs.

The shims designated by the numeral 5 in the drawing consist of a flat bar 6 of uniform width

and length and preferably of spring brass which is bent at its middle to provide the curved bight 7 and the similarly angularly divergent arms or legs 8 and 9, respectively. The free ends of the said arms are curvedly laterally outwardly deflected to provide the abutments 10 and 11. In the first operation of applying the shims 5 the abutments 10 and 11 are seated in the notch 12 having beveled ends 13 in the relatively wide head 14 on the shank 15 of the applicator which is generally designated 16 and which is formed of some suitable insulating material. When the shim has been entered through the slot 17 in the front 18 of the receptacle which is generally designated 19, the applicator 16 is moved sidewise so as to disengage the notch 12 from the abutments, and then the free end of the shank 15 is placed between the arms of the shim to engage the bight 7, and the shim is then pushed home in the receptacle until the shim seats and clicks are heard indicating proper application of the shim, when the applicator is withdrawn. It will be noted that during both stages of the application of the shim contact of the hands with the shim is prevented by the insulated material applicator, thereby avoiding shocks to the person applying the shims.

When the shims are in place in the receptacle in installed position the terminals of the abutments 10 and 11 engage the inner face of the front 18 of the receptacle above and below or at opposite sides of the blade entrance 17, with the laterally outward side of the abutment 10 engaging the bent end 20 of the hairpin-shaped existing contact 21, so that the laterally outward side of the shim arm 8 lies along the adjacent arm of the receptacle contact, and a goodly portion of the remaining arm 9 of the shim lies along the partition member 22 of the receptacle. The combined tensioning produced by the tendency of the shim arms 8 and 9 to expand away from each other and the tendency of the arm 23 of the receptacle contact to expand in the opposite direction produces a good electrical and mechanical engagement between the receptacle contact and the shim so that when the blade of the connector plug (not shown) is passed into the entrance opening 17 the blade will engage the laterally inward sides of the shim arms 8 and 9 and be frictionally, mechanically and electrically engaged on both sides thereof. The aperture between the arms 8 and 9 of the shim in the installed position is such as to bring about original or better than original grip on the blade of the connector plug, so that accidental or too easy disconnection of the plug

from the receptacle is strongly resisted by the grip on the restored contact assembly on the blade of the plug. It will be observed that the disposition and arrangement of the shims relative to the interior of the receptacle body and relative to the receptacle contact is such as to positively prevent unwanted shifting of the shim after installation.

Although I have shown and described herein a preferred embodiment of my invention, it is to be definitely understood that I do not wish to limit the application of the invention to the precise structure and arrangement shown except as may be required by the scope of the subjoined claim.

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

In combination, an electrical receptacle comprising a front wall having a plug blade entrance and an internal spring contact, said spring contact having a spring arm positioned obliquely with respect to said entrance and spaced from another wall of said receptacle, a shim between said spring arm and said wall, said shim consisting of a pair of divergent spring arms having their free ends engaging said front wall on opposite sides of said entrance, with one of said arms lying along and electrically engaging the outer surface of said spring arm of the receptacle contact, said shim having its remaining spring arm engaging said other wall of the receptacle, and a yoke connecting the ends of said spring arms of the shim remote from said entrance.

JOHN WHITSEL HUNT.