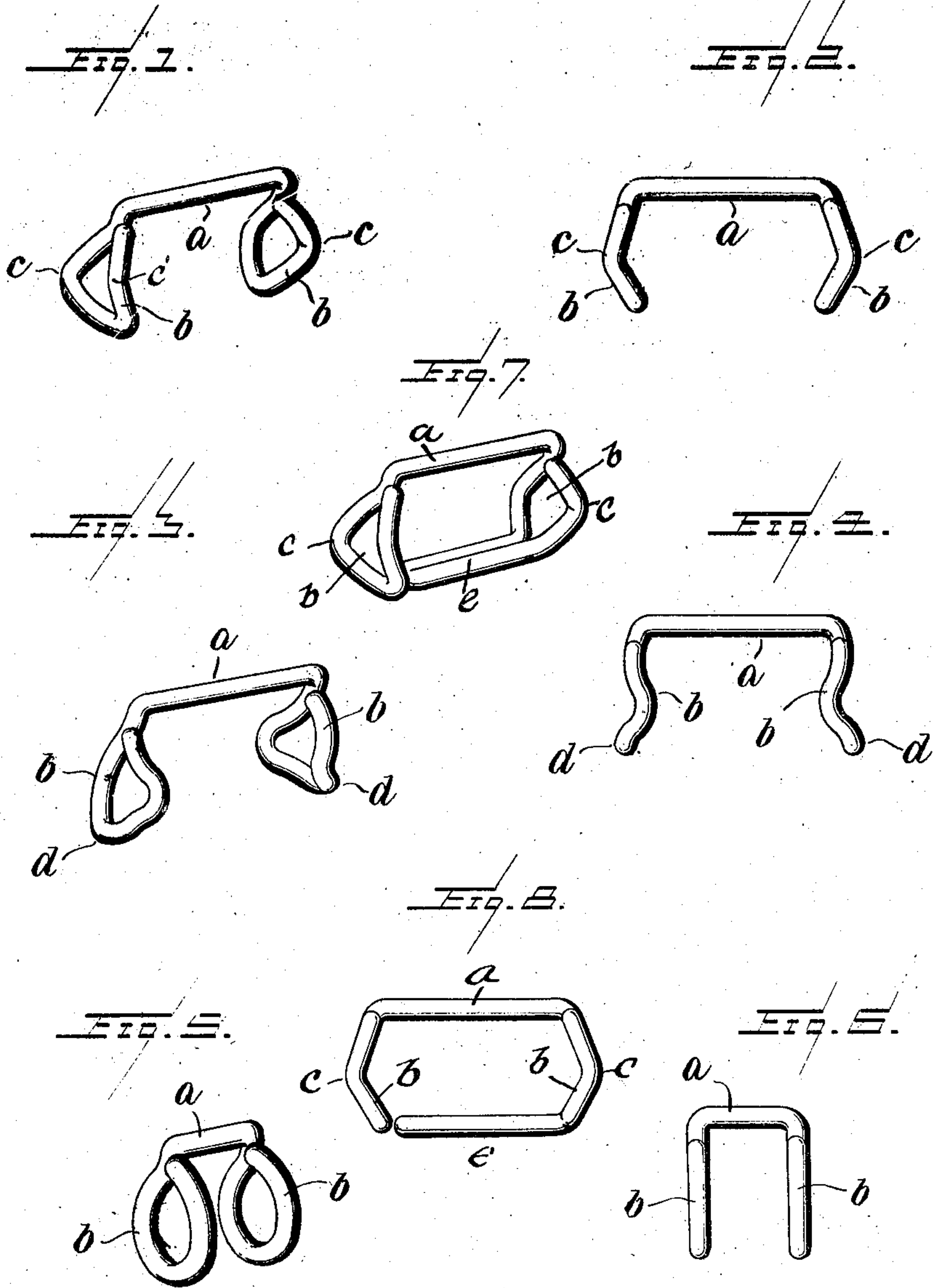


No. 854,943.

PATENTED MAY 28, 1907.

P. R. GREIST.
PLATING SEPARATING DEVICE.
APPLICATION FILED MAR. 18, 1907.



WITNESSES:
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UNITED STATES PATENT OFFICE.

PERCY RAYMOND GREIST, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO
THE GREIST MANUFACTURING COMPANY, A CORPORATION OF CON-
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PLATING-SEPARATING DEVICE.

No. 854,943.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed March 13, 1907. Serial No. 362,094.

To all whom it may concern:

Be it known that I, PERCY RAYMOND GREIST, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented or discovered certain new and useful Improvements in Plating-Separating Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

In the process of plating small metallic articles with copper, nickel, silver or other metals, a quantity of such articles are usually strung on holding wires by which they may be readily handled in dipping them into the various baths of acid, water and plating solutions, as also by which quantities of these small articles may be suspended, in the metallic solutions, from suitable cross-bars or supports over the tanks or vats, during the plating operations; and to hold such small articles separated from each other, so that the cleansing and plating operations may be properly performed, it has heretofore usually been customary to employ small metallic sleeves which are strung on the wires between the articles to be plated. These metallic sleeves, however, hold, by capillary attraction, more or less of the liquid in which the articles are dipped in the plating operations, and also present a considerable amount of surface on which the plating metal is deposited; and thus the liquid and the metallic solution baths become more or less wasted or injured by carrying more or less of the solutions from one bath to another in the dipping or cleansing operations. Also the metallic solution is unnecessarily wasted by being deposited on the considerable extent of surface which these sleeves or ferrules present. It has been attempted to lessen or avoid these objections by employing small spiral coils of wire, instead of the ferrules or sleeves referred to, such coils of wire being open so as to hold less of the liquid of the baths or solutions by capillary attraction, such open coils or wire also presenting lesser amount of surfaces on which the plating solutions become deposited. Such open coils of wire, however, soon become closed by deposit thereon of the metal of the plating solution; such deposits thickening the coils and after a time practically closing them up so that they be-

come almost or quite like the sleeves or ferrules for which they are substituted.

This invention has for its object to avoid the objections above mentioned by the use of separating bars or links, in place of the ferrules or coils of wire referred to, and which separating bars or links are of such form as to present but little surface on which the plating material can be deposited, as also being of such construction that they will retain very little of the liquid of the baths or solutions by capillary attraction; and they are also preferably so constructed as to present very small points of contact against the articles being plated and which they hold separated from each other on the wires on which such articles are strung. To this end each of the improved separating bars or links comprises a piece of wire of a length approximately equal to the distance apart at which it may be desired to hold two articles to be plated on the wire on which they are strung; the bar or section of wire forming the body of the separator being provided at its opposite end with eyes by means of which the separating bars or links may be strung on the holding wire between the articles to be separated, and which eyes are disposed at right angles to the body of the separator, or approximately so. The eyes at the opposite ends of the section forming the body portion of the separating bar or link, are preferably so bent as to form only small points of contact with the articles being plated and which are strung on the holding wires.

In the accompanying drawings Figure 1 is a perspective view of one form of the invention, and Fig. 2 is a side view thereof. Figs. 3 and 4 are perspective and side views, respectively, illustrating a slightly different form of the invention. Figs. 5 and 6 are perspective and side views, respectively, illustrating another form of the invention, and Figs. 7 and 8 are perspective and side views, respectively, illustrating still another and preferred form of the invention.

Referring to the drawings, each of the improved separators consists preferably of a single piece of wire having a body portion approximating in length the distance apart at which it may be desired to hold the articles to be plated on the holding wire on which they are strung, the said body portion

having at its opposite ends eyes *b* through which the holding wire referred to passes when the articles to be plated, and the links or bars separating the same, are strung on such holding wire. These eyes *b* are preferably bent, or made irregular, as shown in Figs. 1, 2, 7 and 8, to form only small contact faces or points of contact, *c*, with the articles to be plated and against which the said eyes will abut; or they may be bent as shown in Figs. 3 and 4, in which case they will present the points of contact *d* for the abutting articles; or, instead of bending these eyes, as shown in the other views, they may be made plain as shown in Figs. 5 and 6.

To prevent the articles which are being plated from becoming displaced from their separated positions, so that they might get into contact with each other in the plating operation, the separating devices are preferably constructed so as to provide, in addition to the longitudinal body portion or bar *a*, of each device or separator, a second longitudinal bar *e*, extending between the eyes *b* and preferably formed by doubling the wire on itself, this preferred construction being shown by Figs. 7 and 8.

It will be understood that these separating devices will present but comparatively limited surfaces on which the plating metal will be deposited, so that there will be but little waste of the plating metal; and it will also be understood that these separating devices are of such construction that but little of the liquid of the different baths, into which the articles being plated are successively or alternately dipped, will adhere to such separators; and therefore the wastage of the liquid of the baths, or injury due to mixing the liquids of

the different baths, will thus be reduced to a minimum.

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

1. A separating device, for use in metal plating, consisting of a piece of wire having a longitudinal body portion provided at its opposite ends with eyes which are disposed substantially at right angles to the said body portion.

2. A separating device, for use in metal plating, consisting of a piece of wire having a longitudinal body portion provided at its opposite ends with eyes which are disposed substantially at right angles to the said body portion, said eyes being bent to present irregularities in their outer or contact surfaces, for the purpose of reducing the extent of such contact surfaces.

3. A separating device, for use in metal plating, consisting of a single piece of wire and comprising two longitudinal bars and two eyes disposed approximately at right angles to said bars at the ends thereof.

4. A separating device, for use in metal plating, consisting of a single piece of wire and comprising two longitudinal bars and two eyes disposed approximately at right angles to said bars at the ends thereof, said eyes being bent to present irregularities in their outer surfaces, for the purpose of reducing the extent of their contact faces.

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

PERCY RAYMOND GREIST.

Witnesses:

HENRY CALVER,
ARTHUR W. CALVER.