No. 843,038. PATENTED FEB. 5, 1907.

R. G. SCHUTZ.

HINGE PIN AND JOINT.

APPLICATION FILED NOV. 12, 1903.



FIG. 1

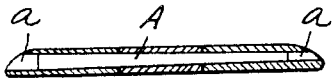


FIG. 2

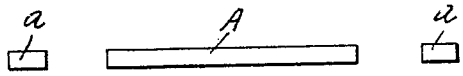


FIG. 3

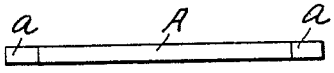


FIG. 4

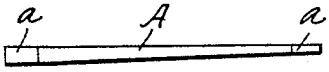


FIG. 5

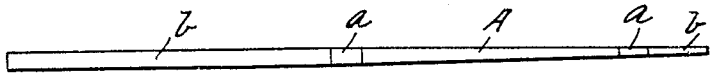


FIG. 6

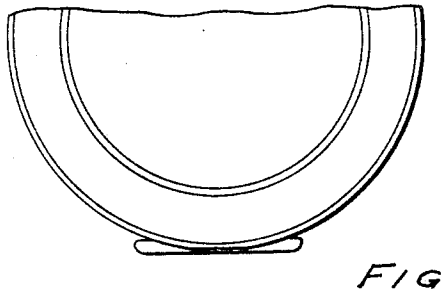


FIG. 7

WITNESSES,

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HINGE PIN AND JOINT.

No. 843,038. Specification of Letters Patent. Patented Feb. 5, 1907.

Application filed November 12, 1903. Serial No. 180,876.

To all whom it may concern:

Be it known that I, RUDOLPH G. SCHUTZ, of Cranston, county of Providence, and State of Rhode Island, have invented certain new and useful Improvements in Hinge Pins and Joints; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a full, clear, and exact description thereof.

The invention relates to hinge-pins for joints, and is especially adapted for use in articles of jewelry, such as watchcases, lockets, match-boxes, and the like. In the making of hinge-joints in such articles it has been customary heretofore to make the hinge-pin proper of base metal and somewhat shorter than the total length of the hinge-joint, and then insert two separate short tapered pieces of precious metal, one at each end of the hinge joint. This is the form of joint that is universally used, and it has been found to have many serious objections.

In the first place this method has been expensive, involving considerable time and labor in manipulating the separate small end pieces. Furthermore, when these end pieces, which are tapered, are pressed into the ends of the tube portion of the joint they expand the ends of said tube, and thereby produce the objectionable enlarged end portions of the present form of joints. It also frequently happens that these separate pieces when being pressed into the ends of the tube not only expand the ends thereof, but split said tube and spoil the joint. The most serious objection of all, however, in this form of joint is the liability of the separate end pieces to work loose and fall out.

The object of the present invention is to overcome these objections and produce a hinge-pin comprising a central portion of base or inferior metal and end portions of precious or superior metal, said central and end portions being fastened together to form a composite pin which may be handled as a single piece.

In describing my invention in detail reference will be made to the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of the old form of hinge-joint. Fig. 2 is a longitudinal sectional view of a hinge-joint provided with my improved hinge-pin. Fig. 3 is a view showing the parts composing the hinge pin before they are fastened together. Fig. 4 shows the pin after the parts have been fastened together. Fig. 5 shows the pin in its preferred finished form. Fig. 6 shows a modification, and Fig. 7 is a plan view of a hinge-joint provided with my improved hinge-pin.

Referring to the drawings, A represents the central or base-metal portion, and *a a* the end or precious-metal portions, of my improved composite hinge-pin. The parts A and *a a* may be made of any desirable metal and their lengths may vary with relation to each other as desired in the particular article in which the pin is to be used, and in fastening said parts together to form the composite pin any of the well-known methods may be employed—such as soldering, dovetailing, or by means of a screw-thread.

After the parts A and *a a* have been joined together, as shown in Fig. 4, the composite pin thus formed is preferably tapered to conform with a corresponding taper in the tube portion of the finished hinge-joint. I prefer to taper the pin, although I do not intend to limit myself to this construction, as a tapered pin is more easily inserted in position and less liable to work loose and fall out than a straight pin. With this construction of hinge-pin a stronger and more perfect hinge-joint is produced than heretofore, the enlarged ends of the present form of joint are obviated, and by making the end portions integral with the central portion there is no liability or possibility of said end portions working loose and falling out, and a single member has to be manipulated in making a joint where formerly there were three. Furthermore, the amount of precious metal used in the end portions is considerably reduced, thereby reducing the cost of manufacture of said pin.

Fig. 6 shows a modified form of hinge-pin in which, in addition to the parts A and *a a*, there are two additional parts or end pieces *b b* of base metal. These end portions are provided in order to facilitate the manipulation of the pin when inserting it into the hinge-tube and both are cut off when said pin is fixed in its place.

With the hinge-pin made tapering, as shown in Figs. 2 and 5, it is only necessary to upset the smaller end of the hinge-pin to

hold the same in place in the joint, as said hinge-pin will be held against movement in the other direction by the taper form of the pin.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A hinge-pin for articles of jewelry and the like comprising end portions of precious metal and an intermediate portion of base metal, substantially as described.

2. A hinge-pin for articles of jewelry and the like comprising a central portion of base metal and two end portions of precious metal fastened to said central portion, substantially as described.

3. A hinge-pin for articles of jewelry and the like comprising end portions of precious metal and an intermediate portion of base metal, said composite pin being tapered, substantially as described.

4. The combination, with a hinge-joint, of a hinge-pin having end portions of precious metal and an intermediate portion of base metal, substantially as described.

5. The combination, with a hinge-joint, of a hinge-pin having end portions of precious metal and an intermediate portion of base metal, said composite pin being tapered, substantially as described.

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Witnesses:
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