J. Mynana.

Hoop Skirt Clasp.

N984,492.

Patente d'Ilec.1,1868.

Fig. 2.

M. M. M. M. M.

Fig. 3.

Cho Hitchnich Geo. Truckney

John grantor: per L. W. Seriell



JOHN INGRAHAM, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND HOLMES, OF SAME PLACE, ASSIGNORS TO CHARLES E. L. HOLMES.

Letters Patent No. 84,492, dated December 1, 1868.

## IMPROVEMENT IN CLASPS FOR HOOP-SKIRTS

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, John Ingraham, of the city and State of New York, have invented and made a certain new and useful Improvement in Clasps for Skirts; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a plan, and

Figure 2 is a side view of a skirt-clasp; and

Figure 3 is a sectional view, illustrating the peculiarity of the metal employed in the manufacture of said clasps.

It has long been sought, among manufacturers of skirts, to obtain a clasp which would not tarnish on its exposed surface, nor discolor the cloth by corroding at its edges, and, at the same time, would possess sufficient tenacity and flexibility to make a reliable article at a sufficiently low price to admit of general use.

Brass has been employed, but it is subject to changes of color, and corrosion. Brass coated with silver has been employed, but the surface is found to tarnish even more rapidly than brass, particularly on new goods while stored in buildings where gas is used, and so great is this discoloration that entire stocks of goods have been ruined. The common sheet-tin of commerce has also been used, but, while the tin retains its color, the iron body rusts and corrodes the skirt, so as to spoil its appearance, particularly when the skirt becomes damp, and the sharp edges of the iron cut the tapes.

A clasp of sheet-zinc is open to the objection that its surface discolors, and it does not possess the requisite toughness and elasticity for the intended use.

The simple coating of a zinc clasp with a thin wash of tin will not add to it the required tenacity.

All these modes of making clasps have proven, practically, to be unsatisfactory, and it was only after a

series of experiments I found that a clasp cut out of a compound sheet of metal, formed of alternate layers of tin and zinc, would overcome all the objections, and produce a clasp of the desired tenacity, and which would not change color, or injure the tapes, either by discoloration, or by sharp, harsh cutting-edges, formed by the

burr left by the dies in their manufacture.

The skirt-clasp made of this material is a new article of manufacture, The zinc body, not being injuriously affected by dampness, does not discolor the skirt, and, the surface being of tin, the color of the clasp is maintained without tarnishing, and without perceptible wear. Hence, skirts made in this manner are very handsome and durable, and the zinc forms a sufficiently rigid body to make a firm connection between the tapes or vertical connections and the hoops.

The sheet-metal employed by me is prepared by rolling. I lay a sheet of tin upon a plate of zinc, the tin being of the proper thickness in proportion to the zinc, and, if desired, the tin may be placed on both sides of the zinc. The metal is then reduced by rolling it down to the proper thickness, and from this the clasp is cut

out by suitable dies.

In fig. 3, the two thicknesses of tin are shown in red, and the thickness of zinc in blue colors.

What I claim, and desire to secure by Letters Pat-

ent, as a new article of manufacture, is-

A clasp for skeleton skirts, cut out of a compound sheet of metal, formed of zinc and tin, in the manner described.

In witness whereof, I have hereunto set my signature, this 9th day of July, 1868.

JOHN INGRAHAM.

Witnesses:

J. I. PECK, JOHN BOUTON.