S. F. HILTON.
Paper-Collar.

No. 216,039. Patented June 3, 1879.

Fig. 1.

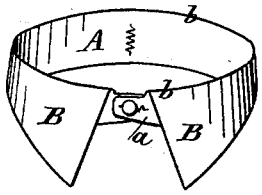


Fig. 2.

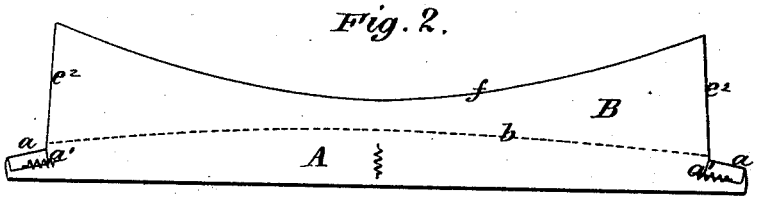


Fig. 3

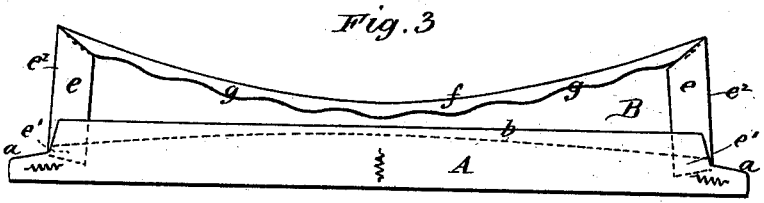


Fig. 4.

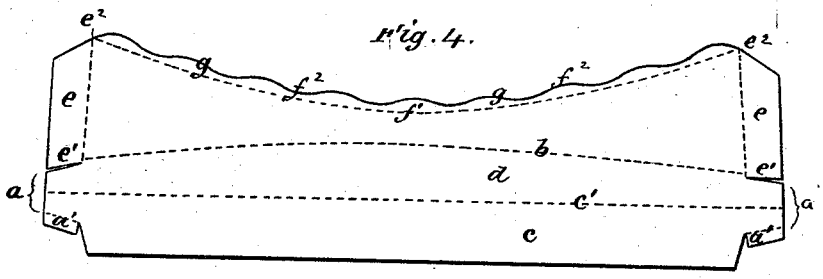


Fig. 5.

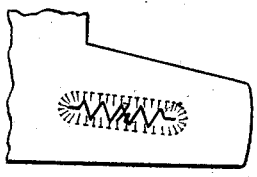
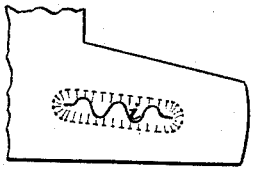


Fig. 6.



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UNITED STATES PATENT OFFICE.

SAMUEL F. HILTON, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN PAPER COLLARS.

Specification forming part of Letters Patent No. **216,039**, dated June 3, 1879; application filed July 1, 1878.

To all whom it may concern:

Be it known that I, SAMUEL F. HILTON, of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in Pasted Collars; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description thereof.

My said improvements relate to collars which are more or less folded and glued or pasted in their manufacture, whether composed wholly of cloth or wholly of paper, or of paper and cloth combined, and the term "pasted collars" as used by me is intended to embrace that extensive class of goods which involve the operations of gluing or pasting in contradistinction to stitching.

Certain portions of my improvements are applicable to standing collars, and all of them are of particular value in turn-down collars.

The object of one portion of my invention is to secure in either a standing or a turn-down collar great strength at the junction of the front edge of the upper portion of the collar with the neck-band extension, which contains a button-hole; and in this connection said portion of my invention consists in a pasted collar having a folded neck-band extension and at its front upper end or flap an end fold, which extends below and re-enforces the collar adjacent to the junction of the front upper edge of the collar with the upper edge of the folded neck-band extension.

I am aware that in collars heretofore made an end fold has been so cut and folded that its lower end lapped below the crease between band and collar, and that feature I do not broadly claim. The point I seek to and do attain is the re-enforcement of the collar adjacent to the solid junction of the front edge of the collar-flap with the upper edge of the folded neck-band extension, so that at the junction the collar will be stronger than collars heretofore made which are not provided with a folded neck-band extension, but which have the folded flap-edge extended down nearly to the bottom of the neck-band on its inner side.

It is well known that all of the wearing-strain is borne by the neck-band extensions, and that any abrupt bending of the band in line with the edge of the flap causes it to fit badly.

With my folded neck-band extension, and the end fold extended downward, a good finish is attained, abrupt bends in the band are obviated, and at the junction of the upper edge of the neck-band extension with the folded flap-edge there is a perfect finish and a desirable degree of strength.

The object of another portion of my invention is to secure for the upper side of the neck-band extensions solid, rounded, or so-called selvage edges, which will be strengthened and correspond practically with the adjacent edges of the flap; and in that connection my invention further consists in a pasted collar having a neck-band extension composed of two or more thicknesses of fabric, one or more of which thicknesses are folded over the upper edge of the neck-band extension. This feature of my invention is also applicable both to standing and to turn-down collars.

Another feature of my invention relates to a novel distribution of material in turn-down collars, so that different portions of the collar are of different bulk or thickness, due reference being had to economy in manufacture as well as to increased utility of the collar.

The upper portion or flap of a collar should be sufficiently rigid to maintain as long as possible its form and finish. The band should be strong, and also flexible, in order to secure comfort to the wearer, while the folded edge at the junction of the flap and band, which constitutes the main fold, should contain the maximum of material, because at that point the severest usage is experienced both from friction with the neck and from the effects of perspiration.

In this connection my invention further consists in a turn-down collar having its neck-band folded upward to and upon itself, and extended to the inner side of the flap, and its main fold formed within or on the neck-band fold.

A collar thus constructed, if it be made of single-ply material, will have a double thickness of material at the band, quadruple thickness at the main fold, and a single thickness

of material in the flap of the collar, except at its edge, which, when folded, as is usual for finish in forming a binding-edge, would also have a double thickness. When made of double fabric the several thicknesses mentioned will be doubled in each instance.

In order that the flap and the main fold may be rendered more rigid and firm without unduly stiffening the entire neck-band, I employ a complex fabric, which consists of a double ply of cloth, or of cloth and paper, with an additional strip of fabric, (whether woven or pulped,) which, when cut to pattern, occupies the flap, and extends partially upon the neck-band, so that a collar formed from such stock, in accordance with the last-stated portion of my invention, has a neck-band which is mainly quadruple in thickness, but partially of five thicknesses, has at the main fold, including both sides thereof, as when flatly folded, ten thicknesses, and a flap mainly of three thicknesses with a binding-edge of six thicknesses of material, while adjacent to the junction of the front edge of the flap and the neck-band extension there will be not less than eight thicknesses of material.

The collar-stock or complex fabric referred to and collars made therefrom are novelties in the art of pasted-collar making, are of my own invention, and have been made the subjects of a separate application for Letters Patent.

Another feature of my invention is applicable to and of value in any pasted collar having a more or less curved line edge, which is finished by folding so as to form a binding-edge.

Heretofore the material of the fold which is made for attaining a binding-edge has been slashed, notched, or slitted at the edge of the blank, in order that said portion of the material may lie flatly or smoothly upon the under side of the flap; but this former treatment renders it difficult to obtain a symmetrical curve at the edge of the flap, the lines at the edge thereby attained being nearly straight from slit to slit; and to obviate this objection my invention further consists in a collar having a binding-edge composed of material folded upon itself, and having the edge of said material cut in a wave line. This folded portion of the collar being of a regular varying width, but quite narrow at short and regular intervals, the fabric lies as smoothly upon the under side of the flap as if slitted, while the binding-edge of the flap is truly symmetrical and closely approximates to a true curve.

It is well known that pasted flat-folded sharp corners, such as exist when an edge is slashed, notched, or slitted, are liable to curl in drying, especially when pasted and compressed rapidly by machinery; but this liability is obviated when the wave-line edges are employed.

Another feature of my invention relates to the button-holes of pasted collars, and it is applicable to all of that class, whether composed of cloth, cloth and paper, or paper.

It is well known that considerable difficulty has been heretofore experienced in providing a button-hole which, while freely receiving a button, will at the same time maintain proper engagement therewith. A large opening is obviously requisite; but as heretofore constructed such an opening has been attained at the expense of good engaging contact of the button-hole with the shank of the button or the stitching by which it is secured.

In this connection my invention further consists in a pasted collar provided with button-holes which are serrated slits. The serrations on each side of the button-hole interlock or match with each other, so that while no stock is removed in cutting the hole it is yet capable of being widely opened, and when occupied by a button its shank or its stitching is snugly embraced by the oppositely-located serrations.

To more particularly describe my invention, I will refer to the accompanying drawings, in which—

Figure 1 represents in a position as if applied to the neck a turn-down collar embodying all the stated features of my invention. Fig. 2 represents the same straightened out, and exhibiting the outside of the flap and the inside of the band. Fig. 3 represents the opposite side of the collar. Fig. 4 represents the blank from which said collar is made. Figs. 5 and 6 represent, on an enlarged scale, two forms of my improved button-hole.

In the several figures, A denotes the neck-band; B, the flap; *a*, the neck-band extension, and *b* the main fold.

Referring to Fig. 4, it will be seen that the neck-band is formed by folding the part *c* upon part *d* at line *c'*, and extending the lower edge of the blank above the curved line *b*, which is the main fold of the collar, as shown in Fig. 3. For the purposes of this specification I term the fold of the part *c* upon the part *d* the "neck-band fold." The neck-band extensions *a* are thus doubled, and the binding-flaps *a'*, when folded over to the opposite side and secured, as shown in Fig. 1, result in a rounded or selvage upper edge for each extension.

Each end of the flap B has an inward fold, *e*, which, being cut at its lower end, at e^1, to correspond with the upper line of the neck-band extension when folded, projects downward into or upon the band below the junction of the front edge of the flap e^2 with the upper edge of the neck-band extension, thus affording great strength at a point particularly liable to strain.

It will be seen that no material is removed from the collar-blank in the forming of the end fold *e*, and that the portion e^1 lapping upon the band is provided for in the cut slit which defines the upper line of the folded neck-band extension *a*, so that when the two parts which form the extension are folded upon each other and pasted the junction of the top edge of the extension with the front edge of the flap is solidly re-enforced.

The binding-edge f of the flap B is formed by turning the portion g of the blank down upon the under side of the flap at the dotted line f^1, Fig. 4, and the wave-line edge f^2 of the material composing the folded part g enables the latter to be smoothly laid, and affords a binding-edge, f, which is as nearly on a curved line as it is practicable to attain with folded stiffened fabrics of this class.

The fold e at its upper end overlies and secures the end of the wave-line fold g at the corners, and a good finish is thereby attained at the points or tips of the flap.

It will be seen that, whether a collar be thus made of fabric in one or more plies, the distribution of material will be such as to secure a maximum of material at the main fold b, a heavy binding-edge for the flap at f and e^2, a solid rounded or selvage upper edge of the neck-band extension, which corresponds in character with the front flap-edge, e^2, a reenforcement at the junction of the front edge of the flap with the neck-band extension, and a neck-band of desirable bulk or consistency.

The improved button-holes shown in Figs. 5 and 6 are merely slits or cuts in the fabric, (no stock being removed,) and therefore the collar is not weakened at the holes, as heretofore. The opposite edges of the hole are serrated either in angles, as at h in Fig. 5, or in wave lines, as at i in Fig. 6. It will be seen that such holes afford a wide opening for receiving a button, and that the serrated edges will cause them to snugly engage with the shank of a button or with its stitching.

In practice I usually employ a die which imparts an embossed effect in resemblance of a stitched button-hole.

Having thus described my invention, I desire it to be understood that I do not limit myself to any particular class of fabric, whether woven or pulped, nor to any particular form; but

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

1. A pasted collar having a folded neck-band extension, and at its upper front end or flap an inward or end fold which extends below into or upon the band of the collar, substantially as described, whereby the collar adjacent to the junction of the front-flap edge with the upper edge of the folded neck-band extension is re-enforced, as set forth.

2. In a pasted collar, a neck-band extension composed of two or more thicknesses of fabric, one or more of which are folded over the upper edge of the extension, substantially as described, whereby a rounded, well-finished, and strong edge is attained, as set forth.

3. A turn-down collar having a neck-band formed of fabric folded upward upon itself and extended to the inner side of the flap, and which also has the main fold of the collar formed within or upon this neck-band fold, substantially as described, whereby a desirable distribution of material is attained, as set forth.

4. A collar having a curved binding-edge composed of fabric folded upon itself, and having the edge of said fabric cut in a wave line, substantially as described, whereby the curve of the binding-edge is rendered true and symmetrical, as set forth.

5. A pasted collar, provided with button-holes which are serrated slits in the fabric, substantially as described.

SAMUEL F. HILTON.

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