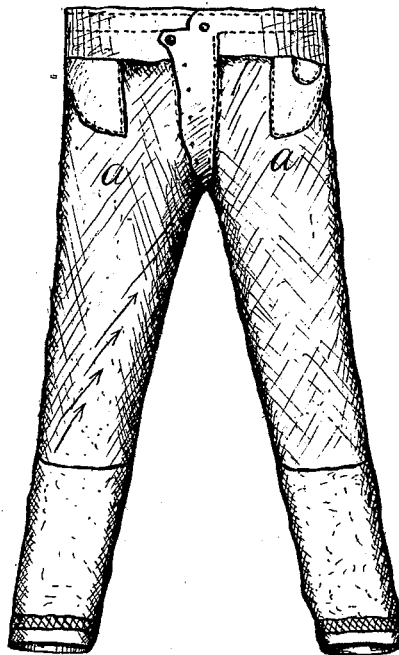


H. L. BARTLETT.
Pantaloon.

No. 220,051.

Patented Sept. 30, 1879.



Attest:

R. J. Gaylord
Henry Small

Inventor:

H. L. Bartlett
By W. E. Simonds
Atty

UNITED STATES PATENT OFFICE.

HENRY L. BARTLETT, OF HARTFORD, CONN., ASSIGNOR OF ONE-THIRD OF HIS RIGHT TO CECILIA A. WHITE AND TWO-THIRDS TO MARTHA A. FOWLER, BOTH OF SAME PLACE.

IMPROVEMENT IN PANTALOONS.

Specification forming part of Letters Patent No. **220,051**, dated September 30, 1879; application filed April 23, 1879.

To all whom it may concern:

Be it known that I, HENRY L. BARTLETT, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements pertaining to Pantaloon, of which the following is a specification, reference being had to the accompanying drawing, forming a part of this specification, which shows a front view of my pantaloon turned inside out.

The object of this invention is to prevent the kneeling or bagging of pantaloon at the knees; and consists in fastening on the under side of the breadth of the pantaloon—a piece of strong non-elastic cloth—as linen or the like—cut on the bias, and so arranged that it relieves that part of the front breadth covering the knee from all strain, and, consequently, prevents the pantaloon from becoming unshapely and ill-fitting.

That the utility and application of my invention may be more readily understood, I will first explain the cause of this bagging at the knees, and then describe my invention as applied to correct the objectionable feature.

If an attempt be made to stretch a piece of cloth it will be found that the cloth yields most, not in the direction of its warp or weft threads, but on a diagonal line midway between, and, being so stretched, has no tendency to contract, for the reason that the diagonal strain has separated its warp and weft threads. Now this is just the kind of strain that comes on pantaloon at the knees when a person wearing them sits down, and explains why this garment, when worn by people of sedentary habits, is so often out of shape and fits so poorly. The strain that causes the difficulty comes from the seat of the pantaloon forward to the inside of the leg, and then curves over to the knee, and in taking this course follows the right direction to most effectually stretch the fabric from which the pantaloon are made, and cause bagging at the knee, as the front breadth is usually so cut that its warp-threads run up and down.

To prevent this I use a piece of stout and thin fabric, like linen, cut the same width as the front breadth—possibly a little narrower,

but not wider—and fastened to it at the seams on the sides and top. This piece need not necessarily extend to the bottom of the pantaloon, as it is found that to reach to just below the knee is all that is required. This fabric, if of some kind of cloth, would be, to a small degree, open to the same liability of stretching as the cloth under which it is placed were it not cut in a particular manner, and by this I mean cut in special reference to the strain that will be brought to bear upon it.

Since fabrics are the strongest or yield the least in the direction of their warp, if this protecting-piece be so cut that its warp-threads run in the direction of the strain, all possibility of its being stretched is avoided, and of course that of the fabric it protects; and such, in fact, is the way I cut this protecting-piece, the essential feature being to so cut the piece that the direction of the strain shall be the same as that in which the piece yields the least, be it of some kind of cloth, to which I have confined my description, it being the most desirable material, or be it of some other material, such as leather, for instance, which, in some cases, may be equally good.

In the drawing, the letter *a* represents such a protecting-piece as I have described, and the arrows show the direction of the strain that causes the bagging at the knee, also the direction the warp-threads of the protecting-piece should have.

A modification consisting of a strap of proper width and material, running from the bottom of the fly over the knee and fastened to the seam on the outside of the knee, would accomplish all that a larger protecting-piece would, but is objectionable inasmuch as it is much in the way in putting on and taking off the pantaloon.

I am aware that pantaloon have heretofore been made with linings attached on all sides, so that, among other points of attachment, they were attached to the outer edge of the front breadth of the pantaloon, in the vicinity of the knee, which vicinity, for convenience sake, I will call the “knee-point,” and were also attached to the bottom of the fly; but two things are noticeable in this connection: first,

that the many other points of attachment of such linings fatally interfere, for the purposes aimed at in my invention, with the free action and play of such linings; and, second, that such linings, for the obvious purpose of preventing waste of material, have not been cut on the bias, and hence have not been inelastic, but have been open to the same trouble as the pantaloons proper, and have aggravated the trouble in question.

My invention is applicable to pantaloons of either of the common lined or unlined constructions, and is limited to pantaloons made of a textile fabric.

I am also made aware that it has been attempted to cure the trouble in question by a strengthening-piece fastened to both edges of the front breadth of the knee-point; but I do

not claim such a thing as my invention, because its practical operation is very different from my device, which takes the strain off the knee-point and carries it to the fly, which is amply able to sustain it; and

I claim as my invention—

In combination with a pair of pantaloons made of textile fabric and lined or unlined, a non-elastic piece fastened to the outer edge of the front breadth at the knee-point and also fastened to the bottom of the fly, all substantially as described, and for the purpose set forth.

HENRY L. BARTLETT.

Witnesses:

BENJ. E. FOWLER,
ROBERT F. GAYLORD.