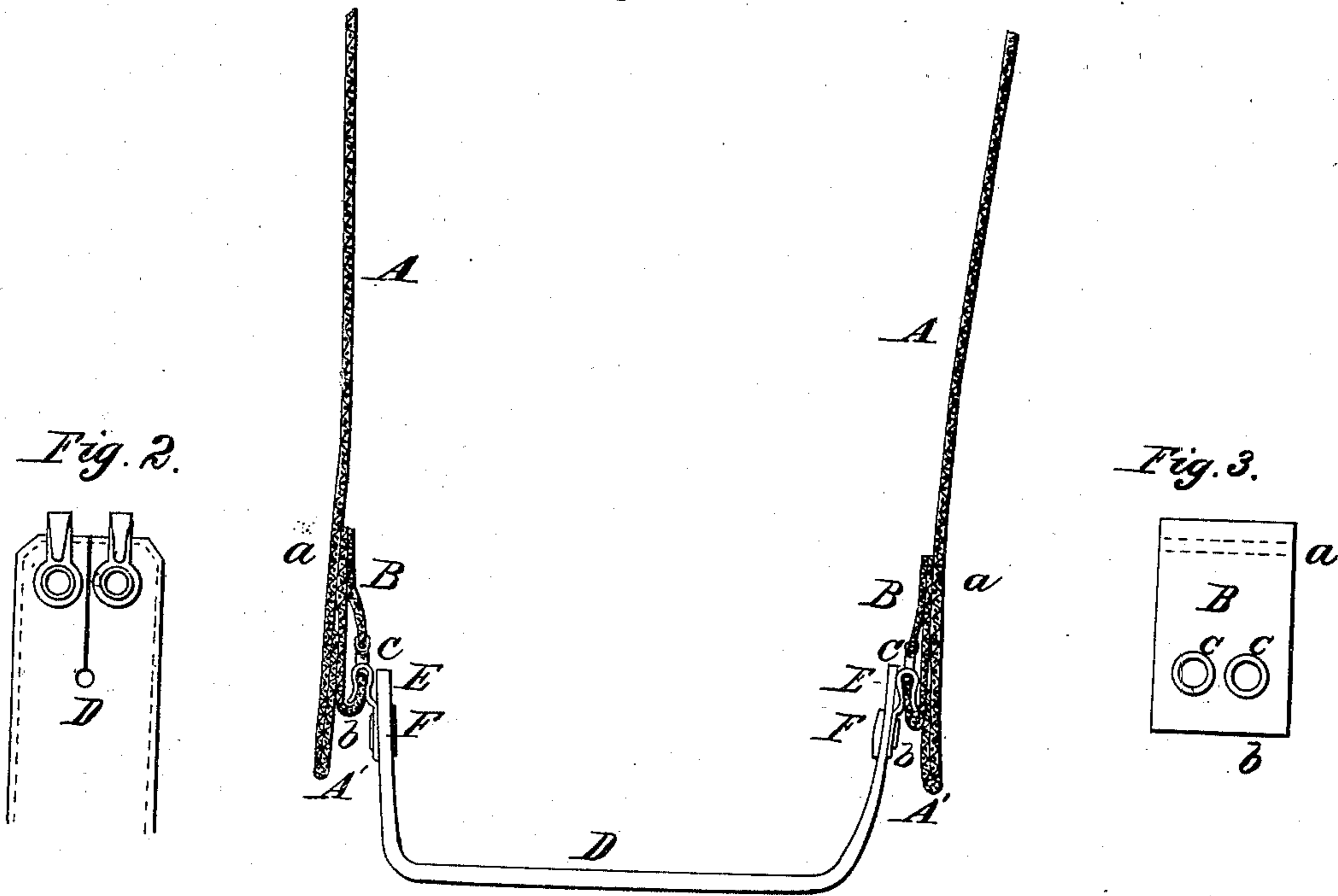
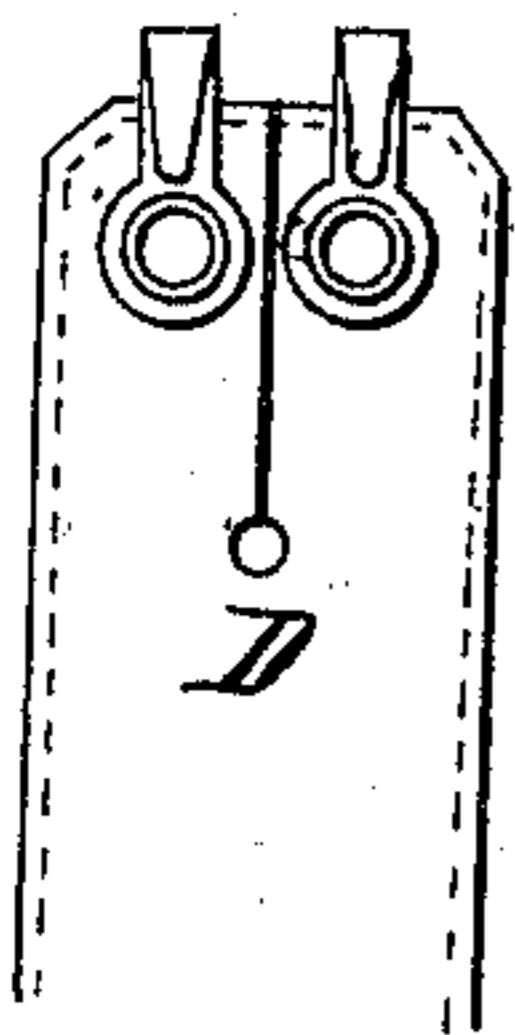


S. HELLER.  
PANTALOONS AND PANTALOOON STRAPS.  
No. 35,608.  
Patented June 17, 1862.

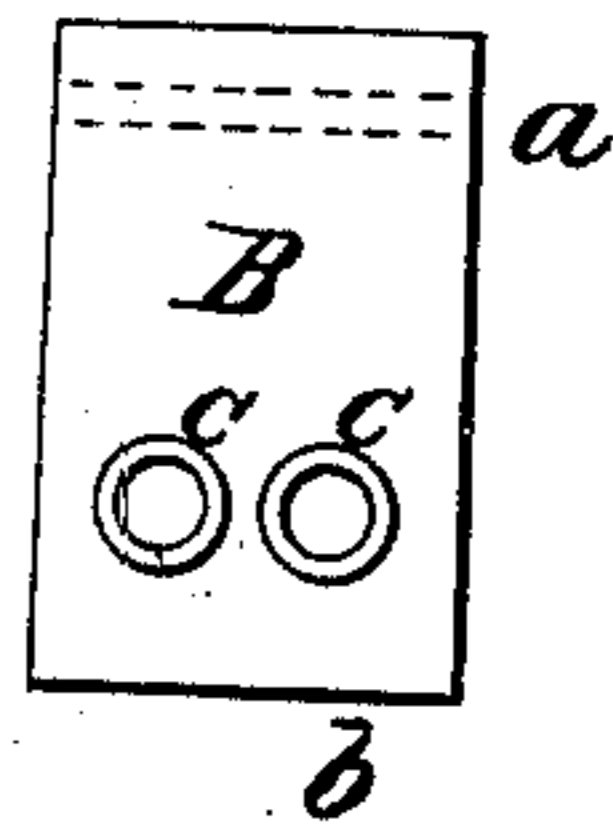
*Fig. 1.*



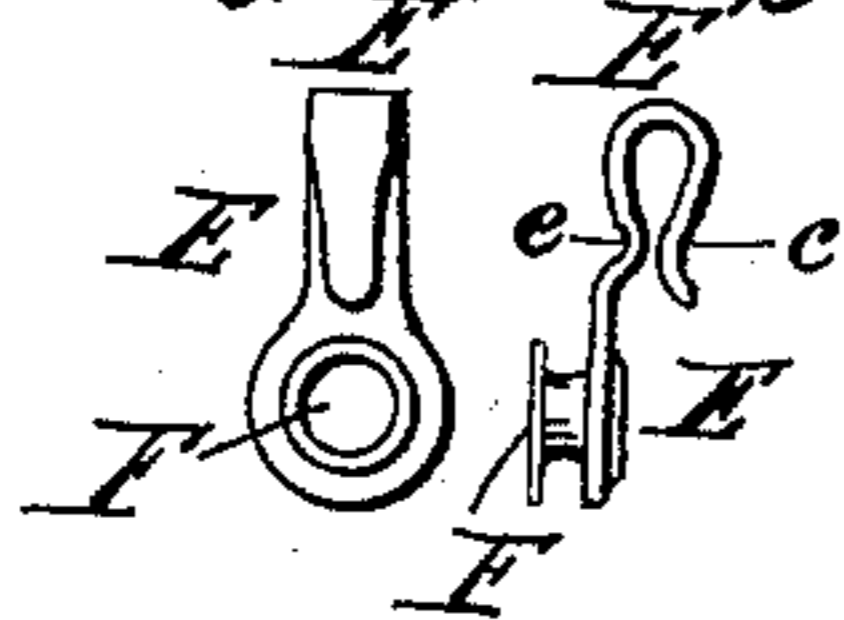
*Fig. 2.*



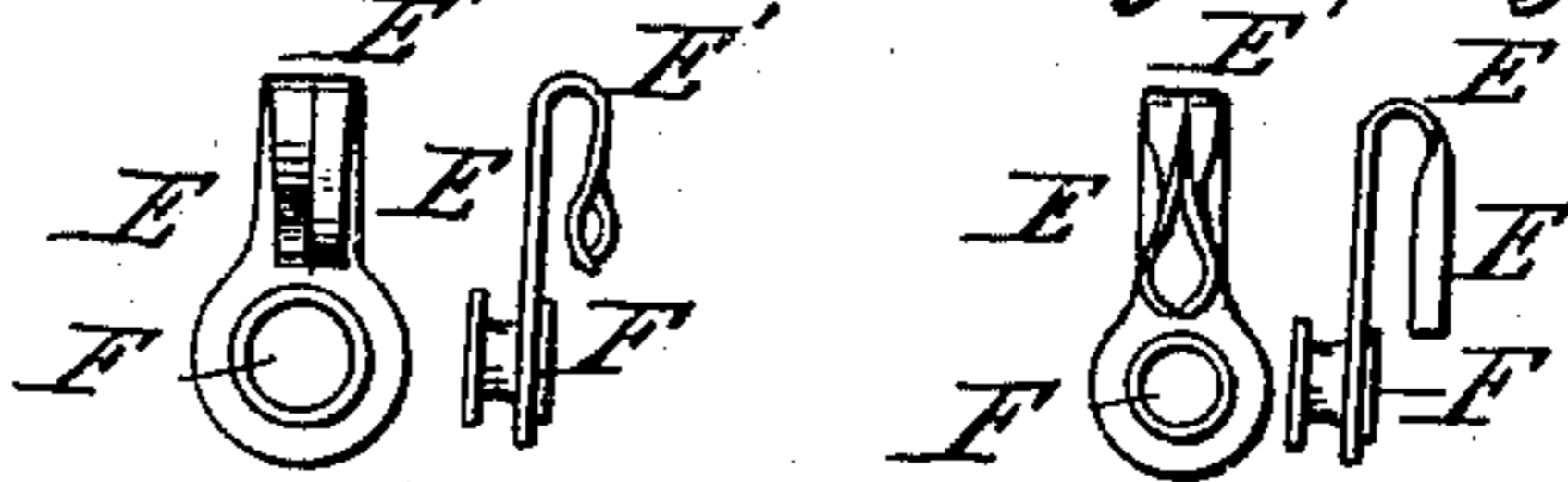
*Fig. 3.*



*Fig. 4. Fig. 5.*



*Fig. 6. Fig. 7. Fig. 8. Fig. 9.*



Witnesses:

Thomas D. Stetson  
Eugene H. Tuley

Inventor:

Samuel Heller

# UNITED STATES PATENT OFFICE.

SAMUEL HELLER, OF NEW YORK, N. Y.

## IMPROVEMENT IN ATTACHING STRAPS TO PANTALOONS.

Specification forming part of Letters Patent No. 35,608, dated June 17, 1862.

*To all whom it may concern:*

Be it known that I, SAMUEL HELLER, of the city, county, and State of New York, have invented a new and useful Improvement in Pantaloon Straps Therefor; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification.

My improvements refer, as above intimated, to the construction of the garment at its lower extremities and to the straps by which the lower ends of the legs are sometimes retained or held down. Straps applied to the pants, either permanently or at will, for this purpose were in common use a few years ago, and still continue to be used to a limited extent. I am a tailor, and have reason to believe from my knowledge of clothing and of the wants of the community that something of the kind would remain in common use and become a standard element of the clothing of well-dressed men provided it were easy to connect and disconnect the same at will, and the addition of the straps and the attachments therefor were not a serious addition to the expense of the clothing and an impediment to the proper washing and doing up or pressing of the clothes.

My invention is intended to supply this want. The parts which I permanently attach to the pants to receive the strap-fastenings may be more cheaply constructed than those before in common use for such purpose and interfere less with the operations of washing and pressing. The straps are more easily fastened, and are securely held and readily detached. The straps may also be made cheaper and stronger than those before in use. All the parts required to apply my invention are more capable of being produced and secured together by machinery than those previously used for analogous purposes.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation by the aid of the drawings and of the letters of reference denoted thereon.

Similar letters of reference denote corresponding parts in all the figures.

Figure 1 is a cross-section of the lower end of a leg of a pair of pants with the strap in

position attached. Fig. 2 is an end of a strap seen partly from the side. Fig. 3 is a corresponding view of the attachments, which are permanently secured to the pants. Figs. 4 and 5, 6 and 7, and 8 and 9 are respectively side and edge views of different styles and characters of hooks which I have used or intend to use on my straps.

A is the material of the outer surface of the pants. A' is the part thereof which is folded under in the ordinary manner. B is the part to which the straps are to be connected. It is folded at *b*, as represented, and sewed to the parts A by a line of stitching at *a*. C C are eyelets inserted in one part of B, as represented.

D is a strap of leather.

E are stout but elastic hooks, of rolled brass or other suitable material, secured to the strap D by eyelets F, as represented. Each hook E is sufficiently open at the bend E' (see Figs. 5 and 7) to fit easily on the interior of the eyelets C, and is held by the strap D with such rigidity as not to be easily deflected.

To apply my strap to the properly-adapted garment, it is necessary merely to hook the hooks E into the eyelets C, to facilitate which it is important that the pendent part B, or that half thereof which carries the eyelet C, be deflected inward so that it approximates to a horizontal position. To release it the reverse movement is produced. Both these operations are very readily effected by the aid of the fingers; but when the fingers are not applied there is no danger of the hooks escaping from the eyelets, even if the tension is relieved and the straps and pants are shaken indefinitely. This security of the fastenings is due to several causes, one of which is the form of the hook, which causes it to cling directly to the eyelet in the manner which is obvious, and another is the tendency of the strap D to straighten, and thus to prevent the part B from assuming the position necessary to allow the hook to escape. I will explain these points sufficiently to allow their being fully understood.

First. The hook E is differently shaped in the several figures; but all are so formed that the material must yield somewhat by its elasticity to allow the hook to be inserted in the eyelet C or to be removed therefrom. In Figs. 4 and 5 the space between the two inner sur-

faces of the hook is simply contracted at the point *e*, and I prefer this construction; but with either this or the form shown by Figs. 7 or 9 it is equally true that the elasticity of the hook would cause the two surfaces to press against the thicker eyelet-rim and induce considerable friction to prevent the accidental release of the hook.

Second. The diameter of the opening of the eyelet C is too little to allow the release of the hook by simply raising the latter while the parts are in the positions indicated in Fig. 1. It is necessary, in addition to the raising of E relatively to C, that one or both shall be turned so as to be nearly at right angles to the other. The gravity of the parts, the elastic tension on the pants and straps, the presence of the foot or ankle within, and the rigidity of the strap D and part B all conspire to prevent the parts assuming such positions. So long as they retain their relations as represented a mere slacking of the tension, and even a shaking of the parts, however conducted, could only induce the hooks E to rise in their places until their bends E' strike the upper sides of the corresponding cavities in the eyelets C, and then to return to their first positions.

On account of both strength and safety, as well as ease of construction and operation, my invention is superior to the other modes of fitting up this portion of gentlemen's clothing.

I propose to produce the parts B in long strips with the eyelets ready inserted. I prefer to sew it by machinery in a tubular form, or to knit or otherwise produce it in such form, and to perfect the structure and insert the eyelets regularly and strongly by suitable machinery, so that the material may be sold like other goods for tailors' use, and cut off and

sewed on the garment as desired. The straps may also be evidently made complete by machinery, whether of leather or any other material. I prefer to attach the hooks E to the straps D by eyelets, as shown by F; but rivets or any other fastening which will perform the same functions will answer as well, because the opening in the eyelet F is not used, and the eyelet, in short, only forms a broad and strong connection easily applied and holding the parts very rigidly.

When I say the part B is made in the form of a tube it will be understood that I mean a flattened tube with the eyelets set through both sides and the entire tube folded and sewed, as described at *a*. I prefer this construction for many reasons, one of which is the absence of any necessity for hemming the part, while it allows the ready insertion of the eyelets C and provides a safeguard to prevent the point of the hook E from wearing the material A of the pants proper; but it is obvious that the entire part B may, if desired, be a single tube or other doubled part sewed together or not across the bottom if suitable measures be taken to insert the eyelets properly therein.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The within-described mode of constructing and attaching pantaloons and pantaloons straps, the same consisting in the employment of the pants B C and D E, or their respective equivalents, arranged to operate together in the manner herein set forth.

SAMUEL HELLER.

Witnesses:

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ARTHUR PRICE.