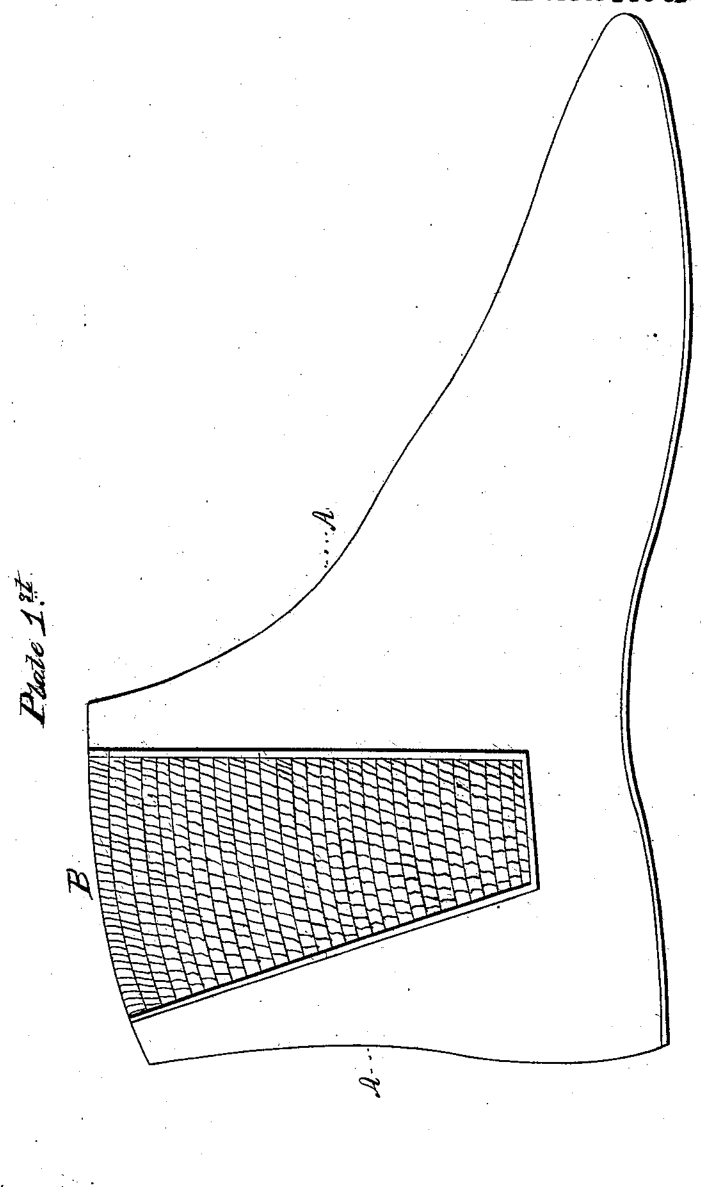
Sheet 1-2 Sheets.

Dupont & Hyatt,

Shoe Upper,

No. 1,841. Patented Oct. 30, 1840.



Witnesses.

John T. Baady
G. R. A. Bowdoin

Inventor

John H. Du Pont
Theodore Hyatt

Sheet 2-2 Sheets

Dupont & Hyatt,

Shoe Upper,

No. 1,841. Patented Oct. 30, 1840.

Fig 3.

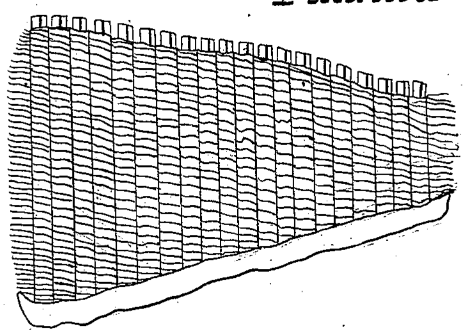
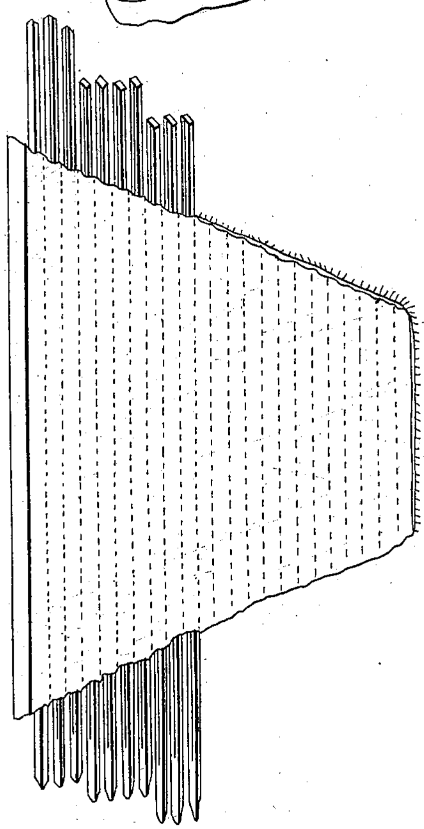


Fig 2.



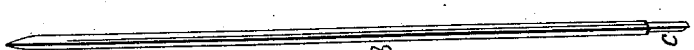


Fig 1.

Witnesses.
John T. Brady
G. R. J. Bowdon

Inventor.
John H. DuPont
Theodore Hyatt

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN H. DU PONT AND THEODORE HYATT, OF NEW YORK, N. Y.

MANUFACTURE OF GAITER-BOOTS BY THE INTRODUCTION OF GUM-ELASTIC GORES.

Specification of Letters Patent No. 1,841, dated October 30, 1840.

To all whom it may concern:

Be it known that we, JOHN H. DU PONT and THEODORE HYATT, of the city of New York, State of New York, dealers in shoes and boots, have invented an Improvement in the Manufacture of Gaiter-Boots; and we do hereby declare that the following is a full and exact description thereof.

In making our elastic gaiter boots, we depart in nowise from the usual process of making gaiter boots, but in this, viz: In place of the lacing ordinarily used in the side of a gaiter, we substitute an elastic gore, made substantially as is hereinafter described—and in addition to this substitute for the lacing, we insert another similar elastic gore on the opposite side of the gaiter. Said gore we make of the following dimensions, viz., four inches long, three and a half inches wide at one end, and one inch wide at the other end; the widest end of the gore we call the top, because we always insert the broadest end in the upper part or mouth of the gaiter, and for this obvious reason, viz, that when the foot is presented, the mouth of the gaiter may expand sufficiently to admit it; which result could not possibly take place if the narrow end of the gore was uppermost. We vary both the angles and size of the gores as occasions demand.

We will now proceed to describe the gore and our method of making it, after which we will describe our method of fastening said gore into the boot. We make the elastic gore as follows: We take a faced material, a lining, and strips of india rubber; for the faced material we always select if possible, a fabric precisely the same as that of which the gaiter is made; the lining may be of muslin or other suitable material; the strips of india rubber we cut flat, square and in suitable lengths as is hereinafter described. Having cut the faced material and lining into the proper shape, we fasten each to the other by stitching run crosswise to its length, and in such manner as to form between each line of such stitching, a hollow passage or space wide enough to admit the introduction of the india rubber strips or springs. Into each hollow passage or space thus formed we introduce a brass tube, each tube containing within itself a strip or spring of india rubber, each strip or spring having one end projecting beyond its tube about one quarter of an inch. Upon said tubes we then gather or contract the faced material and lining by pushing them together with the fingers, until their width is reduced to about one half. This operation we call shirring. By then pressing upon the aforesaid projecting ends of the india-rubber springs, and withdrawing the tubes from the opposite side, said india rubber strips or springs are left in place with their ends projecting on each side of the shirred material about one quarter of an inch. We then take four narrow strips of muslin previously coated over with india rubber composition. Upon one side of each of said strips we lay an additional body of india rubber paste, while the paste is yet sticky, we apply said strips to the aforesaid projecting ends of the india-rubber springs, one at each end of the shirring on the faced side, and one at each end of the shirring on the lining side. We then press these ends thus stuck together, until the mass is consolidated, after which, with a pair of shears, we trim off either side of the gore thus formed.

In constructing our elastic gaiter boot as aforesaid, we cut out a gore-shaped-piece from that part of the gaiter on one side, where the lacing usually is, and another like gore-shaped-piece from the side of the gaiter opposite to where the lacing usually is, with this variation, that, instead of cutting said gore-shaped-pieces in as oblique a direction as said lacing usually runs, we cut them from the gaiter in a direction as nearly perpendicular as the shape of the boot will admit. The edges of the vacancy thus left, we trim with braid, said vacancy being about one inch narrower at the top, one inch narrower at the bottom, and one quarter of an inch shorter in length than the size of the gore to be inserted, in order that the rough sides and edges of the gore when in place may be concealed behind the braided edges of the gaiter as aforesaid. In place of the gore shaped pieces removed as aforesaid, we

substitute elastic gores made substantially as above described, one gore on each side of the gaiter, each gore in such position as that when sewed in place as hereinafter described, its broadest edge shall be uppermost, and shall form a segment of the rim or mouth of the gaiter. The braided edges of the gaiter are then neatly stitched on the outside, along the sides and bottoms of the shirred faced materials of the elastic gores, and the lining of the gaiter is then neatly stitched on the inside along the sides and bottoms of the shirred lining materials of said elastic gores and the binding around the rim, or mouth, of the gaiter, on the front part thereof and on the back part thereof, is then made to overlap neatly so much of the gores on the right and on the left sides thereof, as will suffice to conceal the upper or top parts of the rough edges of the elastic gores as aforesaid.

Plate 1st represents a drawing of a gaiter boot constructed with an elastic gore as above described. A is the gaiter part of the boot. B represents the elastic gore in the side of such gaiter, the opposite part of the gaiter being made precisely similar to the side represented in the drawing.

In explanation of the mechanical process employed by us in making the elastic gore, we refer to the annexed drawings on Plate 2. Figure 1, shows a tube used to introduce the india rubber springs into the hollow passages or spaces, and also to facilitate the gathering or shirring of the faced material and lining upon such elastic springs. *a* shows the end of the tube pointed to penetrate the hollow passages or spaces between the stitching, the slit *b b* being formed to facilitate the entering of the india rubber strips into the tube, and the letter C showing the end of the india rubber strip left projecting as aforesaid to be taken hold of when the tube is withdrawn from the opposite end.

Fig. 2 shows the faced piece and lining of the gore, stitched together, and twelve hollow tubes between the stitchings; the first three having india rubber springs therein. We think it important to mention here, that although the drawing represents but twelve tubes, the first three of them, only, containing elastic springs, yet in practice we insert a tube with the india rubber strip or spring therein, into each space between the stitching, and do not remove any of them until the shirring is finished.

Fig. 3 shows the gore, completed on one side—the other side represents the ends of the india rubber strips or springs ready to be secured by means of strips prepared with india rubber paste as above described.

We also describe another mechanical process of making said elastic gores, varying from the aforesaid, but substantially the same. Before cutting the springs of india rubber from the sheet, we cut the sheet into the shape of the gore, and of the size required; we then take four strips of muslin prepared as above described, each strip being in width about one quarter of an inch, and as long as the side of the india rubber sheet to be operated on. Upon one side of each of said strips we then lay an additional body of india rubber paste as aforesaid. Upon each side of said sheet of india rubber we then lay two of said strips while yet sticky, one at either end, and submit them to pressure until the whole is consolidated. From the sheet of india rubber thus prepared we cut our springs each spring by this process having its end so prepared as to be capable of retaining stitching. We then insert these springs into the hollow spaces of the gore as aforesaid, and shir upon said springs in the manner above described; but, instead of consolidating the ends of said springs together as aforesaid, after they are shirred upon as aforesaid, we connect them together by ordinary binding; the gore thus made is then fit for use, and may be inserted as aforesaid; or it may be inserted without previous binding—but the operation is more troublesome, and the gore is not so lasting. We likewise mention that cylindrical cords or springs of india rubber are preferable to the flat square above described. Moreover, the mechanical process of combining the above materials, may be varied from those described by us as aforesaid, and likewise the gaiter boot may be constructed with one elastic gore instead of two, and the position and angle of the elastic gore or gores may be varied in the gaiter of the boot, but we prefer the above described construction of elastic gaiter boots, as combining all the advantages, without any of the disadvantages that would follow from such variations as aforesaid.

What we claim therefore and desire to secure by Letters Patent, is not the mechanical process by means of which, shirred faced materials and lining and india rubber springs are put together; nor do we claim the mechanical means by which said shirred faced materials, and lining and india rubber springs are held together; nor do we claim the said shirred faced materials and lining and india rubber springs, either separately or combined together so as to form an elastic gore substantially as aforesaid; nor do we claim said shirred faced materials and lining and india rubber springs either separately or combined together with or without their edges so prepared, secured or consolidated as aforesaid, as we are taking the necessary steps to secure this by a

separate patent. Nor do we claim the invention of a gaiter boot constructed with an elastic gore; but

We do claim as our invention—

Gaiter boots made elastic substantially as aforesaid by being constructed with an elastic gore or gores made from the combination of shirred materials and india rubber springs substantially as is above described.

In testimony whereof we have hereunto set our hands this nineteenth day of October in the year of our Lord one thousand eight hundred and forty.

JOHN H. DU PONT.
THEODORE HYATT.

In presence of—
JAMES H. KELLAN,
JOHN P. SCHMOKE.