

P. NOË.

APPARATUS FOR EXPANDING AND CONTRACTING HATS.

No. 491,853.

Patented Feb. 14, 1893.

Fig. 1.

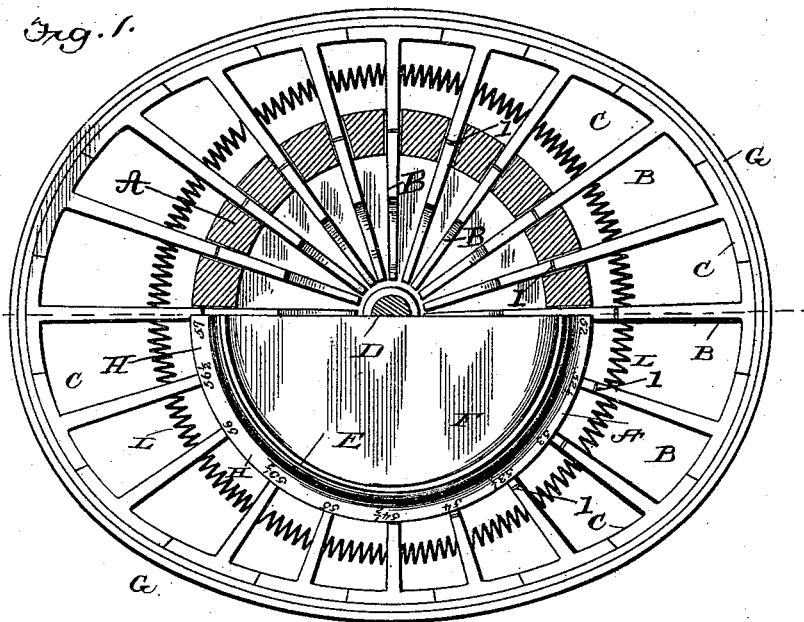
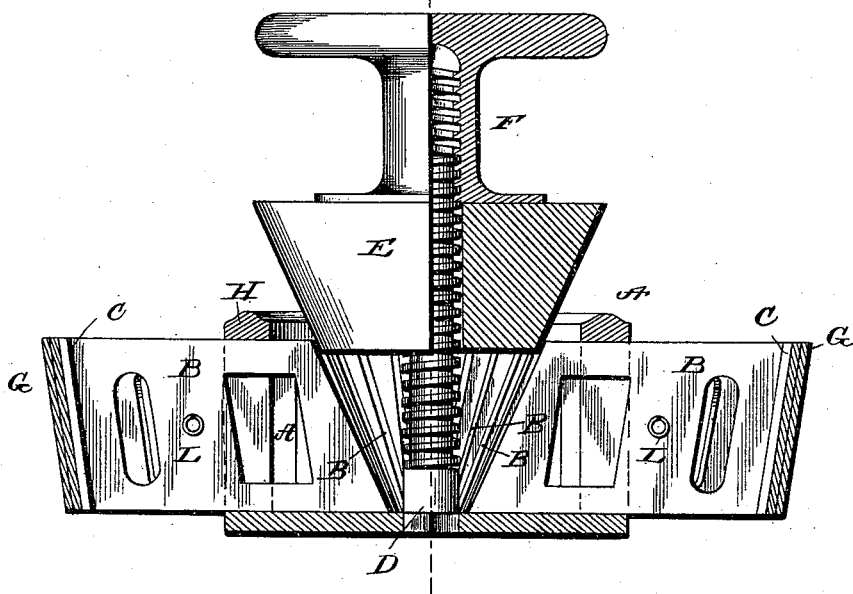


Fig. 2.



Witnesses

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Fig. 3.

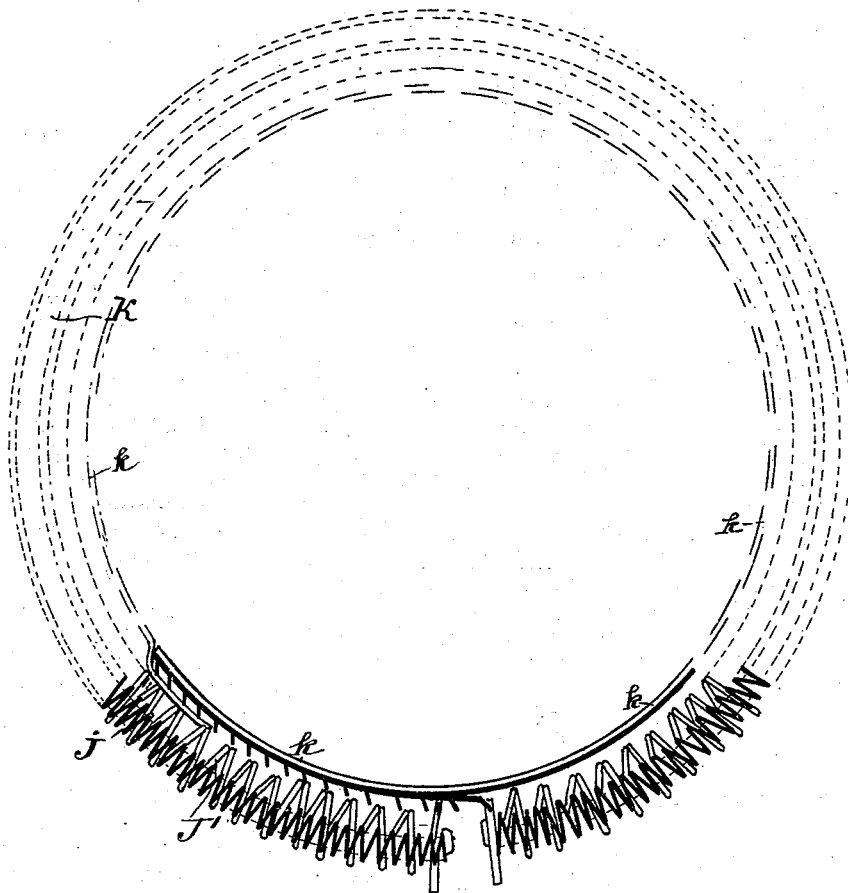
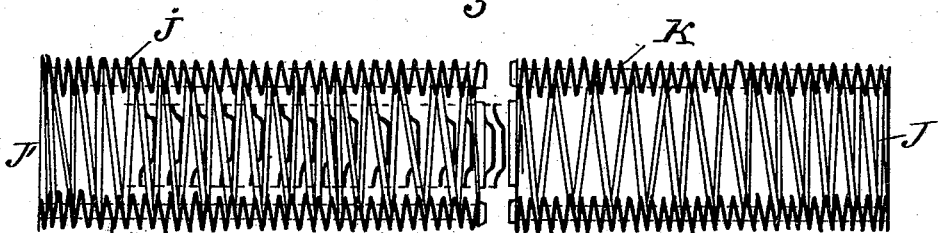


Fig. 4.



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UNITED STATES PATENT OFFICE.

PETER NOË, OF MOSBACH, GERMANY.

APPARATUS FOR EXPANDING AND CONTRACTING HATS.

SPECIFICATION forming part of Letters Patent No. 491,853, dated February 14, 1893.

Application filed February 8, 1892. Serial No. 420,733. (No model.)

To all whom it may concern:

Be it known that I, PETER NOË, a subject of the Emperor of Germany, and a resident of Mosbach, Baden, Germany, have invented
5 new and useful Improvements in Apparatus for Regulating the Width of Hats and Caps, of which the following is a specification.

The present invention relates to a device which may be employed for enlarging as well
10 as reducing the size of hats.

The object of this invention is to provide an improved means for thus enlarging or reducing the size of the hat; and also for readily ascertaining when the hat has been brought
15 to the desired size; and for this purpose, the said invention consists in the means, features and combination of parts hereinafter set forth and covered in the claims.

In the accompanying drawings which represent an apparatus, embodying my invention—Figure 1 represents a plan view, partly in section and Fig. 2 a vertical section of the same; Fig. 3 a plan of the auxiliary contracting device and Fig. 4 a front elevation of the
25 same.

The cylindrical body or core, A, is provided on its periphery with a large number of vertical slots, through which pass a corresponding number of plates or spokes, B, beveled at
30 their inner ends, as shown. At their outer ends they are provided with the cross-plates C. The several plates, B, are of such a size and the cross-plates, C, are arranged so and in such numbers, that the adjoining cross-plates, C, will form a complete hat-shape without any
35 injurious gaps, even when the expanding device has been adjusted to the largest hat-size in use. A screw-bolt, D, is arranged in the center of the cylindrical body, A, and is fastened thereto in any suitable way and is encircled by a cone, E, resting upon the bevels of the plates, B, as shown. A nut, F, provided with a knob or handle is screwed onto the screw-bolt, D, above the cone, E. The lower
40 end of the screw-bolt D, is squared and is slipped in a rectangular socket opening in the bottom of the body A. The cone is a solid block, and is provided with a central bore, which is slightly larger than the screw-bolt
45 D, and the nut bears upon the upper face of the cone E, and forces the same downward to move the plates B, outward. It follows from

this arrangement that when the nut is screwed down the plates, B, are pushed outward evenly. Inasmuch as the cross-plates, C, are thereby
55 separated from each other a band, G, of elastic material is placed around the periphery of the said cross-plates to make the exceedingly narrow gaps perfectly harmless. This elastic band effectually fills out the gaps between the plates and serves to transmit the
60 pressure of the expanding device uniformly to the inner surface of the hat. Only by this uniform pressure upon all parts of the inner surface of the hat, and the consequent uniform
65 extension of all the parts of the hat can a correct enlargement of the hat be attained.

A strong spiral spring, L, passing through openings in the plates, B, is arranged to automatically return the said plates to their original position after screwing back the nut, F.
70 The same returns all the plates simultaneously. The spring L, also moves the cone upward when the nut is screwed upward.

Each plate B is provided at its upper edge
75 with a suitable mark or notch 1, and such marks or notches occur at different points on the plates, so that the one which registers with the outer edge of the cover H, may readily be seen. The cover H bears a scale of numbers
80 corresponding to the marks or notches, and it consists of that portion of the cylindrical body above the vertical slots. When the plates B, are expanded the marks or notches emerge in succession from under the cover H, thus at
85 once indicating the size to which the hat has been enlarged. If *e. g.* there are twenty plates in the apparatus, numbers ranging from 52 to 62 and intermediate fractions may be indicated.
90

In order to adapt this expanding block for reducing the sizes of hats the following supplemental apparatus is employed. A band, K, which is composed of strong spiral springs J, arranged at the top and bottom of and
95 interlaced with the coils of a large spiral spring J' is placed around the exterior of the hat, after the expanding block has been placed in the proper position in the interior of the hat. The band is then tightly drawn and its ends
100 are hooked together. The proper part of the hat is then heated and the nut, F, is screwed back to the desired point, the band, K, in the meanwhile contracting or compressing the

hat to the extent to which the cross-plates, C, have receded. After cooling the band is removed from the hat and the same now has the desired reduced form.

- 5 In order to protect the hat the metal-band, K, is backed with a strip of cloth *k* or the like. The cylindrical band or strip *k*, presents a smooth inner face to a hat and is adapted to be interposed between the spiral springs and
 10 a hat to protect the latter. If it is not desired to reduce the hat uniformly at all points suitable strips of cloth or similar material are laid between the inner surface of the hat and the elastic periphery of the expanding block.
 15 This expanding and reducing device or block for hats answers all the requirements which may be made to this indispensable device and the same is fully adapted to supply a want hitherto generally felt in the manufacture of hats, owing to its utility and great simplicity combined with ease of manufacture.

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

1. In a device for regulating the size of
 25 hats, the combination of a core provided with a circular series of gradually increasing scale numbers arranged adjacent to the periphery of the core, a number of radial plates mounted on the core and provided at their outer ends
 30 with cross-plates and located adjacent to the scale numbers and each having a single mark corresponding to the adjacent scale number, arranged to register with the edge of the core and means for actuating the plates, substantially as described.

- 35 2. In a device for regulating the size of

hats, the combination with a device adapted to be arranged in a hat and having a contractile periphery, of an elastic compressing band consisting of a spiral spring and a cylindrical band having a smooth inner face and
 40 arranged at the inner side of the spiral spring and adapted to be interposed between the spring and a hat to protect the latter, substantially as described.

3. In a device for regulating the size of hats, the combination with a device adapted to be arranged in a hat and having a contractile periphery, of an elastic compressing band consisting of a large spiral spring and
 50 small spiral springs arranged at the top and bottom of and interlaced with the coils of the large spiral spring, substantially as described.

4. In a device for regulating the size of hats, the combination with a device adapted
 55 to be arranged in a hat and having a contractile periphery, of an elastic compressing band consisting of a large spiral spring, small spiral springs arranged at the top and bottom of and interlaced with the coils of the large
 60 spiral spring and a cylindrical band having a smooth inner face and arranged at the inner side of the spiral springs, substantially as and for the purpose described.

In testimony whereof I have signed my
 65 name to this specification in the presence of two subscribing witnesses.

PETER NOË.

Witnesses:

FRANZ HASSLACHER,
 FRIEDRICH CORRELL.