H. Cook.

Hoop Skirt.

No. 2513
33517

Patented Oct. 22, 1861.

Fig. 1.

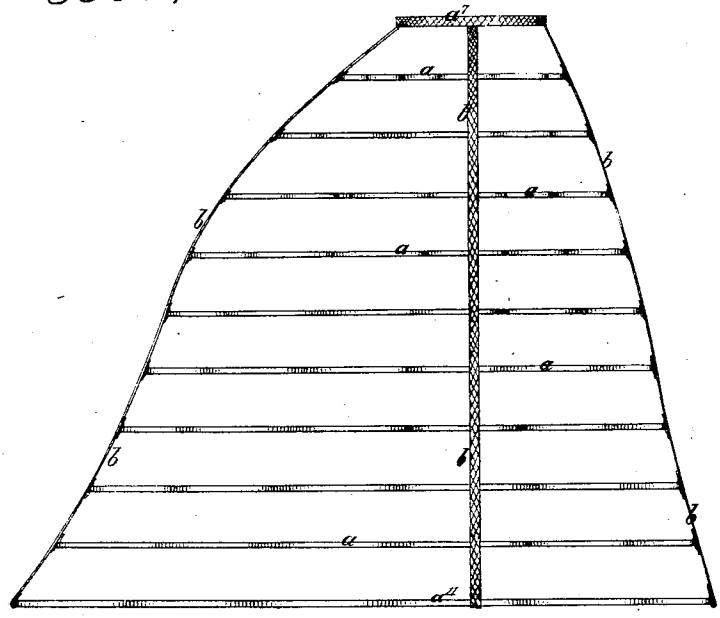
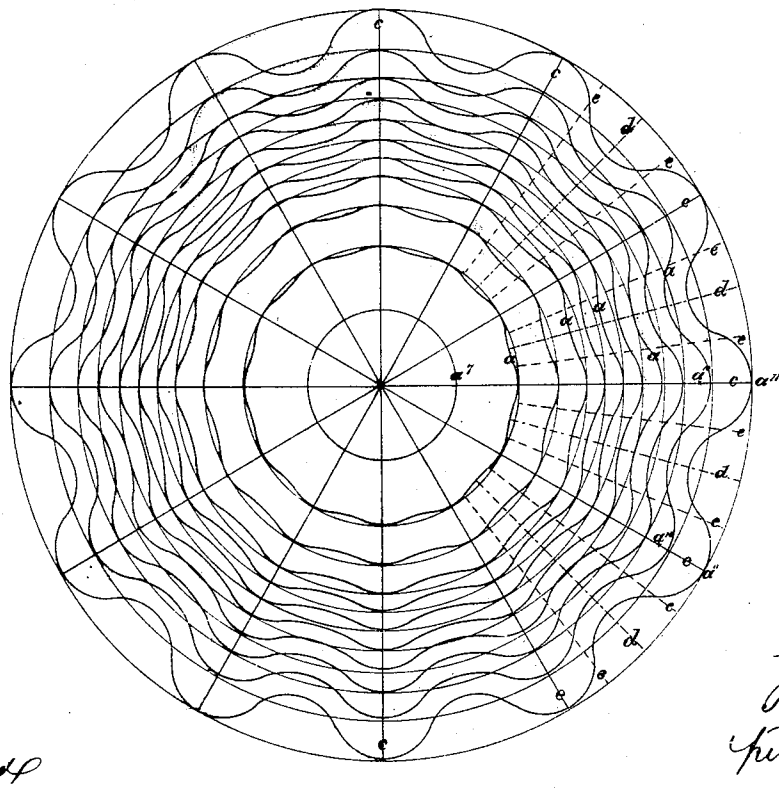


Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY COOK, OF CHEETHAM HILL, MANCHESTER, COUNTY OF LANCASTER, ENGLAND.

IMPROVEMENT IN HOOP-SKIRTS.

Specification forming part of Letters Patent No. **33,517**, dated October 22, 1861.

To all whom it may concern:

Be it known that I, HENRY COOK, gentleman, of Cheetham Hill, Manchester, in the county of Lancaster, have invented an Improvement in the Manufacture of Crinoline; and I do hereby declare that the following is a full and exact description of my said invention.

My invention of an improvement in the manufacture of crinoline consists in constructing the material in a wavy form (thus ⌒⌒⌒⌒) instead of perfectly flat, as is now the case. By this means when the crinoline is formed into rings and made up in the usual manner the folds of the dress will fall gracefully over the wavy line instead of being bulged out and broken by the flat unbroken curves of the present fashion of crinoline.

In the accompanying drawings, Figure 1 is a side elevation of a petticoat-framing constructed of crinoline-steel made according to my invention. Fig. 2 is a plan view of the same, showing the wavy outline of the rings of crinoline of which the petticoat-framing is mainly composed.

a a a are the rings, which in the drawings are eleven in number; but any larger or smaller number may be used, if desired. The crinoline-rings are sustained in their place by means of tapes or bands *b b*, attached at their upper ends to the uppermost ring *a'* and at the bottom to the lowermost ring *a''*. It will be seen on referring to the plan view that the curves or waves in all the crinoline-rings are proportionate to the diameter of the ring, but are all of the same character and constructed on the same principle.

I will now explain in what way I proceed in order to obtain or produce the curves shown in the plan view, and which I conceive to be the curves which will impart a graceful and flowing appearance to an outer garment when supported by a petticoat-framing constructed of crinoline of the description shown in the drawings. I first decide the number of rings which I intend to use and the diameter which it is proposed to give to the largest or lowermost one. These rings, which are of gradually-decreasing diameter, are suspended equidistant from each other on tapes or cords attached by their ends to the topmost and lowermost rings. Having fixed the diameter which it is proposed to give to the rings between the top and bottom of the petticoat, I carefully strike on a board and from one common center a number of circles of the desired diameters and required numbers, as shown by the fine circles in Fig. 2. The next thing is to determine the number of waves which it is intended to give to the rings throughout the circumference. This settled, the circles are to be divided by radial lines into the required number of parts—say twelve—as indicated by the fine unbroken radial lines *c c*, Fig. 2. The intersections of these radial lines *c c* with the fine concentric circles already made will give the central points of the salient curves of all the rings. The spaces between the radial lines *c c* are then each divided into two equal parts, and other radial lines are drawn from the center to the circumference, as indicated by the broken lines *d d*. The spaces between the unbroken radial lines *c c* and the broken radial lines *d d* are further divided into equal parts, and other radial lines are drawn from the center to the circumference, as indicated by the dotted lines *e e*, which will indicate the limits or extremities of the salient curves. These salient curves are each produced by placing one leg of a compass on one of the points of intersection of the radial lines *c c* with the circles—as, for instance, at a^{11}—and with the other leg marking off on the same line *c*, at a suitable distance from a^{11}, the point a^{10}, and then from the said point a^{10} striking a curve which will extend to the dotted radial lines *e e* on each side of the line *c*. All of the salient curves in all the rings are of the same radius, but are limited in length by the dotted lines *e e*. The re-entering curves are produced by commencing with the same length of radius and placing the stationary leg of the compass on the point of intersection between the broken radial lines with the red circles and opening the compass to the distance between a^{10} and a^{11}, then striking a curve which will extend to the yellow radial lines on each side of the center. All the other salient curves in all the rings are of the same radius, but are limited in length by the yellow radial lines. The re-entering curves are produced by commencing with the same length of radius and plac-

ing the stationary leg of the compass on the point of intersection between the black radial lines and the outermost circle a^{11}. The extremities of a re-entering curve produced in this manner will be found to join the extremities of the outermost salient curves produced in the manner just explained, and in order to produce the re-entering curves of the other rings it will only be necessary to keep the stationary leg on the same point and open the compasses so as to join the extremities of the adjacent or neighboring salient curves. It will thus be seen that the re-entering curves of each flute of the petticoat are all struck from the same center, and consequently as they approach the central or waist part of the petticoat they become flatter and flatter. The wavy or curved rings of crinoline are secured to the vertical bands or tapes by sewing or in any other convenient manner, such as that now adopted in analogous cases.

I would here observe that although I have given a detailed explanation of the manner in which I propose to generate the curves or waves of the crinoline, and which I consider will give the most satisfactory and graceful result, I do not mean or intend to confine myself to these or any particular curves, as the size, number, and arrangement of these curves or waves must be left in some measure to individual taste. I will only say, therefore, that in order to impart a graceful and easy flow to the outer robe or garment I consider it advisable to proportion the curves or waves to the increasing or diminishing diameter of the rings of crinoline. The desired wavy or curved appearance may be given to the crinoline-steel either by dies of the required form or by passing it when in a suitable state between corrugated rollers, and afterward hardening and tempering it in the usual manner.

Having now described my invention of an improvement in the manufacture of crinoline, and having explained the manner of carrying the same into effect, I claim as my invention—

The use of crinoline or steel or other suitable material of a wavy or corrugated form in the manufacture of petticoats or skirts, as herein set forth.

In witness whereof I, the said HENRY COOK, have hereunto set my hand and seal the 13th day of July, in the year of our Lord, 1861.

HENRY COOK. [L. S.]

Witnesses:

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