S. Beatty,

Perforated Wire.

No. 102,356. Patented Apr. 26. 1870.

Fig. 1.


Fig. 2.

Fig. 3.

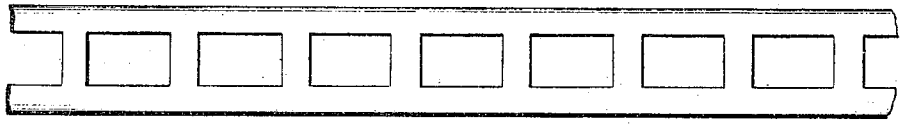
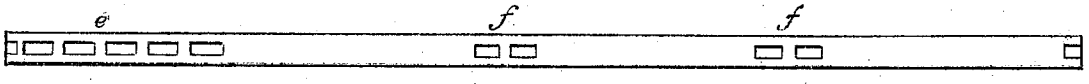


Fig. 4.

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# UNITED STATES PATENT OFFICE.

SAMUEL BEATTY, OF NORWALK, CONNECTICUT.

## IMPROVEMENT IN PERFORATED WIRE.

Specification forming part of Letters Patent No. **102,356**, dated April 26, 1870.

*To all whom it may concern:*

Be it known that I, SAMUEL BEATTY, of Norwalk, in the county of Fairfield and State of Connecticut, have invented a Perforated Wire, of which the following is a specification, reference being had to the accompanying drawings.

My invention consists in producing a new article of manufacture, the same consisting of a flattened perforated wire, as hereinafter more fully explained.

In the accompanying drawings, Figures 1 and 2 represent the wire in its various stages of preparation. Figs. 3 and 4 represent the same completed, ready for use.

In constructing my improved article, I first take a round wire, *a*, of the proper size and pass it between rolls, thus flattening it, as represented by *b* of Fig. 1. It is again rolled and flattened out still more, and so on continuously until it is reduced to the requisite thinness, each rolling reducing its thickness and increasing its width, as represented by the various cross-sections shown in Fig. 1. As these successive rollings have a tendency to harden the metal and render it rigid and brittle, it is sometimes necessary to anneal or soften the same, this necessity depending upon the quality of the wire, the number of times it is subjected to the action of the rolls, and the purpose for which it is to be used, some purposes requiring that it should be left as stiff as possible, and others requiring that it should be soft and pliable. After having thus rolled the wire out into a thin, flat strip, as represented in Fig. 2, where it is shown much enlarged, and in which condition it resembles the ordinary hoop-skirt wire, I then perforate it with a series of holes, as shown in Fig. 3, also enlarged. This may be done by any of several well-known mechanical means—as, for instance, by a punch, press, or by rolls provided with suitable punches and recesses or dies. These perforations may be made in any suitable style or order, according to the purpose for which the wire is to be used, they being formed in a single row or series along the center, as shown, or in pairs or rows near the opposite edges, these holes being directly opposite each other, or placed alternately in zigzag form or order, as may be preferred.

In preparing the wire for use in forming hat-ventilators, for which it is admirably adapted, I prefer to form the perforations in a single row along the center, and of an elongated form, as represented in Fig. 3, and at *e* of Fig. 4, this arrangement and form of the perforations rendering the material less liable to injury by fracture or breaking in punching the holes, and also permitting it to be more readily corrugated without injury. The perforations may be varied in form, they being made as shown, or rounded or oval, as preferred. When intended for hoop skirts, bonnet-frames, and similar purposes, the perforations may be formed only at intervals, as represented at *f*, Fig. 4, the perforations in such case being intended for stitching it fast with a needle and thread, or for permitting the metal fastening, if such be used, to pass through the perforation, and thus prevent the wire from slipping.

It will be observed that a flat metal ribbon formed by rolling down a round drawn wire will have smooth and rounded edges, as represented in Figs. 1 and 2, and that such a wire may be much more readily covered with thread or fibrous covering of any kind, without danger of injuring the same, than could be a strip of metal cut from a sheet, as the latter would have a rough edge, and tend to tear or cut the covering.

My perforated wire may be made of any required size, with or without being tempered, as desired, and may be covered or used without, as required.

By this method of preparing the wire I produce a now article of manufacture that is adapted to many purposes.

Having thus described my invention, what I claim is—

The herein-described flattened and perforated wire, as a new article of manufacture.

SAMUEL BEATTY.

Witnesses:

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