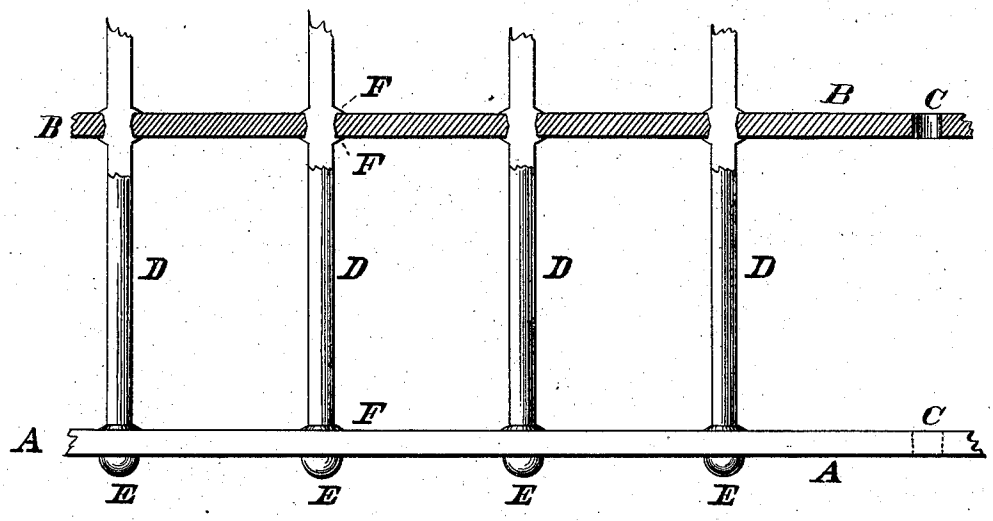
M. J. STARK.

JOINTS FOR WIRE AND ROD FABRICS.

No. 194,541. Patented Aug. 28, 1877.

FIG. 1.



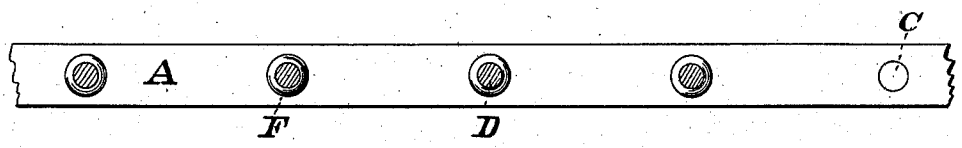


FIG. 2.

Witnesses:

Frank Hirsch

Chas. Bussart

Inventor:

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UNITED STATES PATENT OFFICE.

MICHAEL J. STARK, OF BUFFALO, NEW YORK, ASSIGNOR TO HEINZ, PIERCE & MUNSCHAUER, OF SAME PLACE.

IMPROVEMENT IN JOINTS FOR WIRE AND ROD FABRICS.

Specification forming part of Letters Patent No. **194,541**, dated August 28, 1877; application filed June 23, 1877.

To all whom it may concern:

Be it known that I, MICHAEL J. STARK, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements on a Joint for Wire and Rod Fabrics; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to fastenings for the horizontal bands of bird-cages, railings of fences, and similar articles; and it consists in distortions formed in the filling wires within, above, and below said bands, railings, &c., for holding the same in position, as hereinafter more fully explained.

In the drawings heretofore mentioned, Figure 1 is a front view of a fragment of a bird-cage, a fence, or similar article, the upper part being shown in section. Fig. 2 is a plan of the same.

Like letters of reference indicate corresponding parts in both figures.

A is the lower, and B the middle or upper, band, of a bird-cage, a fence, or similar article made of brass, iron, &c. These bands are, at regular intervals, provided with perforations C, through which are passed the filling-wires D.

These bands are made of wire flattened by passing it through rollers, as in the case of a bird or similar cage, or of flat iron, as in the case of a fence, &c., and the perforations are produced therein by the process of punching, in preference to drilling, on account of cheapness.

The lower band is retained in position by the filling-wires being provided with a head, E, on the lower side thereof, and then the wires being "upset" or enlarged within the said bands, so as to keep the said bands in frictional contact with said filling-wires. The middle and upper bands are simply retained in position by the said upsetting process. If desired, shoulders F may be formed above and below said middle, and above the lower bands for additional security against displacement of said bands. In most cases, however, the swelling of the filling-wires within the bands will be found sufficient to retain them in position.

I produce the distortions of the filling-wires by suitable machinery, consisting, essentially, of two pairs of jaws placed in line, and provided with a groove corresponding to the transverse sectional contour of said filling-wires. These jaws are placed a sufficient distance from one another to admit the band between them, and to give sufficient metal for upsetting, and they are first closed to tightly embrace the said filling-wires, and then moved together toward one another, whereby the metal between said two pairs of jaws is upset into the bands, and permanently secured therein.

If it is desired to form the shoulders F, the two pairs of jaws are recessed in their opposite faces around the opening formed by the grooves in said jaws, into which recesses the metal is forced during the upsetting process.

It is evident that this method of fastening is applicable to many purposes in the arts, such as bird-cages, wire-work, fences, bridge-work, &c., without modification.

Having thus fully described my invention, I desire to secure to me by Letters Patent of the United States—

1. A joint for fabrics of the class described, consisting of a perforated band and a filling-wire, having upset distortions above and below the band, as and for the purpose set forth.

2. A bird or similar cage or article in which the filling-wires are secured within perforated bands by increased diameters of said filling-wires within the perforations, and by shoulders on both sides of each band, substantially as and for the use and purpose stated.

3. A joint for fabrics of the class described, consisting of a perforated band, and a filling-wire, having an increased diameter or distortion entirely within the band, as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have hereto set my hand in the presence of two subscribing witnesses.

MICHAEL J. STARK.

Attest:

FRANK HIRSCH,
CHAS. BROSART.