

M. GREBNER.
Bird-Cage.

No. 223,340.

Patented Jan. 6, 1880.

Fig. 1.

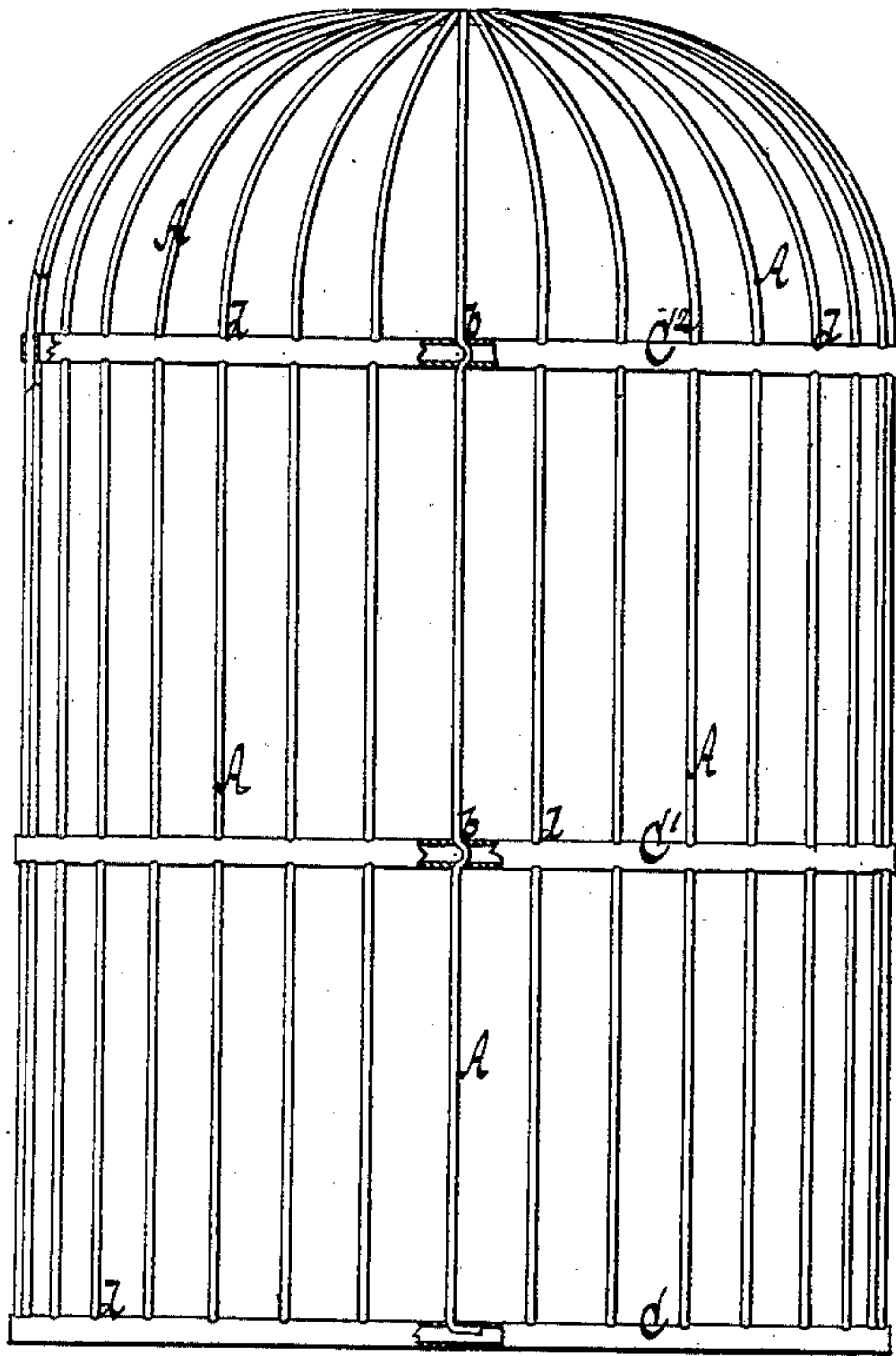


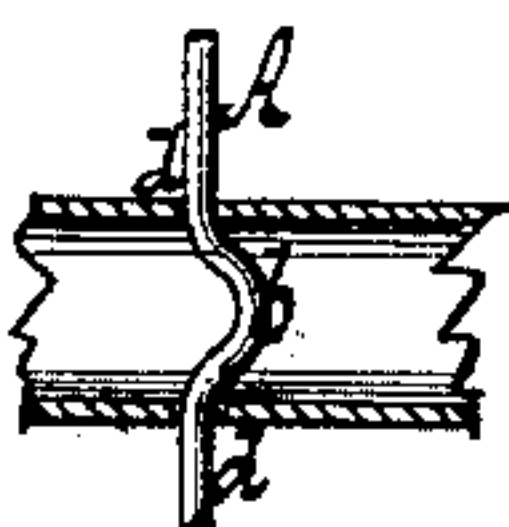
Fig. 2.



Fig. 3.



Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

MICHAEL GREBNER, OF HOBOKEN, NEW JERSEY.

BIRD-CAGE.

SPECIFICATION forming part of Letters Patent No. 223,340, dated January 6, 1880.

Application filed October 4, 1878.

To all whom it may concern :

Be it known that I, MICHAEL GREBNER, of Hoboken, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Bird-Cages, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a side view of my cage, partly in section. Fig. 2 is a transverse section of one of the cross-bands before it is compressed. Fig. 3 is a similar section thereof when compressed. Fig. 4 is a longitudinal section of the same.

Similar letters indicate corresponding parts.

My invention relates to certain novel means for fastening the filling-wires of a bird or animal cage in the cross-bands thereof. This object I have heretofore accomplished by making the cross-bands of sheet-metal strips provided with holes, forming the filling-wires with crimps, and passing these crimps through the holes of the cross-bands, so as to prevent vertical displacement of the cross-bands and also a lateral or horizontal displacement of the filling-wires. The cages constructed according to this method, however, met with an objection caused by the position of the crimps in the filling-wires at right angles to the cross-bands, so that by said crimps a number of recesses are formed for vermin to lodge in.

By my present invention I have obviated this objection, the cross-bands being made in the form of tubes, which are adapted to receive the crimped parts of the filling-wires, and which, after the filling-wires have been inserted, are closed up against the flat sides of the crimps, said crimps extending in the direction of the axis of the cross-bands, so that when the cage is finished the cross-bands have the appearance of solid rods, which perfectly conceal and inclose the crimps of the filling-wires and leave no open spaces for vermin.

In the drawings, the letter A designates the filling-wires of my cage, which are formed with crimps *b*, produced by dies of suitable form, and C C' C² are the hollow cross-bands, having holes *d*.

The middle and upper cross-bands are made,

respectively, of a strip of sheet metal, which is punched with a double row of holes and bent to a tubular form, so as to bring the holes opposite to each other, while the lower band, C, is made of a strip of sheet metal punched with a single row of holes and bent to a tubular form.

The crimps *b* in the upper parts of the filling-wires and those at the lower ends thereof differ, in that those first named have a sinuous form, (see Figs. 1 and 4,) while the last named are L-shaped, as seen in Fig. 1.

In order to fasten or unite the filling-wires A and the cross-bands C C' C², I pass the filling-wires through the holes *d*, so as to bring the crimped parts *b* of said wires within the tubular bands, and after the crimps have been turned in the direction of the axis of said tubes, (see Figs. 2 and 4,) the latter are compressed against the flat sides of the crimps, as shown in Fig. 3, by passing them between pressure-rollers, or by other suitable means. All these operations are performed while the tubes which are to form the cross-bands of the cage are straight, and after a sufficient number of filling-wires have been fastened in said tubes, by compressing the tubes against the flat sides of the crimps, as above stated, the flattened tubes are bent to correspond to the form of the cage to be produced, which may be circular, oval, square, or polygonal; and after said cross-bands have been cut to the proper length their ends are united by solder or other suitable means.

It will be seen from this description that in my cage the cross-bands, when compressed against the flat sides of the crimps, have the appearance of solid rods, which completely inclose said crimps and leave no recess or space for vermin to lodge in.

I do not claim the combination, in a bird-cage, of filling-wires having crimps or bends with hollow cross-bands or galleries adapted to receive the crimped parts of the filling-wires and compressed to lock the same.

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

In a bird-cage, the combination of tubular cross-bands provided with holes to receive the

filling-wires, and filling-wires provided with lateral crimps arranged within the tubular cross-bands and projecting in a direction parallel to the axis of the cross-bands, substantially as shown, said tubular cross-bands being compressed against the flat sides of the crimps in the filling-wires, thereby imparting to the bands uninterrupted parallel sides, as set forth.

In testimony that I claim the foregoing I do hereunto set my hand and seal this 1st day of October, 1878.

M. GREBNER. [L. S.]

Witnesses:

W. HAUFF,
CHAS. WAHLERS.