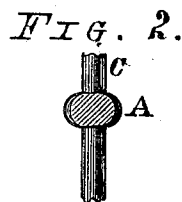
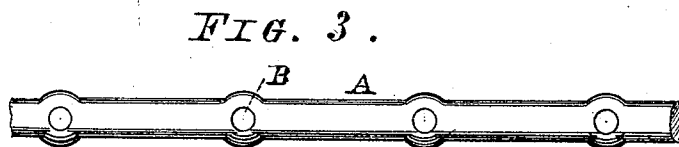
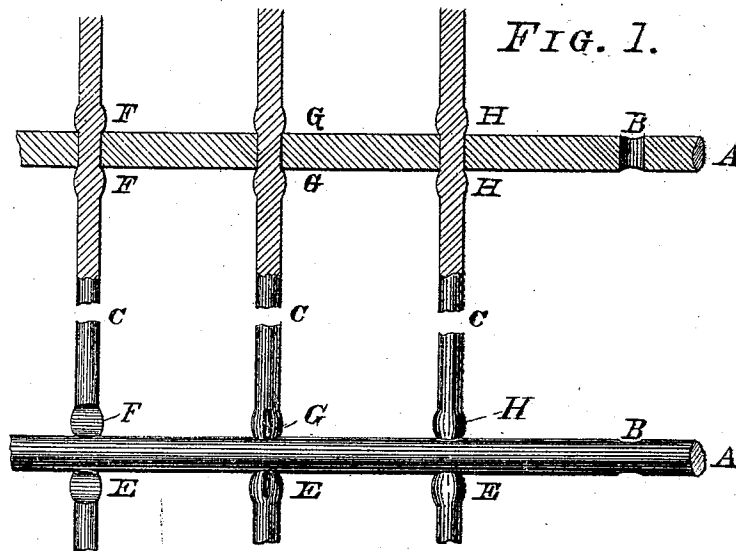


A. HEINZ.  
BIRD-CAGE.

No. 180,232.

Patented July 25, 1876.



WITNESSES:

Frank Hirsch  
J. F. Stark.

INVENTOR:

Adam Heinz  
by Michael J. Stark  
his attorney.

# UNITED STATES PATENT OFFICE.

ADAM HEINZ, OF BUFFALO, NEW YORK, ASSIGNOR TO HEINZ, PIERCE & MUNSCHAUER, OF SAME PLACE.

## IMPROVEMENT IN BIRD-CAGES.

Specification forming part of Letters Patent No. **180,232**, dated July 25, 1876; application filed June 12, 1876.

*To all whom it may concern:*

Be it known that I, ADAM HEINZ, of Buffalo, in the county of Erie and State of New York, have invented a Bird-Cage; and I do hereby declare that the following description, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification.

My invention relates to fastenings for the horizontal bands of bird and other cages; and it consists in distortions formed on the filling-wires above and below said bands, for holding the same in position, as will hereinafter more fully appear.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I shall proceed to describe its particulars, and thereby refer to the herein-before-mentioned drawings, which form a part of this specification, and illustrate my said invention more fully.

In these drawings, Figure 1 is a front view of a fraction of a bird-cage, showing the various modes by which I accomplish the desired result of securing the bands in position, parts being shown in section. Fig. 2 is a transverse section of one of the bands. Fig. 3 is a plan of the same.

Letters of a similar character refer to corresponding parts in the various figures.

A are the middle and upper bands of a bird-cage, made of brass, &c. These bands are, at regular intervals, provided with perforations B, through which are passed the vertical or filling wires C. The bands are made of wire flattened by passing it through rollers, and the perforations are produced therein either by the drilling or punching process, the latter being preferable, because I can then spread the metal by using a pointed punch, which will not remove any of the metal, thus retaining the full strength of the material, which would not be the case if the bands

were drilled. These bands are retained in position by means of the distortions E, formed on the filling-wires above and below said bands, on either all or a part of the filling-wires C. I produce these distortions either by flattening the filling-wires, as shown at F, or by spreading the same longitudinally, as illustrated at G; or the said filling-wires may be compressed (upset) by a suitably-constructed machine, so as to increase their diameter and to form shoulders, as clearly indicated at H, to obtain the desired result.

My invention is applicable to all kinds and styles of cages, but especially to that class of goods known as "bright-metal cages" made of brass wire "dipped" and varnished, and it materially reduces the cost of making them by drilling, and then either soldering or otherwise fastening the bands.

Having thus fully described my invention, I am well aware that the bands of bird-cages have been secured in position by compressing said bands, and also by crimping or bending the filling-wires, so as to form stops for said bands. I do therefore not claim such as my invention; but

What I do claim, and desire to secure to me by Letters Patent of the United States, is—

In a bird or similar cage, the fastening for the horizontal bands, consisting, in combination with the perforated horizontal bands and filling-wires, of distortions above and below said horizontal bands, formed without bending said filling-wires, substantially as described, for the use and purpose stated.

In testimony whereof I have hereto set my hand in the presence of two subscribing witnesses.

ADAM HEINZ.

Attest:

MICHAEL J. STARK,  
FRANK HIRSCH.