

(No Model.)

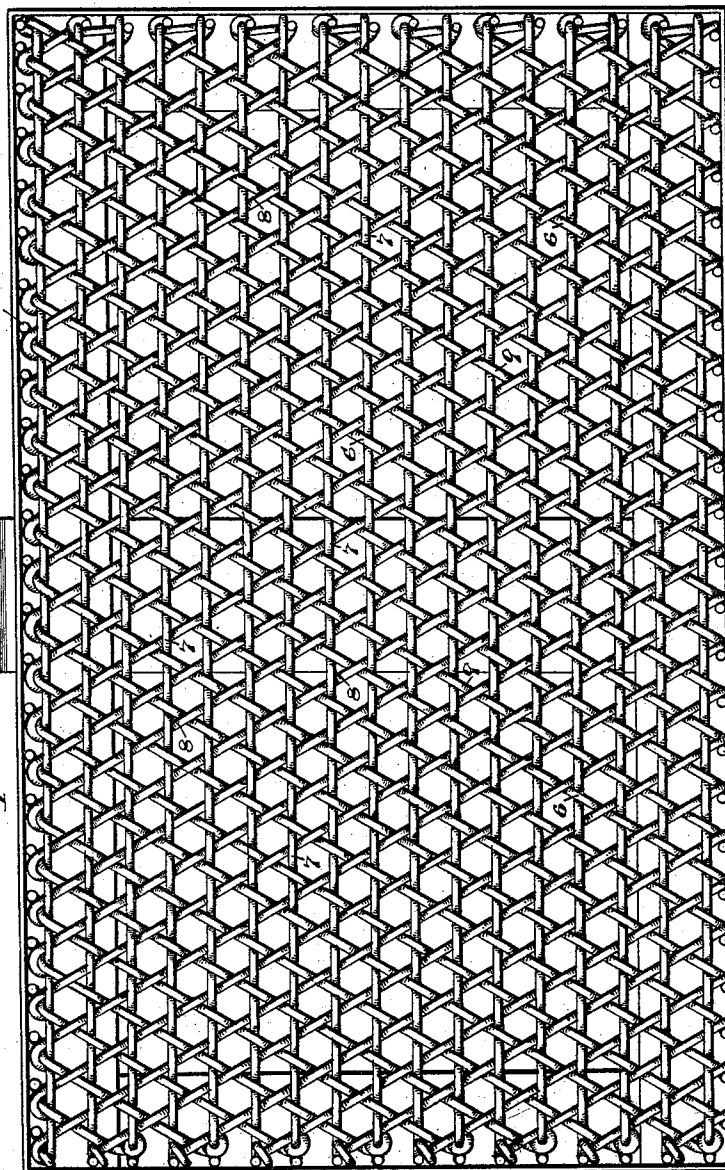
2 Sheets—Sheet 1.

J. H. CALHOON & A. D. BRITTAIN.

LEER PAN.

No. 574,389.

Patented Jan. 5, 1897.



Inventors

Witnesses

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

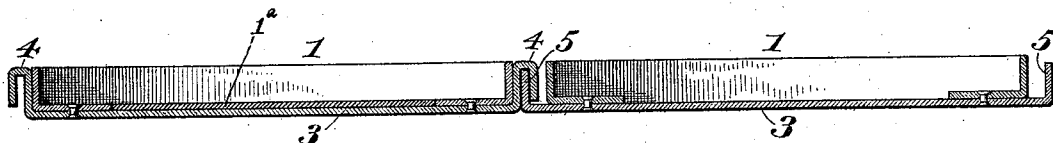


Fig. 4.

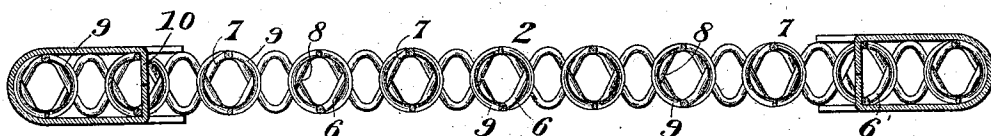
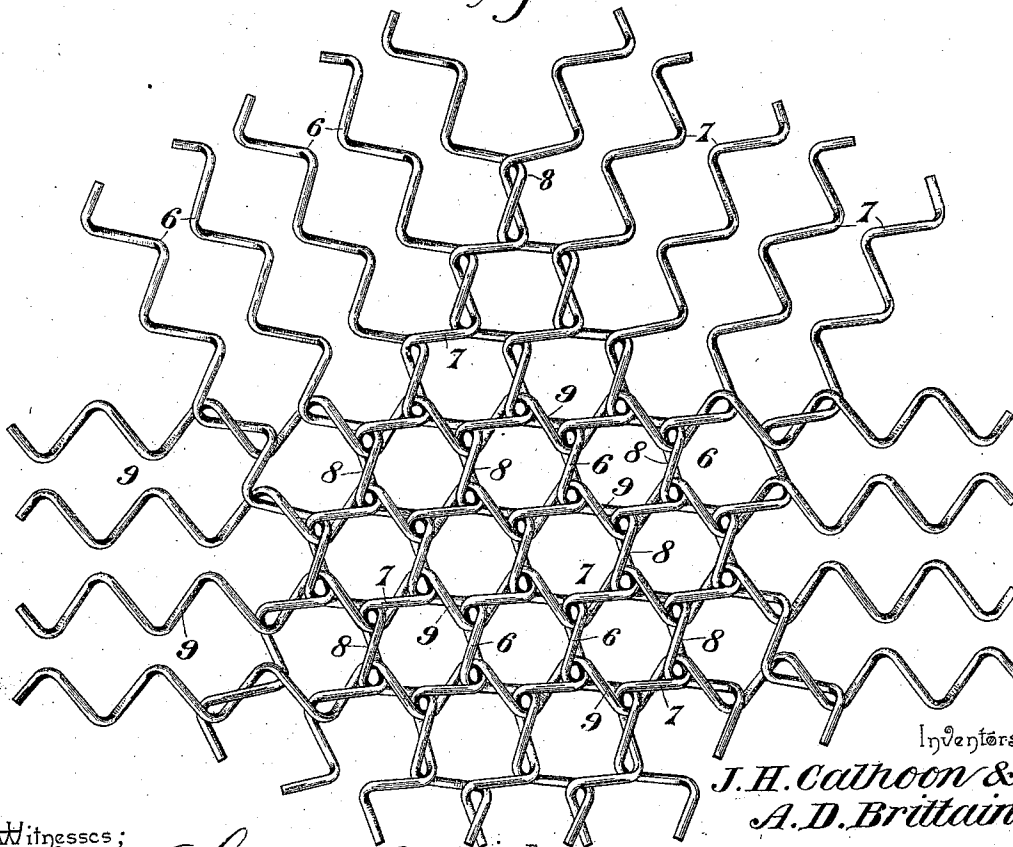


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOSEPH HARRY CALHOON AND ARLINGTON D. BRITTAIN, OF BEAVER FALLS,
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LEER-PAN.

SPECIFICATION forming part of Letters Patent No. 574,389, dated January 5, 1897.

Application filed April 12, 1895. Serial No. 545,494. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH HARRY CALHOON and ARLINGTON D. BRITTAIN, citizens of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented a new and useful Leer-Pan, of which the following is a specification.

The purpose of the present invention is to provide an improved leer-pan and wire fabric of special construction to be used in the formation of the same, whereby the annealing process is facilitated and the liability to fracture of the articles reduced to a minimum and the annealing effected in a more thorough manner than is possible by the use of leer-pans as heretofore constructed.

One grave objection met with in the use of leer-pans is the warping and buckling thereof due to the changes in temperature during the annealing operation. This has been overcome in a measure by packing the pans with non-heat-conducting material, such as asbestos, sand, and like substances. Such pans present a smooth surface and are hard and unyielding, and a high percentage of loss is attendant upon their use due, first, to breakage by reason of the articles toppling over or rolling about upon the pan, and, second, to burning resulting from an unequal distribution of the heat. All these objections are obviated by the present invention, as the improved pan is yielding, and while it presents practically a smooth surface, yet articles such as globes, shades, and bowls are prevented from rolling upon the pan, thereby preventing the loss incident to this cause in the annealing process of glassware. Moreover, the body of the pan being composed of wire fabric, a free circulation of the heat and a consequent uniform distribution of the same result. Hence it is practically impossible to burn the glassware in a manner common to the use of the ordinary leer-pan.

Other objects will appear from the following description when taken in connection with the accompanying drawings, in which—

Figure 1 is a top plan view of a leer-pan constructed in accordance with and embodying the essence of the present invention. Fig. 2 is a vertical section of the leer-pans with

the wire beds removed, showing the plate for closing the middle portion of the left-hand pan in position and having the plate for closing the right-hand pan removed. Fig. 3 is a detail view showing the manner of constructing the wire fabric forming the body portion of the pan and in which reside the vital principles of the invention. Fig. 4 is a detail view showing the preferred manner of protecting and attaching the metal binding to the edge portions of the wire fabric forming the leer-pan.

The leer-pan comprises a substantial frame 1 and a wire fabric 2, which latter is formed from a series of primary coils interwoven and interlocked in the manner to be described more fully hereinafter, so as to be capable of withstanding the changes in temperature and support the weight of the articles during the annealing process.

The frame 1, which may have any desired form, is preferably rectangular-shaped and is constructed by placing strips of metal to form an inclosure and securing the said strips at the points of intersection by rivets or similar fastening means, the edge portions of the said strips being turned up to provide a surrounding flange, by means of which the wire-fabric bottom is retained in place. The middle portion of the frame may be left open or closed by a plate 1^a, as desired. A cross-strip 3 is attached to the bottom side of the frame and serves to strengthen and brace the latter, and at the same time affords means for connecting the pans in series by linking them together. The cross-strips 3 of the intermediate pans have their ends bent to form hooks 4, whereas the strips of the alternate pans have their end portions bent up and recurved to form clips 5, which are adapted to engage with the hooks 4 and connect the pans in series, as will be readily understood.

The wire fabric is especially constructed with reference to its use in connection with leer-pans of any desired pattern whereby a practically smooth and uniform bearing-surface is attained and the primary coils mutually bracing each other at the interlocking and intersecting points. The completed fabric presents true hexagonal meshes, and the volutes of the different sets of primary coils

unitedly present the appearance of a series of parallel fluted wires intersected by oppositely disposed and extending diagonal fluted wires, which are interwoven so as to provide a plurality of arches at the points of crossing of the several wires. This is most clearly shown in Fig. 1.

In the formation of the wire fabric three sets or series of primary coils are provided, the coils of each set or series being arranged in parallel relation and spaced apart between their axial lines a distance corresponding to approximately the diameter of the primary coils. Thus it will be seen that the primary coils of each set or series do not touch or interlock, which is a feature of great importance in the construction of the fabric in attaining the desired results.

Two sets of primary coils, as 6 and 7, are diagonally disposed, the coils 6 crossing the coils 7 and interlocking therewith at the points of crossing, as shown at 8. The third set of primary coils 9 extend in a direction which, for the sake of clearness, will be designated as "transverse." These transverse coils 9 interlock and are interwoven with the coils 6 and 7 at the points of intersection therewith, thereby forming a substantial and efficient fabric for the desired purposes. This fabric can be cheaply and economically manufactured, and by reason of the peculiar formation of the interlocking joints between the several sets of primary coils the fabric is capable of sustaining heavy weights and the variations of temperature attendant the purpose for which it is constructed in the formation of leer-pans. The ends of the coils may be secured and protected in any desired manner, either by closing or clenching the same, as will be readily understood, or by protecting the edges with a metal binding, which latter may be held in place by rivets or by having tongues 10, formed by slitting the edge portions, bent so as to engage with the meshes of the fabric.

In adapting and assembling the component parts of the invention it is manifest that changes in the form, proportion, and the minor details of construction may be resorted

to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. In a leer-pan, the combination with a pan-frame of a body portion formed of interlocking wire coils, substantially as set forth, and metal binding embracing the edges and marginal sides of the said fabric and having tongues at its inner edges bent inwardly and engaged with the meshes or coils of the fabric, substantially in the manner shown and for the purpose described.

2. In combination, a series of leer-pans comprising frames inclosing and supporting body portions of wire fabric, and cross-strips strengthening and bracing the frames, the intermediate pans having the end portions of the cross-strips bent to form hooks, and the alternate pans having the end portions of the cross-strips bent to provide clips which engage with the said hooks and serve to connect the said pans in series, substantially as set forth.

3. In a leer, the combination with a pan of a wire fabric having hexagonal-shaped meshes and presenting the appearance of transverse and diagonally-disposed interlocked fluted wires, and formed from three series, or sets, of straight wires forming primary coils of corresponding shape disposed in parallel relation and spaced apart a distance between their axial lines corresponding to approximately the diameter of the primary coils, two sets of coils being diagonally arranged and intersected by the third set of transverse coils, the several sets of primary coils interlocking at the points of intersection, or crossing, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOSEPH HARRY CALHOON.
ARLINGTON D. BRITAIN.

Witnesses:

W. S. CALHOON,
JOS. C. ROUZER.