

(No Model.)

W. C. KING.

LEER PAN.

No. 381,387.

Patented Apr. 17, 1888.

Fig. 1.

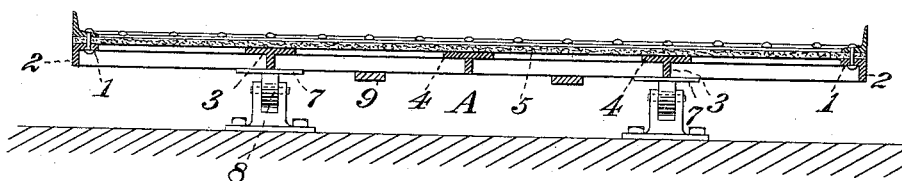


Fig. 2.

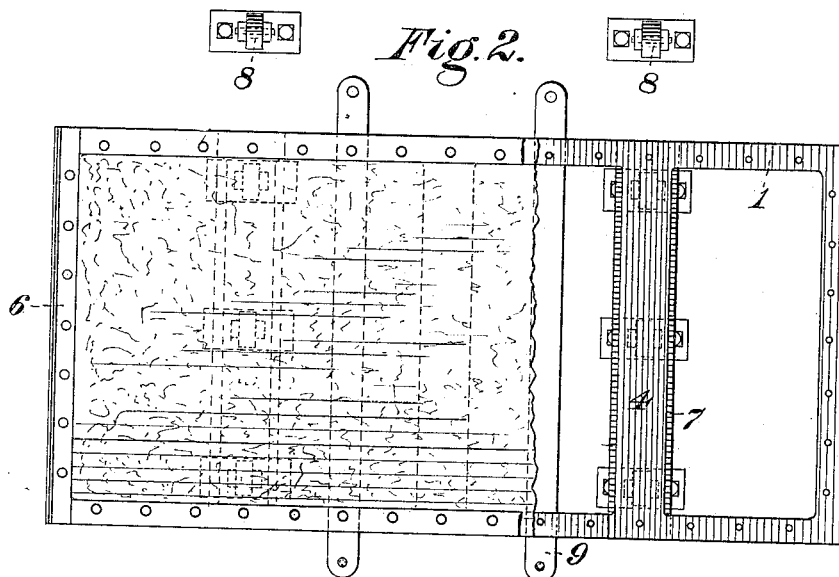
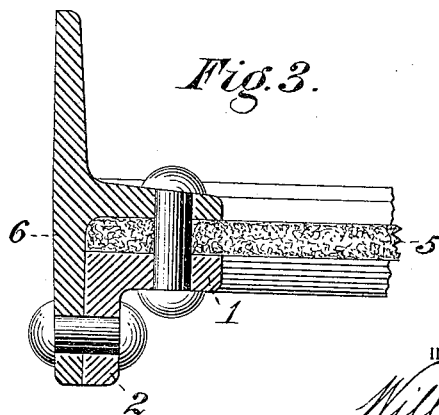


Fig. 3.



WITNESSES:

C. M. Clarke
R. H. Whittlesey

INVENTOR,

William C. King
By Darwin S. Wolcott Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM C. KING, OF PITTSBURG, PENNSYLVANIA.

LEER-PAN.

SPECIFICATION forming part of Letters Patent No. 381,387, dated April 17, 1888.

Application filed December 30, 1886. Serial No. 222,977. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. KING, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, and a citizen of the United States, have invented or discovered certain new and useful Improvements in Leer-Pans, of which improvements the following is a specification.

In the accompanying drawings, which make part of this specification, Figure 1 is a sectional elevation of my improved leer-pan. Fig. 2 is a top plan view of the same. Fig. 3 is a sectional detail on an enlarged scale.

In the manufacture of glass articles it is necessary, after the articles have been shaped by pressing, blowing, or otherwise, to highly heat them, and then gradually reduce their temperature to approximately that of the atmosphere. This annealing operation is effected by placing the articles on what are known as "leer-pans" and passing them through leers which are highly heated at the entrance end, but become gradually cooler toward the exit end. These leer-pans are generally made of sheets of metal having their ends bent up to form a retaining-rim, and provided with pins or hooks and eyes on opposite sides for the purpose of connecting a series of the pans together. This construction of pan, however, is objectionable, as they become warped and twisted by the alternate heating and cooling to which they are subjected, and hence it is impossible, or at least extremely difficult, to so place the articles to be annealed on the uneven surface of the pans that they will not while hot become bent or be broken by falling over during their passage through the furnace. These sheet-metal pans are also objectionable, as on account of their heat-conductive qualities they become quite cool while being transferred from one end of the leer to the other, and consequently suddenly chill and break the articles when placed thereon.

The object of the invention herein is to so construct these leer-pans as to avoid the liability of their becoming warped while in use and to provide a non-conducting surface upon which the articles may rest; and to these ends the invention consists in the construction and combination of parts, substantially as hereinafter more fully described and claimed.

In the practice of my invention I form a rectangular frame, A, the sides of said frame being formed of flat horizontal strips 1 and the vertical depending strips or flanges, the former

serving as supports for the bed of the pan, as will hereinafter be more fully described, and the former as braces to prevent the strips 1 or the frame from warping or bending. The frame is braced transversely by the T-shaped bars 3, the cross part 4 thereof being on a level with the strips 1, and thereby serving as additional supports for the bed. The bed 5 is formed of a sheet of asbestos board or cloth of sufficient rigidity to prevent its sagging between the supports, strips 1, and cross-bars 3. The asbestos sheet 5 is made of a width and length equal to the width and length of the frame, and is secured in place by angle-bars 6, securely riveted to the strip 1, as shown in Fig. 1, one portion of the angle-bars at the ends of the pan forming a rim to prevent any displacement of the articles; or a T-iron may be used in lieu of the angle-bar at the ends, as clearly shown in Fig. 3. This asbestos bed forms a non-conducting and comparatively soft and elastic bed, on which the articles to be annealed may be placed without liability of being broken, and which will not become twisted and warped by heat.

On the under side of the pan is secured, by rivets or otherwise, a bearing-plate, 7, which bears upon the friction-rolls 8, arranged along the bottom of the leer, as is the custom. The usual pulling-bars, 9, provided with holes and pins at opposite ends, are also secured to the under side of the frame in any suitable manner.

The frame A, with its transverse braces 3, may be formed by cutting or by suitably connecting angle-bars and T-irons in the manner shown.

I claim herein as my invention—

1. A leer-pan having in combination a rectangular frame and an asbestos bed for supporting the articles to be annealed, substantially as set forth.

2. A leer-pan having in combination a rectangular frame, an asbestos bed for supporting the articles to be annealed, and angle-bars clamping the asbestos to the frame and forming a rim at the ends of the same, substantially as set forth.

In testimony whereof I have hereunto set my hand.

WILLIAM C. KING.

Witnesses:

WILLIAM BEAL,
DARWIN S. WOLCOTT.