Nov. 1, 1932. H. J. STEHLI 1,885,152

PALLET FOR SINTERING MACHINES

Filed Jan. 8, 1932

FIG. 1.

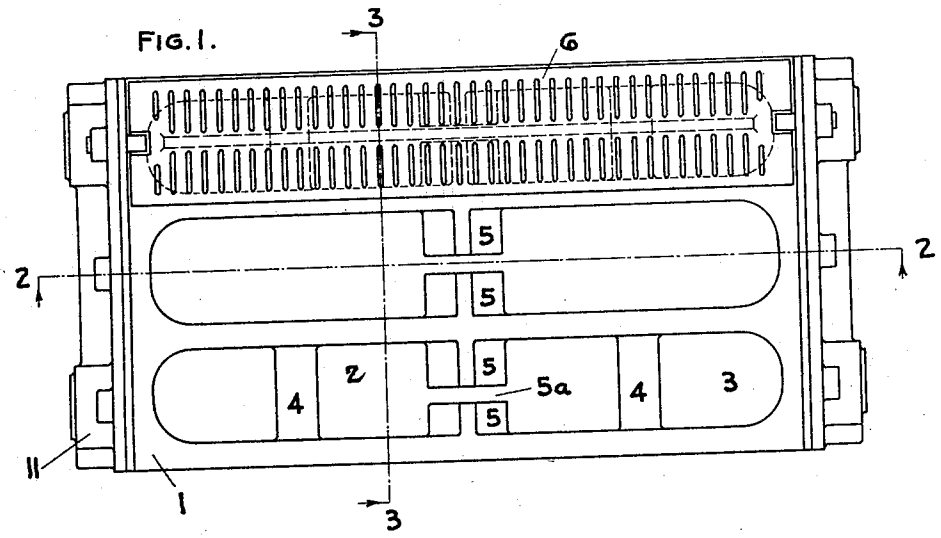


FIG. 2.

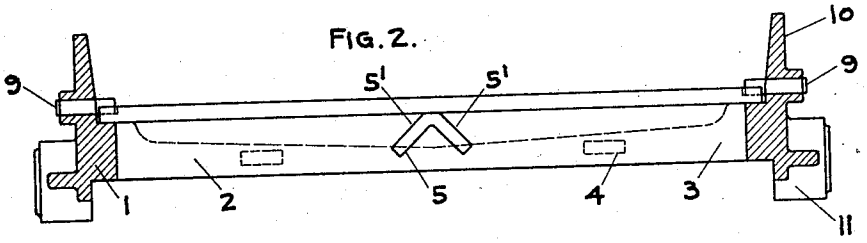


FIG. 3.

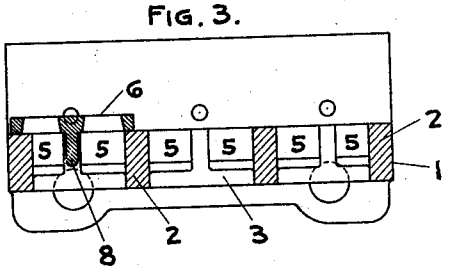
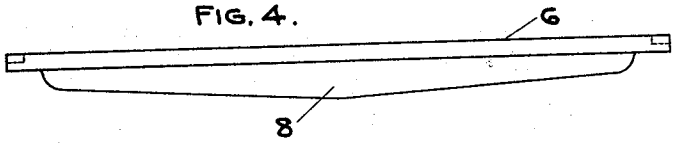


FIG. 4.



INVENTOR.
H. J. Stehli
BY T. F. Bourne
ATTORNEY

Patented Nov. 1, 1932 1,885,152

UNITED STATES PATENT OFFICE

HENRY J. STEHLI, OF CEDAR GROVE, NEW JERSEY

PALLET FOR SINTERING MACHINES

Application filed January 8, 1932. Serial No. 585,502.

Pallets for sintering machines are provided with openings for the passage of air, and apertured gratebars are removably secured upon the pallets over said openings, the material to be sintered being charged upon said gratebars. During the passage of the pallets over the sintering machine the gratebars become heated, and when the pallets run down the curved tracks at the discharge end of the machine one pallet will bump against the line of pallets ahead, and there is a tendency for the gratebars, when they are hot, to become bowed or bent sideways from the repeated blows. Furthermore, the heat to which the grate bars are subjected tends to cause the metal thereof to warp or to soften and decrease its stiffness, and the weight of the charge upon the heated gratebars frequently causes them to sag or bend downwardly at their centres, causing them to be discarded long before otherwise necessary.

The object of my invention is to overcome the warping, bending and sagging of the gratebars of pallets above referred to whereby to render them more efficient and increase their usefulness.

In carrying out my invention I provide a pallet, that has openings between its transverse ribs, with projections or lugs extending from the ribs into the openings, opposing projections or lugs being spaced apart, and gratebars having depending longitudinally extending ribs adapted to fit in the spaces between the projections or lugs and to engage the latter when the pallet runs down the discharge track of a sintering machine to resist sideways bowing or bending of the gratebars. Said projections or lugs are located in a desired position to be engaged by the superimposed gratebar, whereby to aid in supporting the latter and to resist sagging or downward bending of the latter during use.

Reference is to be had to the accompanying drawing, wherein

Fig. 1 is a plan view of a pallet embodying my invention;

Fig. 2 is a section on line 2, 2 in Fig. 1;

Fig. 3 is a cross section on line 3, 3 in Fig. 1, and Fig. 4 is a side view of a gratebar.

The pallet illustrated in the drawing is generally of usual or conventional construction comprising a metal casting having transverse ribs 2 spaced apart by intervening openings 3 extending transversely of the pallet. Tie-bars 4 between the ribs and in the openings, cast with the ribs, stiffen the latter laterally. Along the inner surfaces of the ribs 2 are located laterally extending projections or lugs 5, which may be cast integral with said ribs, said projections or lugs being shown arranged in opposing pairs in the opening or space between two adjacent ribs 2. The gratebars 6, which may be of usual construction, are shown provided with openings 7 for the passage of air, and said gratebars are shown provided with depending longitudinal ribs 8 which are adapted to fit in the spaces 5a between spaced or opposing projections or lugs 5 and sufficiently close to the ends of said projections as to engage the latter under some conditions. The upper surfaces of the projections or lugs 5 are preferably substantially flush with the upper surfaces of the ribs 2 so that the bottoms of the gratebars will not only rest on said ribs but also against the tops of the projections or lugs, the latter resisting downward sagging or bending of the gratebars. By preference the projections or lugs 5 have downwardly and outwardly inclined sides, and may be substantially in inverted V-shape with inclining sides 5′, with the apex extending upwardly, substantially flush with the tops of the ribs 2, for engagement with the gratebars, preferably at their central portions, on opposite sides of the central ribs 8. The downwardly inclined outer surfaces 5′ of the projections or lugs 5 are of advantage, since said surfaces will permit material that may fall through the gratebars to drop away so as not to lodge on and block up any openings.

When my improved pallets are used in a sintering machine the gratebars will not only be supported along their longitudinal edge portions by the ribs 2 but intermediate portions of the said bars will be supported and sagging, warping and bending thereof resisted by the projections or lugs when the bars become heated from the burning load of material thereon. During operation of a

sintering machine the loaded pallets run down the curved tracks at the discharge end of the machine and bump against one another successively with considerable force. With my improvement the ribs 8 of the gratebars will fit quite close to the adjacent ends of the projections or lugs 5 so that when a pallet bumps against another pallet a head on the curved discharge tracks lateral movement of the gratebars will be resisted and limited by the corresponding projection or lug 5 to prevent sideways or edgewise bending of said bars. By the means described wear on and injury to the gratebars will be greatly reduced over that customary in pallets and the longevity of the said bars will be increased with consequent reduction in expense.

Having now described my invention what I claim is:

1. A pallet for sintering machines having spaced ribs and openings therebetween, said ribs being provided with projections to engage portions of gratebars resting on the pallet.

2. A pallet for sintering machines having spaced ribs and openings therebetween, said ribs being provided with projections located in said openings to engage portions of gratebars in said openings.

3. A pallet for sintering machines having spaced ribs and openings therebetween, said ribs having opposing projections spaced apart within said openings to limit the lateral movement of ribs depending from gratebars on the pallet to resist lateral movement of said gratebars.

4. A pallet as set forth in claim 3 in which the projections are provided with downwardly and outwardly extending surfaces.

5. A pallet for sintering machines having openings and laterally extending projections within said openings, and gratebars having depending ribs entering said openings to engage said projections.

6. A pallet for sintering machines having openings and laterally extending opposing projections spaced apart within said openings, and gratebars having depending ribs entering said openings and the spaces between said projections to oppose the latter.

HENRY J. STEHLI.