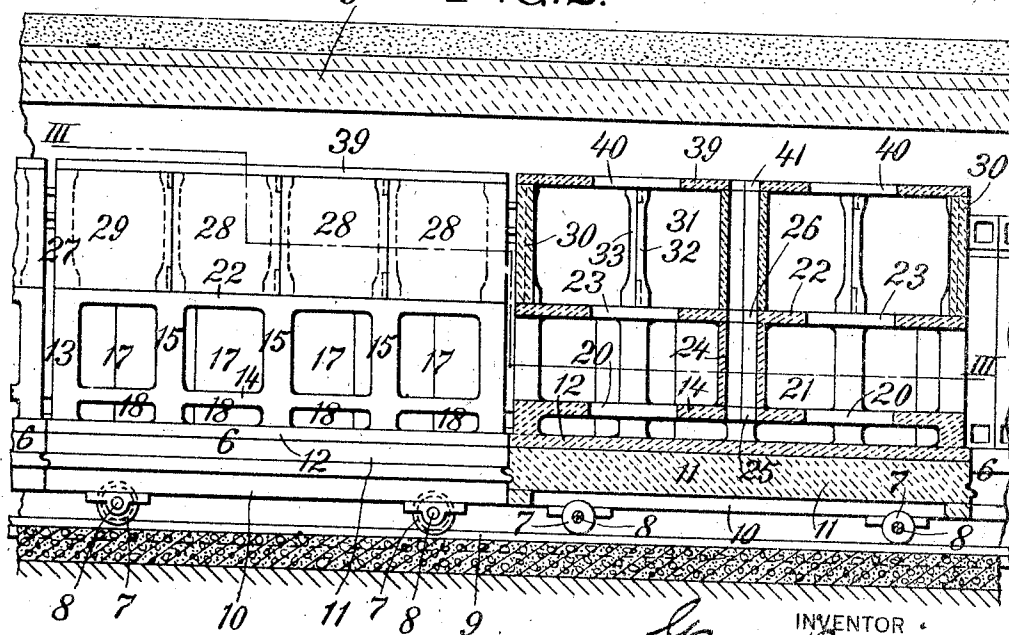
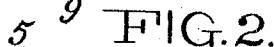


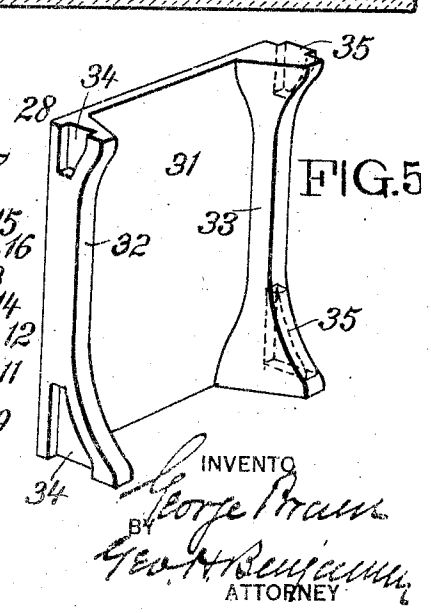
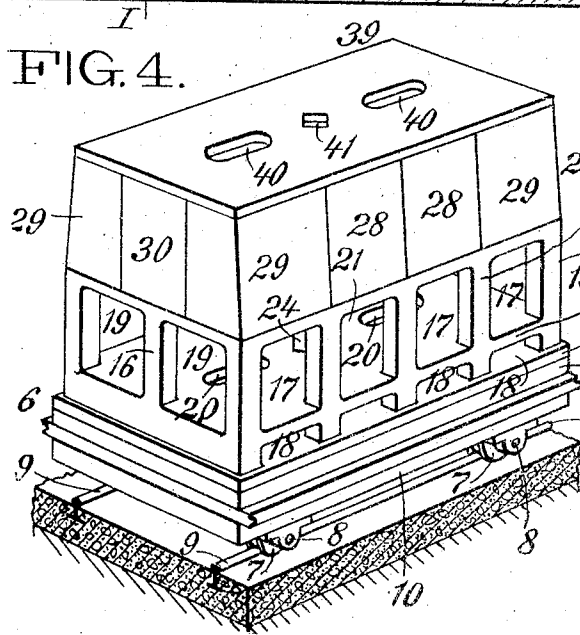
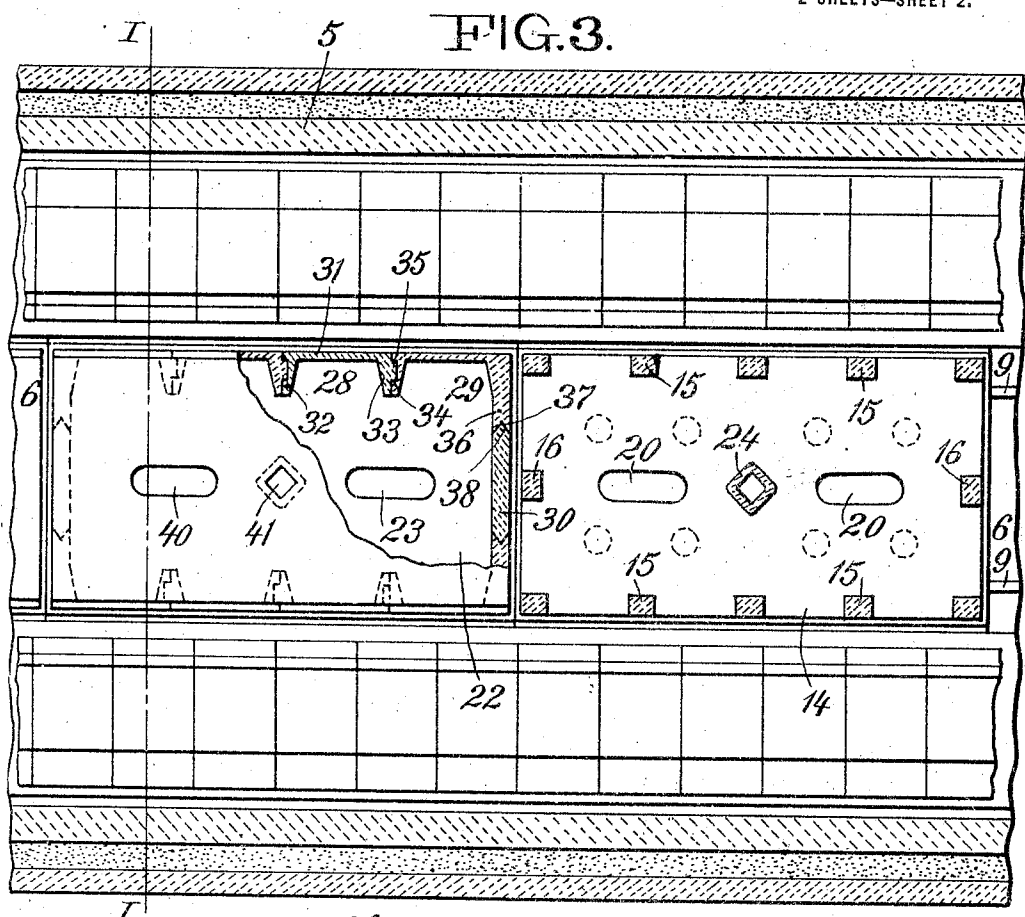
TRUCK SUPERSTRUCTURE FOR SANITARY WARE.
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2 SHEETS—SHEET 1.

I



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TRUCK SUPERSTRUCTURE FOR SANITARY WARE.

1,333,381.

Specification of Letters Patent.

Patented Mar. 9, 1920.

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To all whom it may concern:

Be it known that I, GEORGE BRAIN, a subject of the Kingdom of Great Britain, residing at New Castle, county of Lawrence, State of Pennsylvania, have invented certain new and useful Improvements in Truck Superstructures for Sanitary Ware, of which the following is a specification.

My invention relates to a device adapted to be used in connection with tunnel kilns, and which has for its purpose to support and convey the goods to be fired through the kiln, and protect them while in the kiln. Heretofore it has been the practice to place the goods upon open trucks or in saggars upon open trucks. In the ordinary type of kiln, where no provision is made for regulating or equalizing the temperature throughout the kiln, delicate goods mounted upon open trucks are apt to be injured by the first impact with the very highly heated air found at the entrance of the kiln, as also by sudden variations of temperature which are apt to be found along the interior of the kiln. When the goods are placed in saggars, the capacity of the trucks to carry goods is materially reduced, and further, the saggars, which have considerable weight and bulk, must be heated to the same temperature as the goods under treatment, and consequently there is a wasteful expenditure of fuel.

The object of my invention, therefore, is a truck construction adapted for use in all types of kilns, whether provided with temperature regulating apparatus or not, and adapted to carry and protect delicate goods as also other goods which are not apt to be injured by the impact of hot air or variations in temperature of the kiln, as above set forth.

The accompanying drawings will serve to illustrate my invention, in which:

Figure 1 is a transverse vertical section of a muffle kiln and of my improved truck, taken along the line I—I of Fig. 3.

Fig. 2 is a view taken along the line II—II of Fig. 1, looking toward the left and showing two trucks, one in elevation and one in vertical section.

Fig. 3 is a view taken along the line III—III of Fig. 2, showing the truck at the left in partial plan and horizontal section, and the truck at the right in horizontal section through the lower part of the truck,

and also indicating in dotted lines the position of supplementary supporting pillars.

Fig. 4 is a perspective view of the truck closed.

Fig. 5 is a perspective view of one of the side plates of the truck.

Referring to the drawings: 5 indicates a tunnel structure, which may be of any suitable construction, but preferably of the well-known Dressler type. 6, a truck. The truck 6 is shown as mounted upon wheels 7 on the ends of axles 8, which wheels are adapted to move over rails 9 located along the bottom of the kiln. The superstructure of the truck consists of the side frames 10, provided with bearings for the axles 8. Supported on the side frames, is a platform 11, preferably made of clay or other material, which will prevent the ready transmission of heat to the side frames, axles and wheels. Situated above the platform 11 is a second platform 12. Manifestly the platforms 11 and 12, instead of being two platforms, may be a single platform. I prefer to make two platforms as it facilitates repairs.

Situated above the platform 12 is a structural body 13, which body consists of a platform 14, side walls 15, and end walls 16. The side walls 15 have formed in them the openings 17—18; the end walls 16 have formed in them the openings 19, and the platform 14 has formed in it the openings 20. By reason of the construction described, the platform 14 is raised a distance above the platform 12, and by reason of the openings 19 and 20, the space between the platforms 12 and 14 is in communication with a space 21 in the interior of the structure 13. On the top of the structure is a platform or roof 22 having openings 23 which correspond in size and position with the openings 20 in the platform 14.

Situated centrally between the platforms 14 and 22, is a pillar 24, which serves to support the platform 22. This pillar may be a hollow pillar, as shown in the drawings, in which case the platform 14 is provided with an opening 25 and the platform 22 with a corresponding opening 26. There may be more than one supporting pillar. In Fig. 3, four extra supporting pillars are shown, in dotted lines.

Mounted on the top of the platform 22, is a second structure 27. This structure is made up of a series of shaped side plates 28

(Fig. 5), angle plates 29 (Fig. 3), and end plates 30 (Fig. 3). The side plates 28 consist of the vertical side portions 31 and vertical ends 32—33 placed at right angles to the side portions 31 and shaped as shown, that is, wider at the bottom than at the top. So as to make the plates 28 self-supporting, the ends 32 have formed in them, cavities or sockets 34, and the ends 33 have formed on them projections 35 adapted, when two plates like 28 or like 28—29 coact, to connect the successive plates. The plates 29 are substantially like 28, with the exception that one side, for instance 36, is made longer and has formed in it a recess 37 adapted to coact with the V-shaped sides 38 of the end plates 30.

Mounted on top of the plates 28—29—30 is a cover 39, provided with openings 40, which are in line with the openings 23 in platform 22 and openings 20 in platform 14, and openings 41 which cooperate with the openings in the central pillar 24 and those in the platforms 22 and 14.

It will be seen from the description so far given, that the structure 27 forms substantially a sagger of large size, but provided with openings in the top.

In Fig. 1 there is shown as situated within the structure 27, a body 42, such as a toilet stand, which requires careful heating owing to its shape, and in the structure 13 a body 43 which does not require the same careful heating, or otherwise, is less liable to be injured by the impact of heat.

The operation of my improved truck is as follows: Delicate goods are located in the cavity of the structure 27, and less delicate goods in the cavity of the structure 13, and the truck carrying the goods moved into the kiln. The hot air in the kiln, heats the exterior of the truck, and by reason of the openings arranged through the top and various platforms, is circulated downward through the interior of the structures 27 and 13. Thus, the goods under treatment are heated not only by radiated heat, for instance in the structure 27 from the interior walls—in the structure 13 from the interior walls of the tunnel structure, but also by the moving heat currents passing through the interior of both structures.

I wish it understood that I do not limit myself to the precise construction described for the truck or any of its parts, as it will be manifest that it may be varied in many particulars without departing from the intent of my invention. Further, I believe I am the first to describe a truck structure, which in part has the characteristics of a sagger, in that it protects the goods under treatment from the direct impact of heat derived from the heating elements of the tunnel kiln, but differs therefrom in that the circulating heat in the kiln is brought into direct contact

with the material under treatment, in what may be termed the sagger portion of the truck.

Having thus described my invention, I claim:

1. A truck for use in tunnel kilns, consisting of a wheeled support, a superstructure divided into two parts, one part adapted to protect the goods under treatment against the sudden impact of heat or rises and falls in temperature in the kiln, during the passage of the truck through the kiln, and the other part adapted to permit the heat of the kiln to be radiated directly upon the goods, together with means whereby the circulating heat of the kiln may move through the goods in both parts of the structure.

2. A truck for use in tunnel kilns, consisting of a wheeled support, a superstructure divided into two parts, one part consisting of a series of separate and detachable sections, and the other part an integral structure, both parts adapted to permit free circulation of the heat in the kiln through the goods.

3. A truck for use in tunnel kilns, consisting of a wheeled support, a superstructure divided into two parts, one part consisting of an integral structure having perforated walls at the top and bottom, and the other part a sectional structure, the walls of which are closed, and a perforated top.

4. A truck for use in tunnel kilns, consisting of a wheeled support, a platform carried by such support, a superstructure mounted on the platform and divided into two parts, one part consisting of an integral structure having perforated walls and top and bottom platforms, the bottom platform located above the platform on the wheeled support, and the other part consisting of a structure formed of separate imperforate units and a perforated top plate.

5. A truck for use in tunnel kilns, consisting of a wheeled support, a platform mounted on the support, a superstructure mounted on the platform consisting of two parts, one part an integral structure with perforated walls and perforated top and bottom platforms, one or more supporting pillars between the top and bottom platforms of such part, and the other part consisting of a series of separate imperforate units and a top plate or cover perforated to permit movement of the heated currents in the kiln through both parts.

6. A truck for use in tunnel kilns, consisting of a wheeled support, a superstructure mounted on such support and consisting of a perforated bottom portion elevated above the support, imperforate side and end sections, and a perforated top section.

7. A truck for use in tunnel kilns, consisting of a wheeled support, a superstructure

ture mounted on such support and situated at a distance above such support and comprising a perforated bottom portion, side portions consisting of face members and interlocking end members, and a perforated top portion.

8. A truck for use in tunnel kilns, consisting of a wheeled support and means situated above and carried by the wheeled support and adapted to convey through the kiln, two classes of goods, one class of the character which are to be protected against sudden rises and falls in temperature by the

sudden impact of highly heated air or gases, and the other class which may be exposed without injury to sudden rises and falls in temperature by the sudden impact of highly heated air or gases, and both classes subject to the moving heated air currents of the kiln.

In testimony whereof, I affix my signature in the presence of two witnesses.

GEORGE BRAIN.

Witnesses:

MARK L. RABINOVITZ,
PAUL A. MEEHAN.