

April 7, 1931.

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1,800,155

PORTABLE PLATFORM OR BUCK

Filed March 2, 1927

2 Sheets-Sheet 1

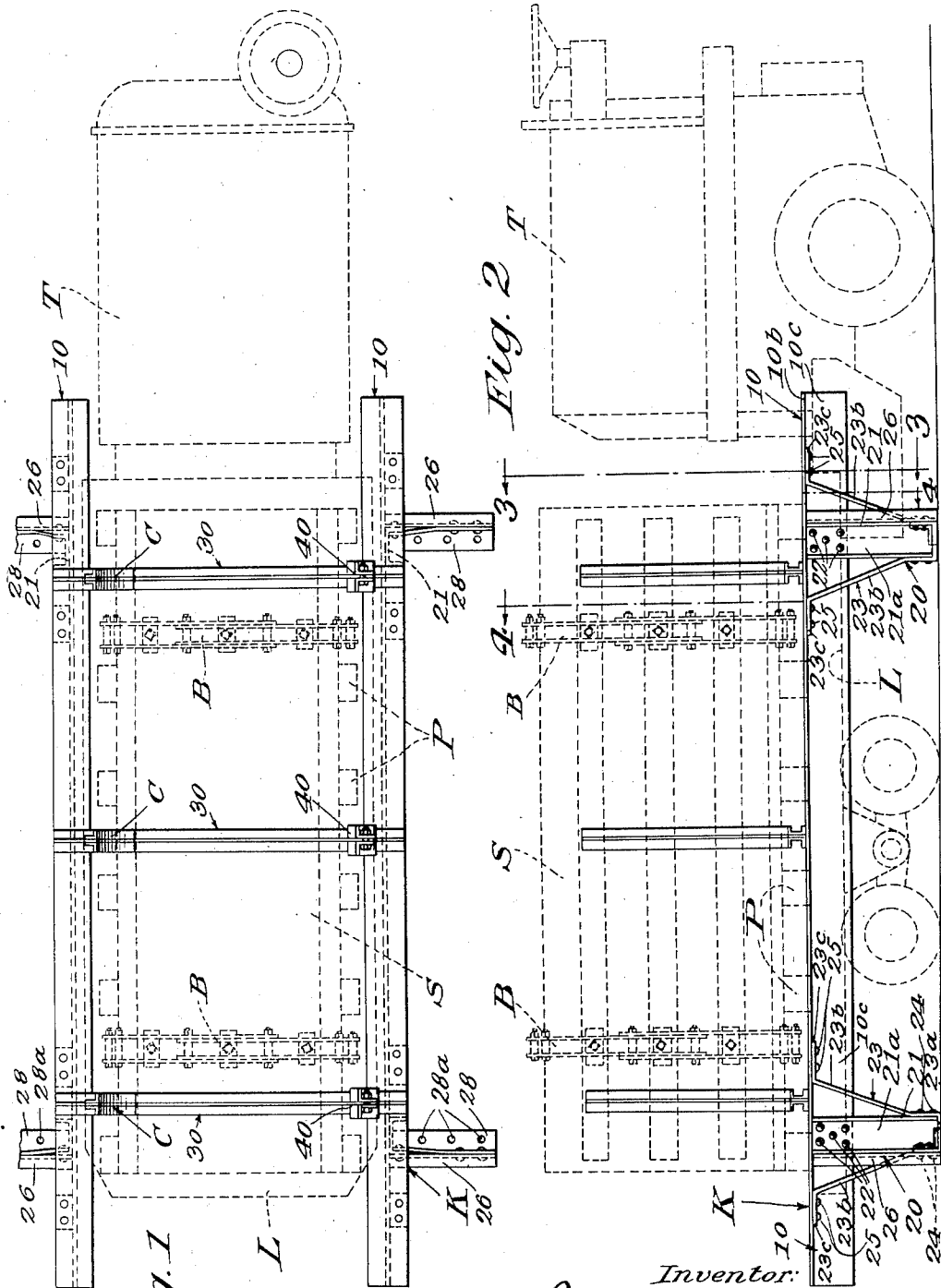


Fig. 1

Fig. 2

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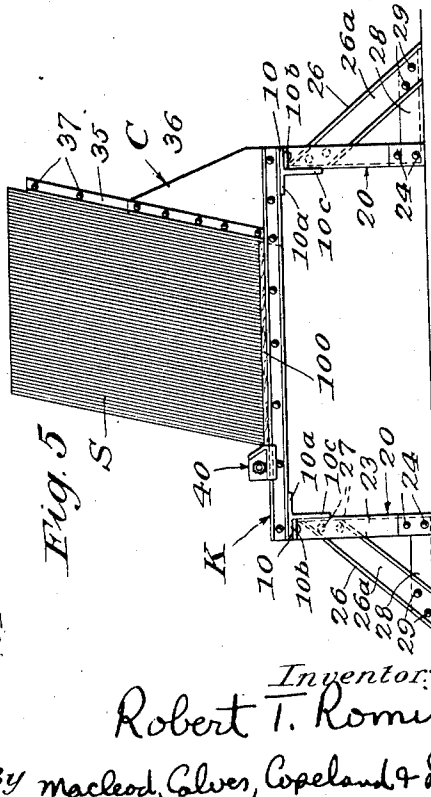
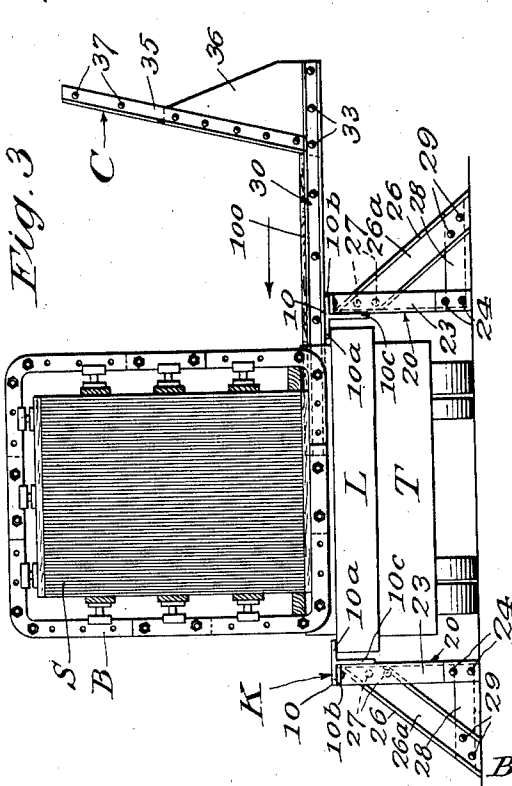
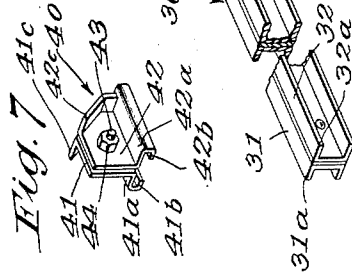
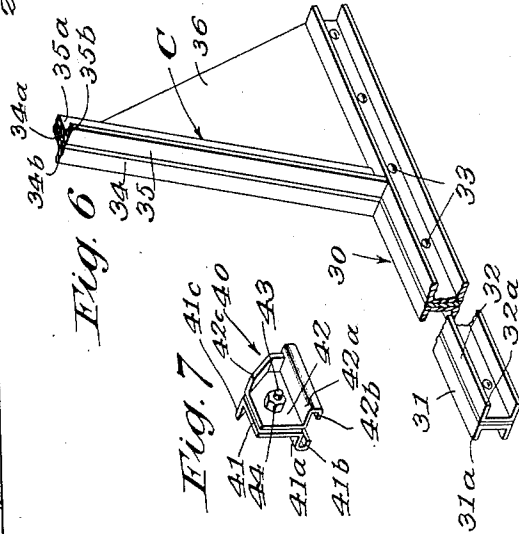
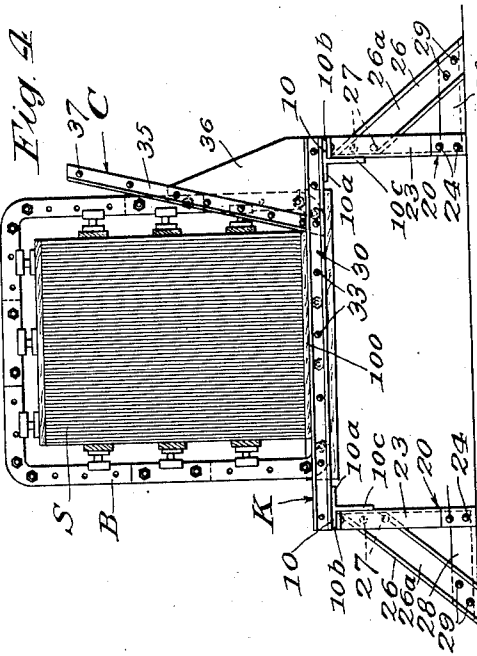
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PORTABLE PLATFORM OR BUCK

Application filed March 2, 1927. Serial No. 172,166.

This invention relates to apparatus for inspecting metal and more especially to portable platforms or bucks for use in connection with the handling and inspection of sheet steel or the like in packs or units aggregating as much as ten tons in weight, and has for an object the providing of such apparatus which is adapted to receive and support a pack which is transferred thereto as a unit from the lift platform of an industrial truck without the necessity of lifting the pack from the truck platform.

Another object is to provide an apparatus having means for supporting the pack with the sheets on edge and in an inclined position thereby facilitating the inspection of one face of the sheets while the pack is supported by the platform or buck.

In the drawings, wherein like characters of reference indicate similar parts in the several views:

Fig. 1 is a top plan view of the apparatus of this invention, showing in dotted lines a lift truck and pack of metal in operative relation thereto.

Fig. 2 is a side elevation of the apparatus shown in Fig. 1.

Fig. 3 is an end elevation of the apparatus of Fig. 2 looking in the direction of the arrows.

Fig. 4 is a section taken along the line 4-4 of Fig. 2.

Fig. 5 is a view of the apparatus of Figs. 3 and 4, with the binders removed from the pack, the latter being disposed on an incline to the vertical and on edge.

Fig. 6 is a detail perspective of one of the combined slide bars and back supports or rests of this invention.

Fig. 7 is a detail perspective of one of the locking dogs or stops of the invention.

Before explaining in detail the present invention, and the method or mode of operation embodied therein, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways.

Also it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation, and it is not intended to limit the invention beyond the terms of the several claims hereto appended or the requirements of the prior art.

In the drawings I have illustrated, by way of example, an application of the present invention in connecting with the inspection of metal, such as highly finished sheet steel. The sheet steel is, preferably, loaded and shipped by freight car to its destination in relatively heavy units or packs, and, preferably, in units approximating ten tons where a full capacity load is carried in the car. The metal sheets, in the case of sheet steel, are preferably stacked on edge and bound or braced together in unitary packs by means of adjustable binders carrying pressure devices as shown and described in my co-pending application Serial No. 137,867, filed September 27, 1926. At its destination, the car is unloaded by means of a portable ten ton capacity stack lifter which is moved into position within the car to straddle the pack, and which lifts the entire pack as a unit from the car floor onto the lift platform of a ten ton capacity industrial lift truck. The stack lifter and truck are preferably constructed in accordance with my co-pending applications Serial Numbers 133,374, filed September 3, 1926 and 118,584, filed June 25, 1926, respectively. The pack of metal sheets is propelled out of the car and transferred, without lifting the pack from the platform of the truck, to a portable transfer platform or buck, such as the buck illustrated in the accompanying drawings, without requiring the use of a crane or other mechanism for effecting the transfer.

Figs. 1, 2 and 3 of the drawings show the apparatus above described, in position with respect to the portable transfer platform or buck of this invention to effect the transfer of the pack S provided with adjustable binders B from its position upon the lift platform L of an industrial truck T to the transfer platform or buck shown as a whole at K. The buck comprises a base or sup-

porting structure consisting, preferably, of a pair of longitudinally extending truss members or angle bars 10, preferably T-shaped in cross-section mounted upon leg supports designated as a whole at 20, the truss members and leg supports being spaced apart in parallel relation a sufficient distance to permit the lift platform of an industrial truck with a pack of sheet metal thereon to move into position between the truss members and leg supports.

Each truss member 10, has an inwardly extending horizontal flange 10a and an outwardly extending horizontal flange 10b. Each member 10 is likewise provided with a vertical flange 10c, somewhat wider than either of the horizontal flanges.

The leg supports 20 each comprise a vertical channel 21 having a central web 21a which is positioned back to back with the vertical flange 10c of the longitudinal truss member and connected therewith by means of rivets or the like 22. Each leg support also includes a metal bar 23 bent into substantially U or V-shape providing a horizontal foot portion 23a which spans the space between the flanges of the vertical channel 21 at the base thereof, and two upwardly extending outwardly flared portions 23b terminating in bent end portions 23c positioned in parallelism to the horizontal flange 10b of the longitudinal truss member 10. In order to form a rigid construction the metal bar is connected with the vertical channel adjacent the foot portion 23a by means of rivets 24 and the outwardly extending ends or flanges 23c of the bar are connected with the horizontal flange 10a by rivets or the like 25. To provide a rigid supporting means for the pack of metal, the leg supports are each braced by means of an inclined channel member 26 having a web 26a positioned back to back at its upper end with one of the flanges of the vertical channel 21 by means of rivets 27. A substantially horizontally disposed angle bar 28 serves to connect the lower end of the vertical channel 21 with the base of the inclined bracing channel 26, the angle bar being rigidly connected with the web portions of the two channel members by means of rivets 29. If desired, the angle bar 28 may be provided with holes 28a to receive the bolts, screws or the like to detachably connect the leg supports to the floor, to prevent any accidental movement of the longitudinal trusses and supporting legs of the buck K. It will be noted that the web 26a of the inclined channel 26 is positioned back to back with the inner face of one of the flanges of the vertical channel 21 and that the outer end of one flange of the angle bar 28 is also positioned back to back with the web of the inclined channel 26, the opposite end of the angle bar being also positioned back to back

with the inner face of the flange of the vertical channel 21 with which the upper end of the channel 26 is connected. From the foregoing it will be seen that the supporting members of the inspection platform or buck K are quite substantial and practically immovable upon the floor.

In order to support the pack of metal in position between the longitudinal truss members of the buck, a series of longitudinally spaced slide bars are provided, these slide bars being indicated as a whole by the numeral 30 and comprising, preferably, substantially U-shaped channels 31 and 32, the web portions of which are positioned back to back and secured together by means of rivets or the like 33 to form an integral structure. Connected with each of the channel members 31 and 32 and projecting upwardly therefrom, at an incline to the vertical, is a back support or rest C which in the present instance comprises a pair of angle bars 34 and 35, the flanges 34a and 35a of which are positioned back to back (see Fig. 6). Interposed between the abutting flanges 34a and 35a and also positioned between the channels 31 and 32, is one edge of a gusset plate or web member 36. The rivets 33 serve to rigidly connect the gusset plate with the channels 31 and 32 and rivets or the like 37 are provided to secure the plate 36 in position between the flanges 34a and 35a of the angle bars 34 and 35, respectively. It will be seen that by rigidly connecting together the channels, angle bars and gusset plate or web member, that an integral construction is provided which is of ample strength to support a pack of sheet metal, the constituent sheets of which may be positioned on edge and maintained in an inclined position, the pack resting against the flat faces 34b and 35b of the back rest. It will be noted that the lower horizontal flanges 31a and 32a of the channels 31 and 32, respectively, are adapted to rest upon the top surface of each of the longitudinal truss members 10. As will be seen in Figs. 1 and 2, preferably three such slide bars 30 are provided, and these bars are adapted to be interposed between the cross members of the pallet P.

In order to prevent the accidental slipping or displacement of the sheets upon the slide bars 30, short thin strips of wood 100 or any other inexpensive relatively soft material may be placed upon the top flanges of the channels of the slide bars so that the lower edges of the sheets of the pack S rest thereupon, the weight of the pack causing the constituent parts thereof to bite into the wood and prevent the accidental slipping of the sheets upon the slide bars.

In order to support the forward end of the pack and prevent its accidental displace-

ment from its position upon the platform or buck, locking dogs, shown as a whole at 40 (Fig. 7), are mounted upon the slide bars so as to be adjustable toward and from the back rests C. Each of the locking dogs 40 comprises a pair of angle plate 41 and 42 provided with right angularly disposed flanges 41a and 42a respectively. The outer end of each of the flanges being turned in or bent back upon itself to provide oppositely disposed inwardly extending horizontal flanges 41b and 42b, respectively, these last mentioned flanges or end portions being positioned in parallelism to the right angularly disposed flanges 41a and 42a. The forward end or pack engaging portion of each of the members 41 and 42 of the dog, is angularly disposed with respect to the members 41 and 42 and provide outwardly and upwardly inclined flanges 41c and 42c, respectively. In order to draw the members 41 and 42 of the dog toward one another to cause their respective parallel flanges to grip the horizontal flanges of the channels 31 and 32, a bolt 43, having a nut 44, is provided. It will therefore be seen that the dog is adjustable along the slide bar so that it may be moved into position to engage the forward end of any pack of metal which may be supported by the buck.

Moreover, it will be seen that the depth of the channels 31 and 32 forming the slide bars is less than the depth or thickness of the transverse wood members of the pallet so that the slide bars may be moved into position between the bottom of the pack and the top surfaces of the truss members 10. If it is desired, thin blocks or strips of wood may be positioned upon the top of the longitudinal truss member 10 so as to be interposed between it and the free end of each of the slide bars 30 when said bars are moved into position as shown in Fig. 4. While to use such strips or blocks of wood is not essential, nevertheless, by employing them, the sheets of the pack are given an initial tilt in the direction of the back supports or rests so that when the binders B are removed from the pack the sheets will tilt over against the back rests of their own accord, (see Fig. 5), or but little effort is required on the part of the inspector to accomplish this.

The portable inspection platform or buck of this invention may be used as follows, where the metal is shipped in packs bound or braced in accordance with my above mentioned co-pending application.

The longitudinal truss members 10 which, as previously described, are mounted upon the improved leg supports, are first placed in position upon the floor and spaced apart in parallel relation so as to permit the lift platform of an industrial truck, supporting the pack of sheet metal with its attached adjustable binders, to move into position therebetween. The angle bars 28 of the bracing means are then detachably connected with the floor of the inspection room to prevent any relative movement of the truss members and leg supporting structure. It will be seen (Fig. 3) that when the platform L of the truck T, with its load thereupon, moves into position between the members of the buck, that the platform L is in its upmost or elevated position and that the space between the lower edges of the sheets of the pack S and the top surface of each of the truss members 10 is greater than the thickness or depth of the channels 31 and 32 forming the horizontal pack supporting means for each slide bar 30. This permits the several slide bars to be moved or slid from the position in which they are shown in Fig. 3 to the position of Figs. 4 and 5, whereby said slide bars span and bridge the space between the longitudinal truss members 10 and serve as longitudinally spaced supporting means for the pack when it is lowered into position to be supported by the buck. Any desired number of slide bars 30 may be employed although in the present instance three such bars are shown. These bars are preferably interposed between the transverse or lateral wood members of the pallet P and the transverse adjustable binders B and properly spaced so as to support the pack of sheets adjacent its ends and central portion, when the pack is lowered into position and transferred from the platform of the truck to the slide bars. Before the pack is lowered, however, a thin wood strip 100 is placed in position upon the top horizontal flange of each channel 31 and 32 of the slide bars for the purpose previously described. The lift platform of the truck is then lowered so as to cause the lower edges of the sheets of the pack of metal to rest upon the wood strips 100 provided upon the slide bars 30. The truck is then backed out from its position between the parallel spaced supports of the buck and from beneath the pack. The pallet members are then disassembled and removed from their position in engagement with the bottom edges of the metal sheets. The adjustable dogs 40 are then placed in position upon the slide bars and moved so as to engage the forward ends of the wood strips 100 and the front side of the pack of metal sheets, and locked in this position so as to form a stop or support for the pack of metal (see Fig. 5). Thereafter the adjustable binders B are removed and the pack of metal sheets tilts of its own accord or is manually tilted so as to assume the position in which it is shown in Fig. 5. In this position it will be seen that the rear side of the pack is in engagement with the flanges 34 and 35 of the back supports or

rests and that the forward or front side of the pack is engaged, at spaced intervals, by the adjustable dogs 40. In this position the operators may inspect the front face of each of the sheets of the pack before they are removed therefrom to be further inspected.

It will be seen from the foregoing that the pack of metal, which is removed from the freight car at its destination and propelled to the inspection section of a plant upon the lift platform of an industrial truck, is brought into cooperative relation to and placed upon the improved inspection platform or buck of this invention without the necessity of lifting the pack from the lift platform of the truck during its transfer therefrom to the inspection platform or buck. The use of cranes or other hoisting mechanism for the purpose of handling the pack of metal during the inspection process is entirely eliminated. Furthermore, this invention enables the pack S having binders B thereon to be deposited on the portable platform or buck and the binders removed without lifting the pack in order to effect the removal of the binders.

What I claim is:

1. In combination, a truck having a plurality of transversely extending load supporting members spaced longitudinally of the truck and vertically movable through a definite range and providing beneath the load supported thereby a space that extends throughout the width of the truck, supports of a definite fixed height arranged at opposite sides of the truck, the upper surfaces of said supports being in planes between the highest and lowest horizontal planes of the range of movement of the tops of the load supporting members on the truck, and a plurality of slide bars adapted to be passed through the aforesaid space beneath the load on the truck and to rest on said supports.

2. A portable loading platform comprising upright supports spaced to permit the introduction of a lift truck platform carrying a pack of metal therebetween, slide bars insertable between the pack and the lift truck platform and bridging the space between the supports, and back supports connected with said slide bars whereby the pack may be lowered into position to be supported through the medium of said slide bars and upright supports.

3. A portable loading platform comprising upright supports spaced apart to permit the introduction therebetween of a lift truck platform having a load thereon, slide bars adapted to be inserted between the load and the lift truck platform said bars bridging the space between the supports, and tilted back supports secured to said slide bars.

4. A portable loading platform comprising upright supports spaced to permit the introduction of a lift truck platform and a pack of metal therebetween, slide bars insertable between the pack and the lift truck platform and bridging the space between the supports, and adjustable abutment devices on said slide bars adapted to engage one side of the pack.

5. A portable loading platform comprising a pair of spaced apart parallel truss members, leg supports secured to and supporting said truss members, slide bars adapted to be positioned upon the truss members to bridge the space therebetween, and an upright back support carried by each of said slide bars.

6. A portable loading platform comprising spaced apart parallel truss members provided with upright supports, said truss members and said upright supports being spaced apart to permit the introduction of a lift truck platform and a pack of metal therebetween, slide bars comprising channels having the central webs positioned back to back to provide horizontal supporting surfaces for the load, and back supports carried by the slide bars and comprising angle bars positioned back to back to provide a flat supporting face, said slide bars being adapted to be positioned upon the truss members and bridge the space therebetween.

7. An inspection platform for sheet metal comprising longitudinal truss members having leg supports, said truss members being spaced apart and in parallelism, braces connected with the leg supports for preventing relative movement of the truss members, and structural members resting upon and bridging the space between the truss members, said structural members being provided with upwardly projecting inclined extensions adapted to be engaged by and to support the metal at an incline to the vertical.

8. Apparatus for supporting a pack of sheet metal having binders extending beneath the pack, comprising upright longitudinal supports spaced apart and in parallelism to permit the introduction therebetween of a lift truck platform carrying a pack of metal, members having less depth than said binders adapted to be inserted beneath the pack to bridge the space between the longitudinal supports and form spaced transverse supporting members, whereby the pack may be supported thereby when said lift truck platform is lowered to effect the transfer therefrom to the supporting apparatus, and inclined supports secured to said members and constituting an abutment for one edge of the pack.

9. Apparatus for supporting a pack of sheet metal having binders extending be-

neath the pack, comprising upright longitudinal supports spaced apart and in parallelism to permit the introduction therebetween of a lift truck platform carrying a pack of metal, slide bars having less depth than said binders adapted to be inserted beneath the pack to bridge the space between the longitudinal supports and form spaced transverse supporting members having upright back supports, and abutments carried by said slide bars and adapted to maintain the pack in position therebetween when the pack has been transferred from the truck platform to the slide bars.

In testimony whereof I affix my signature.
ROBERT T. ROMINE.

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