Aug. 31, 1948. H. C. LAU 2,448,447

SKID

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Fig. 1.

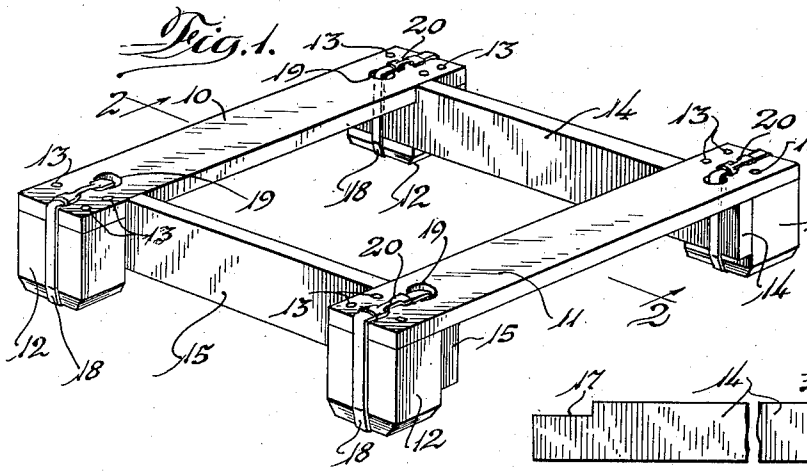


Fig. 3.

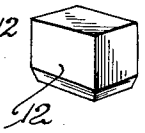


Fig. 4.

Fig. 2.

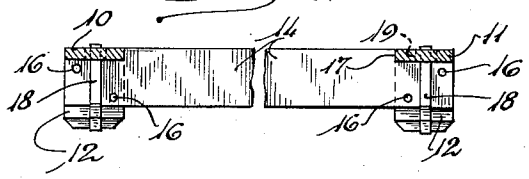


Fig. 5.

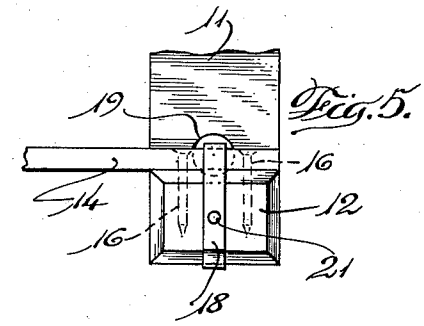


Fig. 6.

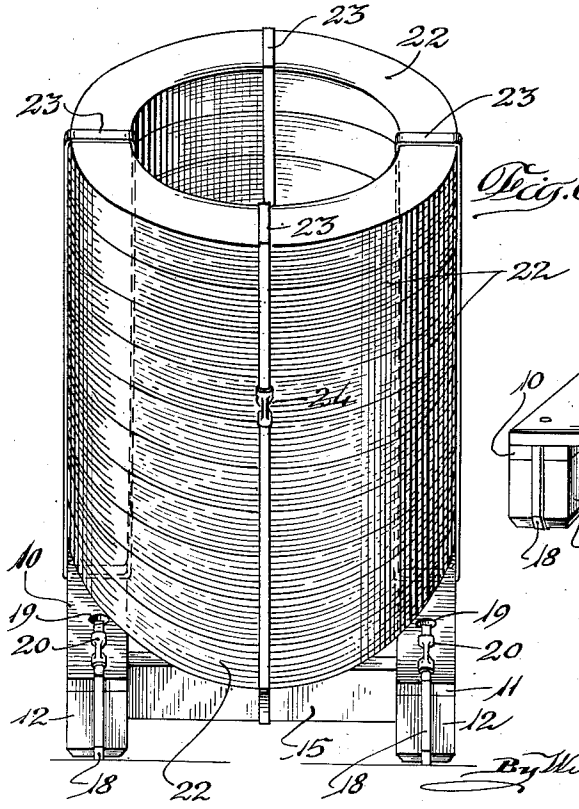
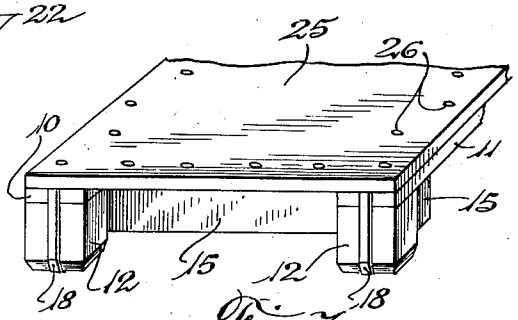


Fig. 7.



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SKID

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6 Claims. (Cl. 248—120)

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My invention relates to skids or pallets in the form of bases or platforms for supporting groups of articles, such, for example, as coils of wire or strapping, sheets of metal or paper, boxes and the like, which are preferably piled or stacked and secured in that condition for shipment or other handling as a unit. In the preparation of skids of this type heretofore it has been customary to make them from pieces of wood nailed together in the desired form, a fairly high grade of lumber being necessary for this purpose for enabling the nails to be driven into position so as to reduce splitting and to hold and for insuring the requisite strength of the finished structure. Under these circumstances, the skid has been fairly expensive both with respect to the materials making up the product, and also with respect to the time required for assembling the structure so as to withstand the stresses and strains thereon. The nailed skid has also been found to be relatively rigid so as to be incapable of yielding to any appreciable degree without breakage.

It is the object of my invention to provide an improved skid which may be made of lumber of greatly inferior quality and which nevertheless shall be of sufficient strength and sturdiness to carry a heavy load safely without danger of breaking down.

Another object is to provide an improved form of means for securing together the parts of a skid quickly and easily so as to provide a high degree of strength, with sufficient resiliency in the connections for enabling the structure to yield slightly without undue danger that the parts will crack or break. By reason of such resilience or ability to "give," particularly laterally, the tendency of the skid to break down in service is greatly reduced. Inability thus to "give" under shocks is one of the principal causes of skid failure heretofore.

For accomplishing my purposes, I have provided a new arrangement of the parts of the skid, employing nails preferably for attaching the parts together initially (i. e., merely for assembly purposes), but relying almost entirely upon flexible metal bands tightened about the parts for ultimately holding them in their operative positions and relation. I have found that by the use of my invention a skid can be very quickly assembled so as to support a heavy load and so as to stand up satisfactorily under exceedingly severe conditions of service, even when a relatively poor grade of lumber is employed. I have found that a skid made in accordance with my invention can be used safely for a much longer time without likelihood of collapse than could the former type of skid under comparable conditions. In part at least this advantage seems to flow from the fact that the improved skid is somewhat resiliently flexible in the joints between its several elements so that, instead of rigidly resisting disruptive shocks with resultant breakage, it transiently "gives" slightly and thereby absorbs or cushions the shocks and by so doing affords protection to itself and to the load it is carrying.

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A further object is to improve devices of this type in sundry details hereinafter pointed out.

The preferred means by which the several objects have been attained are illustrated in the accompanying drawing, in which

Fig. 1 is a perspective view of my improved skid;

Fig. 2 is a cross-sectional view taken substantially at the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of one of the supporting blocks for the skid;

Fig. 4 is a face view of one of the notched cross planks, partly broken away;

Fig. 5 is a bottom plan view of one of the corner portions of the skid;

Fig. 6 is a view of my improved skid loaded with a stack of coils of flexible metal strap; and

Fig. 7 is a perspective view of a skid equipped with a floor for supporting a different type of load.

Referring now to Figs. 1 to 6 of the drawing, in which corresponding parts are indicated by the same reference characters, 10 and 11 indicate oppositely disposed planks or bars, each of which has two wooden blocks 12 connected to its end portions so as to act as legs or supports for the planks. Thus the article supporting platform is raised so that the lifting horns of a lift truck or the ropes or chains of a crane may be passed therebeneath in order to facilitate the "picking up" of the assembled load unit.

In the arrangement shown the blocks are secured lightly in position by means of nails 13 driven downwardly through the planks. The planks 10 and 11 are connected together in spaced parallel relation to each other by means of planks or bars 14 and 15 arranged on edge and connected to the inner faces of the blocks 12 by means of light nails 16, the planks 14 and 15 being notched at 17 at their end portions so as to provide shoulders engaging the inner edges of the planks 10 and 11, and to bring the top edges of members 14 and 15 level with the upper surfaces of cross-pieces 10 and 11, as is clearly shown in Fig. 1.

The shoulders provide greater strength and the flush top surfaces make filling unnecessary.

As will be readily understood, the nails 13 and 16 can very readily be driven into position for holding the parts together temporarily, even though the planks and blocks are of hard wood of very low grade, the nails being small enough to have only a slight tendency to split the wood. With the parts secured preliminarily in position, flexible steel straps 18 are threaded through openings 19 in the planks 10 and 11 at the corners of the skid, and are wrapped about the blocks 12 and the end portions of the planks 14 and 15, after which the straps are secured in position in tightened condition by means of sealing devices 20. With straps of suitable size and strength employed in connection with sealing devices of corresponding strength, the parts of the skid are held very strongly together while at the same time being capable of yielding to a slight extent with respect to each other. It will be understood that the application of the straps to the skid has no tendency to split or otherwise damage any of the wooden parts, as would the application of nails or screws, but on the contrary tends to reinforce the wood members and prevent splitting. Likewise the stresses on the skid in use have little tendency to damage the parts which are free to have limited movements or "give" with respect to each other without breakage. As is clearly shown in Fig. 5, a nail 21 is preferably driven through the band 18 into the bottom face of each of the blocks 12 for holding the band from slipping with respect to the block. Such nails, by holding the straps snugly against the under surfaces of blocks 12, go far to prevent the straps from snagging on the car floor or other supporting platform.

In Fig. 6, I have shown one of my improved skids with a load secured thereon, the load as shown comprising a plurality of paper-wrapped coils 22 of flexible steel strapping. As illustrated in the drawing, the coils are piled carefully in centered position on the skid and flexible steel straps 23 are tightened in position about the coils and about the horizontally extending planks 10, 11, 14 and 15, a sealing device 24 of any approved type being applied for holding each of the straps in tightened condition. I have found in practice that one of my improved skids made of hard wood, with the parts connected together by means of loops of flexible steel strap, is able to carry a load of many hundreds of pounds with a generous margin of safety even when the wood of the several parts is of very low grade, and is able to stand up for a number of trips without undue danger of breakage where the conditions are such as to make it desirable to employ the skids more than once. I have found also that the skids can be made so readily and cheaply from low grade wood that in many cases it is cheaper and more satisfactory to employ new skids for repeat orders than to bother about having skids returned after an initial use.

In Fig. 7, I have shown a modified arrangement in which a floor 25 of wood or other suitable material is secured on the skid by means of nails 26 or in any other suitable manner so as to enable the skid to support properly a load of sheet paper or perhaps of sheet metal. In this arrangement, the binding straps for the load are preferably passed completely about the skid at suitable positions rather than merely about the horizontally positioned planks.

While I prefer to employ the arrangement of parts as shown by the drawing and as above described, the invention is not to be restricted thereto except as the claims may be so limited, it being understood that changes might well be made in the form and arrangement of the parts without departing from my invention.

I claim:

1. A load carrying skid comprising a plurality of cross positioned members arranged in angular end to end relation to each other, and flexible metal band loops tightened securely about portions of said members so as to hold them strongly connected together but so as to permit a limited amount of movement of one member angularly with respect to the adjacent member.

2. A load carrying skid comprising a plurality of cross positioned members arranged in angular end to end relation to each other, flexible metal band loops tightened securely about portions of said members so as to hold them strongly connected together but so as to permit a limited amount of angular movement of the members, and blocks fitted in the angles between adjacent members and strongly secured in position for strengthening the joints between the members and for holding the members against extended angular movement with respect to each other.

3. A load carrying skid comprising two oppositely disposed bars in spaced relation to each other, blocks secured on the bottom face of each of said bars at both ends thereof, and cross bars secured to the inner faces of said blocks serving with the first named bars to provide a frame, the means for securing the parts together comprising a flexible metal band loop at each corner of the frame tightened about the block and about at least portions of each of the bars at that corner.

4. A load carrying skid comprising two oppositely disposed bars in spaced relation to each other, blocks positioned on the bottom face of each of said bars at both ends thereof, cross positioned bars engaging the inner faces of said blocks at opposite sides of the skid, and flexible metal band loops at the several corners of the skid securing the parts together, each of said loops extending through an opening in one of said first named bars and thence about the adjacent block and the cross positioned bar and being tightened in position so as to hold the parts strongly connected together but so as to permit a limited amount of movement of the parts with respect to each other.

5. A load carrying skid comprising two oppositely disposed boards in spaced relation to each other, cross positioned boards on edge at opposite sides of the skid and having notches at their end portions in which said first named boards are positioned, wooden blocks positioned on the bottom faces of said first named boards and on the outer faces of said cross positioned boards and extending downwardly below the bottom edges of said cross positioned boards, and flexible metal band loops at the several corners of the skid securing the parts together, each of said loops extending through an opening in one of said first named boards and thence about the adjacent block and the cross positioned board and being tightened in position so as to hold the parts strongly connected together but so as to permit a limited amount of movement of the parts with respect to each other.

6. A load carrying skid comprising a load supporting platform, a plurality of legs depending from the platform to raise the normal level thereof, each leg being attached to the platform by a

tensioned flexible metal binder looped about a part of the platform and a part of the leg, said binder constituting the principal fastener between platform and leg and permitting a limited amount of angular movement therebetween.

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