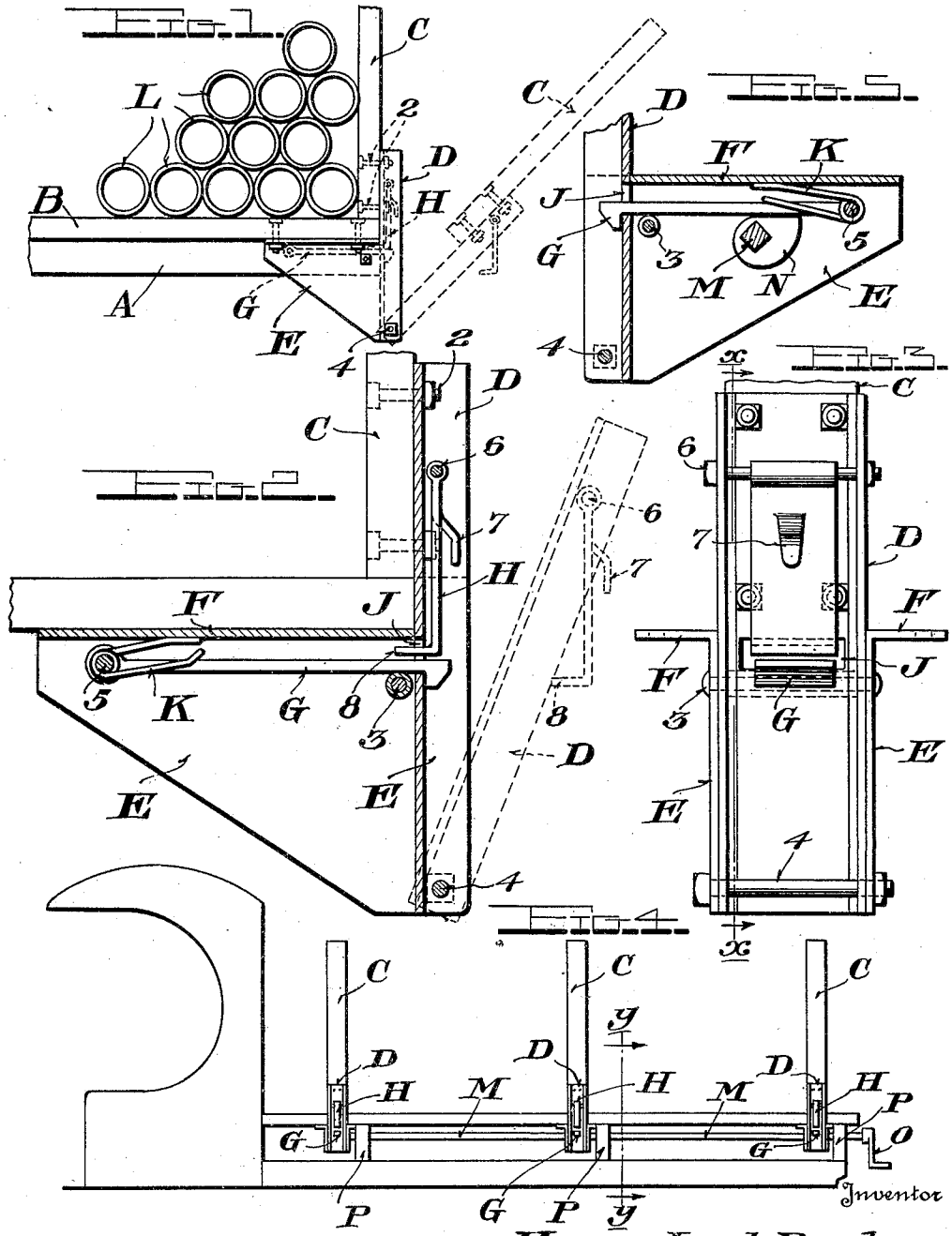
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LOAD HOLDER FOR VEHICLES AND THE LIKE

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LOAD HOLDER FOR VEHICLES AND THE LIKE

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This invention relates to a so-called "stake", or side load support for cars, trucks or any goods-transporting vehicle or stationary loading platforms and the like, on which the load may be piled high enough to make a prop or brace necessary to prevent transverse movement of the load and consequent falling off of the commodities so carried. Examples are trucks or flat-cars piled with poles, bags or sacks, pipes and similar commodities. Obviously, a side brace or vertical stop is essential for holding such goods in transport or on fixed platforms. Vertical members are, therefore, supplied for practically all cars or platforms intended to carry such loads. Usually, these members comprise wooden stakes, of ample strength as cantilevers against the moment of any side thrust likely to be applied. The stakes are fixed into sockets in the frames of the cars or platforms. In unloading, the removal of the side braces, or vertical members, is attended with considerable labor, loss of time and, frequently, danger. Clearly, the removal of the last of several vertical braces, allowing the entire load to spill or roll out from the car floor, or platform, suddenly and without hindrance, is a dangerous proceeding for loads of heavy unit weight and freely movable, such as poles, heavy pipes and the like.

Among objects of the invention are the provision of improved means for releasably retaining loads on trucks, platforms and the like, which means will be relatively simple, inexpensive in construction, convenient in use, positive and reliable in action and generally superior in effectiveness and serviceability combined with elimination of danger in use.

In practicing this invention I preferably provide a hinged, self-locking socket or bracket, or equivalent device, to which a vertical stake can be securely attached and which device is adapted for fastening to the load-carrying platform, and arranged for holding the vertical members in position or releasing them, as desired, the arrangement being such that a low-cost, safe, rapid-operating device is produced, operable, manually, in successive steps, or, in more complete form, capable of releasing all of the braces on one side, simultaneously. Other objects will appear as the description proceeds.

With the above and other objects in view, this invention consists in the new and useful provision, formation, construction, combination and interrelation of parts, members, features, all as hereinafter disclosed, shown in the drawings and finally pointed out in claims.

In the drawings:

Fig. 1 is a fragmentary end view of a car partly loaded with pipes, and a brace attached to one form of the device made in accordance with my invention.

Fig. 2 is a sectional view on line *x*—*x* Fig. 3.

Fig. 3 is a front, vertical elevation of the device in attached position.

Fig. 4 is a fragmentary side elevation of a truck equipped with a modified form of the device, arranged for simultaneous mechanical release of all the braces on one side of the truck, drawn to a smaller scale than the other figures.

Fig. 5 is a partial enlarged section of one of the devices, indicated in Fig. 4, showing details to a larger scale.

The following description of one of the forms of this device illustrates one method of construction, and manner of operation, while later herein is disclosed one variant of the device.

In the form shown in the Figures 1 to 3 inclusive, the device comprises a special form of hinge to which the brace may be bolted or the main hinge member extended to the desired length to form the complete brace. In the figures: A is the main frame of the vehicle or other load-carrying platform; B is the upper surface of the platform or of cross-members laid on the main frame A upon which rests the load. C is the vertical brace made of wood or metal and attached to the appropriate part of the device; D is a member, preferably of metal, to which the brace is attached, and in this instance is in the form of a standard structural channel. Stake

C is substantially a continuance of the channel member D. E and E are a pair of metal gusset plates, spaced apart a sufficient distance to allow member D to work between them, preferably without any excess of spread over the width of channel D. Each plate E has its upper edge turned at right angles to the plate surface to form an attaching wing or bracket whereby the plates are fastened to the load-carrying platform. The two side plates E E are held together to form a supporting frame for the member D, by the bolts 3, 4 and 5 as indicated. Bolts 3 and 5 may be provided with spacers if desired to prevent clamping of the member D, though this is not necessary in view of the spacing provided by the fixing of the plates to the platform or vehicle which, if properly done, prevents clamping of the hinged member D between them.

As shown, member D is pivoted near its lower end about bolt 4, which latter passes through the gusset-plates E, and the two adjacent flanges of the member D. From the Figures it is clear that member D can swing between plates E, E with bolt 4 as a center. The degree of counter clockwise motion is limited by the vehicle, or other platform, to which the device may be attached, while its clock-wise motion may be as great as desired up to the striking of some part of the vehicle or platform after passing a lower vertical position.

When the member D is swung upwards into a vertical position, the brace is in its desired, load-bracing position. There it is locked by any preferred mechanical means, that which I have adopted being a latch G which is pivoted about bolt 5 and is free to drop downwards by the action of gravity and also by the pressure of spring K which latter is given a turn about bolt 5 and has two projecting ends whereof one has a bearing against the vehicle frame or the platform, the other against the shank of the latch, so that the spring K urges the latch G downwards, thereby adding its moment to the gravity force.

The latch head passes through a slot J made in the web of the channel D when the brace is raised to a vertical position, so that D is locked by the depression of the latch. This locks the brace for load-holding purposes. Bolt 3, in addition to serving to hold plates E, E together at a specific distance apart, is likewise a stop for the latch end. Obviously, the latch cannot drop downward further than the upper element of the spacer around bolt 3, which height corresponds to the lower position of the latch when it is engaged with the web of channel D. Hence, when member D is released and falls outward, the latch end does not drop any further than its usual engaging position so that the bevel on the latch head is high enough to start into the slot in the web of member D, and no manual lifting or other manipulation of the latch is necessary to have it enter the slot and drop into locking position when D is turned upward into load-holding position. Member H is a safety device to prevent the latch from being jolted up, or accidently knocked upwards, and thereby releasing member D at some inappropriate time. As shown, H is an L-shaped bar or strap of metal, hung vertically from channel D with its upper end pivoted about a bolt 6 which passes through the two flanges of the channel. At its lower end H is bent to the L form mentioned, and this bent portion is adapted to pass into the slot J and H, together with the latch shank, sufficiently fill the slot J, so that there is insufficient space left for the latch shank to be lifted upward and, thereby, unlock the member D. A projection 7 is attached to, or formed integral with, the member H. This part is for manipulating H and withdrawing it from the slot prior to lifting the latch.

Obviously, the member H can be withdrawn and the latch G lifted by the use of a rod, or pole, long enough for the operator to work at a safe distance from the device, or the load which it holds, and the unlatching and releasing of member D can be performed without difficulty, danger or loss of time.

The modification shown in Figs. 4 and 5 comprises a means for unlatching all of the stakes on one side of a vehicle or platform, simultaneously and from an operating position which is safely removed from the range of the falling load. The device as before described is employed with the addition of a cam under each latch shank. Rotation of the cams lifts the latches. The cams, which are indicated by N, are all in line and keyed on a common shaft M, as shown. Shaft M extends along the edge of the vehicle, or other platform, being supported in bearings fastened to the vehicle, or platform frame as at P, P Fig. 4. A handle for manual movement of the shaft is shown at O, Fig. 4. In Fig. 5 are shown the details of shaft M and cam N and their relation with the other previously-described parts of the latching mechanism.

In the operation of this latter form of the device, the latch-securing members H are first drawn out from the slots J, manually and singly, and suitably held against reentry into slots J. Then the handle O is rotated to turn the cams and, as is clear from Fig. 5, this gradually lifts out all of the latches on the edge of the vehicle, the location of the operator being at one side or end of the platform, at right angles to the direction of the outwardly falling load.

Having described my invention in connection with illustrative embodiments, forms, proportions, and arrangement of parts, it will be understood that many variants there-

of are possible to those skilled in the art, and my invention, in its broader aspects, is not limited to the specific construction herein described and shown, as changes in the sizes, proportions, configurations, arrangements, assemblage, interaction, juxtaposition and mechanical relations, as well as additions, omissions, substitutions, combinations and alterations of forms, parts, members and features, may be made without departing from the broad spirit of this invention.

I claim:

1. In combination with a load carrying structure, a load retaining member pivoted to said structure for swinging movement to and from an upright position, said member having an opening therein, a pivoted latch adapted to project through said opening and to cooperate with the lower wall thereof when said member is in an upright position to hold same in such position, a pivoted locking member to hold said latch against pivotal movement, said locking member being inclusive of a lateral projection adapted to enter the opening in said load retaining member above said latch, and protective flanges carried by said load retaining member and extending outward beyond each side of said locking member throughout the length thereof.

2. In combination with a load carrying structure, a pair of spaced plates secured to said structure, a load retaining member in part of U-shaped cross section inclusive of side flanges pivoted between said plates for swinging movement to and from an upright position, said member having an opening therein, a latch pivoted to the load carrying structure inwardly with respect to said member and adapted to project outwardly through said opening and to cooperate with a wall thereof when said member is in an upright position to hold same in such position, and a locking member pivoted to said load retaining member between the flanges thereof for cooperation with said latch to hold the latter in latching position, said flanges extending outwardly beyond the outer end of said latch and beyond said locking member throughout the length of the latter and forming protective guards for said latch and said locking member.

In testimony whereof, I have signed my name to this specification at Los Angeles, Calif., this 14th day of March, 1929.

HARRY JACOB BONHAM.