Aug. 1, 1950 L. F. COOPER 2,517,286

JACK SUPPORT

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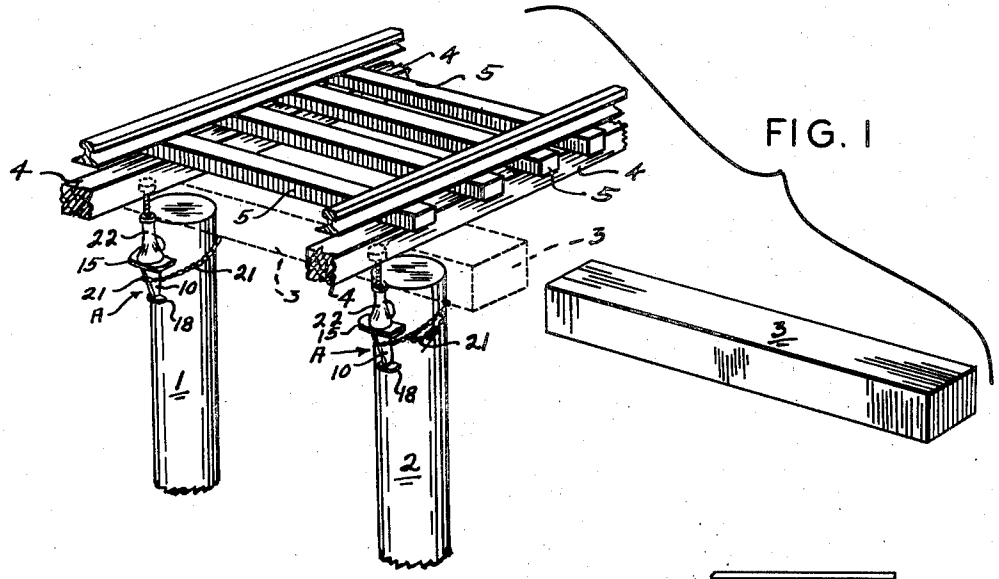


FIG. 1

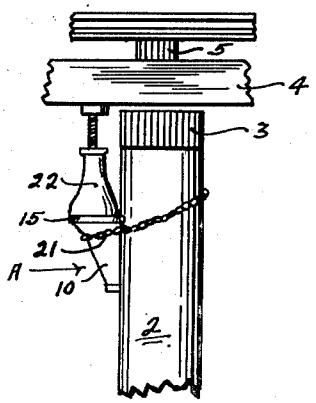


FIG. 2

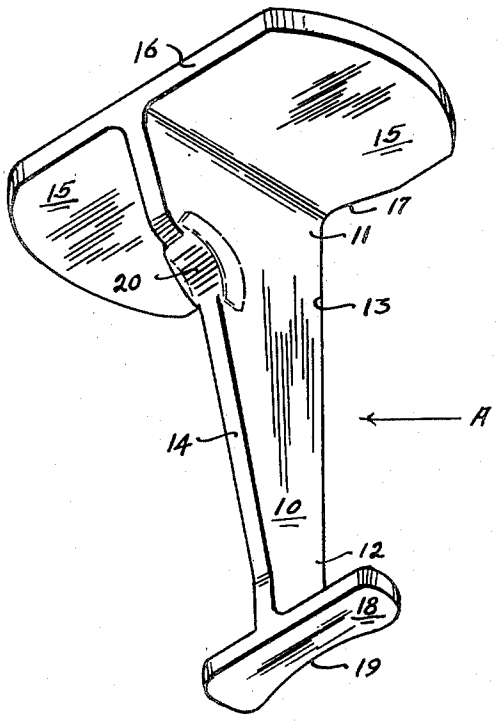


FIG. 3

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JACK SUPPORT

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8 Claims. (Cl. 248—230)

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My invention relates to a support for lifting-jacks and more particularly to a support useable in bridge and trestle repair work.

In repairing bridges supported upon driven piling, it is difficult to replace piling caps because of the fact that there is no handy way of getting a purchase beneath the stringers or tie-sills, so that they may be jacked up or raised off the piling caps.

It is common practice to chain the lifting-jacks to the side of the piling, but this practice is impractical due to the difficulty in keeping the jacks in vertical position during the sill raising operation. Loads are often dropped due to jack slippage and chain breakage.

It is the prime object of the present invention to provide a jack support capable of easy and positively rigid attachment to the side of a bridge piling.

Another object is to provide, as an article of manufacture, a heavy duty jack support which is simple to install and safe to operate.

A further object is to provide a jack support for the purposes set forth which is comparatively cheap to manufacture.

Other objects will be apparent from the following description when taken in conjunction with the accompanying single sheet of drawings, wherein:

Figure 1 is a perspective view showing two of the articles operatively installed beneath bridge sills, and showing a piling cap which has been removed from its former dotted line position;

Figure 2 is a fragmentary side elevational view of one of the devices operatively installed; and,

Figure 3 is a perspective view of one of the articles of invention.

Like characters of reference designate like parts in those figures of the drawings in which they occur.

In the drawings:

The reference numerals 1 and 2 indicate the upper end portions of two spaced bridge supporting piles. A piling cap 3 spans the space between and rests upon the two piles, and longitudinally extending sills or "stringers" 4 extend longitudinally of the bridge and support rail road ties 5 upon their upper surfaces in an obvious manner.

The device of the present invention is designed to be removably anchored to the side of one of the piles, so that a lifting jack may be supported thereby to lift one of the sills 4 in order that the piling cap 3 may be removed for replacement.

The device or article of the invention, per se,

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is indicated as a whole by the character A, and consists of an elongated flat sided heavy metal vertically disposed plate or body 10, being wider at its upper end portion 11 than at its lower end portion 12, and having a straight vertical edge 13 and a downwardly and inwardly sloping edge 14 lying opposite thereto.

The upper end of the body 10 has a flat horizontal heavy metal shelf 15, weld-integrated thereto, and lying perpendicular to the body 10. The shelf 15 has a substantially straight front edge 16, and a concavely arcuate rear edge 17. The arc of the edge 17 is preferably struck on a radius substantially equal to or slightly less than the radius of the exterior surface of one of the piles, and the middle portion of the arc if coincident to the edge 13 of the body 10.

The lower narrow end of the body 10 has weld-integrated thereto a perpendicular or horizontal transverse foot or shoe 18 having a concavely arcuate edge 19 struck on a radius similar to the radius of the edge 17 of the shelf 15. The middle of the edge 19 is also coincident to the vertical edge 13 of the body 10.

The front sloping edge 14 of the body 10 is provided, intermediate its ends, with an arcuate notch 20 and the edge 14 is thickened slightly adjacent the notch.

In putting the device to use, it is placed against the exterior surface of one of the piles, with the vertical edge 13 and the two concave edges 17 and 19 contacting the same, and a chain 21 is looped around the pile and around the device at the notch 20, and is then fastened upon itself to bind the device against material vertical movement with relation to the pile. A conventional lifting jack 22 is then placed upon the shelf 15 and beneath one of the sills 4, and when operated, the jack may lift the sill off the piling cap 3 so that it may be removed for replacement.

Of course, several different ones of the devices will usually be similarly installed upon several of the piles, so that a considerable span or extent of the sills will be raised.

The thickened portion of the edge 14 at each side of the notch 20, prevents cutting or kinking of the chain 21 during the time it is supporting a load. The arcuate edges 17 and 19 prevent lateral displacement of the device with relation to the pile.

Obviously the device is susceptible of some changes in construction and configuration without defeating its practicability, and I therefore do not wish to be confined only to the preferred embodiment shown and described herein, further

than I am limited by the scope of the appended claims.

For instance, the vertical edge 13 of the plate or body 10 may well be inset slightly from the central portions of the concave edges 17 and 19, so that it does not actually contact the face of the pile. Similarly, the concave edges 17 and 19 could well be provided with suitable deformities, such as teeth, for more positively engaging the face of the pile. Likewise, the shelf 15 and the shoe or foot 18 could be shaped differently from those shown, provided they positively engage the face of the pile and prevent lateral or rotative displacement of the device when it is chained to the pile. To this end, the concave edges 17 and 19 might well be replaced with V-shaped notches.

I claim:

1. As an article of manufacture, a jack support including: an elongated metal plate adapted to have one edge disposed vertically in contact with the side face of a pile; a horizontal shelf upon the upper end of the plate and integral therewith, said shelf having a concave edge substantially complemental with the piling face, and with its central portion complemental to the adjacent vertical edge of the plate; and a flattened loop receiving surface formed on the outer vertical edge of the plate intermediate the ends thereof.

2. As an article of manufacture, a jack support including: an elongated metal plate adapted to have one edge disposed vertically in contact with the side face of a pile; a horizontal shelf upon the upper end of the plate and integral therewith, said shelf having a concave edge substantially complemental with the piling face, and with its central portion complemental to the adjacent vertical edge of the plate; a horizontally disposed shoe integral with the lower end of said plate, said shoe having a concave edge concentric to and vertically aligned with the first mentioned concave edge; and a flattened loop receiving surface formed on the outer vertical edge of the plate intermediate the ends thereof.

3. As an article of manufacture, a jack support composed of a unitary metal structure including: an elongated plate; a shelf on the upper end of the plate perpendicular thereto; and a foot on the lower end of the plate parallel to the shelf, said shelf and foot having vertically aligned concave edges with their central portions substantially complemental to one vertical edge of the plate.

4. A jack supporting device embodying therein a shelf portion adapted to be horizontally disposed to serve as a support for a jack, a body part extending from the shelf portion and being perpendicularly disposed with respect thereto, said body part having edge portions adapted to be disposed in alignment with the adjacent surface portions of the upright member on which the device is to be mounted, the body portion being provided intermediate its ends with means for receiving and confining against slippage a member adapted to encircle said upright member and said body portion for holding the device in operative position on the upright member.

5. A jack supporting device embodying therein a shelf portion adapted to be horizontally disposed to serve as a support for a jack, a body part extending from the shelf portion and being perpendicularly disposed with respect thereto, said body part having edge portions adapted to be disposed in alignment with the adjacent surface portions of the upright member on which the device is to be mounted, the body portion being provided with a recess intermediate its ends for receiving and confining against slippage a member adapted to encircle said upright member and said body portion for holding the device in operative position on the upright member.

6. A jack supporting device embodying therein: a shelf portion adapted to be horizontally disposed to serve as a support for a jack, and provided with an edge formed to engage piling at a plurality of points around its periphery; a plate-like body portion centrally and perpendicularly disposed beneath the shelf portion, said body portion having edges adapted to be disposed in alignment with the adjacent surface of the piling on which the device is to be mounted; and means intermediate the ends of the body portion for receiving and confining against slippage, a member adapted to encircle said upright member and said body portion, for holding the device in operative position on the upright member.

7. A jack supporting device embodying therein a substantially upright body portion, means on said body portion and extending laterally beyond surfaces thereof and providing a support for engagement by a part of a lifting jack, means on said body portion and spaced longitudinally from the first mentioned means and extending laterally beyond said opposed faces, both of said means being formed for engagement with longitudinally spaced face portions of a pile, laterally to both sides of said body portion, and means carried by said body portion at a point between both of said means for receiving and confining against slippage a member adapted to encircle said pile and said body portion for attaching the device in operative position on the pile.

8. A jack supporting device embodying therein a substantially upright body portion of a depth from the inner to the outer edge greater than the thickness thereof between opposite side faces thereof, means on said body portion and extending laterally beyond said side faces thereof and providing a support for engagement by a part of a lifting jack, means on said body and spaced longitudinally from said first mentioned means and extending laterally beyond said side faces, both of said means being formed with surfaces for engagement with longitudinally spaced face portions of a pile, the central portion of said last mentioned surfaces coinciding with the inner surface of said body portion, and means associated with the outer edge of said body portion and formed to receive and confine against slippage a member adapted to encircle said pile and said body portion for attaching the device in operative position on the pile.

LEWIS F. COOPER.

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