March 5, 1929. L. O. TALBERT 1,704,351

HINGE STRUCTURE

Filed Nov. 20, 1924

Fig. 1.

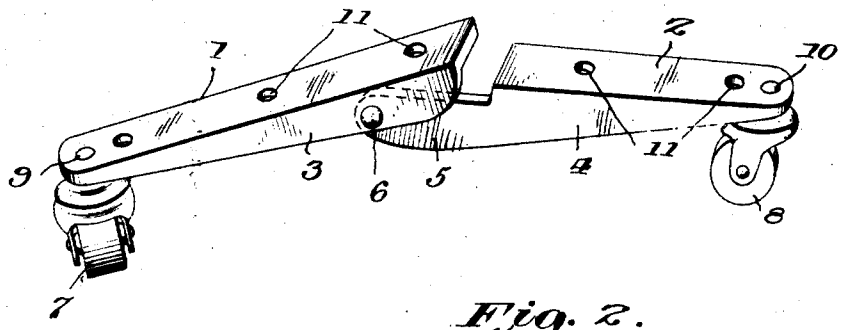


Fig. 2.

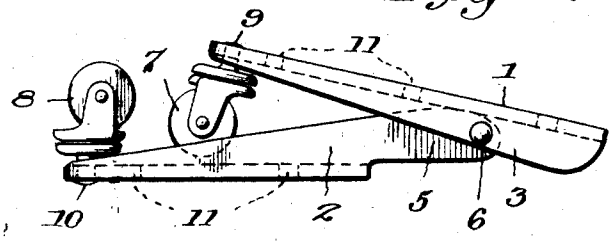
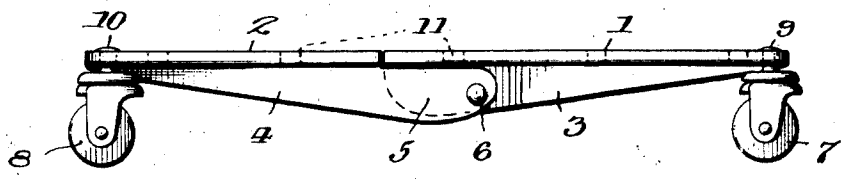


Fig. 3.



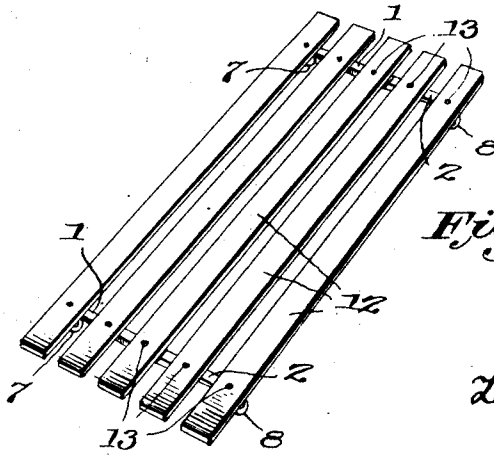


Fig. 4.

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UNITED STATES PATENT OFFICE.

LEIGHTON O. TALBERT, OF WASHINGTON, DISTRICT OF COLUMBIA.

HINGE STRUCTURE.

Application filed November 20, 1924. Serial No. 751,038.

My invention relates to hinges and more particularly to combination hinge and supporting structures.

It has for its object the provision of a combined hinge and roller support for a mechanic's folding creeper in the form of a unitary structure which will be simple, sturdy and cheap to manufacture.

Other ancillary objects of the invention will be apparent from a perusal of the following specification and the drawings accompanying the same.

In the drawings:

Fig. 1 is a perspective view of the combined hinge and roller support per se.

Fig. 2 is a side view on a smaller scale showing the hinge closed.

Fig. 3 is a side view looking from the opposide side showing the hinge in extended, locked position.

Fig. 4 is a perspective view of a repairman's creeper constructed upon a pair of the hinges.

Referring to the drawings in detail the hinge device comprises a pair of flat brace arms 1 and 2, having tapering longitudinal reinforcing webs 3 and 4, respectively, beneath. The web 4 of the arm 2 is extended to form a stop arm 5 which extends under the arm 1 and is pivoted at 6 to the web 3 of the arm 1, so as to form a hinged connection therewith. At the remote or free ends of the arms 1 and 2 are mounted a pair of casters 7 and 8, secured to the ends of the arms in any suitable manner as by rivets 9 and 10 respectively.

The stop arm 5 is so proportioned and arranged as to permit the arms 1 and 2 to fold down in an overlapping position, as shown in Fig. 2, but to strike against the bottom of arm 1 when the arms are extended at an angle of substantially 180 degrees as shown in Fig. 3. Thus, when the arms are extended as in Fig. 3 they form in effect a substantially rigid beam, supported at its ends on the casters 7 and 8.

It is to be noted that the pivot 6 is situated asymmetrically of the casters 7 and 8 and sufficiently off center to prevent the casters from striking when the arms are folded in over-lapping relation, as shown in Fig. 2. This asymmetric situation of the pivot 6 results in the further advantage that the hinged joint is thus removed from the point of maximum bending strain, which, when the parts are in the position indicated in Fig. 3, is the middle of the beam formed by the two arms 1 and 2. As shown in Fig. 1 the arms 1 and 2 are provided with bolt holes 11 by means of which the slats or timbers 12 (Fig. 4) may be attached by bolts 13, passing through the bolt holes and secured by nuts, not shown, at the under side of the arms, or if desired, the bolt holes 11 may be threaded to receive and directly hold the bolts as will be well understood by those skilled in the art.

From the above disclosure it will be seen that the invention provides a combined hinge, brace and roller support in the form of a simple and sturdy unitary structure, with two or more of which a folding creeper or roller platform may be built by simply bolting on suitable slats or timbers.

While I have thus herein shown and described a specific embodiment of my invention for the purpose of disclosure, it is to be understood that the invention is not limited to such specific embodiment, but contemplates all such variants and modifications thereof as fairly fall within the scope of the appended claims.

Having thus described my invention, what I claim and desire to receive in Letters Patent is:

1. A hinged beam structure for folding creepers comprising a pair of brace arms, a hinge joint connecting the same end to end and arranged to permit them to be folded one upon the other, stop means arranged to limit the opening of the hinged brace arms to approximately 180 degrees to form a substantially rigid beam, and a pair of roller supports mounted one at the extreme free end of each arm, said hinge joint being situated asymmetrically of the extreme ends of the arms whereby the hinge joint is removed from the point of greatest bending strain when the brace arms are opened to form a beam, and the roller bearing supports are thrown out of alignment when the arms are folded one upon the other, while maintaining the points of support symmetrically disposed in relation to the open beam.

2. A hinged beam structure comprising a pair of brace arms arranged end to end, a roller support mounted at each of the remote ends, a stop arm extending from the inner

end of one of the arms and hingedly joined to the other arm at a point beneath the same and asymmetric of the said roller supports, the said stop arm being so arranged and proportioned as to strike against the bottom of the said other brace arm in contact therewith throughout substantially the entire length of the stop arm when the arms are extended end to end, whereby to form a hinged roller supported beam having the hinged joint locked against downward bending and situated at a point removed from the point of greatest bending strain.

In testimony whereof I affix my signature.

LEIGHTON O. TALBERT.