May 6, 1952 J. W. GRIFFIN 2,595,783

REPAIRMAN'S CREEPER

Filed July 10, 1947

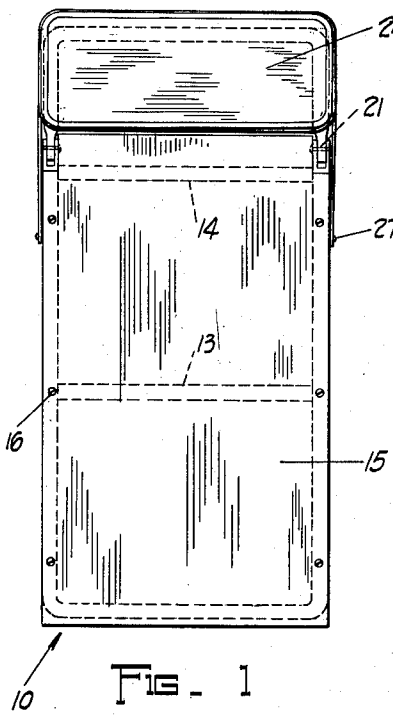


FIG. 1

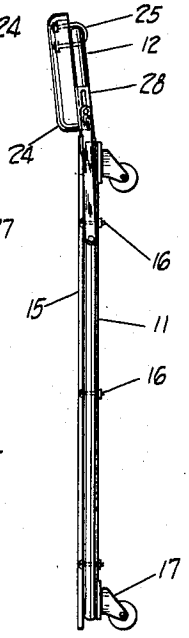


FIG. 2

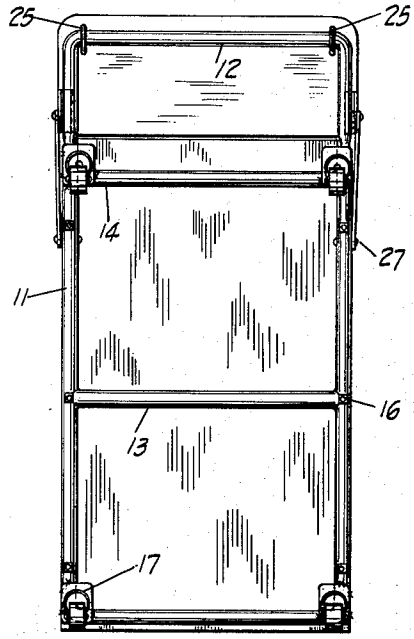


FIG. 3

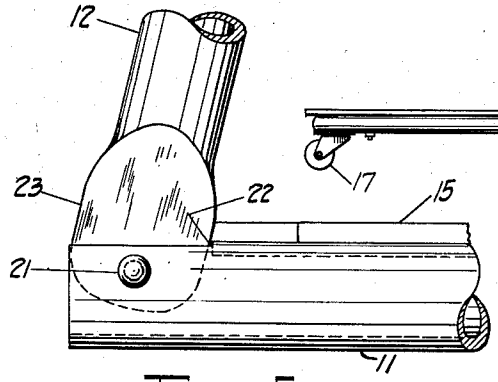


FIG. 5

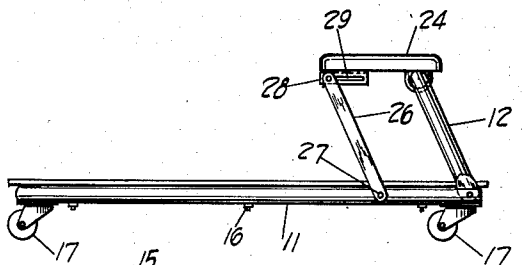


FIG. 4

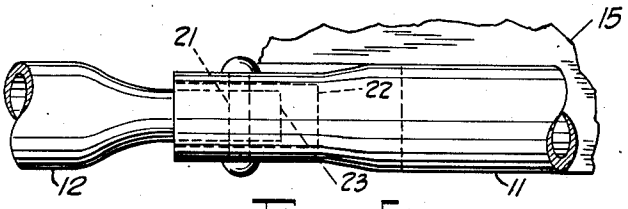


FIG. 6

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REPAIRMAN'S CREEPER

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4 Claims. (Cl. 280—61.5)

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This invention relates to mobile supports of the type generally termed "creepers" and it especially relates to a creeper adapted for use in the supporting of a person in either a prone or a sitting position.

Heretofore, all creepers known to me have been adapted only for supporting a person in a prone position. Creepers of this type are frequently used by automobile mechanics and repairmen for ease of movement around and underneath a vehicle. However, there are many operations in servicing, repairing, painting or otherwise working on vehicles wherein it is not convenient or comfortable to do the work when lying down. Furthermore, many of such operations are conducted at knee level and are quite uncomfortable for the mechanic or repairman if he attempts to stand up, bend over or otherwise support himself while doing the specific repair operation in question. Furthermore, in repairing vehicles and servicing them in other manners, the worker frequently needs a variety of tools and must carry such tools around the vehicle as his repair work progresses.

The general object of the present invention is to provide a creeper which is adapted to support a person in either a prone or a sitting position.

Another object of the present invention is to provide an inexpensive, easily assembled creeper of novel construction.

A further object of the invention is to provide a creeper with a head support section which can easily and readily be swung up to operative position as a seat support.

A further object of the invention is to provide a mobile seat having a support platform associated therewith.

The foregoing and other objects of the invention will be manifest as the specification proceeds.

In the accompanying drawings:

Fig. 1 is a plan of a creeper embodying the principles of the invention;

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

Fig. 3 is a bottom plan of the creeper of Fig. 1;

Fig. 4 is a side elevation of the creeper of Fig. 1 with the creeper in the position of a seat support;

Fig. 5 is a detail elevation of the pivoted connection used in securing the head section to the main frame; and

Fig. 6 is a bottom plan of the joint of Fig. 5 with the members in their extended positions.

Referring now to the details of the structure shown in the accompanying drawing, a creeper

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10 is disclosed and is adapted for use in supporting a person in either a lying or a sitting position. The creeper 10 mainly comprises a substantially U-shaped main frame member 11 and a substantially U-shaped end frame 12. The frames 11 and 12 may be made from any conventional materials and tubing is one excellent material for use in constructing these parts of the creeper 10. The frames 11 and 12 are both shown as formed from integral tubing wherein the tubing is smoothly curved at the corners to connect the arms of the frames to the base sections thereof. The main frame 11 is reinforced by tubular members 13 and 14 which are suitably secured to the arms of the frame and extend therebetween. A load support member such as a metal or board sheet 15 is secured to the upper surface of the main frame 11 by bolts 16. The main frame 11 is used to position the creeper 10 for easy support and locomotion and these means may comprise casters 17, plate sections of which are welded to the under surface of the main frame 11, as best shown in Fig. 3.

As an important feature of the invention and to permit the end frame 12 to be moved with relation to the main frame 11, pins or rivets 21 pivotally secure the ends of the frame 12 to the main frame 11. Figs. 5 and 6 best show that the ends of the main frame 11 have substantially rectangular sections 22 cut from the upper surfaces thereof adjacent the ends of the frame in association with the end frame 12, which cut out end portions of the main frame may be considered extension sections thereof. Fig. 5 best shows that the sections 22 are cut from only the upper surfaces of the frame 11 and the ends of the end frame 12, which protrude slightly beyond the end section of the creeper, are forged or otherwise formed to provide two substantially solid reduced width sections 23 that are adapted to extend into the ends of the frame 11 and substantially occupy the cut out sections 22. The portions of the frame 11 below the cut out sections 22 form support surfaces for the end sections of the end frame 12. The pin 21 is positioned in spaced relation to the end of the frame 11 so that the end sections 23 of the frame 12 will engage with the main frame 11 so as to limit downward movement of the frame 12 on the frame 11. Thus the sections 23 abut on the inner ends of the cut-out sections 22 when swung upwardly from the plane of the frame 11 so as to limit such upward arcuate movement of the frame 12 to an angle slightly greater than 90° from the original position of the end frame 12

wherein it is supported on the base of the frame 11 adjacent the cut-out sections 22. In this position, the end frame 12 extends from the frame 11 as substantially an extension thereof, although Fig. 2 shows that the frame 12 may extend slightly upwardly inclined with relation to the frame 11 so as to provide a more comfortable head support for a person lying upon the creeper. Fig. 4 of the drawings best shows that the support pad 24 has such arcuate movement that the pivotal frame 12 and the other means used to position the support pad 24, as hereinafter explained, both move through arcs greater than 90° in extent so that these support means move over their vertically upwardly extending, or "dead center" positions, in moving the support pad from its position as a seat to its other position as a head rest.

The end frame 12, which forms a head support in its extended position, carries any conventional support pad 24, by means of suitable devices such as U-bolts 23 securing the support pad 24 to the frame 12 in the base position thereof. Fig. 3 best shows that the support pad 24 is slightly larger in width than the frame 12 so that the support pad 24 will normally bear on the frame and be supported thereby. However, when the end frame 12 is swung upwardly about the pins 21, then the support pad 24 can be more easily moved out of contact with the entire surface of the frame and can be used as a support member that is positioned above the surface of the sheet 15.

In order to position the support pad 24 for use as a seat, support devices, such as a pair of support arms 26 are pivotally connected to the frame 11 and extend to and connect to the support pad 24. The support arms 26 are secured to the frame 11 by pins 27 adjacent the cut-out sections 22 of the frame and they connect to guide plates 28, having slots 29 formed therein, secured to the under surface of the support pad 24 and extending downwardly therefrom. Fig. 4 shows that the support arms 26 are positioned parallel to the end frame 12 when such members are in their furtherest forward, or load support, position wherein further forward movement of the frame 12 is prevented by such frame bearing against the ends of the cut-out sections 22. The slots 29 permit the support arms 26 to remain in engagement with the support pad 24 as the end frame 12 is swung downwardly from the position shown in Fig. 4 to the position flush with the lateral margins of the creeper as shown in Fig. 2. These support arms 26, of course, function to carry at least a portion of the load placed upon the support pad 24 when in its elevated position but they also function to move, automatically, the support pad 24 from its position flush against the surface of the end frame 12, as shown in Fig. 2, to the load support position shown in Fig. 4 wherein the support pad 24 is still at least substantially parallel to the load support surface of the sheet 15. Hence, a person using the creeper 10 can rapidly and easily swing the support pad 24 to a position for use either as a head support or for use as a seat. In some instances, it may be desired to use other support means for the pad 24 and they may comprise pendulum type arms pivotally secured to the pad and adapted to seat on the cover member on frame 11, or frame 11 for load support. When using the support pad 24 as a seat, the operator can carry tools or other desired articles around on the surface of the sheet 15 whereby the operator's tools will always be within arm's length, regardless of how much the operator moves around the vehicle in working on the same.

The various components of the creeper 10 of the invention may be formed from any conventional materials, and the creeper, it will be seen, can be easily constructed from a minimum number of standard components or materials that are easily available.

While one complete embodiment of the invention has been disclosed herein, it will be appreciated that modification of this particular embodiment of the invention may be resorted to without departing from the scope of the invention as defined by the appended claims.

Having thus described my invention, what I claim is:

1. In a creeper, a U-shaped tubular main frame, reinforcing means associated with said main frame, a U-shaped tubular head frame having ends and a base section, a load support member secured to said main frame, a support pad pivotally secured to said head frame, said main frame having extension sections formed thereon that are open on their upper surfaces only, pin means pivotally securing the ends of said head frame to the extension sections of said main frame spaced from the extremities thereof, said extension sections being adapted to support said head frame extending from said main frame for load receipt, a pair of support arms pivotally secured to said main frame adjacent the extension sections thereof, and a pair of guides having slots formed therein secured to said support pad of said head frame at the portion thereof immediately adjacent said main frame when said head frame is extended therefrom and substantially in the plane of the main frame, said support arms being engaged with the slots in said guides for limiting the arcuate movement of said support pad on said head frame and for aiding in supporting same above said main frame, said support arms also serving to move said support pad on said head frame automatically into parallel relation with said main frame as the said head frame is swung upwardly therefrom, due to the positioning of said support arms on said main frame.

2. In a creeper, a U-shaped main frame, a U-shaped head frame, a load support member secured to said main frame, a support pad secured to said head frame, said support pad on said head frame being pivotally engaged therewith, said main frame having extension sections formed thereon that are open on their upper surfaces only, pin means pivotally securing the ends of said head frame to the extension sections of said main frame spaced from the extremities thereof, said extension sections being adapted to support said head frame extending from said main frame in substantially the plane thereof, a pair of support arms pivotally secured to said main frame, and a pair of guides having slots formed therein secured to said support pad of said head frame at the portion thereof immediately adjacent said main frame when said head frame is extended therefrom and substantially in the plane of the main frame, said support arms being engaged with the slots in said guides for limiting the movement of said support pad on said head frame and to aid in supporting same above said main frame.

3. In a creeper, a main frame, reinforcing means associated with said main frame, a head frame having ends and a base section, a load support member secured to said main frame, a sup-

port pad secured to said head frame, said main frame having support sections formed thereon at one of the ends thereof that are open on the upper surfaces thereof only, pin means pivotally securing the ends of said head frame to the support sections of said main frame spaced from the extremities of such main frame, said support sections being adapted to support said head frame in a substantially horizontal position extending from said main frame for load receipt, a pair of support arms pivotally secured at one end of each of such arms to said main frame adjacent the support sections thereof but positioned axially inwardly of such sections, a pair of guides having slots formed therein secured to said support pad of said head frame at the portion thereof immediately adjacent said main frame when said head frame is extended therefrom and substantially in the plane of the main frame, said support pad on said head frame being pivotally carried thereby for movement on the base section thereof, and means securing the other end of each of said support arms to a corresponding slot in each one of said guides for limiting the arcuate movement of said support pad on said head frame and for aiding in supporting same above said main frame, said support arms also serving to control the position of said support

pad on said head frame and to position it in substantially parallel relation with said main frame as the said head frame is pivotally swung upwardly towards said main frame.

4. A creeper as in claim 3 wherein the edge portions of said support pad of said head frame, one support arm, one end of said head frame, and the portion of said main frame between said head frame and the connection of said support arm to said main frame form a parallelogram.

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