Aug. 8, 1939. E. C. SMITH 2,168,455

CREEPER

Filed Nov. 8, 1937

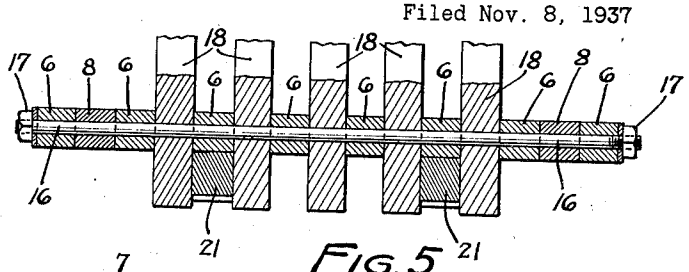


FIG. 5

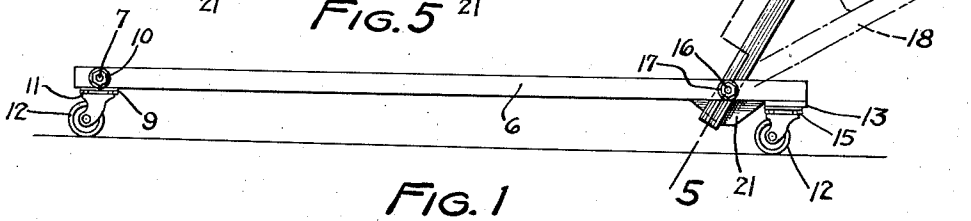


FIG. 1

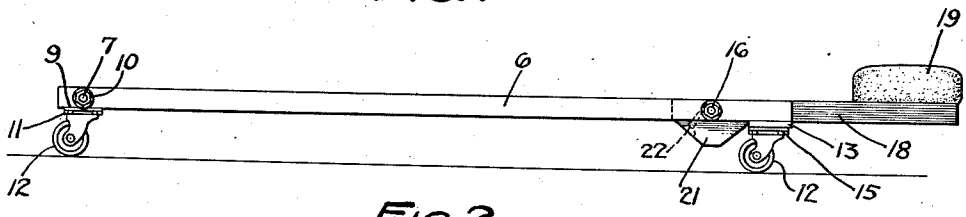


FIG. 2

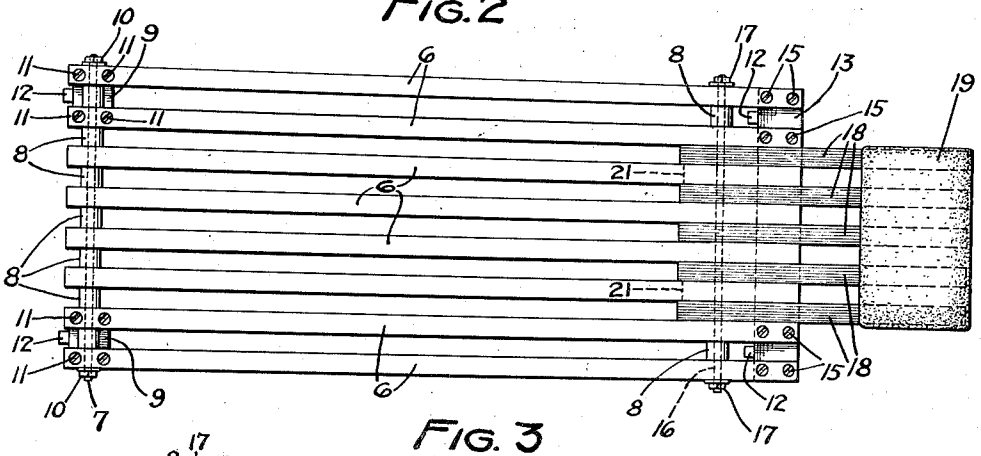


FIG. 3

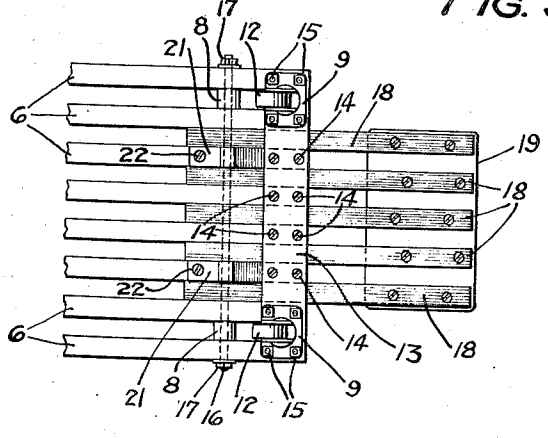


FIG. 4

Inventor
ELLIS C. SMITH
By Paul, Paul & Moore
ATTORNEYS

Patented Aug. 8, 1939 2,168,455

UNITED STATES PATENT OFFICE

2,168,455

CREEPER

Ellis C. Smith, Schroeder, Minn.

Application November 8, 1937, Serial No. 173,415

4 Claims. (Cl. 280—61.5)

An object of this invention is to provide a creeper with a comfortable head-rest which can easily be adjusted with minute gradations to various positions.

Another object is to provide a creeper which is light in weight, easily portable, strong and durable, simple in operation and of inexpensive construction both as regards materials and assembly operations.

Other objects and advantages will appear in the following specification, reference being had to the accompanying drawing.

In the drawing:

Figure 1 is a view in side elevation of the novel creeper with the head-rest in elevated position;

Figure 2 is a similar view with the head-rest lowered to horizontal position;

Figure 3 is a plan view with the head-rest lowered as in Figure 2;

Figure 4 is a partial view of the underside of the head-rest and adjacent body part;

Figure 5 is a sectional view on the line 5—5 of Figure 1.

In the selected embodiment of the invention here shown for purpose of disclosure, the body portion is preferably formed of a plurality of slats 6 arranged in substantially parallel spaced relation. The foot end portions of the slats are transversely apertured to receive a cross-rod 7. Sleeves 8 are placed upon the rod 7, in assembly, and hold the slats in spaced relation when the terminal nuts 10 are tightened. The two adjacent slats at each side of the creeper are connected together by a metallic plate 9 secured to such side slats by the screws 11. These plates provide the mounting for the swiveled castors 12 as is well known in the art.

The head end of the creeper is somewhat different in construction and assembly. A relatively narrow reinforcing strip 13 extends transversely of the head end portions of the body slats to which the strip is attached by the screws 14 as shown in Figure 4. This head end is also provided with a common form of castor plates 9 and castors 12 held by the bolts and nuts 15.

A cross-rod 16 extends through alined apertures in the slats at the head end. As in the case of the foot-end assembly, the cross-rod is terminally threaded to receive the nuts 17 and intermediate washers.

A spacing sleeve 8 is placed on the cross-rod 16 between the two outer side slats only because the space between the other side faces of the body slats is occupied by the slats or bars 18 of the head-rest. There are here shown five such head-rest bars although the number thereof may be varied. The head-rest 19 extends across the outer end portions of these bars 18 and is preferably cushioned as suggested in the drawing.

These bars are apertured adjacent their inner ends to receive the cross-rod 16 and the body slats 6, two sleeves 8 and interposed bars 18 are held in the assembled position shown in section in Figure 5.

An important feature of this novel creeper resides in the fact that the head-rest may be retained in a plurality of finely varied operative positions when the mechanic reclines upon the creeper with his head upon the rest. These adjustments are maintained by frictional resistance to torque without the necessity of ratchets, rack bars or gears, etc.

The width and depth of the bars 18 of the head rest are such that their side faces are closely held against the opposed vertical side faces of the slats 6. Adjustment or variance of such frictional engagement may be varied by tightening or loosening the nuts 17 at each end of the cross-rod at this head end. Obviously, lessened area of engagement of the side faces of the slats 6 and bars 18 occurs as the head-rest is elevated. For example, in the position shown in full lines in Figure 1, a considerable portion of the side faces of the bars 18 below the pivotal cross-rod are out of engagement with the adjacent side faces of the slats. In order to provide additional frictional engagement areas for such lowered portions of the bars 18, there are provided two frictional blocks 21 on the bottom of two of the body slats. The width of each block is the same as that of the slats and each may be secured against the slat under face by a screw 22. The perimeter of the frictional area of the depending side faces of these blocks may be substantially arcuate but it is more economical to provide the angled form shown in Figures 1 and 2.

When the head-rest is elevated, the opposed side faces of two pairs of the bars 18 engage frictionally both the adjacent portions of certain of the body slats and, additionally, the depending side faces of the friction blocks 21.

It will be observed that, as the headrest is moved from the full line position in Figure 1 to its dotted line position, and beyond, the outer end portions of the headrest bars 18 pass within the spaces between the slats 6. Preferably the total distance between the opposite and outermost working faces of the slats is less at the head end of the creeper than at the foot end. In other words, the slat spaces at the head end are tapered,

being less at the head end. In one commercial form of these creepers this distance is approximately one-fourth of an inch less at the head end, the comparative measurements being made across the slats at the foot end and across the strip 13 at the head end. This slight tapering of the body slats increases the frictional engagement of the bars 18 as they approach the horizontal.

In use, the mechanic can readily adjust the head-rest 19 to the angular position desired by pushing or pulling the outer end of the head-rest, i. e., at the portion farthest from its pivotal mounting thereby attaining a greater leverage.

So far as concerns materials, the slats and bars may be of metal, but it is suggested that strong wood can economically be employed as it is plentiful and inexpensive in the forms and shapes here used and readily provides the frictional resistances desired.

While the construction and arrangement of the improved creeper as herein described and claimed is that of a generally preferred form, obvious modifications and changes may be made without departing from the spirit of the invention or the scope of the claims.

I claim:

1. A creeper comprising a plurality of spaced slats, a head-rest, a plurality of slats affixed to the head-rest thereto at their outer ends, the inner end portions of said head-rest slats being positioned between said creeper slats, a cross-member extending through said creeper slats, each head-rest slat being pivotally mounted upon said cross-member and being of such width that each head-rest slat is frictionally held against pivotal movement whereby the head-rest may be frictionally held in a plurality of adjusted positions.

2. A creeper comprising a plurality of spaced slats forming a body-rest, means extending transversely of the slats and adapted to hold the slats in assembled spaced relation, a head-rest, a plurality of bars attached at their outer ends to the head-rest and pivotally mounted adjacent their inner ends on said transverse means, each head-rest bar extending between a pair of adjacent slats and being of a width to engage frictionally each of the opposed side faces of its adjacent slat-pair whereby the head-rest may be frictionally held in a plurality of adjustably fixed positions, and means to increase the pressure of the side faces of the slats against the engaged side faces of the head-rest bars whereby to increase frictional resistance to pivotal movement of the head-rest when in use.

3. A creeper comprising a plurality of spaced slats forming a body-rest, means extending transversely of the slats and adapted to hold the slats in assembled spaced relation, a head-rest, a plurality of bars attached at their outer ends to the head-rest and pivotally mounted adjacent their inner ends on said transverse means, each head-rest bar extending between a pair of adjacent slats and being of a width to engage frictionally each of the opposed side faces of its adjacent slat-pair whereby the head-rest may be frictionally held in a plurality of adjustably fixed positions, and means carried by the body slats and extending therebelow and adapted to engage frictionally the adjacent faces of certain head-rest bars at their inner portions extending below said pivotal mounting when the head-rest is elevated whereby to provide additional frictional resistance to pivotal movement of the head-rest when so elevated.

4. A creeper comprising a plurality of spaced slats forming a body-rest, means extending transversely of the slats and adapted to hold the slats in assembled spaced relation, a head-rest, a plurality of bars attached to their outer ends to the head-rest and pivotally mounted adjacent their inner ends on said transverse means, each head-rest bar extending between a pair of adjacent slats and being of a width to engage frictionally each of the opposed side faces of its adjacent slat-pair whereby the head-rest may be frictionally held in a plurality of adjustably fixed positions, and means affixed to certain of the body slats adjacent said pivotal mounting to increase the frictionally effective height of said slats at their side faces whereby additional frictional engagement of the side faces of adjacent slats and bars is provided when the head-rest is elevated.

ELLIS C. SMITH.