(No Model.)

T. P. BUTTERFIELD.

CARPET STRETCHER.

No. 303,619. Patented Aug. 19, 1884.

Fig. 1

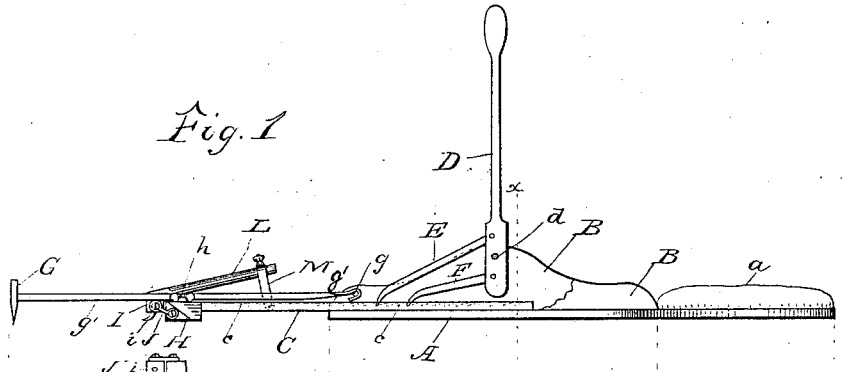


Fig. 2.

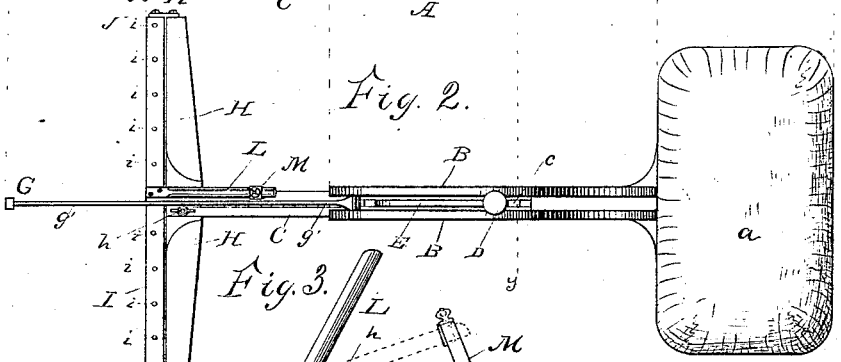


Fig. 3.

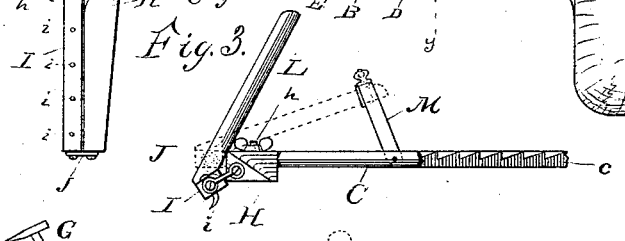
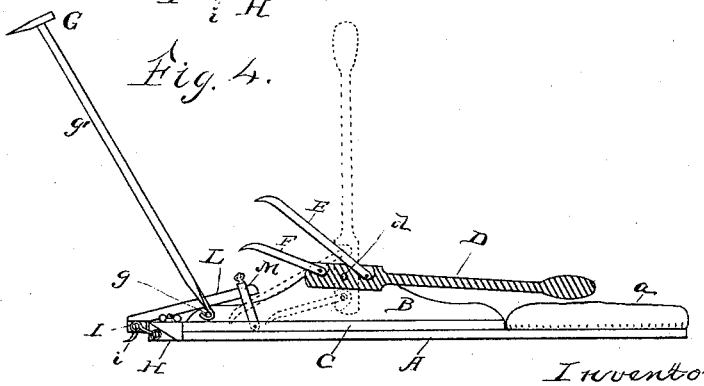
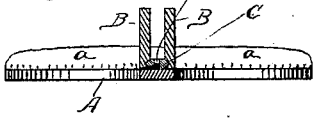


Fig. 4.



Witnesses:
Chas. A. Nicoli
Louis Henry

Fig. 5.



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UNITED STATES PATENT OFFICE.

TYRANNUS PAUL BUTTERFIELD, OF INDIANAPOLIS, INDIANA.

CARPET-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 303,619, dated August 19, 1884.

Application filed May 1, 1884. (No model.)

To all whom it may concern:

Be it known that I, TYRANNUS PAUL BUTTERFIELD, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Carpet-Stretcher, of which the following is a specification.

My invention relates to improvements in carpet-stretchers in which a toothed rock-shaft to engage the carpet is attached to a cross-head on the end of a sliding bar, and the sliding bar is forced forward by a lever with double pawls, which work in a rack-bar on the upper face of the sliding bar; and the objects of my invention are to provide, first, a clutch or gripper that can readily and firmly be fixed into the carpet; second, without special adjustment, to afford a means of holding the stretched carpet while tacking it down; third, to economize time by making a device that will stretch the carpet during both front and back strokes of the lever. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of my device with one of the sides of the frame broken away to show the arrangement of the lever and pawls back of it. In this view the sliding bar is drawn partially out. Fig. 2 is a top view of my device, showing all of the parts in position, the same as in Fig. 1. Fig. 3 is a detail side view of the rock-shaft and cross-head and a portion of the sliding bar C. Fig. 4 is a side view of my device with one of the sides supporting the lever removed to show the inside mechanism. This view shows the manner in which the pawls are disengaged from the rack-bar by pressing the lever well back, thus raising the pawls and allowing the sliding bar to be pushed in, as shown in the figure. Fig. 5 is a vertical sectional view through the line *x y*.

Similar letters refer to similar parts throughout the several views.

A is the bottom or base, to which the sides B B are fastened. The sides B B are the guide-bars for the sliding plate C. They have V-shaped longitudinal grooves on their inside lower edges, to receive the corresponding-shaped edges of the sliding bar C, as shown in the sectional view in Fig. 5. The sides B B serve also as bearings for the ends of the pin *d*, on which the hand-lever D is fulcrumed. The sides B B also serve as bearings for the pin *g*, to which, by means of the rod *g'*, the dog G is connected.

The lever D, above referred to, has the pawl E hinged to it at a suitable point on the lever above the fulcrum, and the pawl F at a suitable point on the lever below the fulcrum. These pawls both extend forward and both engage in the notches in the rack-bar *c*. The rack-bar *c* runs longitudinally along the upper central face of the sliding bar C, and is fastened solidly in position.

By the arrangement of the pawls it is seen that when the lever D is forced forward the pawl E will press forward on the rack-bar *c*, and when the lever is forced backward the pawl F will exert a forward pressure, so that, no matter in what direction the lever is moved, one of the pawls will be always pushing forward on the rack-bar and forcing out the slide-bar C. On the outer end of the slide-bar C is a cross-head, H, into which the end of the slide-plate is mortised and fastened by the bolt *h*, with a wing-nut, or a nut with milled sides, that can be readily unscrewed and the cross-head removed for convenience in transportation. Immediately in front of the cross-head and running parallel with it is the rock-shaft I, to which the teeth or claws *i*, to engage the carpet, are attached. This rock-shaft is fastened to the cross-head by means of the links J J, connecting the adjacent ends of the parts H I, and allowing the shaft I, when not supported, to drop, as shown in Fig. 3, into a position specially favorable for grasping the carpet. Near the middle of the rock-shaft is the handle or lever L, rigidly fastened to the shaft. When the end of this lever is pressed down as near as possible against the slide-bar C, the attached shaft I is raised and rotated and made to assume the position shown in Figs. 1, 2, and 4, and in dotted line in Fig. 3, which, when the claws are once engaged in the carpet, is the position most favorable for holding the latter during the operation of stretching. When the lever L is pressed down, it is held in that position by the hook M, which hook is hinged to

the sliding bar C and is slipped over the end of the lever L.

In the operation of stretching the carpet the body of the machine is held from slipping backward by the dog G, which is forced into the floor close to the wall, and connected with the body of the structure by the rod g', whose hooked end is slipped over the pin g.

The use of a dog in this manner, I am aware, is old, and therefore I do not wish to claim it broadly. The rear end of the base or bottom A, after it leaves the sides B B, is broadened to receive the cushion a for the knees of the operator. When the cross-head and rock-shaft are out, and it is desired to bring them closer to the body of the machine, the hand-lever D is forced backward as far as it will go, and the pawls E and F, coming against the bottom edge of the recesses in which they are hinged, are raised out of contact with the rack-bar, as shown in Fig. 3, leaving the sliding bar and attached mechanism free to be moved in.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent, is—

1. The sliding ratchet-bar C, lever D, and pawls E and F, in combination with the body A B B, said body being anchored by the dog G in such a manner as to afford a fixed bearing for the lever in operating the ratchet-bar, and also in such a manner as to allow the carpet in stretching to slide freely under the base A, substantially as described, and as and for the purposes specified.

2. In a carpet-stretcher, the rock-shaft I, fastened to the cross-head H by means of the end links, J, and provided on its under side with a row of teeth or claws, i, to engage in the carpet, substantially as described and specified.

3. In a carpet-stretcher, the combination of the sliding bar C, cross-head H, rock-shaft I, links J, handle L, and hook or bail M, substantially as set forth.

4. In a carpet-stretcher, the base A, sides B B, lever D, with its upper pawl, E, and lower pawl, F, sliding bar C, sliding in the V-shaped grooves in the sides B B, rack-bar c on the sliding bar C, cross-head H, rock-shaft I, joined to the cross-head by the end links, J, the teeth or claws i on the under side of the rock-shaft I, the handle or lever L, for operating and fastening the rock-shaft, the hook M, hinged to the sliding bar C, the dog G, to hold the body of the machine from sliding backward, and the knee-cushions a on the rear end of the base A, all combined substantially as described, to operate as and for the purposes specified.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

TYRANNUS PAUL BUTTERFIELD.

Attest:

FRANK BYRKIT,

CHAS. A. NICOLÉ.