(No Model.)

H. G. CADY.

CARPET STRETCHER.

No. 485,406. Patented Nov. 1, 1892.

Fig. 1.

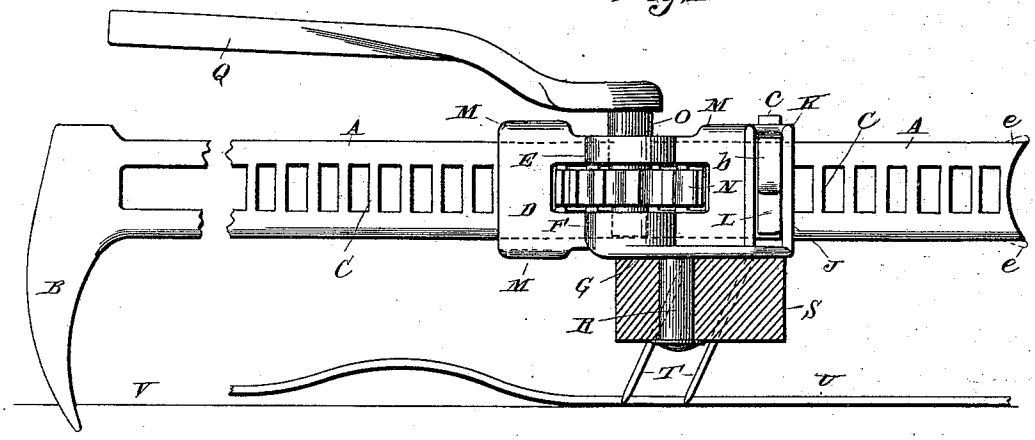

Fig. 2.

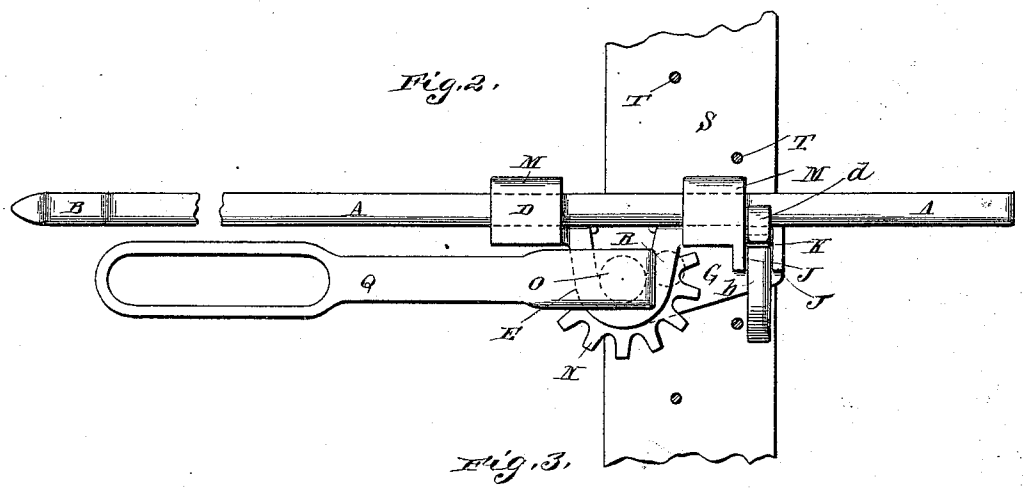

Fig. 3.

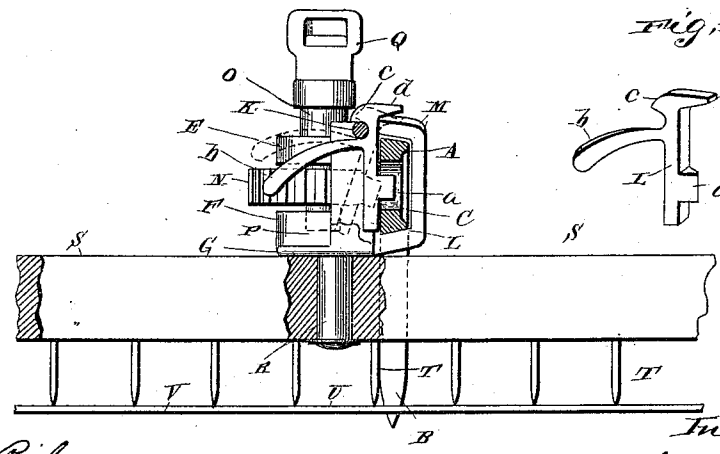

Fig. 4.

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UNITED STATES PATENT OFFICE.

HORACE G. CADY, OF SCOTT, NEW YORK.

CARPET-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 485,406, dated November 1, 1892.

Application filed February 27, 1892. Serial No. 422,957. (No model.)

To all whom it may concern:

Be it known that I, HORACE G. CADY, a citizen of the United States, residing in the town of Scott, county of Cortland, State of New York, have invented a new and useful Improvement in Carpet-Stretchers, of which the following is a specification, reference being had to the accompanying drawings on one sheet, making part of this specification.

My invention relates to improvements in carpet-stretchers in which a stretcher-bar provided with suitable hooks operates on a pivot in connection with a rack-bar and pinion; and the objects of my invention are to so construct and arrange the several component parts thereof that they may be readily and permanently assembled for operation, and to provide means for retaining the carpet when stretched in that position until tacked or otherwise secured on the floor by the operator. I obtain these objects by the mechanism illustrated in the sheet of drawings referred to and accompanying this specification, in which—

Figure 1 is an elevation of my improved carpet-stretcher. Fig. 2 is a plan view of the same. Fig. 3 is an end view of the same, taken from the rear end thereof; and Fig. 4 is a detached perspective view of the rack-pawl of the same.

Similar letters of reference refer to similar parts throughout the several views.

A is a rack-bar provided with a downwardly-projecting spur B at one end and with nibs *e e* at the other end and with rack-teeth C C. A casting D is provided for sliding on said rack-bar A and has a bearing E and a step F. A foot G is provided on the casting D, as shown in Figs. 1, 2, and 3, which is provided with a stud-pin R. The casting D is also provided with slotted loops M M, which are plainly shown in Figs. 1, 2, and 3, through which the rack-bar A is fitted to pass freely. The said casting D is further provided with guide-flanges J J, which are formed thereon and connected near or at their top ends by a shaft K, the offices of which said several parts will be presently described. A hand-lever Q is provided and extended at nearly right angles thereto into a post O, which is passed through the rack-pinion N, to which it is suitably secured in any preferred manner, but may preferably be cast therewith and with said hand-lever Q in one piece, which post O, with the rack-pinion N secured thereto, as shown, is placed into the bearing E of the casting D, and its bottom end P is stepped in the step F of the casting D, which bearing E and the step F of the casting D are left open at the side thereof next the rack-bar A to enable said post O, having said rack-pinion N secured thereto, to be readily laid therein and to be locked in place by the rack-bar A, as shown in Figs. 1 and 2, the practical arrangement and operation of which being hereinafter more fully described.

Between the guide-flanges J J of the casting D and hooked on the shaft K, which connects the top ends of said guide-flanges J J, is the rack-pawl L, Fig. 4, which is provided with a beveled tooth *a*, a stop *d*, a hook *c*, and an arm *b*. On the stud-pin R of the foot G of the casting D is pivoted the stretcher-bar S, which is furnished on its under surface with suitable hooks T T, arranged obliquely thereto, as shown in Fig. 1. The said stretcher-bar S may be of any suitable length, and the hooks T T furnished thereon of any desired arangement or number. U is the carpet being stretched upon the floor V.

Having thus described the several parts of my invention, I will describe their practical arrangement and operation.

The stretcher-bar S is placed on the stud R of the casting D and the free end of the latter suitably upset, so that it will retain the stretcher-bar S in place and still not interfere with its pivotal action thereon, the upper surface of said stretcher-bar S being drawn firmly against the under side of foot G, which serves to keep said stretcher-bar S from rockin The post O, having the rack-pinion N secured thereto, is placed in the bearing E and the step F of the casting D, so that said rack-pinion N is placed horizontally between the said bearing E and the step F of the casting D, and so that its teeth will engage with the teeth C C of the rack-bar A when the same is placed in position. The rack-pawl L is hooked by its hook *c* on the shaft K of the guide-flanges J J of the casting D. The rack-bar A is then passed by its narrow end through the loops M M of the casting D, when its teeth C C engage the teeth of the rack-pinion N, its

upper edge passing at the same time under the stop *d* of the rack-pawl L in the manner and in the relative position as illustrated in Fig. 2, the spur B on the rack-bar A pointing downward, as shown. The nibs *e e* of the narrow end of the rack-bar A are knocked over, as shown in the dotted lines thereat, which serves to prevent the casting D and its appendages from passing off therefrom. The rack-pawl L, being hooked in place, as already described, has the beveled side of its beveled teeth *a* next the spur end of the rack-bar A, so that when the casting D is pushed on the rack-bar A toward its spur end the rack-pawl L releases itself from engagement with the teeth C C of the said rack-bar A.

When it is desired to operate my improved carpet-stretcher, the spur B is driven into the floor next the base-board, or otherwise, if desired, sufficiently for it to take positive hold thereon. The casting D, by releasing the engagement of the rack-pawl with the rack-teeth of the rack-bar, is pushed a sufficient distance thereon toward the narrow end thereof and the hooks furnished on the stretcher-bar pivoted on the stud of the foot of the casting are engaged in the carpet and the rack-pawl allowed free action as the rack-pinion is rotated in the proper direction by the hand-lever. Its teeth, engaging with the teeth of the rack-bar, cause the casting and the cross-bar already described to slide on the rack-bar, the automatic disengagement of the rack-pawl allowing it so to do. At the same time the engagement of the hooks of the stretcher-bar in the carpet cause the carpet to be stretched, which when sufficiently done is there locked to place by the falling of the square side of the rack-pawl into engagement with the rack-teeth of the rack-bar, this action being constantly assured by the weight of the arm *b*, which constantly tends to the said engagement of said rack-pawl. The rack-pawl is kept from being thrown out of position by its stop *d*, and is guided in its action by the guide-flanges J J of the casting D. When it is desired to renew the operation and that portion of the carpet secured in place, the operator simply releases the rack-pawl from its locked engagement on the rack-teeth of the rack-bar by hand and renews the operation, as described.

Having thus described the several parts of my invention and their mode of operation, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The spiked stretcher-bar S, pivoted to the stud R, in combination with the casting D, having the foot G, the bearing E, step F, loops M M, guide-flanges J J, and shaft K, the rack-pawl L, having the hook *c*, the beveled tooth *a*, the stop *d*, and the arm *b*, the rack-pinion N, post O, handle Q, and rack-bar A, having the spur B, and nibs *e e*, arranged in the manner, for the purpose, and operated as described.

2. The spiked stretcher-bar S, pivoted to the stud-pin R, in combination with the casting D, having the bearing E, step F, loops M M, shaft K, the rack-pawl L, having the hook *c*, beveled tooth *a*, stop *d*, and arm *b*, the rack-pinion N, secured to the post O to be operated by a lever, and the rack-bar A, arranged in the manner and for the purpose as described.

3. The spiked stretcher-bar S, pivotally secured to the casting D, said casting D having the bearing E, step F to receive the post O, to which is secured the rack-pinion N, also having the loops M M, the guide-flanges J J, and shaft K, in combination with the rack-pawl L, having the hook *c*, the beveled tooth *a*, the stop *d*, arm *b*, and the rack-bar A, which engages with the rack-pinion and rack-pawl and which when placed in position through said loops M M in the casting D serves to lock them in their respective places, arranged in the manner and for the purposes as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

HORACE G. CADY.

Witnesses:

MORTIMER V. AUSTIN,

J. HENRY KERR.