(No Model.)

C. M. JANSKY.

CARPET STRETCHER AND TACKER.

No. 604,987. Patented May 31, 1898.

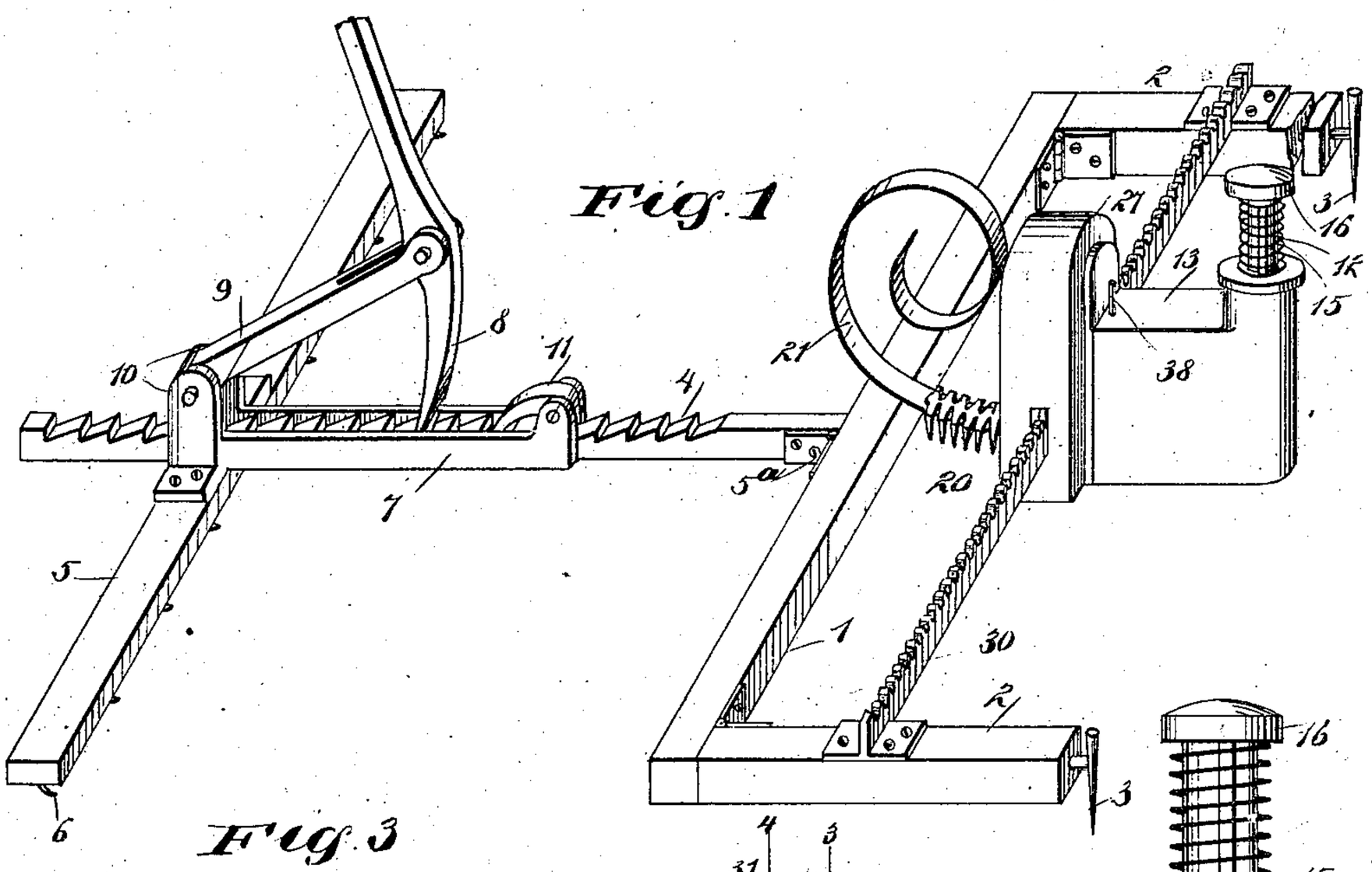

Fig. 1

Fig. 2

Fig. 3

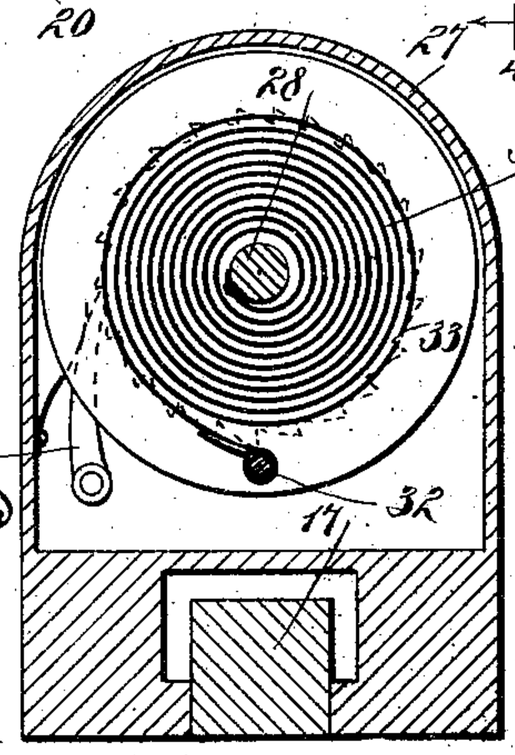

Fig. 4

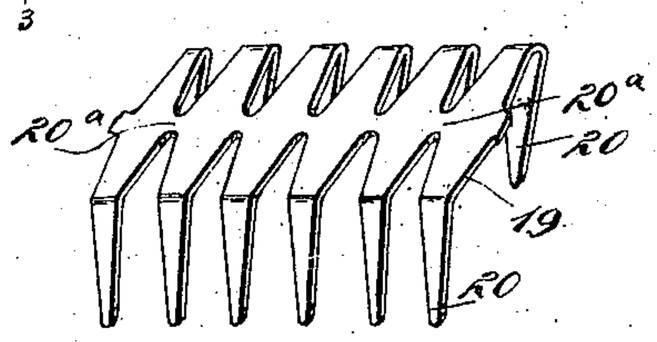

Fig. 5

WITNESSES: J. A. Brighton, C. K. Ferguson

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UNITED STATES PATENT OFFICE.

CYRIL M. JANSKY, OF AU SABLE, MICHIGAN.

CARPET STRETCHER AND TACKER.

SPECIFICATION forming part of Letters Patent No. 604,987, dated May 31, 1898.

Application filed December 28, 1897. Serial No. 663,882. (No model.)

To all whom it may concern:

Be it known that I, CYRIL M. JANSKY, of Au Sable, in the county of Iosco and State of Michigan, have invented a new and Improved Carpet Stretcher and Tacker, of which the following is a full, clear, and exact description.

This invention relates to improvements in carpet stretchers and tackers, and the object is to provide a stretcher and tacker or staple-driver so constructed that after driving one tack or staple the tacking mechanism will be automatically moved to the position for driving the next tack or staple, thus providing means for successively driving several tacks or staples without moving the stretcher from its position.

I will describe a carpet stretcher and tacker embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a carpet stretcher and tacker embodying my invention. Fig. 2 is a vertical section of the tacking mechanism. Fig. 3 is a section on the line 3 3 of Fig. 2. Fig. 4 is a section on the line 4 4 of Fig. 2, and Fig. 5 is a perspective view of a series of fastening-staples employed.

The tacker-carrying frame comprises a bar 1, having an arm 2 extended forward from each of its ends, and the ends of these arms 2 are provided with spikes 3, designed to be driven into the floor near the base-board. Extended from the bar 1 of the frame is a stretcher-rack 4. As here shown, the stretcher-rack has a hinge connection 5^a with the bar 1, so that when the device is not in use the said rack may be folded closely against the frame.

The stretcher-rack 4 is designed to be moved relatively to a stretcher-bar 5, having hooks 6 on its under side designed to engage in a carpet. Extended forward from this bar 5 is a guideway 7, in which the rack moves. The rack is moved longitudinally by means of a lever 8, adapted to engage with the teeth of the rack and having a link connection 9, with lugs 10 extended upward from the bar 5.

Pivoted between upward projections at the forward end of the guideway 7 is a dog 11, designed to engage with the teeth of the rack-bar and prevent a backward movement.

The tacker or driver comprises a vertically-movable plunger 12, arranged in the forward portion of a casing 13. To prevent a rotary motion of the plunger relatively to the casing, the said plunger is provided on its opposite sides with longitudinal ribs 14, designed to engage channels in the casing. A spring 15, arranged between the upper portion of the casing and the head 16 of the plunger, serves to return said plunger and hold it yieldingly in its upward position, as indicated clearly in Fig. 2. In the lower portion of the casing 13 is secured a block 17, the forward upper edge of which forms a cutting edge for separating the staples as they are driven, and coacting with this cutting edge is a cutting edge 18 on the lower end of the plunger 12.

The staples used in this machine each consist of a body portion 19 and prongs 20. In the manufacture of the staples a series of them will be stamped out and formed from one strip of metal, and when formed the several staples of a strip will be connected at the middle of the body portion by a narrow neck 20^a. This strip of staples is movable longitudinally over the block 17, and the outer or rear end of the strip is placed upon a curved holder 21, extended rearward from the casing.

In operation one of the staples will be just forward of the forward end of the block 17. Then by striking upon the upper end of the plunger 12 the same will be driven downward, and its cutting edge coacting with the cutting edge of the block 17 will sever a staple at the neck portion from the staple rearward of it, and this severed staple will be driven through the carpet into the floor.

To prevent the strip of staples from moving forward while one is being severed and driven, I employ pins 22, which extend downward at each side of the plunger and are adapted to engage between two staples rearward of the one severed and driven. As a means for feeding the strip of staples successively to the severing and driving position I employ a feeding-bolt 23, movable longitudinally in an opening formed in the casing 13 and normally held outward by means of a spring 24. The forward end of this bolt 23 is beveled and is

designed to be engaged by a beveled shoulder 25 on the inner side of the plunger, and from the lower side of said bolt a spring-yielding feeding-finger 26 extends downward and is designed to engage with the rear side of a staple.

Obviously when the plunger is forced downward the incline 25 will force the bolt 23 rearward, and this of course will draw the finger 26 rearward through the space of the width of one staple. Then as the plunger moves forward the spring 24 will move the bolt 23 and the finger 26 forward, and thus the strip of staples will be fed the distance of the width of one staple. The driving and tacking mechanism as so far described, however, is not of my present invention.

I will now describe a means of carrying the tacking or driving device along the frame after the driving of a tack or staple. The casing 13 has an upwardly-extended portion 27 at its rear end, and mounted in this casing portion 27 is a shaft 28, upon which is loosely mounted a gear-wheel 29, meshing with a rack 30, extended lengthwise of the frame 1 and secured to the arms 2. The casing 13 is provided with openings at its opposite sides, so that the rack may pass through the same. A spring 31 has one end attached to the shaft 28, and the other end of said spring is attached to a pin 32, extended from the gear-wheel 29. Rigidly connected to the shaft 28 is a ratchet-wheel 33, yieldingly engaged by a dog 34, pivoted in the casing. This dog and ratchet-wheel are designed to prevent a backward movement of the spring 31 during its winding by means of a key engaged with the outer angular end of the shaft 28.

Mounted to swing in the casing is a detent-bar 34^a, the rear end of which is designed to be engaged by either one of the stop-pins 35, extended forward from the gear-wheel 29, and the forward end of this detent-bar 34^a is in the line of movement of a tappet 36 on the plunger 12.

The operation of the device is as follows: After driving the spikes 3 into the floor near the base-board the hooks of the stretcher-bar 5 are engaged in the carpet. Then by moving the upper end of the lever 8 forward the stretcher-bar will be moved forward or toward the tacking device, and therefore stretch the carpet, so that its edge may be laid up close against the base-board. Then by striking the upper end of the plunger 12 with a hammer or mallet the said plunger will be forced downward and sever a staple, as before described, and drive it through the carpet into the floor. During this downward movement the tappet 36 will engage with and rock the detent-bar 34^a out of engagement with the pin 35. Then the spring 31 will rotate the gear-wheel 29 and cause it to move along the rack 30. Of course as soon as the plunger is released it will be forced upward by the spring, and the detent-bar 34^a will be moved downward to engage with the next pin 35 of the series and prevent further rotation of the wheel.

The detent-bar 34^a may be moved downward by means of a spring 37, bearing at its lower end upon the bar 34^a and at its upper end against the inner side of the top of the casing 13, and to hold this spring in place a pin 38 may be extended from the bar through said spring and loosely through an opening in the top of the casing. Of course after each blow the tacking or driving device will be moved one step, and the distance of this movement may of course be regulated by the number of pins 35 employed—that is, while I have shown but two of these pins, which permits a half-rotation of the wheel, four or more may be employed to permit only of a less rotation.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A carpet-stretcher, comprising a frame, means for securing said frame to a floor, a stretching-bar for engaging with the carpet, means for moving said stretching-bar toward the frame, a tacking or staple-driving device mounted on said frame, and means for imparting a step-by-step motion to said device longitudinally of the frame, substantially as specified.

2. A carpet-stretcher, comprising a frame having means for removably securing it to a floor, a stretching-bar, means for moving said stretching-bar toward the frame, a tack or staple driving mechanism comprising a vertically-movable plunger, a casing in which said plunger is arranged, a rack on the carpet-stretcher frame passing through said casing, a spring-operated gear in the casing engaging with said rack, and means operated by a downward movement of the plunger for releasing the spring to allow it to move the tack or staple driving mechanism longitudinally of the frame, substantially as specified.

3. A carpet-stretcher, comprising a frame adapted to be removably secured to a floor, means connected with said frame for stretching a carpet toward the same, a rack extended longitudinally of said frame, a driving mechanism comprising a vertically-movable plunger, a casing in which said plunger is arranged, a gear-wheel in the casing engaging with the rack, a shaft upon which said gear-wheel is loosely mounted, a spring connected at one end with said shaft and at the other end with the gear-wheel, a stop-pin extended from the gear-wheel, a swinging detent-bar with which said stop-pin is designed to engage, and a tappet on the plunger for engaging with said detent-bar, to move it out of engagement with the pin upon the downward movement of the plunger, substantially as specified.

4. The combination with a carpet-stretcher comprising a frame adapted to be removably secured to a floor, of a driving mechanism comprising a casing, a plunger operating ver-

tically in said casing and having a cutting edge for severing staples from a strip, means operated in one direction by the plunger for feeding the strip, a spring-operated gear-wheel in the casing, a rack on the carpet-stretcher frame with which said gear-wheel engages, stop-pins extended forward from said gear-wheel, a detent-bar mounted to swing in the casing and adapted to be engaged by either one of the stop-pins, and a tappet on the plunger for engaging the said detent-bar to move it out of engagement with the stop-pin, substantially as specified.

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