No. 736,873. PATENTED AUG. 18, 1903.

J. W. QUILLING.

COMBINED CARPET STRETCHER AND TACKER.

APPLICATION FILED MAR. 18, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

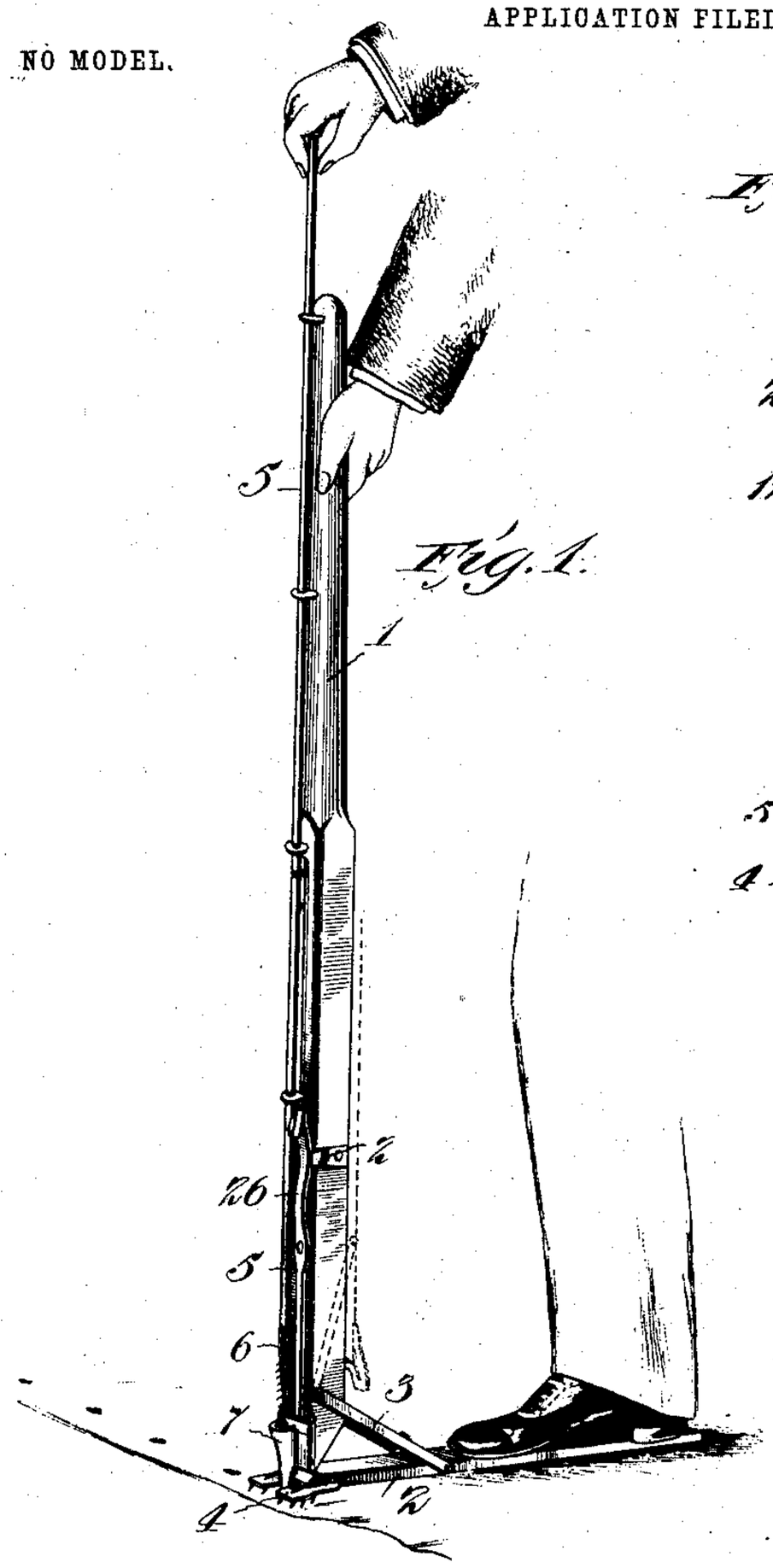


Fig. 4.

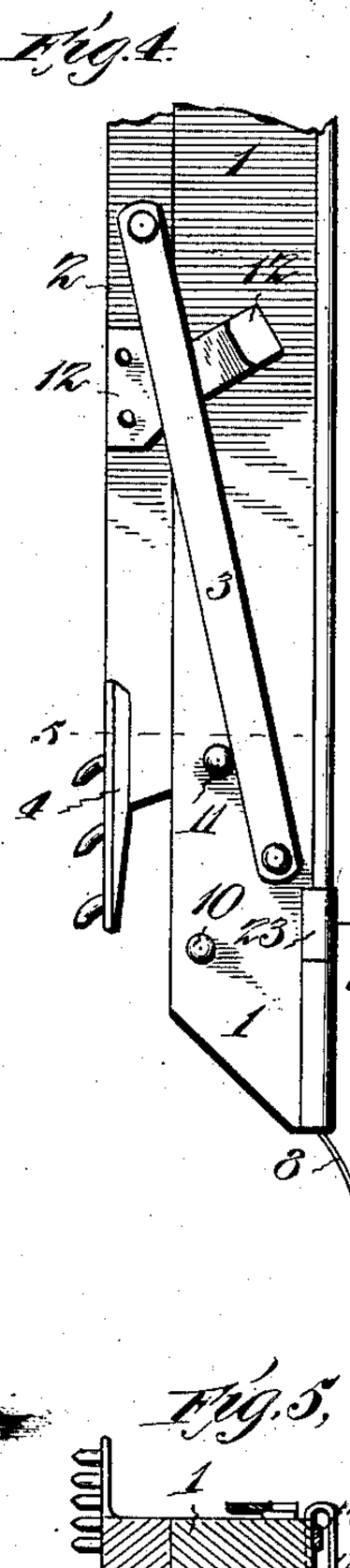


Fig. 2.

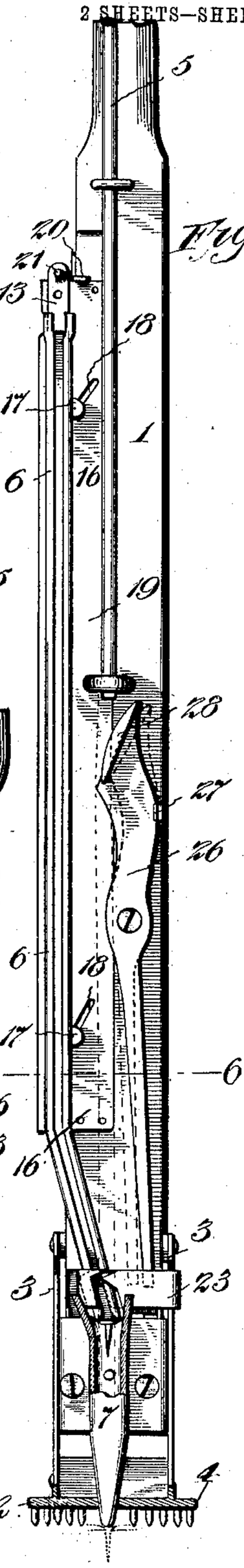


Fig. 5.

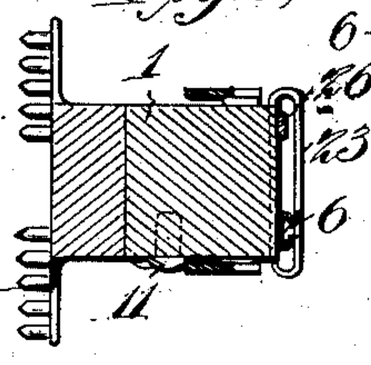


Fig. 3.

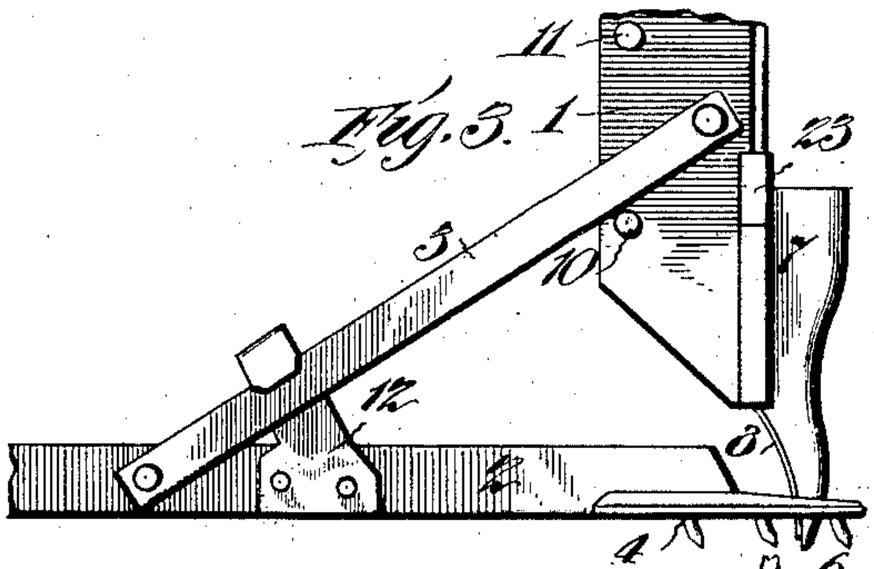
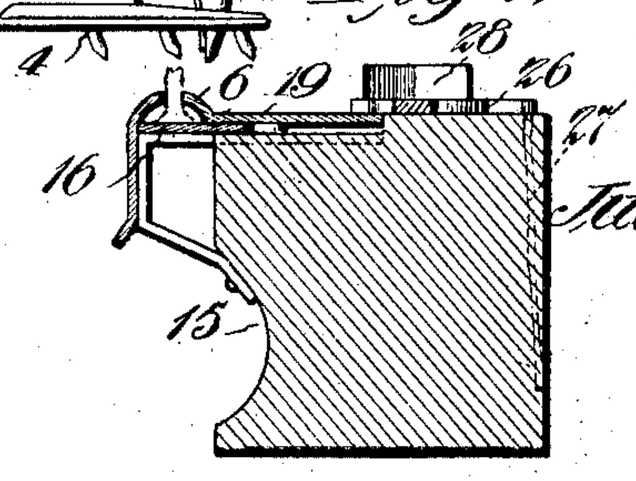


Fig. 6.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 9.

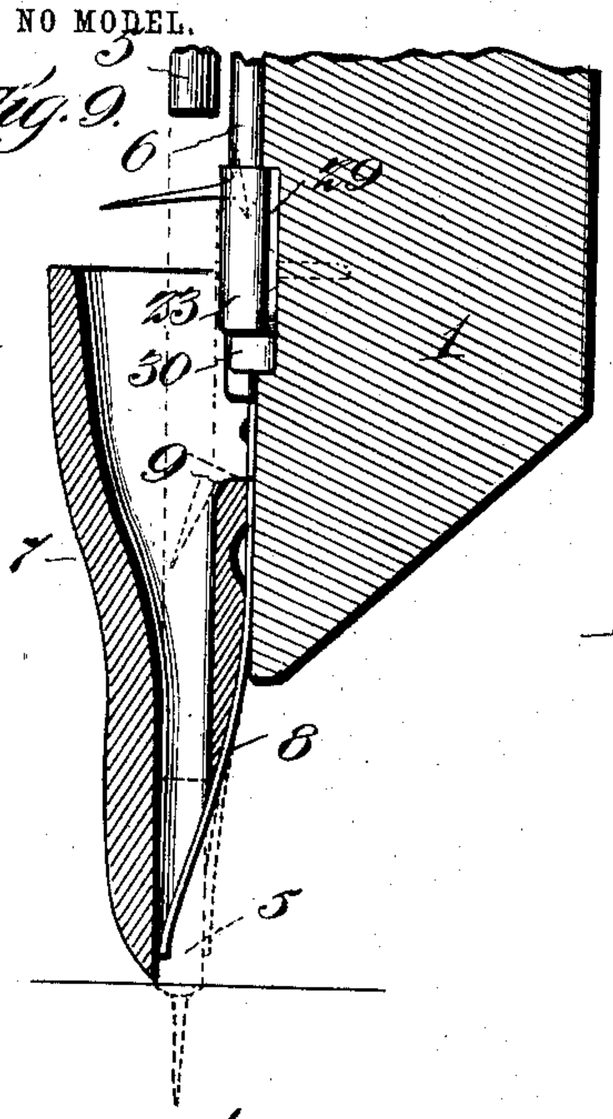

Fig. 10.

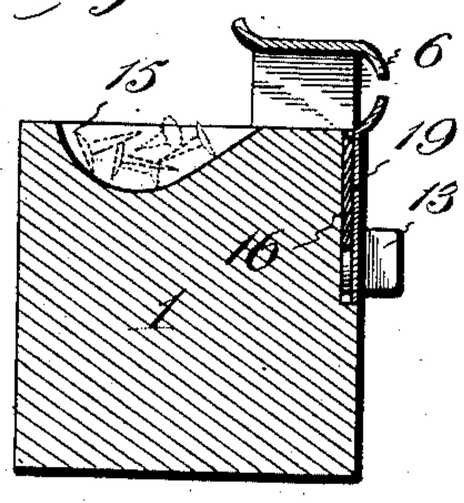

Fig. 11.

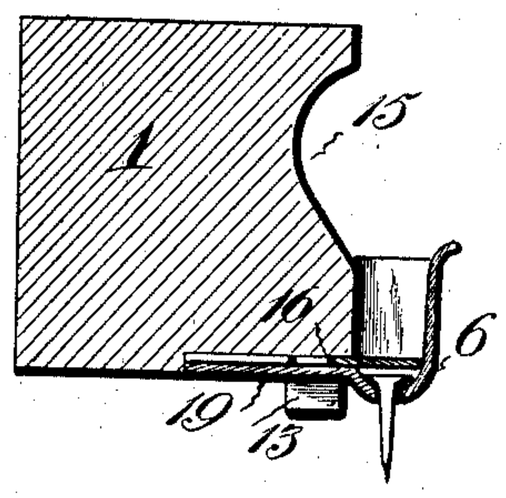

Fig. 7.

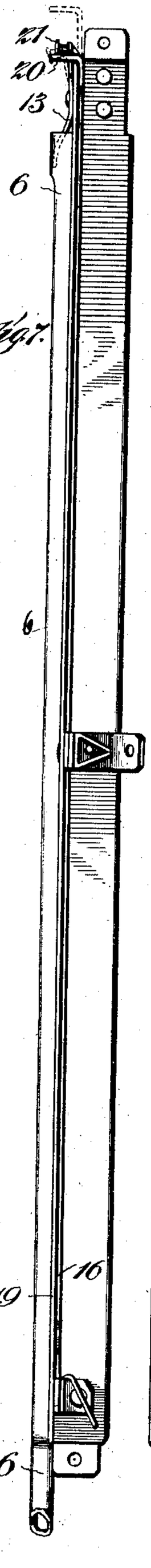

Fig. 8.

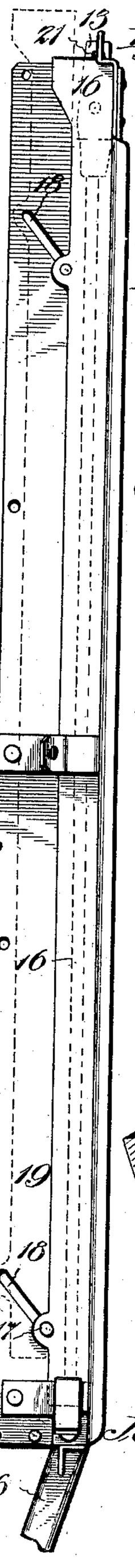

Fig. 15.

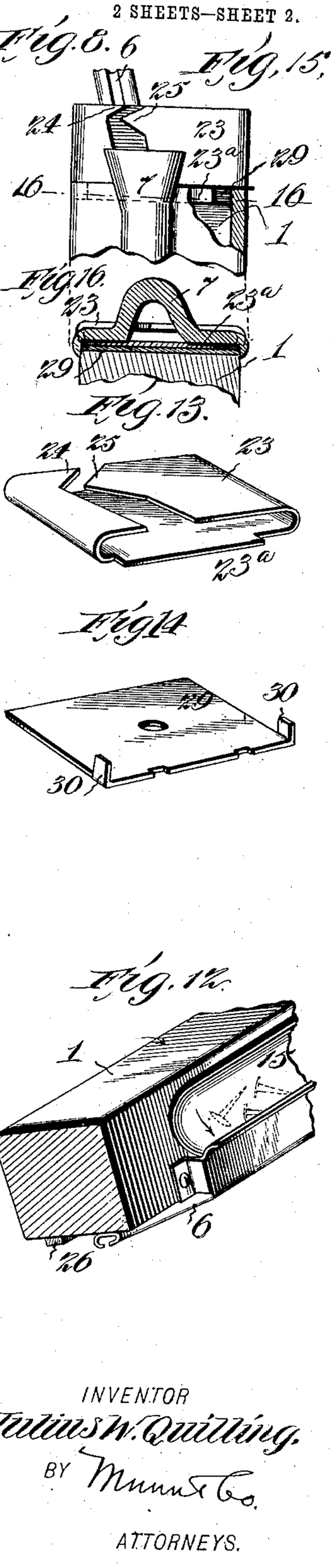

Fig. 13.

Fig. 14

Fig. 12.

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No. 736,873. Patented August 18, 1903.

UNITED STATES PATENT OFFICE.

JULIUS WARREN QUILLING, OF URSA, ILLINOIS.

COMBINED CARPET STRETCHER AND TACKER.

SPECIFICATION forming part of Letters Patent No. 736,873, dated August 18, 1903.

Application filed March 18, 1903. Serial No. 148,320. (No model.)

To all whom it may concern:

Be it known that I, JULIUS WARREN QUILLING, a citizen of the United States, and a resident of Ursa, in the county of Adams and State of Illinois, have made certain new and useful Improvements in a Combined Carpet Stretcher and Tacker, of which the following is a specification.

My invention is an improvement in devices comprising a toothed foot-piece and a hand-lever pivoted thereto and provided with a magazine or reservoir and also a rack or guide for the tacks and having a slidable plunger or hammer-rod for driving the tacks.

My invention includes several novel features of construction and arrangement of parts, and particularly means for charging the magazine or reservoir.

The details of construction, arrangement, and operation of parts are as hereinafter described, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view illustrating the practical use of my invention. Fig. 2 is a side or face view of the invention, portions being broken away or shown in section for better illustration of certain parts. Fig. 3 is a detail side view illustrating the foot-piece and the lower end of the hand-lever in operative position. Fig. 4 is a side view of the same parts in the folded position. Fig. 5 is a cross-section on the line 5 5 of Fig. 4. Fig. 6 is a cross-section on the line 6 6 of Fig. 2. Figs. 7 and 8 are different side views of the tack magazine or reservoir detached from other parts. Fig. 9 is a longitudinal section of the lower portion of the hand-lever and its attached toe and tack-guide. Figs. 10 and 11 are different cross-sections of the hand-lever and tack-reservoir, the same serving to illustrate the operation of charging the reservoir with tacks. Fig. 12 is a sectional perspective, further illustrating the operation of charging the reservoir. Fig. 13 is a perspective view of the toothed slide and tack cut-off which coöperates with the tack-guide. Fig. 14 is a perspective view of the stop-plate whereon the aforesaid slide is adapted to work. Fig. 15 is a detail view, part being in section. Fig. 16 is a section on line 16 16 of Fig 15.

As shown in Figs. 1 and 2, 1 indicates an elongated hand-lever, and 2 a foot-piece which is pivotally connected therewith by means of parallel links 3. The foot-piece is provided with teeth or claws 4 and is also bifurcated or notched at its front end. A hammer-rod or plunger 5 is held in guides on the lever 1 and otherwise suitably arranged for driving tacks after the carpet has been duly stretched. The tacks are delivered from the guideway 6 (see Fig. 2) into the hollow point or toe-piece 7, which is arranged in due alinement with the hammer-rod 5, so that when the latter descends it forces a tack previously delivered in said toe-piece out of the same and into the carpet, as indicated by dotted lines, Fig. 2. The said toe-piece 7 is provided at its lower end with the plate-spring 8, which yields laterally (see Fig. 9) to allow the passage of a tack. When the tacks are delivered from the guideway 6, (see Fig. 9,) their heads strike upon a shoulder 9, so that they are turned point downward before falling into the narrower portion of the passage in the toe-piece 7.

As shown best in Fig. 3, the lever 1 is provided near its lower end with a stop 10, which is adapted to come in contact with one of the links 3, connecting the lever with the foot-piece 2. Thus when the lever 1 is held suspended vertically the foot-piece 2 will be duly suspended horizontally by reason of the links 3 being arrested by the stop 10. In brief, the stop coacting with the link serves to hold the foot-piece in proper relation to the lever preparatory to beginning use of the device. Above the said stop there is a projection 11, (see Figs. 3 and 4,) over which the link 3 is adapted to pass—that is to say, the link is elastic and the projection 11 being rounded or conical the link passes over it, when the foot-piece 2 is pressed toward the lever 1 with considerable force. Thus when the apparatus is not in use the foot-piece 2 is swung up, so as to lie in flat contact with the lever 1, and is held in such position by reason of the engagement of the projection 11 with the link 3, as represented in Fig. 4. It is necessary that the pivotal movement of the foot-piece 2 in the links 3 shall be limited, and for this purpose I provide the hook 12, (see Fig. 3,) which is rigidly secured to the foot-piece by means of two nails or screws. The hook

proper is adapted to engage the link, and thus limits upward movement of the hand-lever 1 when the apparatus is in use. The tack-guideway 6, before referred to, extends, as shown in Fig. 2, a considerable distance up alongside the lever 1, and it forms practically a metal attachment of the wooden piece constituting the lever. A spring 13 (see Figs. 2 and 7) is applied at the upper end of the guideway 6, its laterally-projecting end entering the guideway, as there shown. This construction and combination of parts enables an individual tack to be inserted in the guideway if at any time required, as illustrated by dotted lines, Fig. 7. The insertion of tacks in this manner involves considerable time and labor, and I have devised an important improvement by which a large number of tacks may be simultaneously inserted by a very simple manipulation of the lever. As shown in Figs. 6, 10, 11, 12, the lever is provided with a longitudinal cavity 15, which is adapted to serve as a primary receptacle for tacks. The tack reservoir or guideway proper 6, which is constructed of metal, is arranged alongside such cavity, it being permanently secured to the lever by nails or screws. It constitutes practically a species of trough, as will be seen by reference to the figures before referred to, into which the tacks readily fall from the primary receptacle 15 when the lever 1 is turned or rotated a quarter-way around. In Fig. 10 a series of tacks is shown by dotted lines resting in the recess or receptacle 15. In order to transfer such tacks from recess 15 into the adjacent or slotted guide 6, the lever 1 is manipulated as follows: First, the foot-piece 2 must be folded against the lever 1, as shown in Figs. 4 and 5. Then the lever 1 being held horizontal, or nearly so, (see Fig. 10,) it is turned or rotated one-quarter around, (see Fig. 12,) which will cause the tacks to slide laterally from receptacle 15 into the slotted reservoir 6, wherein they arrange themselves with their points projecting from the slot, as shown in Fig. 11. In addition to rotating the lever 1 it may be also shaken endwise in order to facilitate the speedy passage of the tacks into the slot of the reservoir. It now remains to secure the tacks in the guideway, and this is effected by means of a slide 16. (See Figs. 2, 6, 10, 11.) The same is a flat plate provided with laterally-projecting rivets or pins 17, which project through and work in diagonal guide-slots 18, formed in the plate 19, constituting a part of the tack-reservoir and which is permanently secured to the side of the lever. The upper end of the plate 16 is provided with a lug or catch 20, (see Figs. 2 and 7,) by which it may be adjusted longitudinally. It will be understood that when the plate 16 is in the position indicated in Figs. 2, 6, and 11 it is projected across the guideway 6 and over the heads of the tacks, so that the latter are held in the slot of the guideway, as will be readily understood. On the other hand, by pushing upon the catch or lug 20 the plate 16 is so adjusted or retracted (see dotted lines, Fig. 7) as to uncover the slot or guideway, as shown in Fig. 10, thus leaving the guideway open for admission of tacks. The spring-catch 13, before referred to, is provided at its outer end with a beveled lug 21, (see Fig. 7,) which is adapted to engage with the sliding plate 16 when the same is adjusted in the tack-guideway, as shown in Figs. 2 and 7. Thus the plate 16 is held locked in its working position, but may be released by lifting the outer end of the spring 13, so as to free the catch or lug 21 from it.

Referring to Fig. 2, it will be seen that the slide 23 (shown detached in Fig. 13) is adapted for movement transversely of the tack-guideway 6. In other words, the lower end of the guideway proper, 6, passes through the slide. The latter is provided with two points 24 25, which are so arranged as to form a zigzag passage and double cut-off for the tacks. The said slide is reciprocated by means of a lever 26, which is pivoted to the lever 1, and is held in normal position by a spring 27, also attached to the lever 1. The upper end of the said lever 26 is provided with a laterally-projecting and beveled lug 28, with which the lower end of the hammer-rod 5 engages when the latter is pushed down. In other words, upon descent of the hammer-rod 5 the upper end of the lever 26 is thrown outward laterally and the lower end is turned in the opposite direction, so that the slide 23 is carried across the tack-guideway 6, and by reason of its arrangement of points 24 25 and its zigzag passage but one tack can pass at a time. In brief, the passage of the tacks one by one is regulated automatically by the descent of the hammer-rod 5 through the co-operation of the pivoted lever 26 and the slide and cut-off 23.

The slide 23 is arranged and works upon a flat metal plate 29, (see Figs. 9 and 14,) the same being provided with lugs 30 at two of its diametrically opposite corners. These lugs 30 serve as stops, limiting the transverse movement of the slide 23. The plate 29 is secured to the lever 1 by means of a screw arranged centrally. In Figs. 15 and 16 I show another means for limiting the throw of the cut-off slide 23—namely, the toe-piece 7 has side lugs or claws which overhang the sides of the lever 1, and the slide 23 has a projecting part 23^a, that enters the mouth of said toe-piece and strikes the sides of the latter at each reciprocation.

While that portion of my invention by which the tack reservoir or guideway may be easily and quickly charged with tacks is particularly useful in connection with a combined carpet-stretcher and tack-driver, I desire it to be understood that the invention may be applied in a broader sense and for other uses.

What I claim is—

1. The combination, with the lever the tack-guideway and a slidable plate adapted for

holding tacks in such guideway, of an automatic lock for said plate, the same consisting of a spring having a lug adapted to engage the end of the plate, substantially as shown and described.

2. The combination, with a hand-lever or standard of a tack-guideway having a longitudinal slot and adjacent diagonal slots, of a plate adapted for securing tacks in the guideway, the same being slidable lengthwise parallel to said guideway and provided with lateral pins working in the said diagonal slots, substantially as shown and described.

3. The combination, with a tack-guideway, of a slidable plate adapted for securing tacks in said guideway and means for guiding the said plate so that it is moved toward and from the guideway, substantially as and for the purpose specified.

4. The combination with the slotted tack-guideway of a laterally-movable plate adapted for closing the inner side of the guideway, substantially as shown and described.

5. The combination with a slotted tack-guideway of a laterally-movable plate adapted for closing the inner side of the guideway for holding tacks therein, and means for locking such plate in the normal position, substantially as shown and described.

6. The combination with a lever or standard of a tack guideway or reservoir forming an attachment thereof, the same comprising a metal frame constructed and arranged to form a trough-like receptacle and provided with a lengthwise slot, and a plate which is slidable laterally across the said slot at a point above the latter whereby it is adapted to cover the heads of tacks assembled in the slot, substantially as shown and described.

7. The standard having a primary receptacle for tacks, and an adjacent trough or guideway arranged parallel and having a lengthwise slot, whereby tacks deposited in the primary receptacle will be discharged into such trough and caused to duly arrange themselves in the guideway when the standard is rotated, as described.

8. The standard provided with a primary receptacle for tacks, a trough-like guideway arranged laterally therefrom and provided with a lengthwise slot, and means for closing such guideway above the heads of the tacks, for the purpose of securing them therein in readiness for use, substantially as shown and described.

9. The combination with the lever having a lateral projection 11, located adjacent to the inner side of the lever and near its lower end, of a foot-piece and links pivotally connecting it with the lever, at points between said projection and the outer side of the lever, whereby, when the foot-piece is folded against the lever, one of the links rides over the projection and engages it so as to hold the foot-piece in place, substantially as shown and described.

JULIUS WARREN QUILLING.

Witnesses:

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IDEALIA NICHOLSON.