

(No Model.)

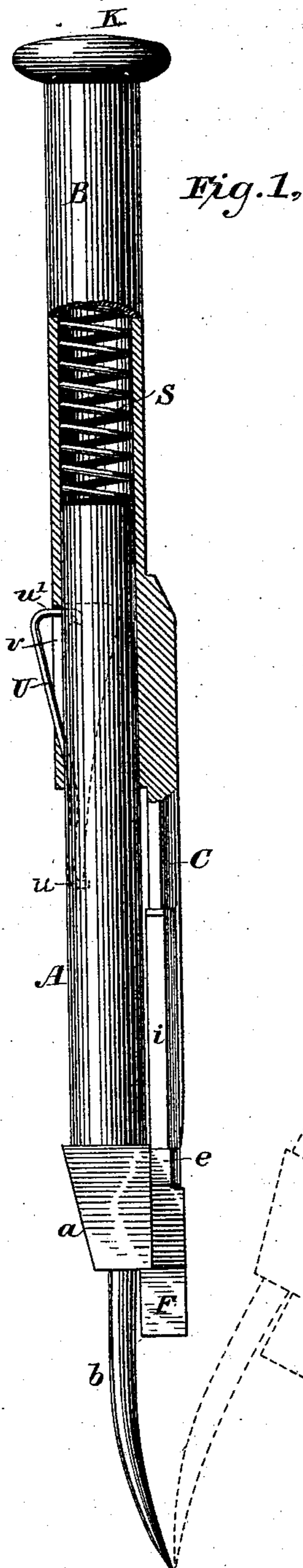
2 Sheets—Sheet 1.

A. H. MORRIS & N. FINCK.

COMBINED CARPET STRETCHER AND TACK DRIVER.

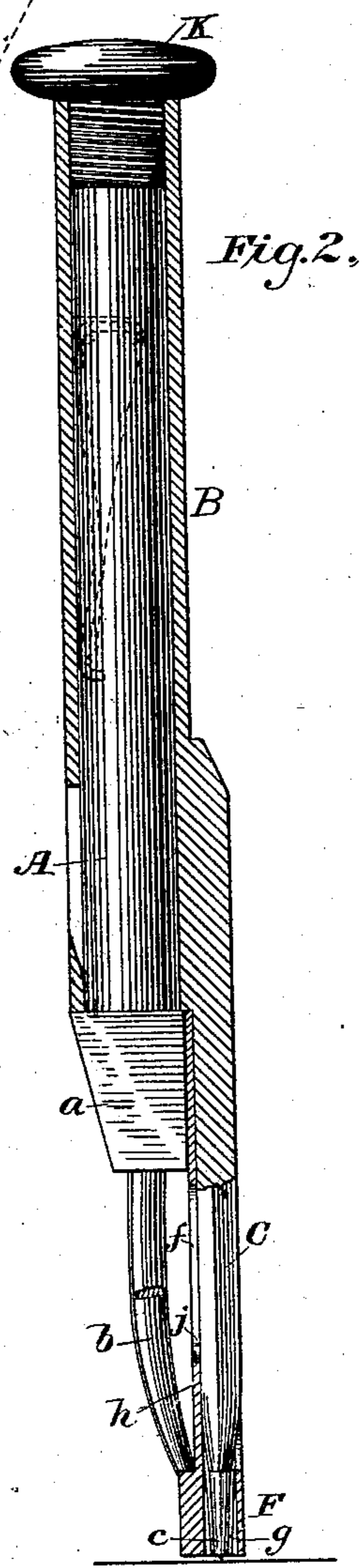
No. 287,562.

Patented Oct. 30, 1883.



WITNESSES

Wm A. Skink
Jos. S. Latimer



INVENTORS

A Hamilton Morris,
By their Attorney Nicholas Finck.
Miller C. Earl

(No Model.)

2 Sheets—Sheet 2.

A. H. MORRIS & N. FINCK.

COMBINED CARPET STRETCHER AND TACK DRIVER.

No. 287,562.

Patented Oct. 30, 1883.

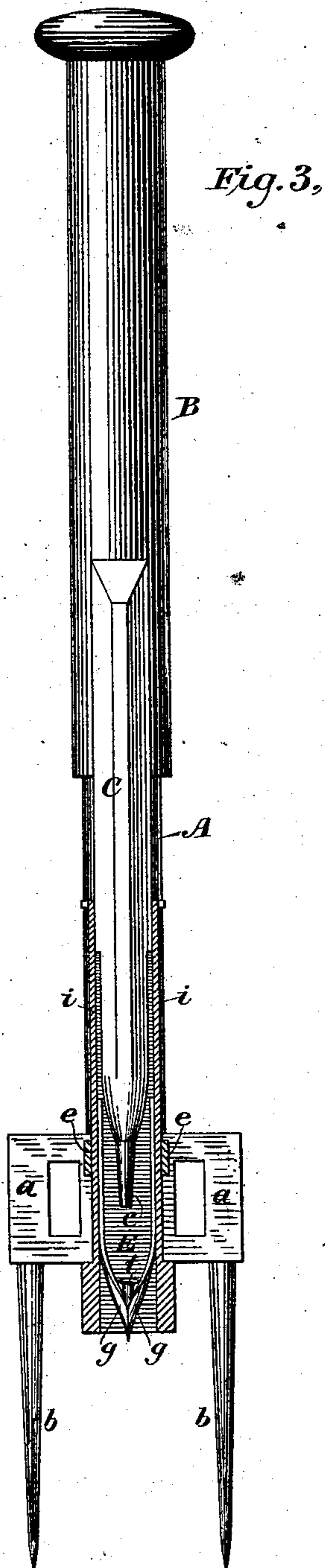


Fig. 3,

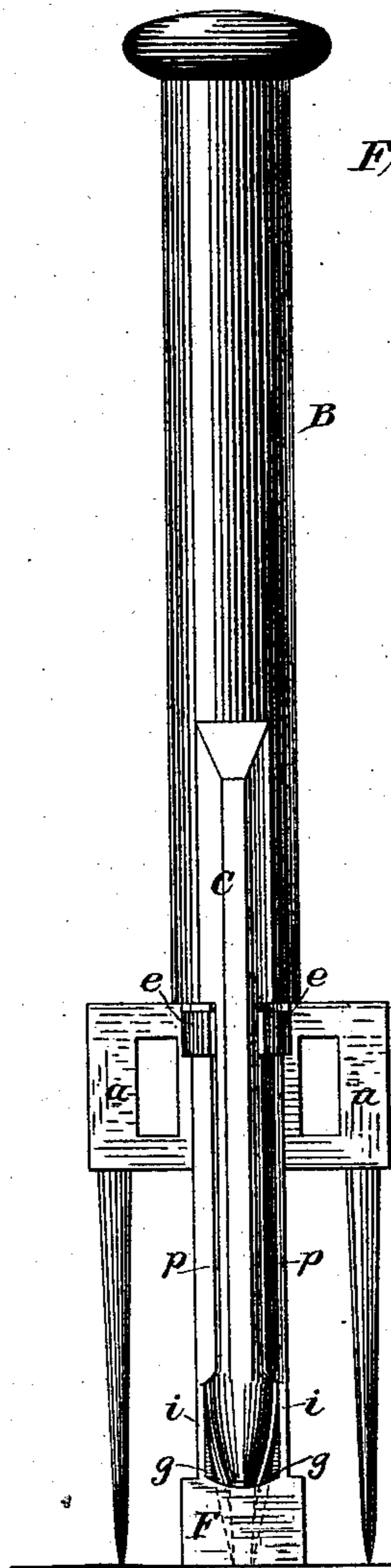


Fig. 4,

WITNESSES

Wm A. Skinkle
Jos. S. Latimer

INVENTORS

A Hamilton Morris,
Nicholas Finck.
By their Attorney

Miller C. Earl

UNITED STATES PATENT OFFICE.

A. HAMILTON MORRIS AND NICHOLAS FINCK, OF ELIZABETH, NEW JERSEY;
SAID FINCK ASSIGNOR TO SAID MORRIS.

COMBINED CARPET-STRETCHER AND TACK-DRIVER.

SPECIFICATION forming part of Letters Patent No. 287,562, dated October 20, 1883.

Application filed September 4, 1883. (No model.)

To all whom it may concern:

Be it known that we, A. HAMILTON MORRIS and NICHOLAS FINCK, citizens of the United States, and residents of Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Combined Carpet-Stretchers and Tack-Drivers, of which the following is a specification.

Our invention chiefly relates to that class of carpet-stretchers and tack-drivers in which a stretching-lever and a reciprocating plunger are employed in connection with a mechanical tack-holder adapted to hold the tack in position to be struck and driven by the plunger, as distinguished from stretchers and tackers in which the tack is held against the lower extremity of the plunger by magnetic attraction and driven directly from the plunger into the carpet.

The principal object of the invention is to arrange the carpet-stretching device with relation to the tack-driving mechanism in a compact and simple manner, and so that the tack-holding device and the plunger will be held out of the way of the carpet-grasping portion of the stretcher during the operation of the latter, but be capable of being conveniently and simply brought into position for action after the stretcher has performed its function.

To this end our invention mainly consists of a stretching-lever having a portion adapted to grasp the carpet, in combination with a reciprocating plunger and a movable tack-holding device normally maintained in proximity to the upper portion of or above the carpet-grasping portion of the lever and in the path of the plunger, said device being adapted to be brought into position for the tack to be driven upon the descent of said plunger.

The invention also consists in certain other organizations and details of construction, all of which will be fully described hereinafter.

In carrying out the invention we prefer to mount the tack-holding device upon a vertically-movable slide acting in conjunction with a plunger, the lowermost portion of said slide being normally maintained in proximity to the upper portion of or above the carpet-grasping portion of the lever. The plunger is

arranged in position to drive the tack from its socket, and is so united with the slide that the portion of the latter which carries the tack-holding device descends in advance of the plunger, thus allowing the point of the tack to reach the carpet just before the plunger strikes its head.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a carpet stretching and tacking apparatus embodying our improvements, the parts being shown in their normal position with the slide and tack-holder raised above the carpet. Fig. 2 is a similar view, showing the parts in the position they assume at the instant the tack is driven, and showing the slide with its adjuncts carried downward to the carpet. Figs. 3 and 4 are front elevations (Fig. 3 being partly in section) of the apparatus in respectively the positions illustrated in Figs. 1 and 2.

Similar letters of reference appearing in different figures in the drawings indicate corresponding parts.

In the drawings, A is the main portion of the stretching-lever, being preferably cylindrical in form, and is united to the metallic cross piece or head *a*. To this cross-piece the prongs or claws *b b* are secured, preferably, either by being screwed or cast therein.

E indicates the slide, and it consists of a back, *h*, and sides *i i*, and it is provided with the slot *f* in its back, into which the pin *j*, attached to the plunger C, projects. The plunger C terminates at its lower extremity in a tapering portion, having a flattened point, *c*, and it is cast with or rigidly secured at its upper extremity to the tubular rod B, which we term the "plunger-rod." The latter is provided with a knob, *k*, and is fitted to freely slide upon the rod A. The slide E is normally held with its lower extremity near the upper portion of the claws *b b*, as shown in Figs. 1 and 3, by means of the spiral spring *s*, which is supported between the upper extremity of the rod A and the knob K, and within the tubular rod B, to which the slide is connected through the agency of the pin *j*. By slightly altering the relative positions of the parts the slide may be arranged to normally rest entirely above the claws *b b*, if desired; but it

will ordinarily be found not to interfere with the operation of said claws when it is arranged to normally rest in the position shown in Figs. 1 and 3. The slide is adapted to loosely slide vertically between the arms *e e*, which are securely attached to the cross-piece *a* on either side of the slide, and they embrace the inwardly-extending flanges or projections *p p*, (best shown in Fig. 4,) which projections form portions of the sides *i i* of the slide. The lower extremity of the slide *E* is preferably formed into a box-like compartment, *F*, within which the tack-holding device may be arranged.

The tack-holder which we prefer to employ, and which forms a part of our present invention, consists of two flat springs, *g g*, brazed or otherwise secured at their upper ends to the inner portion of the sides *i i* of the slide, as shown in Fig. 3, their free extremities being bent inward and brought together, as illustrated. The free bent extremities of these springs are laterally curved, and form a funnel-shaped socket, which embraces a considerable portion of the body of the tack *t* on all of its sides, while the head of the tack rests at two points against the two jaws, respectively, as shown. It will be readily understood that by increasing the width of the springs *g g* the socket may be made to inclose still more of the tack, and its circular sides may reach above the head of the tack, instead of terminating below it, as illustrated; but we have found the form which we have shown sufficient to practically hold the tack in the required vertical position. Owing to the lateral curvatures of the springs *g g*, whereby they are made to encircle the whole or a considerable portion of the tack on all of its sides, the tack may be properly held with the use of but two sections or parts to the holder, thereby considerably simplifying the construction of the latter.

For the purpose of securely holding the plunger in its upper or quiescent position, as shown in Figs. 1 and 2, during the operation of the stretching portion of the apparatus, and at other times, we have devised the arrangement shown in these figures, and it consists of the spring *U*, rigidly secured at *u* to the rod *A*, and having its upper end bent at *u'*, as shown, the angular portion thus formed being made to project outward through the slot *v* in the rod *B*. As will be readily seen, the upper portion of this spring therefore acts as a detent or stop, and prevents the rod *B*, with the bar *C*, from descending. The rod *A* is recessed adjacent to the spring *U*, so as to allow the latter to be pressed inward, as shown in dotted lines in Fig. 2, and into such a position as to be out of the way of the rod *B*, and so allow it to be moved downward. When, however, the rod *B* is raised to its uppermost position, as in Fig. 1, the spring *U* will automatically force itself into place and lock the rod, as will be seen. The upward movement of the rod *B* and bar *C* is limited by the cross-head *a* and the upper end of the rear portion

of the box *F*, the lower portion of the cross-head being arranged in the path of the box, as shown.

From the above description it will be seen that the slide *E* normally sustains the tack-holder in a position to enable the claws *b b* to be freely used without interference, and afterward the tack-holder may be brought downward into position for the tack to be driven by the weight of the slide when the plunger descends.

The operation of our improved device is as follows: The parts being in the position shown in Figs. 1 and 3, with a tack in place within the socket *S*, the prongs or claws *b b* are thrust through the carpet (the lever being held at an angle, as shown in dotted lines in Fig. 1) and pressed against the floor, after which the instrument is raised to a vertical position. The portion of the carpet adjacent to the claws *b b* now being in the desired position, the free extremity *u* of the spring *U* is pressed by the hand into the position shown in dotted lines in Fig. 2, and a sharp blow given by the hand, or otherwise, to the knob *K*. The rod *B* and bar *C* are thus caused to descend, the loosely-mounted slide *E* moving a little in advance of the bar *C*, owing to its own weight and that of the box *F*. Immediately after this box reaches the carpet the extremity *c* of the bar *C* impinges against the head of the tack *t* and drives the latter through its socket, the spring-jaws *g g* being forced to separate, thus allowing the tack to pass between them. In the downward movement of the plunger and slide the box *F* reaches the carpet before the plunger strikes the tack, and, consequently, the pin *j* is caused to move downwardly through the slot *f*, and to assume the position shown in Fig. 4. After the tack has been driven, the operation may be repeated upon raising the plunger (consisting of the rod *B* and bar *C*) to its normal position, and substituting another tack.

While we greatly prefer to employ the form of spring-jaws which we have described to form the tack-holder, it will be understood that other appropriate means may be employed for supporting the tack without departing from the other features of our invention. It will also be understood that other means than the spring *S* and *U* may be employed for elevating and securing the plunger in its upper position; or one may be used without the other, or both may be dispensed with altogether, (the operation of the apparatus under these contingencies being obvious;) but we prefer their employment, and in substantially the form herein set forth.

We claim herein as our invention—

1. In a carpet-stretcher and tack-driver of the described class, a stretching-lever provided with means for grasping the carpet, in combination with a movable mechanical tack-holder adapted to be held away from said carpet-grasping portion of the lever, but ca-

pable of being brought into proximity thereto and to the carpet, substantially as and for the purpose set forth.

2. A carpet-stretching lever provided with
5 a portion for grasping the carpet, in combination with a reciprocating plunger and a movable tack-holding device normally maintained in proximity to the upper portion of or above the carpet-grasping portion of the lever and
10 in the path of the plunger, said device being adapted to be brought into proper position with relation to the carpet for the tack to be driven therethrough by the plunger, substantially as set forth.

15 3. In a carpet-tacking device, a vertically-movable slide provided with means for holding a tack, in combination with means for detaching and driving said tack, substantially as set forth.

20 4. In a carpet tacking device, the combination, with a reciprocating tack-driving plunger, of a slide arranged to move in conjunction therewith, and means for suspending a tack in or upon said slide, substantially as set
25 forth.

5. In a carpet-tacking device, the combination, with a reciprocating tack-driving plunger of a slide arranged to move in conjunction therewith, and spring-jaws carried upon
30 said slide, their free extremities forming, when united, a socket for the tack, substantially as set forth.

6. In a carpet-tacking device, the combination of the supporting frame or rod A, the

tubular plunger-rod B, mounted thereon and
35 provided with the bar C, the vertically-movable slide E, having slot *f*, the pin *j*, projecting from the bar C into or through said slot, and the spring-jaws *g g*, forming, when united, a tapering socket for the tack, substantially as
40 set forth.

7. In a carpet-tacking device, the combination, with a tack-driving plunger and its support, arranged substantially as herein set forth, of a detent or stop normally projecting
45 in the path of the plunger, and adapted to be withdrawn therefrom to permit of the movement of said plunger, substantially as set forth.

8. The combination, with the supporting frame or rod A and tubular plunger-rod B,
50 having slot *v*, of the spring U, secured to the rod A and normally extending through said slot, substantially as and for the purpose set forth.

9. A funnel-shaped tack-holding socket for a
55 carpet-tacking apparatus, consisting of the two springs *g g*, having their free extremities bent and brought together to form separable jaws, said jaws being laterally curved to encircle the whole or a considerable portion of the
60 tack, substantially as shown and described.

Signed by us this 3d day of September, A. D. 1883.

A. HAMILTON MORRIS.
NICHOLAS FINCK.

Witnesses:

MILLER C. EARL,
CHARLES A. TERRY.