

No. 717,040.

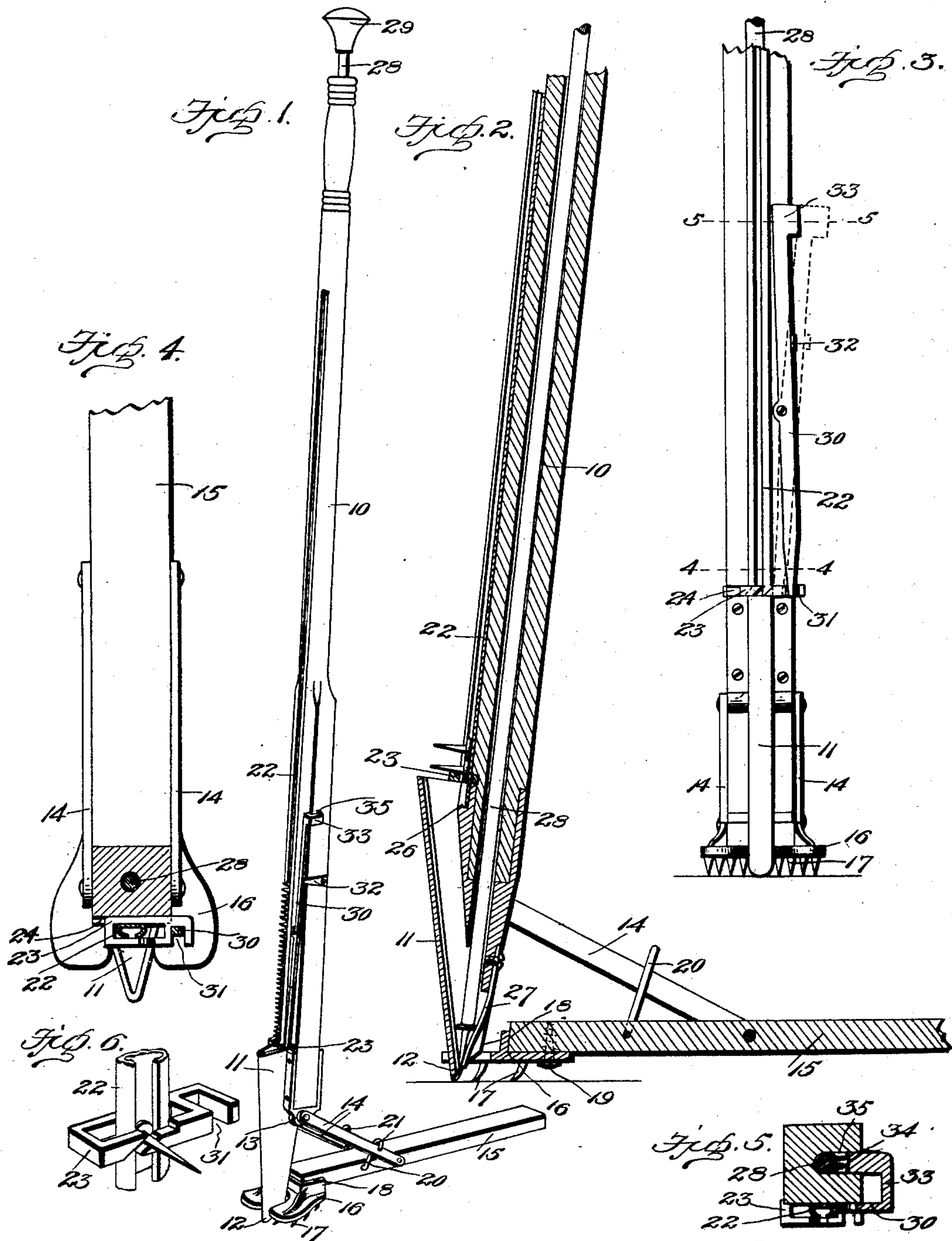
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E. SMITH.

COMBINED TACK DRIVER AND CARPET STRETCHER.

(Application filed Sept. 25, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

EDWARD SMITH, OF ARCOLA, ILLINOIS, ASSIGNOR OF ONE-HALF TO PHILIP M. RAY, OF ARCOLA, ILLINOIS.

COMBINED TACK-DRIVER AND CARPET-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 717,040, dated December 30, 1902.

Application filed September 25, 1901. Serial No. 76,545. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SMITH, a citizen of the United States, residing at Arcola, in the county of Douglas and State of Illinois, have invented a new and useful Combined Tack-Driver and Carpet-Stretcher, of which the following is a specification.

My invention relates to certain improvements in devices employed for the stretching of carpets and the driving of securing-tacks therein, and has for its object to provide an improved device of this class by which the carpet may be more effectively stretched.

A further object is to provide an improved device of the class in which the tacks may be accurately fed one by one from a magazine to a driving-point and delivered at the driving-point in proper position beneath a hammer-rod.

With these and other objects in view the invention consists in the novel construction and combination of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a perspective view of a combined tack-driver and carpet-stretcher constructed and arranged in accordance with my invention. Fig. 2 is a transverse sectional elevation of the lower portion of the same. Fig. 3 is a front elevation of the same. Fig. 4 is a sectional plan view of the device on the line 4 4 of Fig. 3. Fig. 5 is a similar view on the line 5 5 of Fig. 3. Fig. 6 is a detail perspective view of the slide for governing the discharge of tacks from the magazine.

Similar numerals of reference indicate corresponding parts throughout the various figures of the drawings.

10 designates a standard or operating-handle of convenient length to be grasped and operated by a person standing in an erect position. Secured to the lower end of the standard is a tack-guiding hopper 11, terminating at its lower end in a comparatively sharp operating-toe 12, which is adapted to engage the floor of the room to assist in stretching the carpet. These two parts are strongly and rigidly secured together, so that considerable force may be exerted without strain or break-

age. At the sides of the hopper are ears 13, to which are pivoted one end of a pair of links 14, the lower ends of which are connected pivotally to a foot-piece 15, as shown in Fig. 1. At the forward end of the foot-piece is a shoe 16, having in its forward face a notch or recess for the reception of the lower end of the hopper, and on the under side of this shoe are a series of carpet-engaging teeth 17, the sharpened engaging ends of which are bent forwardly in order to more firmly grip the carpet. The shoe is provided with a socket 18 for the reception of the end of the foot-piece, so that a single screw, as 19, is all that is necessary to bind the parts together. At the sides of the shoe are upwardly-projecting spring-wire fingers 20, having hooked ends 21, adapted to pass over the links 14 and prevent excessive movement of the foot-piece. At the same time these fingers are adapted to frictionally embrace the sides of the operating-handle when the foot-piece is folded up flat against said handle, so that the parts may be held in inoperative position when desired.

At the bottom of the magazine 22, which is in the form of an elongated chute, is placed a slide 23, substantially rectangular in form and having its rear face guided in a slot 24, in which slot it is held by the rear face of the magazine. The forward face of the slide is provided with a slot extending at an angle of thirty degrees to the vertical line of the magazine and so arranged that its open upper end will normally be in line with the open slot of the magazine and will receive therefrom the lowermost of the tacks. One wall of the slide will at all times extend across the magazine-slot and prevent the escape of a tack or tacks until the action of the hammer-rod, the movement of said hammer-rod causing the travel of the governing-slide across the magazine and permitting the escape of the tack held in the inclined slot and at the same time cutting off any further movement of the remaining tacks in the magazine. Immediately below the end of the magazine the hopper 11 is provided with an abrupt shoulder 26, against which the head of the tacks engage and are turned from the horizontal to the vertical position, the tacks falling with the points in a downward direction to the bottom of the

hopper and there held between the lower portion of the hopper and a small plate-spring 27 and in position to be engaged by the lower end of the hammer-rod 28. The hammer-rod 5 28 is guided within a suitable opening extending through the handle 10 and at its upper end is provided with a suitable operating-rod 29, by which it may be reciprocated to effect the driving of the tacks.

10 On the front of the handle 10 is pivoted an arm 30, the lower end of which engages in a slot 31 in the governing-slide 23, a spring 32, carried by the handle, normally serving to hold the arm with its upper portion against 15 the side of the handle. At the extreme upper end of the arm 30 is a laterally-bent portion 33, extending to the side of the handle and there provided with a cam-shaped end 34, adapted to pass through an opening 35 in the 20 handle and to be engaged by the hammer-rod. When the operating-knob of the hammer-rod has been withdrawn to a distance sufficient to elevate the lower end of the hammer-rod above the cam 35, the passage of the 25 hammer-rod from contact with said cam will cause a movement of the operating-slide 23 to the position shown in Fig. 3, permitting the tack, which has been held in the inclined slot of said slide, to fall from the magazine 30 into proper position at the lower end of the hopper 11. On the downward movement of the hammer-rod the engagement of its lower end with the cam 35 will operate, through the arm 30, to move the governing-slide to the 35 position shown by full lines in Fig. 6 and by dotted lines in Fig. 3, permitting the next lowermost tack in the magazine to enter said slot in readiness to be discharged on the next movement of the slide. The hammer-rod is 40 driven down with sufficient force to drive the tack from contact with the holding-spring 27, so that the device may be readily moved to a new position.

In operation the teeth 17 are engaged at the 45 edge of the carpet by the pressure of the foot on the foot-piece 15. The upper end of the operating-handle 10 is moved rearwardly to any desired extent, so as to cause a separation of the toe 12 and the shoe 16, the toe 12 being 50 firmly pressed against the floor. The operator then moves the handle in a forward direction, the toe 12 forming a fulcrum-point and the shoe 16 stretching the carpet toward said toe. Several successive movements may be 55 made before a tack is driven, the carpet being

held in the stretched position by the weight of the operator until fully stretched, after which a tack may be driven by the hammer-rod. The action may be reversed when desired and the teeth 17 be engaged in the floor, 60 while the toe 12 engages in the carpet.

Various modifications in the form and proportions of the device herein described may be made within the scope of the claims without departing from the spirit or sacrificing 65 any of the advantages of my invention.

Having thus described my invention, what I claim is—

In a device of the class specified, the combination of the operating-handle 10, a hammer-rod guided in said handle, a stationary tack-hopper carried by the lower portion of the handle and having a guiding-opening for the reception of the lower portion of the hammer-rod, said hopper being provided near its upper 75 end with a substantially horizontal shoulder for engaging and turning the tacks fed thereto, a spring carried by the rear portion of the hopper and adapted to engage and hold the tacks in position below the hammer-rod, a 80 stationary slotted tack-magazine secured to the front of the handle and terminating at a point slightly above the shoulder, a guiding-groove disposed in the handle at a point to the rear of the magazine, a horizontally-reciprocating slide fitting around said magazine 85 and having its rear face adapted to fit within said guiding-groove, the front portion of said slide being provided with an inclined slot disposed between the lower end of the magazine and the tack-engaging shoulder for governing the discharge of tacks from the magazine, a pivoted lever carried by the handle 90 and having one end in engagement with said reciprocating slide and provided at its opposite end with a cam projecting through an opening in the side of the handle, said handle forming a stop for limiting the extent of movement of the lever and slide in one direction and a spring normally tending to force the 100 cam end of said lever toward the side of the handle, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDWARD SMITH.

Witnesses:

ARTHUR DIMOND.

JOHN BURKY.