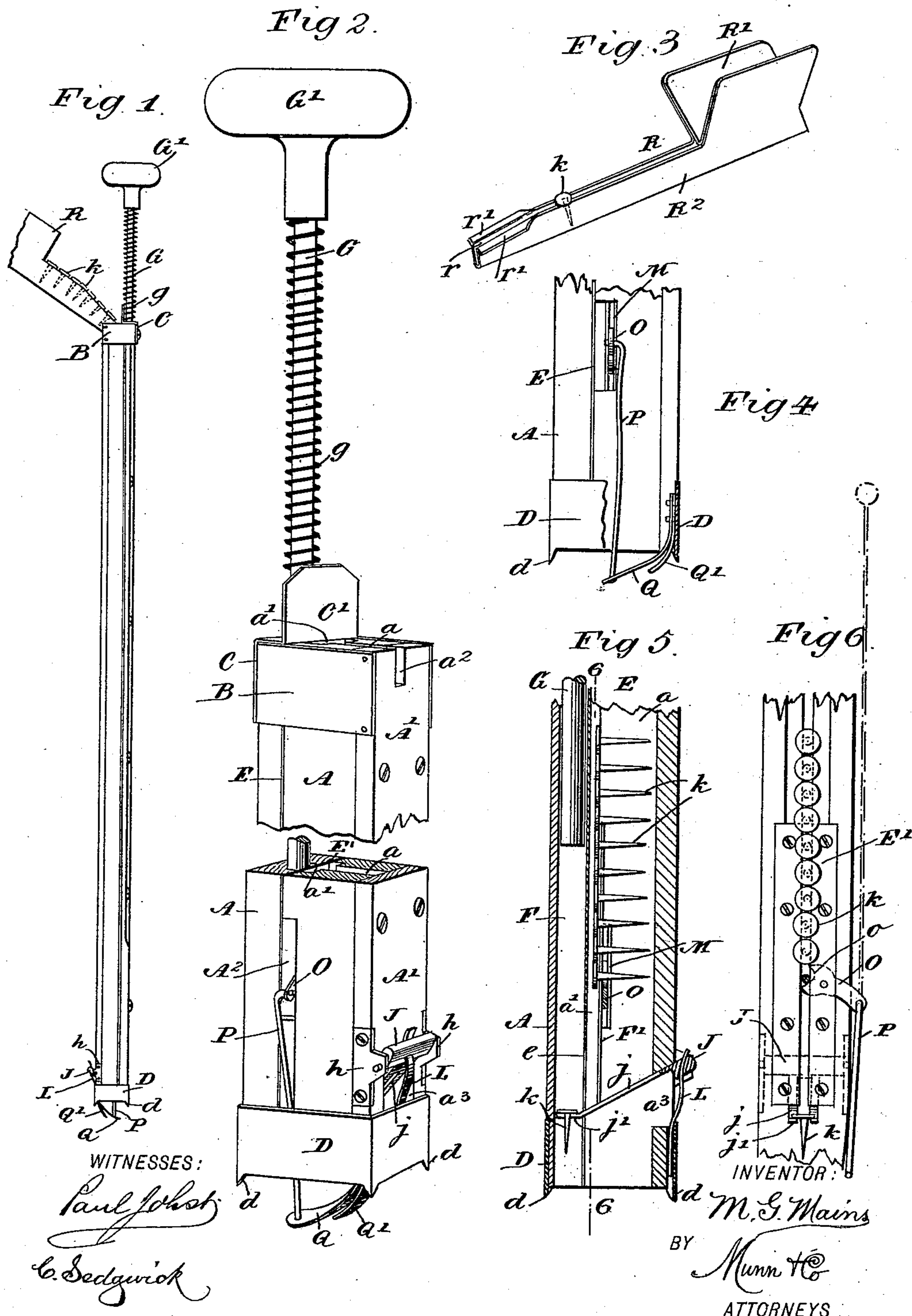


(No Model.)

M. G. MAINS.
TACK DRIVING MACHINE.

No. 450,027.

Patented Apr. 7, 1891.



UNITED STATES PATENT OFFICE.

MICHAEL G. MAINS, OF OBERLIN, OHIO.

TACK-DRIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 450,027, dated April 7, 1891.

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To all whom it may concern:

Be it known that I, MICHAEL G. MAINS, of Oberlin, in the county of Lorain and State of Ohio, have invented a new and Improved
5 Tack-Driving Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in tack-driving machines, and especially to machines which are adapted for use in laying
10 carpets; and the object of the invention is to produce a device by means of which a person may easily drive tacks and lay a carpet while standing in an erect position, and also provide means for feeding the tacks so that
15 they will not be spilled upon the carpet and so that the separate tacks will not need to be handled.

To this end my invention consists in certain features of construction and combinations of
20 parts, which will be hereinafter described and claimed.

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

Figure 1 is a perspective view of the machine embodying my invention with the filler in position to supply tacks, a portion of the filler being broken away. Fig. 2 is an enlarged broken perspective view of the device.
30 Fig. 3 is an enlarged perspective view of the filler. Fig. 4 is an enlarged broken side elevation showing in detail the mechanism for operating the dog which separates the tacks.
35 Fig. 5 is a broken detail sectional view showing the general arrangement of the tack-raceway, the spring-arms for catching the tacks, and the plunger for driving them; and Fig. 6 is a broken detail view, partly in section, on the
40 line 6-6 of Fig. 5.

The machine is provided with a long case A, which is preferably rectangular, although the shape is not material, and which has one side A' which is removable. The case is
45 provided with two channels a and a' , which extend longitudinally through it and which are arranged at right angles to each other, thus forming a raceway for the tacks, the channel a being adapted to receive the bodies
50 of the tacks and the channel a' the heads. There is a slot a^2 through the upper edge of the removable portion A' of the case, which

slot aligns with the channel a and permits of the easy insertion of the tacks. The case is partially inclosed at the top by a clip B, and
55 on one side is a plate C, which is secured to the case and is doubled over the top, the upper end of the plate being turned into a vertical position to form a guard C', which prevents the tacks from being thrown over the
60 channel a' when the machine is filled. The case is open at the bottom and is inclosed by a ferrule D, which has at the corners projecting points or brads d , which extend downward and serve to hold the case in position
65 while the tack is being driven, although the brads may also be used to engage a carpet, so that the device will serve as a carpet-stretcher, as hereinafter described.

A plate E extends longitudinally through
70 the case A, the plate being arranged opposite the channel a , so as to prevent the heads of the tacks from being projected too far into the channel a' , and the plate also serves to form a slideway F, in which the plunger G moves,
75 and the lower portion of the plate is slotted or cut away, as shown at e , so that the inclined spring-arms which catch and support the tacks may project into the slideway F. The plunger G is a little longer than the case
80 A, so that it may extend entirely through it, and the upper end of the plunger is provided with a knob G', which is adapted to be grasped by the hand when the plunger is to be pressed downward. The plunger is normally held in an elevated position by a spring
85 g , which is coiled around the plunger between the knob and the top of the case.

On each side of the channel a' are wear-plates E', which are arranged near the bot-
90 tom of the device, and, if desired, these wear-plates may be made to extend throughout the entire length of the case. On the side of the case opposite that in which the plunger is mounted and on opposite corners are project-
95 ing ears h , between which is pivoted a cross-strip J, and extending inward from the cross-strip through a slot a^3 in the case are the parallel spring-arms j , which are inclined downward and which extend beneath the tack-
100 raceway and into the lower portion of the slideway in which the plunger moves, the free ends of the arms being bent so that they will normally be horizontal, as shown at j' , and

it will thus be seen that a tack k which falls through the raceway will strike upon the arms, the body of the tack falling through between them, and the tack will thus slide downward and then finally come to rest in a vertical position in the slideway F, as best shown in Fig. 5, so that when the plunger G descends it will strike the tack and drive it into the floor, the spring-arms being at the same time bent downward and rearward, so that they will swing out of the way of the plunger, and when the plunger is raised they will return to their normal position.

The arms j are made of spring metal themselves, and to still further facilitate the return of the arms to an elevated position a spring L is secured at one end in the cross-strip J and at the lower end between the ferrule D and the body of the case.

The following mechanism is employed to feed one tack at a time: A dog O is pivoted in a support M, which is arranged on the inner side of a vertical slot A^2 near the bottom of the case A and in one side thereof, the dog having its inner end formed into a head which has a notch o at the end adapted to receive the body of a tack, and the outer end of the dog extends outward through the slot A^2 and is pivoted to the bent end of a rod P, which extends downward through the bottom of the case and is secured to a bent spring Q, which is secured to the ferrule D on the inner side and which is braced by a supplementary spring Q' .

The operation of the feeding device is as follows: When the device is placed upon the floor, the spring Q and rod P will be raised, thus raising the outer end of the dog O and depressing the inner end, and when the inner end of the dog is depressed it will release a tack which is held in the notch and will also prevent the passage of the tacks above. Instead of the spring-pressed rod P a wire, as indicated by dotted lines in Fig. 6, may be connected with the dog and made to extend to a point near the top of the case, so that it may be conveniently operated by the finger. To fill the machine, a filler R is employed, which filler comprises an enlarged V-shaped receptacle R' , which terminates at one end in a narrow trough R^2 , and the trough is inclined at the end opposite the receptacle R' and provided at the top with laterally-extending flanges r' , which flanges rest upon the top of the case when the raceway is to be filled and prevent the displacement of the filler. To insert the tacks in the filler, they are preferably arranged in a pile on a table or other article and then scooped up into the receptacle R' , which is inclined, so that the tacks will pass from it into the trough R^2 , which is too narrow to receive the heads of the tacks, but wide enough to admit their bodies, so that the tacks will assume a vertical position in the trough; and when the trough is filled the flanged end is inserted in the channel a and slot a^2 , and by raising the receptacle R'

the tacks will flow from the trough and into the tack-raceway of the machine. The machine is long enough to hold a large number of tacks, so that when it is once filled it will not need to be refilled for some time and the disagreeable feature of handling the tacks with the fingers is avoided.

The machine is operated as follows: It is placed in a vertical position upon the carpet to be tacked, and in placing it the rod P is raised, thus permitting a tack to pass the dog O and drop upon the inclined arms j , and the plunger is then forced downward by the hand, thus driving the tack through the carpet and into the floor. If one blow of the plunger is not sufficient, it may be repeated, as it will be seen from the foregoing description that the tacks cannot be fed until the device is raised and again lowered.

The device may be used as a carpet-stretcher by engaging the carpet with the brads d and pushing upon the carpet in the usual way, and it has an advantage over the ordinary stretcher, as after the carpet has been sufficiently tightened it may be raised into a vertical position and a tack driven, thus holding the carpet in place until it is permanently tacked.

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

1. A tack-driving machine comprising a case having a raceway therein for tacks and an adjacent slideway, spring-pressed parallel inclined arms mounted on the lower portion of the case and extending beneath the raceway and into the slideway, said arms having their free ends bent, as shown, and a plunger held to move in the slideway, substantially as described.

2. In a tack-driving machine, the combination, with a case having a raceway therein for tacks and means for driving the tacks, of a dog pivoted in the case and having a notched inner end arranged in the path of the tacks, and a spring-pressed rod pivoted to the outer end of the dog and extending downward beneath the lower end of the case, substantially as described.

3. In a tack-driving machine, a filler comprising a V-shaped receptacle and a narrow trough arranged at one end of the receptacle, said trough having one end inclined and flanged, substantially as described.

4. In a tack-driving machine, the combination, with the case having a raceway for tacks and means for driving the tacks, of a dog pivoted in the case and having a notched end extending into the path of the tacks, a bent spring secured to the bottom of the case, and a rod connecting the spring and the outer end of the dog, substantially as described.

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Witnesses:

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