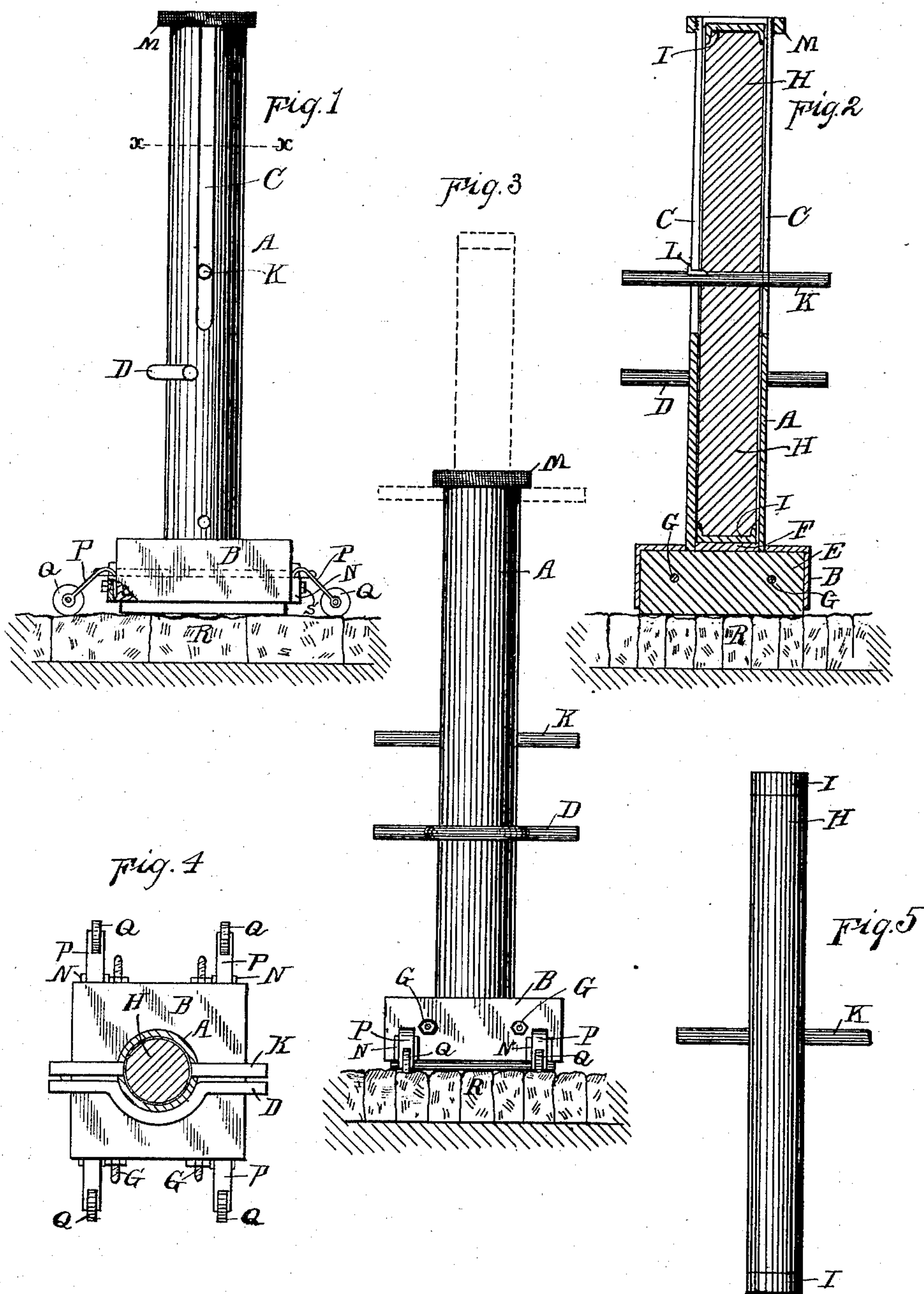


(No Model.)

G. DONALDSON.
PAVEMENT RAMMER.

No. 442,110.

Patented Dec. 9, 1890.



WITNESSES:

John H. Travel,
Barton Griffith

INVENTOR

George Donaldson

BY

C. C. Shepherd,

ATTORNEY.

UNITED STATES PATENT OFFICE.

GEORGE DONALDSON, OF COLUMBUS, OHIO.

PAVEMENT-RAMMER.

SPECIFICATION forming part of Letters Patent No. 442,110, dated December 9, 1890.

Application filed February 15, 1890. Serial No. 340,566. (No model.)

To all whom it may concern:

Be it known that I, GEORGE DONALDSON, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Pavement-Rammers, of which the following is a specification.

My invention relates to that class of pavement-ramming devices, which are adapted for use in the completion of newly-laid pavements.

The objects of my invention are to provide a suitable form of metallic casing with a detachable and reversible ramming or flatter block, to provide said casing with a reversible and detachable rammer, to so support said casing as to admit of its being moved from point to point with comparative ease and without frictional contact between the block and pavement, to so construct and arrange the parts of my device as to impart to the pavement a direct and flat blow, and to construct my device in a simple, durable, and inexpensive form. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation of my device when in position for use. Fig. 2 is a vertical longitudinal section. Fig. 3 is a view in elevation taken at right angles with Fig. 1 and showing in dotted lines the position of the rammer when elevated. Fig. 4 is a sectional view on line *x x* of Fig. 1; and Fig. 5 is a detail view, in elevation, of the rammer.

Similar letters refer to similar parts throughout the several views.

A represents a vertical cylindrical casing, which has formed and connected with its lower end an enlarged cap or box shaped base B.

C represents vertical longitudinal slots, which are formed through opposite sides of the casing A, and extend from the upper end of said casing to a point on the lower half thereof.

D represents a handle-bar, the ends of which are made to project from the lower half of the cylinder on those sides wherein are formed the slot C.

E represents a flatter or rammer block, which, being formed of the desired wood, is, as shown in Fig. 2 of the drawings, supported within the cap-shaped base B of the cylinder

A. This flatter-block is of such thickness that when inserted within said base its lower portion will project slightly beneath the base, as shown in the drawings. Horizontal bolts G pass, as shown, through the vertical sides of the casing-base and through the body of the block E, and thus serve to hold said block in position. A metallic plate F is temporarily secured to the central portion of the upper face of the block E opposite and projecting slightly within the lower end of the casing A.

H represents the rammer, preferably formed of hard wood, and which, as shown, is adapted to fit loosely within the casing A, with which it approximately corresponds in length. The upper and lower ends of this rammer are each provided with a metallic cap I, said lower end cap normally resting upon the face-plate F of the flatter-block.

Made to pass transversely through the rammer H at about the center of its height is a horizontal handle-bar K. This handle-bar K projects without the casing through the slots C, and is detachably secured to the rammer by means of one or more suitable keys L. Screwed upon the upper screw-threaded end of the casing A is an internally-screw-threaded ring M, which, as shown, unites the two halves of the case, which are separated by the slots C.

Formed on each of two opposite sides of the base B, which we will call the "front" and "rear" sides, are two or more socket-lugs N, each having formed therein a vertical pocket or socket, into which is inserted one end of a spring-strip P, which from the upper end of said socket extends diagonally downward and outward and has pivotally secured in its outer end a bearing roller or wheel Q, which normally bears and rests upon the surface of the pavement R. The upper ends of the spring-strips P are detachably secured within their sockets by means of a suitable pin or set-screw S, which passes through the outer face of the socket-lugs and has its inner end bearing against the strip P.

The operation of my improved rammer is as follows: The position of the device on the pavement to be rammed or packed is that shown in Figs. 1, 2, and 3 of the drawings—that is, with the projecting lower portion of the block E and the bearing-rollers Q resting

upon the pavement. While in this position the projecting handle-bars K and D are grasped, respectively, in the right and left hands of a man standing on each side of the case. The rammer H is then lifted to the position shown in dotted lines in Fig. 3 of the drawings, the grasp upon the handle K released, and the rammer allowed to drop by gravity. The blow imparted to the block E through the dropping of the rammer and its sudden contact with the block-plate F will, through said flatter-block, impart a sudden and forcible blow to the paving material upon which said flatter rests. By bearing upward upon the handle-bar D the flatter-block is slightly raised from contact with the pavement and the device forced upward to a new point. During this movement of the device the tension of the spring-strips P will serve to hold the rollers Q in frictional contact with the pavement, and the support thus afforded the device will make both the elevation of the block and its forward movement comparatively easy.

In case the flatter-block should become worn on its lower side and unfit for practical use the bolts G may be withdrawn, the flatter-block reversed, and again secured in its position within the case-base.

In case it should be deemed advisable or necessary the rammer H may be withdrawn from its position in its case, reversed, and again inserted therein by temporarily removing the ring M, thus opening the slots C and allowing the withdrawal therethrough of the handle-bar K. In case the ring M should through any cause become so fixed in its position on the case as to prevent its being removed with ease the key which locks the handle M of the rammer H may be withdrawn and said handle removed therefrom laterally, thus admitting of the handle being readily withdrawn without the removal of the ring M.

Owing to the fact that the spring-strips which support the bearing rollers Q are supported in their sockets by set-screws, it is obvious that the position of the rollers with regard to their height may be changed at will by changing the contact-point of the set-screw and spring-strip.

From the construction herein shown and

described it will be observed that a durable and comparatively inexpensive case is provided for both the rammer and block, and that said rammer and block being reversible, as described, one set may be utilized a comparatively long time. In reversing the flatter-block the plate F is removed to the opposite face.

It is obvious that the herein-described casing may be provided with new flatter-blocks and rammers as necessity may require, at a low expense. It is well known that in the ordinary form of pavement-rammers, where the rammer has not a strictly vertical movement, the rammer seldom strikes the flatter-block a square or direct blow, but that the contact is often simply between the edge of the rammer, rammer end, and the flatter, which not only results in a loss of force, but tends to settle the pavement or the paving-blocks, which form the same unevenly. By the use of my device it will be observed that a direct central blow is given the flatter-block, which, as is well known, will result in a well-packed and uniform paving-surface.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a pavement-rammer device, the combination, with a vertical case A, having slots C and stationary handles D and the enlarged cap-shaped base B, of rammer H, loosely supported within case A and having projecting handle-bar K, and a removable wooden flatter-block E, secured within and projecting from said base B, the rammer H normally resting upon said flatter-block, substantially as described.

2. In a pavement-rammer, the combination, with a rammer-case A, a rammer contained therein, an enlarged cap-shaped case-base and a flatter-block contained therein, and socket-lugs N, projecting from said base, of spring-strips P, adjustably supported, as described, within said socket-lugs, and friction-roller Q, pivotally connected with said spring-strips, substantially as described.

GEORGE DONALDSON.

In presence of—

HENRY M. BUTLER,
C. C. SHEPHERD.