C. Warner.

Iron Pavement.

No. 12,172. Patented Jan. 2, 1855.

Fig. 1.

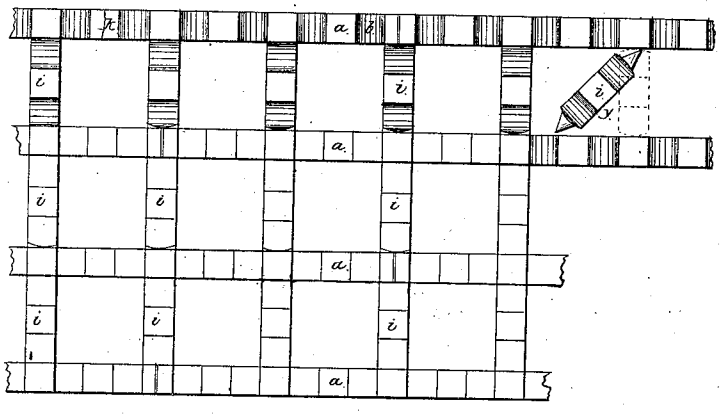


Fig. 2.

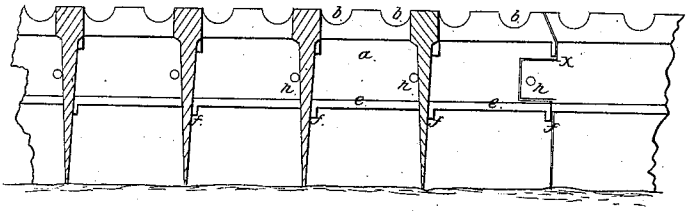
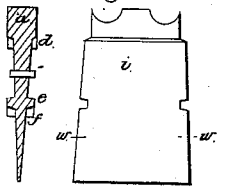


Fig. 3.



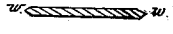


Fig. 4.

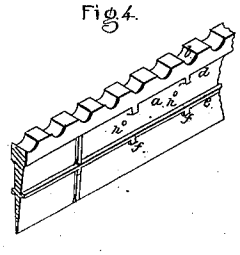


Fig. 5.

Inventor

Chapman Warner

UNITED STATES PATENT OFFICE.

CHAPMAN WARNER, OF NEW YORK, N. Y.

CAST-IRON PAVEMENT.

Specification of Letters Patent No. 12,172, dated January 2, 1855.

To all whom it may concern:

Be it known that I, CHAPMAN WARNER, of the city, county, and State of New York, have invented certain new and useful Improvements in Constructing Pavements for Streets of Iron; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, in which—

Figure 1, is a plan of the pavement laid; Fig. 2, is a sectional elevation; Fig. 3, section of the bar, and side view of the cross keys; Fig. 4, perspective of a portion of one of the bars; Fig. 5, perspective of a bar, with wings cast on to it, being a modification of the plain bars.

My invention consists in forming a series of parallel bars into a permanent self-sustaining structure, by means of keys or cross connections at right angles to them, and also parallel, or devices analogous thereto.

The construction is as follows: I form a series of straight bars (*a*, *a*,) see Figs. 2 and 4, somewhat broad on their upper surface; and with notches (*b*,) cut therein at convenient distances, as clearly represented; or they may be otherwise roughened on their upper surface; these bars have a considerable depth proportioned according to the use they are to be applied to; they have a depression a short distance below the upper surface on their sides, leaving the rib thinner from that point (*d*,), downward, about half way between the depression (*d*,) and the lower edge; there is a projecting rib (*e*) standing out from each side of the bar, which, as before stated, is a gradual taper from (*d*) to the lower edge. At proper intervals along the under side of the depression (*d*), and also on the under side of the ribs (*e*,), are small bosses (*f*,), in line, one above the other; these are for the purpose of steadying the cross-keys, hereafter described, in place, and for determining their distance apart; they may perhaps be dispensed with; but the structure is better with them; there is also a hole (*h*,), made near each pair of bosses, a little on one side, for a purpose to be presently explained. The keys (*i*,) are formed like short sections of the bars, of sufficient length to extend across the space the bars are designed to be apart, as in Fig. 1, the bottom of these keys are just as much longer than the top, as the bars taper from top to bottom, so as to fit up exactly to the bar with notches for the rib (*e*,), and off-set (*d*): the edge is in fact an exact profile of the side of the bar against which it abuts. In forming a pavement of these bars (*a*,), and keys (*b*,), the bars are laid down in pairs, parallel to each other, a set of the keys being placed between them, as clearly shown in Fig. 1; the bars should break joint; and the break in the bars I contemplate half way between the keys, as at (*k*,) Fig. 1; but sometimes I contemplate breaking joint at the point where the keys abut; and instead of making the ends of the bars straight, as in Fig. 4, I may form them as in Fig. 2, at *x*; when the top part of one bar laps over the other, and a projecting lug on one, as *x* fits into a recess formed to receive it on the other, whichever mode is adapted with the long bars, the cross keys are put in place, resting one side against the bosses above named, and then a pin is driven into the hole (*h*) on the other; and holds them securely in place; when the surface is filled up to the last row of keys, they are inserted at an angle, as shown at (*y*) Fig. 1, and driven into place, thus securing the whole; the ends of these last keys are made convex, as will be seen in the drawing; to facilitate this operation, the distance the bars and the keys are to be placed apart, must depend upon the purpose they are intended for, but should not be so large as to admit the foot of a horse. I have contemplated, instead of using the key-pieces, to cast wings as equivalents thereof upon each side of the bars, as shown in Fig. 5; but I believe the keys to be the best mode of construction, and they have the advantage of close packing for transportation; for the material for this pavement, when formed, will, it is obvious, pack as close as pig iron. A modification in fastening the keys is to cast on the bars projections, with V-shaped recess in them and to fit the ends of the keys thereto, the angle on the keys being more acute than the recess; to release this the bars themselves must be moved endwise, see *z*, Fig. 4.

Having thus fully described my improved iron pavement, what I claim therein as new, and for which I desire to secure Letters Patent, is—

The above described bars, connected, sustained, and bound together by the keys or cross pieces, substantially in the manner and for the purpose set forth.

CHAPMAN WARNER.

Witnesses:
WM. GREENOUGH,
JACOB HATZEL.