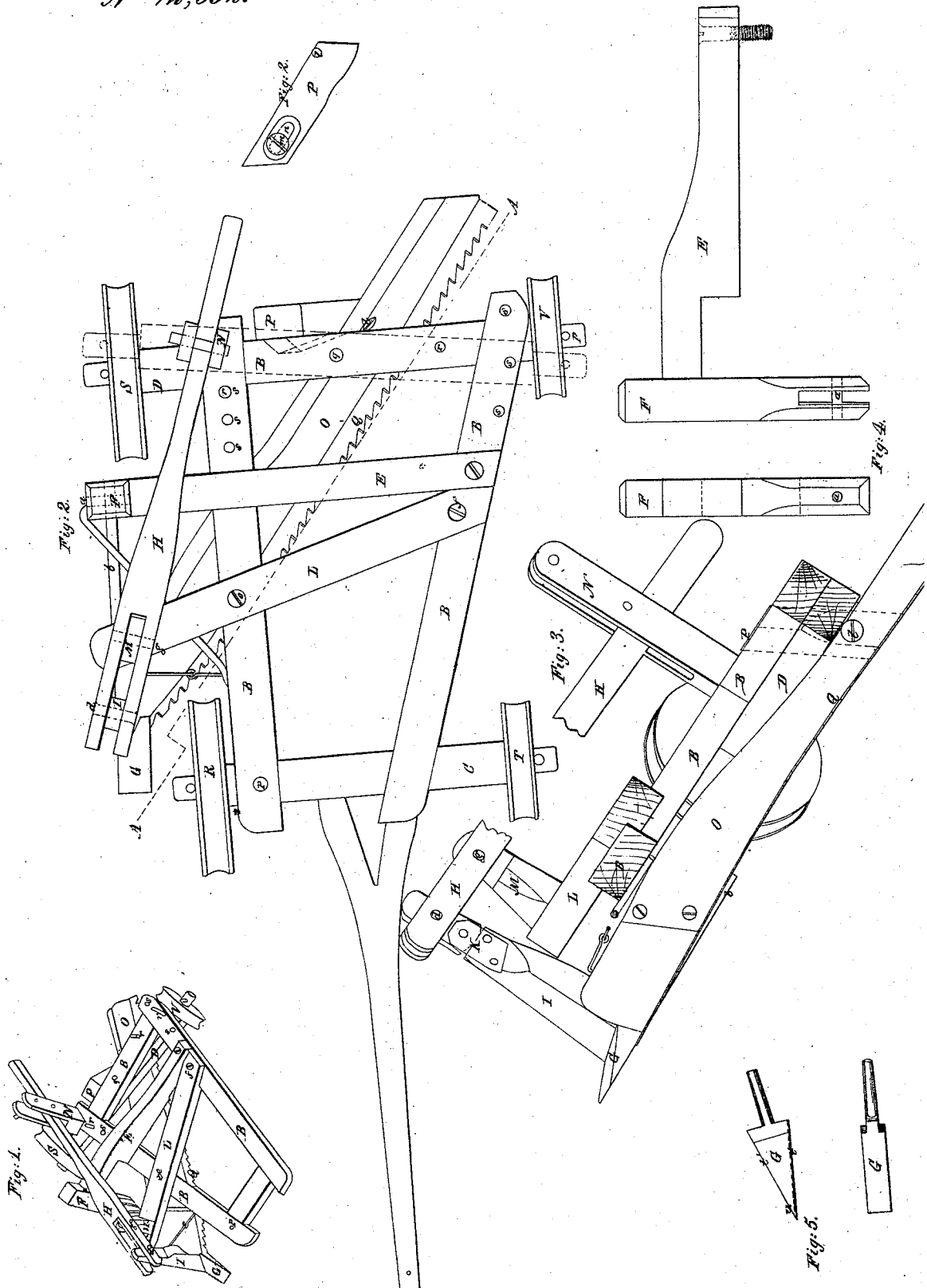


A. Kimball.

Road Scraper.

N^o 12,352.

Patented Feb. 6, 1855.



UNITED STATES PATENT OFFICE.

ALPHEUS KIMBALL, OF FITCHBURG, MASSACHUSETTS.

MACHINE FOR REPAIRING ROADS.

Specification of Letters Patent No. 12,352, dated February 6, 1855.

To all whom it may concern:

Be it known that I, ALPHEUS KIMBALL, of Fitchburg, in the county of Worcester and State of Massachusetts, have made certain
5 new and useful Improvements in Machines for Repairing Roads, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in
10 which—

Figure 1 is a perspective view of the machine the forward axle and wheels being removed; Fig. 2 a plan; Fig. 3 a section upon the line A, A, of Fig. 2; Figs. 4 and 5
15 details which will be referred to hereafter.

The principal part of my invention consists of a plow and a peculiarly formed scraper, so combined with each other that while the former loosens and raises the earth
20 or gravel at the side of the road or in the gutter, the scraper which is peculiarly formed for the purpose, equalizes it and distributes it over the road, filling the ruts and forming the road way of the required height.
25 My invention also consists in certain improvements in the details of the machine which will be hereafter particularly set forth.

To enable others skilled in the art to
30 make and use my road mender I will proceed to describe its construction and operation.

In the accompanying drawings B is the frame work of the machine, from which the
35 plow and road scraper are suspended, and to which the front and back axles C, D, are pivoted as seen in the drawings.

E is one of the cross timbers of the frame, to the end of which is mortised the vertical
40 post F; to the bottom of this post is pivoted at *a*, the sole and land side piece *b*. The forward end of the sole which carries the point G is suspended from the lever H by means of the post I, hinge K, and pivot *l*.

45 L is a cross timber secured to the frame-work at *e*, *f*, and carrying the post M, to which the lever H is pivoted at *g*. The lever H is guided at its opposite extremity by a slotted post N, which is mortised to the
50 framework B. The plow-point may thus be raised or lowered as required, by means of the lever H.

O is the mold board attached rigidly to the sole *b* and point G, and rising and fall-
55 ing with them. The mold board is pivoted at its rear end to the piece P at the point *l*;

this piece is secured to the frame-work by the screw *m* and is made adjustable for the purpose of raising or lowering the mold board by means of the slot *n*. The mold
60 board is made of a sufficient length to reach half way across the road, to its bottom surface is secured the serrated scraper Q, which is curved to conform to the cross section of the road. In hard and gravelly soils the
65 resistance upon the point of the plow would tend to swivel the whole machine out of the direct line of motion; to counteract this tendency the forward axle C is pivoted to the frame at *p* near to its extreme end as seen in Figs. 1 and 2. In order still further
70 to regulate the motion of the machine the hind axle D is pivoted to the frame-work at *q*, by which means the axle may be secured in various positions either perpendicular or
75 oblique to the line of motion, and thus a tendency is produced to carry the rear of the machine to one side or the other, as may be required to counteract the effect of any excessive strain upon either the plow or
80 scraper. The axle is secured in its various positions by means of pins *r*, which pass through various holes S in the frame-work into holes in the axle. The position of this
85 axle is to be governed by the nature of the ground and the relative resistance offered to the plow point and scraper.

I will now describe the peculiar plow point which I make use of, and which is so constructed as to be capable of being turned
90 over when dulled upon one side. In Fig. 5 is seen this point detached, the lower edge *t* working in a horizontal plane and forming a continuation of the sole. By continued use the point will become worn as in-
95 dicated by the red line in Fig. 5; when this takes place the point may be turned over, the surface *t'* being placed at the bottom and the new point *u* being in the plane of the sole as required, this point is thus self sharp-
100 ening and when dull requires but to be turned over to operate as at first.

It will be observed that this machine is capable of operating entirely upon one side of the team and of the frame work and
105 wheels, which is very essential in a machine designed to be used for the purpose of repairing roads, as it is the material at the sides of the road near the fences, and in the ditches that is required to be raised with
110 the plow and distributed over the road way. In order that the frame of the machine may

run level, the wheels R and S upon the land side are made larger than the other two T, V, the latter running upon higher ground than the former. When the machine is operated upon level ground the wheel R, runs in the last furrow and the rear wheel S runs immediately behind the sole in the furrow just formed.

What I claim as my invention and desire to secure by Letters Patent is—

1. The within described machine for making and repairing roads, consisting essen-

tially of the combination of the plow and scraper constructed in the manner set forth and suspended from the lever H.

15

2. I claim pivoting the rear axle and securing it to the frame work in a position oblique to the direction of motion for the purpose described.

ALPHEUS KIMBALL.

Signed in presence of—

NATHL. WOOD.

LORING WHEELER.