

No. 864,069.

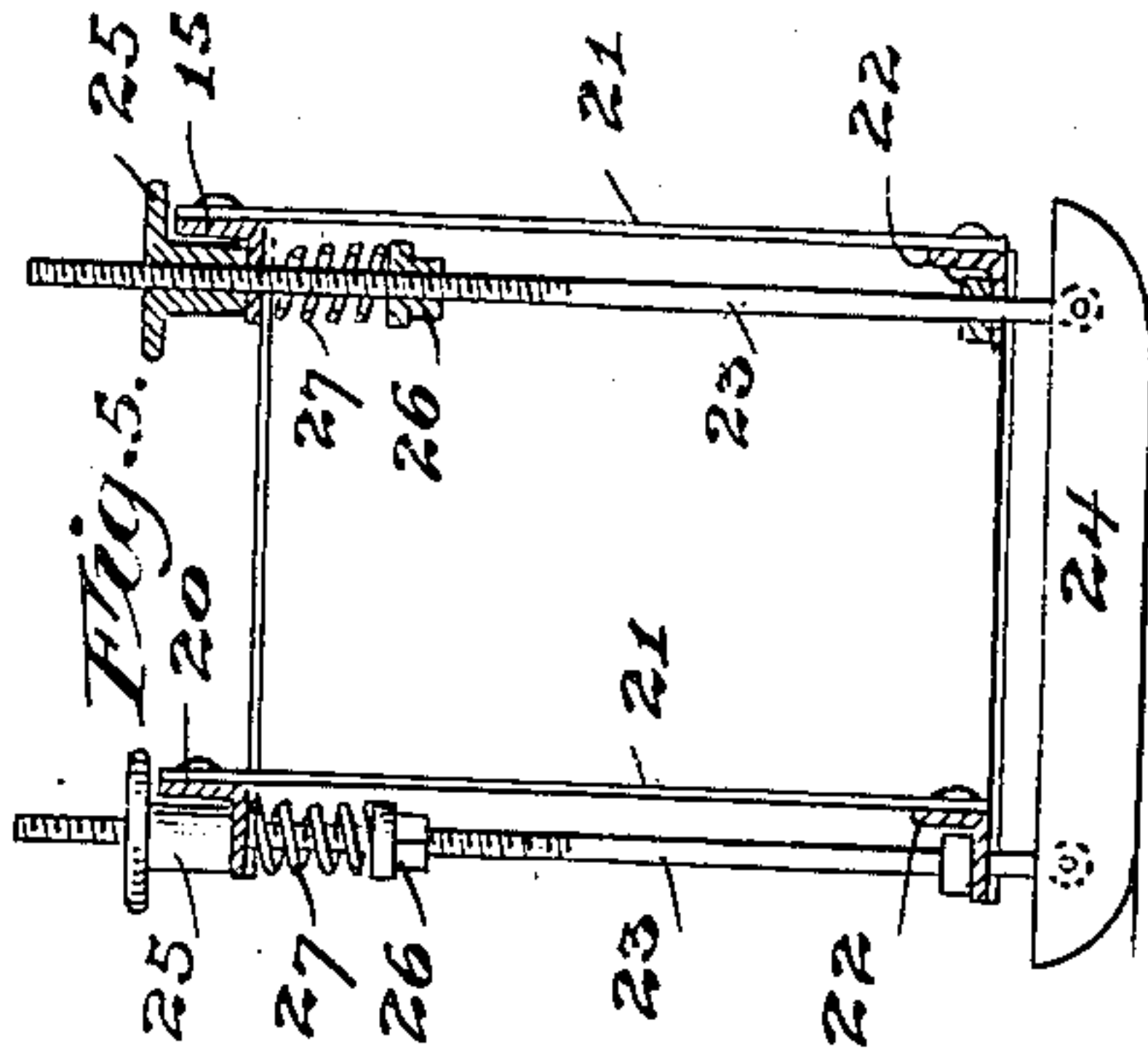
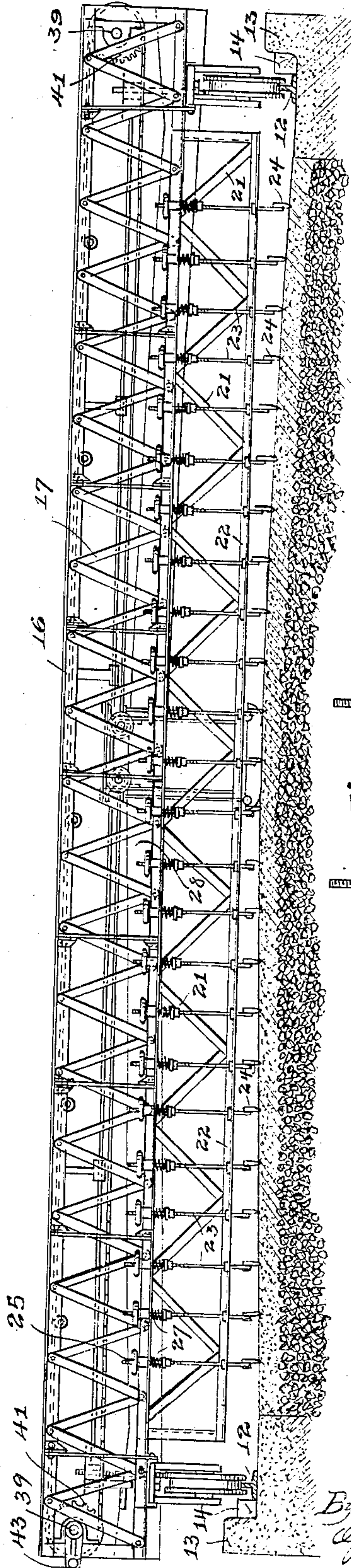
PATENTED AUG. 20, 1907.

R. S. BLOME & W. J. SINEK.
PAVEMENT MARKER.

APPLICATION FILED FEB. 7, 1907.

4 SHEETS—SHEET 1.

Fig. 1.



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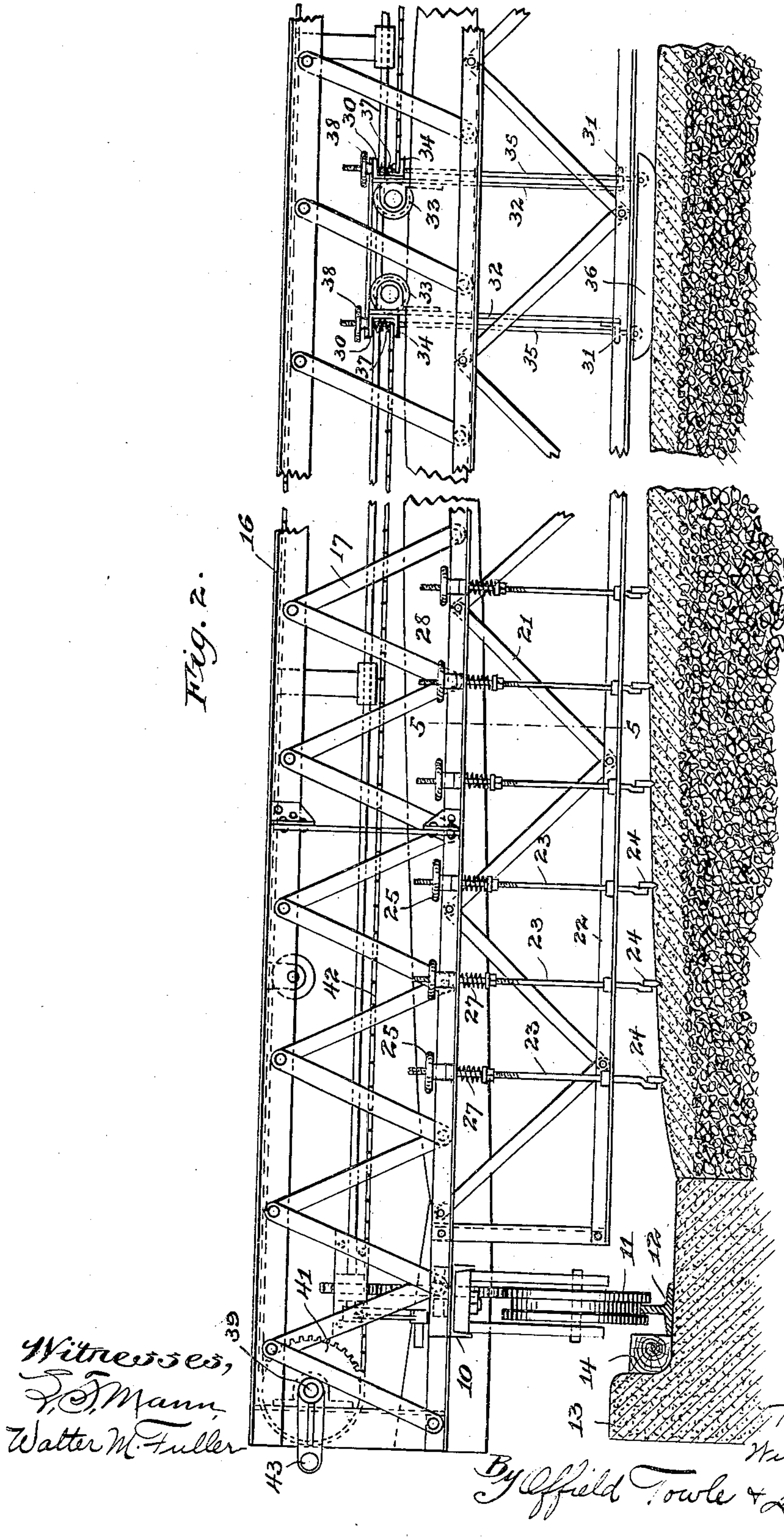
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4 SHEETS—SHEET 2.

Fig. 2.



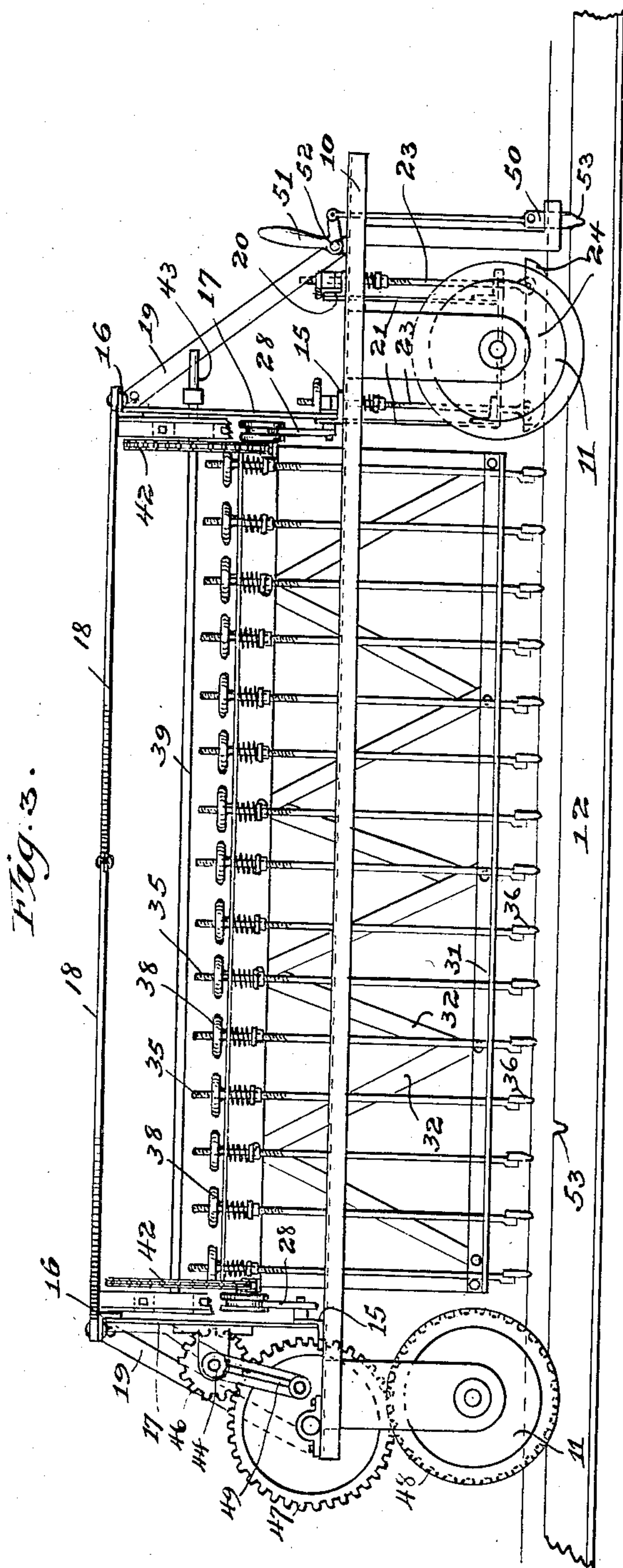
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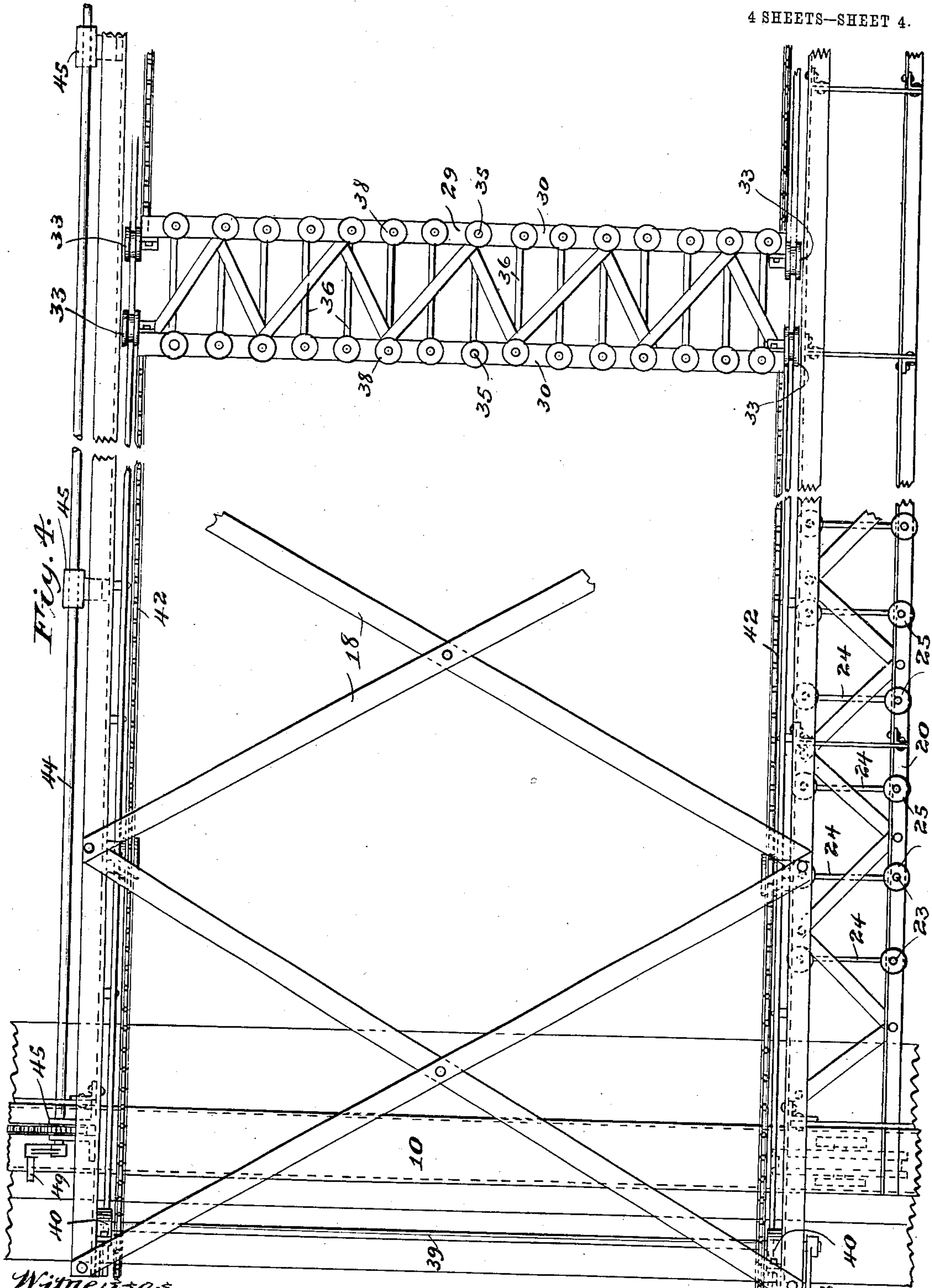
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

RUDOLPH S. BLOME AND WILLIAM J. SINEK, OF CHICAGO, ILLINOIS.

PAVEMENT-MARKER.

No. 864,069.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed February 7, 1907. Serial No. 356,235.

To all whom it may concern:

Be it known that we, RUDOLPH S. BLOME and WILLIAM J. SINEK, citizens of the United States, both residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pavement-Markers, of which the following is a specification.

Our invention relates to pavement markers for grooving or scoring the top face of the pavement before the material of the wearing surface of the pavement has become hard or set.

By use of our improved invention, a pavement may be quickly, easily and accurately scored, both longitudinally and crosswise, to give it the appearance of block paving and to prevent its surface from being slippery.

Our device comprises a main frame spanning the roadway, a number of shoes or groovers to mark the pavement lengthwise, and a carriage equipped with similar marking means adapted to travel across the roadway on the main frame and at the same time perform the lateral grooving operation. By turning a handle provided for the purpose, the whole machine may be caused to travel along the roadway on suitable temporary rails, at the same time marking or scoring the pavement longitudinally. Then when the main frame has reached the proper position, in which it may be locked, the carriage is caused to traverse the pavement laterally, scoring the same crosswise.

On the accompanying drawings, which form a part of this specification, we have illustrated the preferred embodiment of our invention, and on said drawings like reference characters refer to the same parts throughout the various views.

Figure 1 is a side elevation of our improved pavement marker; Fig. 2 is a fragmentary side elevation of the same, upon a larger scale; Fig. 3 is an end elevation of the machine; Fig. 4 is a fragmentary plan view of a portion of the machine, on an enlarged scale; and Fig. 5 is a vertical cross section on line 5—5 of Fig. 2.

At each end, the main frame of the pavement marker has an inverted channel bar 10 supported by means of wheels or rollers 11 adapted to travel on temporary rails 12—12 spaced away the proper amount from the curbs 13 by planks or beams 14, as is clearly illustrated on Fig. 1. Resting upon these channel beams or sills 10 is a pair of long angle bars 15, above which are disposed similar angle bars 16 connected to the lower bars by suitable lattice work 17, 17, this lattice work forming the sides of the main supporting frame of the machine. In order to maintain these sides in the proper vertical position and space them apart the proper amount, we provide a top lattice work 18, which may be of the usual and ordinary character. To brace the sides 17, we provide, outside of the same, a number

of inclined bars or braces 19, which aid in the support of the sides, as will be readily understood. Across the front of the mechanism, and in advance of the angle bar 15, is provided a similar bar 20, whose ends rest upon and are supported by the sills 10. Supported below this pair of bars 15 and 20, by means of suitable lattice work 21—21, is another pair of bars 22. The horizontal flanges of these four bars are apertured at intervals in alinement to receive pairs of screw-threaded upright rods 23 having fastened at their lower ends the marking shoes or trowels 24, and each having at its upper end a nut 25 by which the position of the shoe may be readily adjusted. Beneath the upper bars, rods 23 are each equipped with a screw-threaded nut 26, between which and the under surfaces of angle bars 15 and 20 are interposed helical springs 27 encircling the rods. As will be obvious, these springs press downwardly upon the nuts, thereby forcing the shoes downwardly onto the pavement, and it will be apparent that the pressure of these springs may be readily adjusted by manipulating the nuts 26.

Just inside of the sides 17 are positioned and supported in any desirable manner the pair of bars or tracks 28 running lengthwise of the main frame, as is clearly shown in Fig. 2. These tracks 28 have their upper surfaces curved to correspond approximately to the crown of the road beneath the frame. Adapted to travel on these tracks is a carriage 29 composed at its top of two longitudinal angle bars 30, beneath which are similar lower angle bars 31, the latter being suspended from the former by means of diagonal bars 32. At each end, this carriage or truck has a pair of grooved rollers 33 adapted to straddle and ride upon the curved tracks 28. To the angle bars 30 are riveted similar members 34, as shown in Fig. 2, and all the angle bars of the carriage are apertured at intervals to accommodate rods 35, to the lower ends of which are attached the plurality of parallel shoes or markers 36, similar in construction to the shoes 24, shown in Fig. 5. The rods 35 are pressed downwardly, as in the previous instance, by coiled springs 37, and are adjustable vertically by means of the nuts 38 co-acting with the upper screw-threaded ends of the rods. By turning these nuts, the vertical position of the marker or shoe can be regulated at will, as will be apparent from an inspection of the drawings. To cause this carriage to travel on the main frame transversely of the pavement, there is provided at each end of the frame a transverse shaft 39 rotatable in suitable bearings 40, and equipped at each end with a sprocket wheel 41. Passing around these wheels is a pair of sprocket chains 42, the ends of which are fastened to the front and rear sides of the carriage 29. One of these shafts 39 has a handle 43, whereby it may be turned, and rotation of this shaft causes the sprocket chains to travel, as is obvious, and the carriage and its

markers to travel on the tracks 28, the markers or shoes 36 scoring or grooving the pavement crosswise, since this movement of the carriage is caused to take place before the top face of the pavement has become set or hardened.

Forward movement of the whole frame may be accomplished by means of the mechanism comprising a longitudinal shaft 44 on the rear side of the machine, rotatably mounted in a plurality of bearings 45. At each end, this shaft has a toothed pinion 46 meshing with a suitably mounted gear 47, the latter likewise meshing with a gear 48 fixed to the axle of the corresponding wheel or roller 11. In order to turn the long shaft 44, one end may be supplied with an operating handle 49, and it will be obvious that by turning this handle the whole frame will be carried forwardly or rearwardly, according to the direction of rotation of the handle.

At the front end of the machine, we provide a pair of sliding locking dogs 50, one at each end of the machine, each being capable of manipulation by a bell-crank handle 51 pivoted at 52 to any convenient portion of the framework above corresponding rail 12, the latter being notched at intervals, at 53, to accommodate the lower end of the dog, so that the frame or whole machine may be held fixedly while the carriage 29 is traveling on its rails or tracks 28. Preferably, these notches are spaced apart an amount corresponding substantially to the length of carriage 29, so that each time the machine is advanced and the dogs inserted in the next notches, the carriage is in proper position for performing the cross-grooving of the pavement.

The operation of this machine is as follows: Assuming that the markers 36 on carriage 29 have been raised sufficiently to escape the pavement and that the locking dogs 50 have been raised by means of their handles 51 so as to be free from the notches 53, then, by turning the handle 49, the whole machine may be fed forwardly by means of the gearing 46, 47 and 48, the shoes 24 during this travel of the mechanism scoring or grooving the pavement face longitudinally. When the machine has been fed sufficiently so that the dogs 50 are above the next notches 53, the turning of handle 49 is stopped and the dogs 50 permitted to enter the notches 53, thereby holding the framework firmly in position. The shoes 36 of the carriage are then forced downwardly sufficiently to sink into the soft face of the pavement, and by rotating shaft 39 by means of its operating handle 43, the carriage is compelled to travel longitudinally of the frame on its tracks 28, crosswise of the pavement, at the same time scoring the pavement laterally, as will be apparent.

It should be noted that the shoes or markers 24 and 36, during their grooving operation, are pressed down-

wardly by their co-acting springs, to that they are forced into the soft pavement sufficiently to form grooves of the proper depth.

We have illustrated and shown our machine as being operated by hand, but to those skilled in the art it will be apparent that it may be actuated by power, such as by an electric motor or similar device. Since the shoes 24 are adjustable vertically, their positions may be varied so as to be suitable for use with pavements of different curvatures.

The details of construction of the framework, as illustrated, are quite immaterial, and may be varied within wide limits without departing from the substance of our invention. Other minor changes may also be made in the machine herein set forth without sacrificing any of the advantages of our invention.

We claim:

1. In a pavement marker, the combination of a main frame, rollers or wheels supporting said main frame, tracks upon which said rollers are adapted to travel, a plurality of markers supported by said frame, and means to turn said rollers to move said frame and groove the surface of the pavement by said markers, substantially as described.

2. In a pavement marker, the combination of a main frame, a carriage adapted to travel on said main frame, means to actuate said carriage, and one or more markers operated by said carriage to groove the pavement as said carriage travels on said frame, substantially as described.

3. In a pavement marker, the combination of a movable main frame, means to move said frame, one or more markers adapted to groove the pavement during the movement of said frame, a carriage adapted to travel on said frame transversely to the path of travel of said frame, means to actuate said carriage, and one or more markers operated by said carriage during its travel to groove the pavement, substantially as described.

4. In a pavement marker, the combination of a movable main frame, means to move said frame, means to hold said frame in a fixed position, one or more markers adapted to groove the pavement during the movement of said frame, a carriage adapted to travel on said frame transversely to the path of travel of said frame, means to actuate said carriage, and one or more markers operated by said carriage during its travel to groove the pavement, substantially as described.

5. In a pavement marker, the combination of a plurality of rails, one or more of which is notched, a main frame, rollers or wheels adapted to travel on said rails and support said frame, one or more markers on said frame adapted to groove the pavement as said frame travels on said rails, means coöperating with said notches to hold said frame from moving, a carriage adapted to travel on said frame, one or more markers actuated by said carriage to groove the pavement as said carriage travels, and means to operate said carriage, substantially as described.

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