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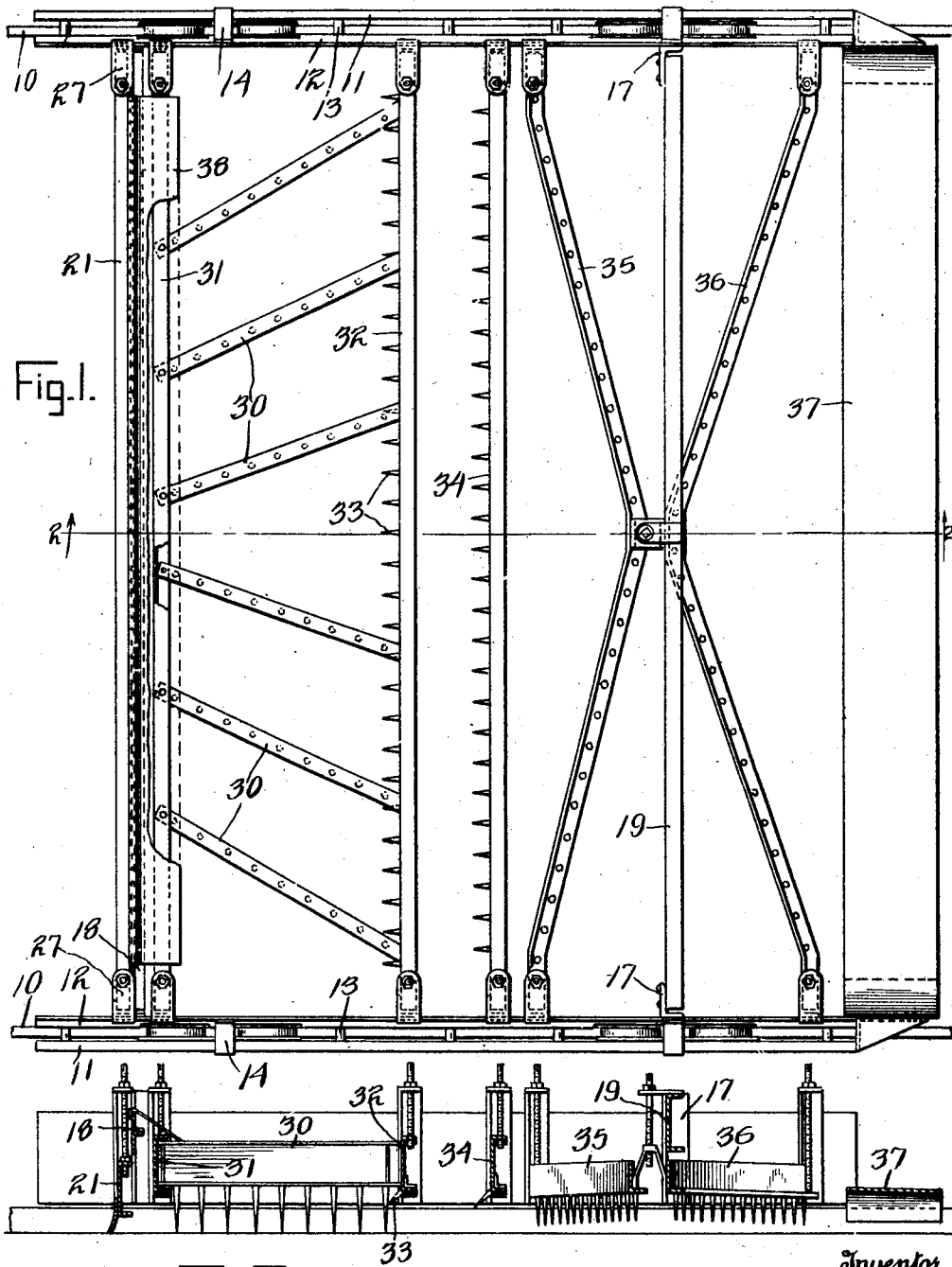
1,695,203

A. T. NEWELL

ASPHALT SPREADER

Filed July 28, 1927

2 Sheets-Sheet 1



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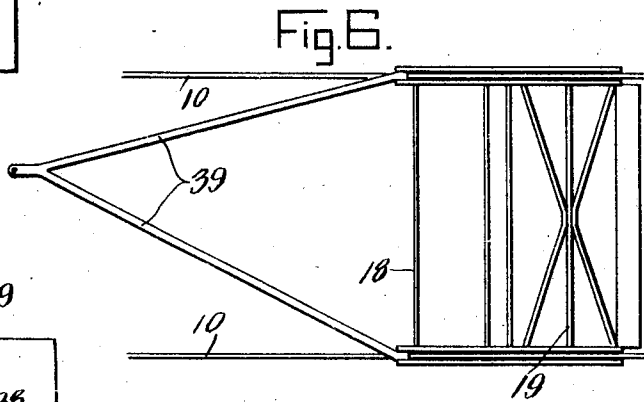
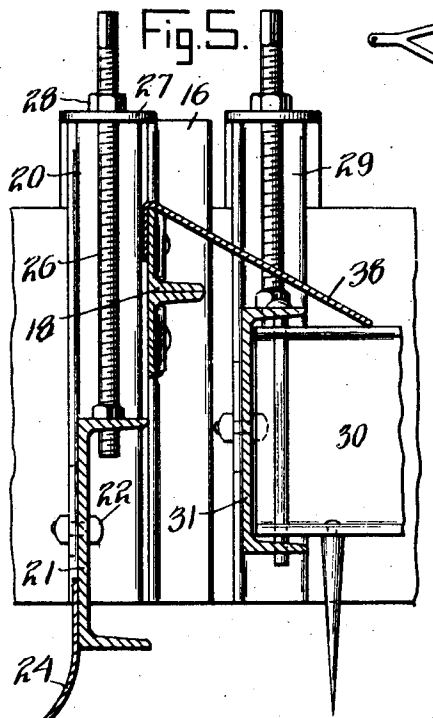
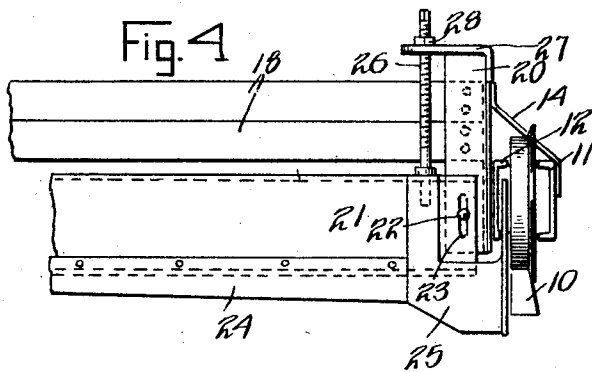
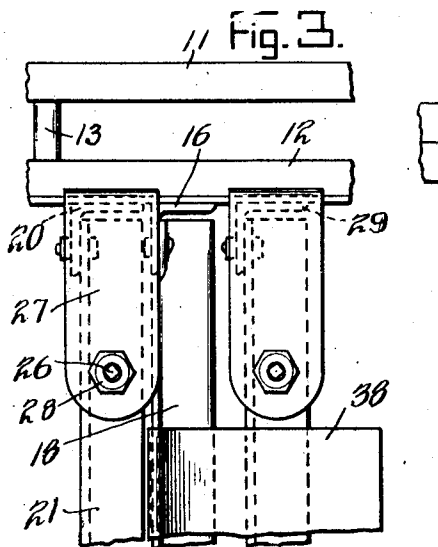
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A. T. NEWELL

ASPHALT SPREADER

Filed July 28, 1927

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

ALFRED T. NEWELL, OF BIRMINGHAM, ALABAMA.

ASPHALT SPREADER.

Application filed July 28, 1927. Serial No. 209,121.

My invention relates to a machine for uniformly distributing, spreading and striking off hot bituminous and other paving materials used in road construction and it is an object of the invention to provide a machine of this character which will eliminate a large amount of manual labor and by means of which the material may be more accurately mechanically raked and easily distributed, thereby eliminating all waves and unevennesses which occur when the material is raked by hand, all as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings which are made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is a top plan view of my invention,

Figure 2, a longitudinal section on the line 2-2 of Fig. 1,

Figure 3, a fragmentary top plan view of the front right corner, shown in the upper left corner of Fig. 1,

Figure 4, a fragmentary front elevation of the left side of the machine,

Figure 5, a fragmentary enlarged detail view of the structure shown in the left of Fig. 2, and

Figure 6, a diagrammatic top plan.

In the drawings reference character 10 indicates steel rails disposed at opposite sides of the roadway and upon which are supported trucks comprising outside channel members 11 and inside channel members 12 connected by spacers 13 and braces 14. At the front and rear of the trucks between the channel members are mounted pairs of wheels 15 which roll upon the rails 10. On the inner sides of the inside channel members are provided front upright channel members 16 and rear upright channel members 17, said front channel members being connected by cross struts or braces 18 comprising a pair of opposed channel members which serve to rigidly brace the spaced front ends of the trucks and a rear cross brace connects the rear upright channel members 17 for the same purpose. Forwardly of the front upright channel members 16 are disposed similar upright channel members 20 by means of which a horizontally disposed scraping blade supporting channel member is secured by means of bolts 22 disposed in slots 23 in the channel member 21. A scraping blade 24 is

fixed to the lower portion of the channel member 21 and projects below the same as shown in Figs. 4 and 5, such scraping blade being shaped to conform to the desired crown of the roadway. A shoe 25 is provided at each end of the scraping blade 24 for cutting the edge of the roadway, said shoe being also mounted on the scraping blade supporting channel member 21. The channel member 21 is provided with means for adjusting its height which comprises adjusting screws 26, one of which is disposed at each end of the channel member, each of said adjusting screws being supported by a bracket 27 and lock nuts 28 are provided for locking the parts in properly adjusted position.

Behind the cutting blade is disposed a unit of diagonal rakes 30 slung between parallel cross members 31 and 32, adjustably supported at their ends in a manner similar to the channel member which supports the scraping blade. The rear cross member 32 is provided with angularly and forwardly projecting teeth 33 and forms an additional rake. The purpose of these rakes is to initially comb the freshly deposited material throughout its entire depth, the rakes being vertically adjustable according to the nature of the material employed. Spaced a distance behind the transverse rake 32 is mounted a similar transverse rake 34 which is likewise similarly adjustably mounted.

Behind the rake 34 in spaced relation thereto are suspended a pair of oppositely arranged diagonal rakes 35 and 36 which form substantially the letter X. These diagonal rakes are supported at their outer ends similarly to the rakes 32 and 34 and have their inner portions connected and adjustably supported by the rear strut or cross brace 19, the angles of the diagonal rakes 35 and 36 being determined by the character of the material used and the necessity of greater or less dragging motion. Behind the rear set of rakes is mounted an ironing tool 37 which is shown as extending across the entire width of the roadway to iron off and seal the road material ready for the roller which is to follow. In lieu of the ironing tool extending across the entire width of the roadway, short side portions may be used which will serve as edgers for operating upon the sides of the roadway. The forward edge of the ironing tool is preferably slightly elevated above the rear edge of the same in order that it will

serve to properly smooth the surface over which it passes. The teeth of the rakes are shown in staggered relation so that in operation teeth upon alternate rakes will comb the space left between preceding rake teeth.

An apron 38 has one edge fixed to the front cross member or strut 18 and projects downwardly over the forward portion of the diagonal rakes 30, said apron forming a shed which receives the road material from trucks or the like and prevents such material from being dumped directly against the scraper blade and the front ends of the rakes. The machine is provided with a flexible bridle 39 at its forward end by means of which it may be pulled longitudinally along the roadway by means of a tractor or the like.

In the operation of my machine mixed road material, such as hot asphalt, a concrete mixture, or material of other character is dumped from trucks or the like onto the apron 38 while the machine is idle whereupon the machine is pulled along and the material is dragged or harrowed to a smooth surface of a thickness corresponding to the difference between the depth of the cutting edge of the scraping blade 24 and the limiting allowance of the rear rakes, the depths of which are adjustable. The ironing and edging tool 37 at the rear of the machine on account of pressure caused by the weight of machine cuts material away from the edges, forms the same to the proper radius and seals the same, thereby eliminating the necessity of hand tamping. The material is uniformly spread to a uniform density and desired compaction and is ready for rolling.

Instead of dumping the material from trucks onto the apron of the spreading machine, it may be deposited from a central concrete mixing plant or the like. With a roadway laid by my machine the undesirable depressions and waves which are visible when riding in an automobile at night on account of the reflection from the lights on the street are eliminated.

It will also be understood that if desired, wheels without flanges may be used and the machine operated directly on the roadbed without the use of tracks or rails.

It will be obvious to those skilled in the art that various changes may be made in my device without departing from the spirit of my invention, and I, therefore, do not limit myself to what is shown in the drawings and described in the specification, but only as set forth in the appended claims.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent, is:

1. An asphalt spreading machine comprising a scraper for preparing the roadbed for the reception of road surfacing material, diagonal rakes disposed behind said scraper,

and means for ironing out the material after it is operated upon by said rakes, substantially as set forth.

2. A machine for use in road building comprising a scraper for preparing the roadway for the reception of road surfacing material, means for independently adjusting the ends of said scraper, a pair of spaced cross members supported in fixed relation to said scraper, diagonal rakes supported between said cross members, a rake behind said diagonal rakes, and means for ironing out the material after it is operated upon by said rakes, substantially as set forth.

3. A road building machine comprising supporting means adapted to be disposed at each side of the roadway, means for holding said supporting means in fixed spaced relation, a scraper blade having its ends adjustably supported by said supporting means, spaced cross members having their ends adjustably supported by supporting means, diagonal rakes carried by said spaced cross members, a rake adjustably supported in substantially parallel relation to said scraper blade, and a pair of oppositely disposed diagonal rake members disposed at an angle to the first mentioned diagonal rakes, substantially as set forth.

4. A road building machine comprising supporting means adapted to be disposed at each side of the roadway, means for holding said supporting means in fixed spaced relation, a scraper blade having its ends adjustably supported by said supporting means, spaced cross members having their ends adjustably supported by supporting means, diagonal rakes carried by said spaced cross members, a rake adjustably supported in substantially parallel relation to said scraper blade, a pair of oppositely disposed diagonal rake members disposed at an angle to the first mentioned diagonal rakes, a rake behind said diagonal rakes, and means for ironing out the material after it is operated upon by said rakes, substantially as set forth.

5. A road building machine comprising a frame, means disposed at each side of the frame for supporting the same, a transversely disposed vertically adjustable scraper at the forward end of the machine, a group of diagonally disposed rakes adjustably supported behind said scraper, a transverse rake adjustably supported behind said diagonal rakes, and a smoothing blade disposed transversely behind said last mentioned rake, substantially as set forth.

6. A road building machine comprising a subgrade scraper adjustably supported across the front end of the machine, a pair of spaced cross members adjustably supported behind said scraper, short diagonal rakes having their ends supported by said spaced cross members and capable of being adjusted by the cross members so that the teeth will ex-

tend to successive depths, an apron project-
ing rearwardly downward over the diagonal
rakes and forming a shed for receiving the
road material for preventing the same from
5 being dumped directly against the scraper
blade and the front end of the rakes, and a
smoothing iron rearwardly of the rakes for

operating upon the material after it is raked,
substantially as set forth.

In witness whereof, I have hereunto set my 10
hand at Birmingham, Alabama, this 25th day
of July, A. D. nineteen hundred and twenty-
seven.

ALFRED T. NEWELL.