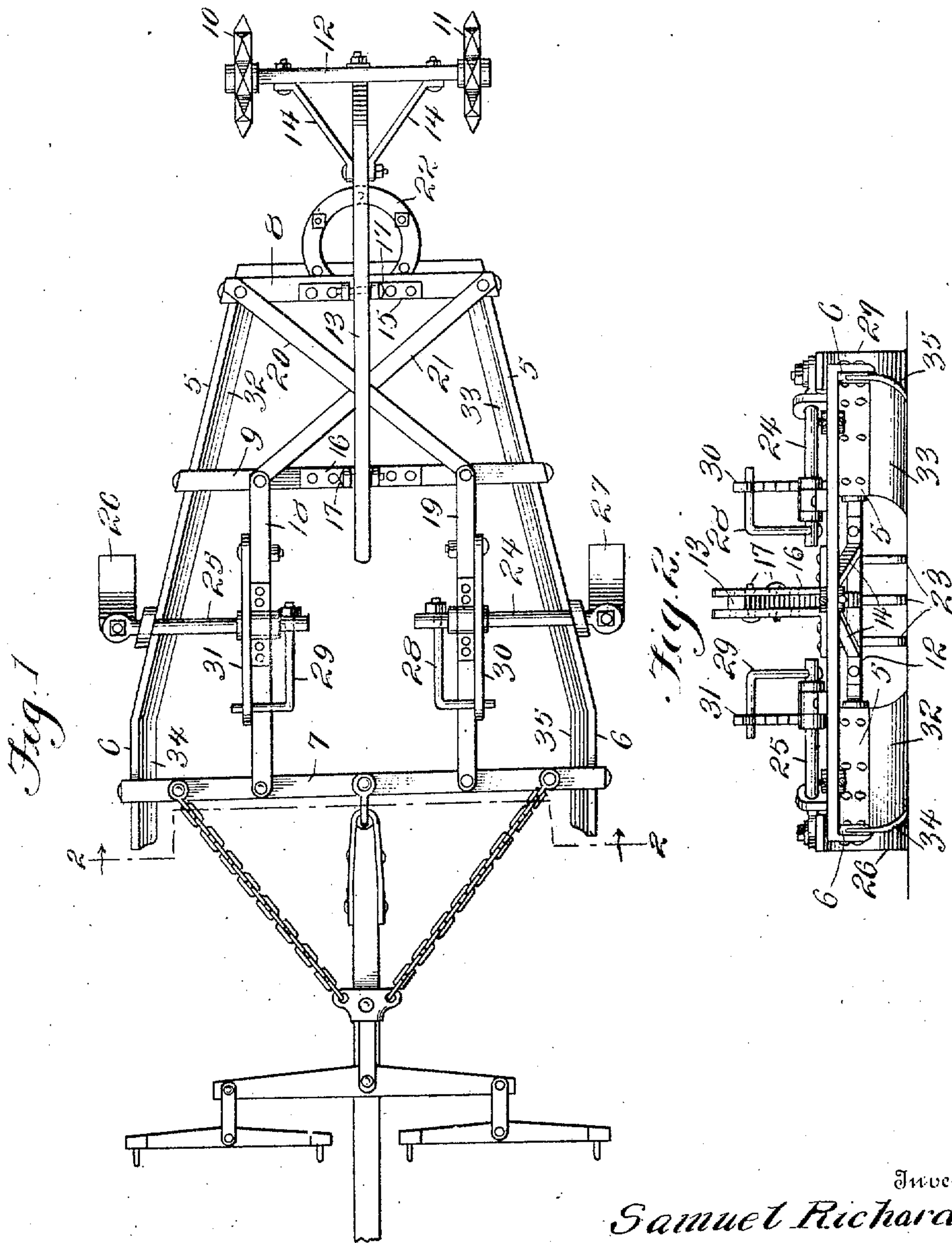


966,242.

Patented Aug. 2, 1910



Witnesses

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UNITED STATES PATENT OFFICE.

SAMUEL RICHARDSON, OF HOOVER, INDIANA.

ROAD-SCRAPER.

966,242.

Specification of Letters Patent.

Patented Aug. 2, 1910.

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To all whom it may concern:

Be it known that I, SAMUEL RICHARDSON, a citizen of the United States, residing at Hoover, in the county of Cass and State of Indiana, have invented new and useful Improvements in Road-Scrapers, of which the following is a specification.

This invention relates to road graders and scrapers and has particular reference to an improvement in a device of that kind granted me by Letters Patent Number 942,749, dated December 7, 1909.

In the patent above referred to, I employed a pair of divergent scraper blades, and a pair of bearing shoes located in advance of the outer sides of the blades. The function of the shoes being to sustain the blades in a variety of positions upon the road surface or to hold the forward portions of the blades wholly suspended above the road surface. The chief disadvantage of this construction resided in the fact that owing to the arrangement of the shoes upon a common shaft that when the latter was turned both blades were moved simultaneously, and practice proved when the device was passing over an inclined road that the construction which operated both blades simultaneously ineffectively produced the best results:

The present invention therefore aims to remedy this defect by mounting the bearing shoes upon a pair of shafts, each operated independently of the other, whereby either side of the scraper may be raised or lowered without affecting the opposite side.

In the patent above referred to another disadvantage existed, namely that the scraper blades diverged throughout their entire length, and practice proved that this structure would cause the device to skid or produce side draft during the operation of the scraping. In order to correct this defect, I have flexed the forward portions of the blades inwardly and parallel with the central line of draft, so that during the operation of scraping, by virtue of these parallel portions, the forward ends of the blades will engage with the ground in such a manner that lateral movement of the device will be positively prevented.

With these and other objects in view, which will more fully hereinafter appear, the present invention consists in certain details of construction and arrangement of parts hereinafter fully described, illustrated

in the accompanying drawings and more particularly pointed out in the appended claim, it being understood that various changes in the form, proportion, size and minor details of the device may be made, within the scope of the appended claim, without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming a part of the specification, Figure 1 is a plan view of the grader shown in the patent above referred to, and also showing my improved blades and shoes. Fig. 2 is a sectional front elevation on the line 2—2 of Fig. 1.

Similar numerals of references are employed to designate corresponding parts throughout.

As shown in my previous patent, the device comprises a substantially triangular frame, the divergent side bars of which are designated by the numeral 5. Adjacent to their forward ends these side bars are bent inwardly, as shown at 6, and are parallel with each other and are connected together by a cross piece 7. The rear ends of the bars are connected by a cross piece 8, and a similar cross piece 9 is arranged intermediate the end cross pieces. The rear portion of the implement is supported by a pair of toothed wheels 10 and 11 journaled upon the opposite ends of an axle 12 carried by a supporting bar 13 and reinforced therethrough by braces 14. The wheels are arranged at a suitable distance in the rear of the cross bar 8, and a supporting bar 21 projects forwardly in the central line of the implement through U-shaped brackets 15 and 16, which are fastened to the cross bars 8 and 9. Side arms of these brackets are each formed with an alining series of openings for the passage of fastening pins 17 which extend through the adjacent portion of the bar 13, by means of which said bar may be adjustably secured at different elevations to support the rear portion of the implement. The cross bars 7 and 9 are connected by parallel longitudinal brace bars 18 and 19, and the brace bars 8 and 9 are connected by cross brace bars 20 and 21, the parts being bolted or otherwise rigidly secured together to form an exceedingly strong and durable structure. An arcuate bracket 22 is secured to and arranged rearwardly from the rear cross projecting bar 8, and is provided with harrow teeth 23 to

loosen up the earth in the central line of draft of the implement at the middle of the roadway.

The foregoing description of the parts is the same as that shown in the aforementioned patent granted me, and I lay claim to this structure. One of the subject matters, however, of the present invention as before stated resides in the construction of the runner or bearing shoes. By reference now to Fig. 1, it will be seen that side bars 5, and also the longitudinal bars 18 and 19 are provided with bearings for the reception of a pair of transverse rock shafts 24 and 25. The outer ends of these shafts project beyond the sides of said side bars and carry downward and rearward curved runner shoes 26 and 27. The inner ends of the shafts extend to a point adjacent to the central line of the implement, and are provided with curved handles 28 and 29. With this construction it will be evident that the runner shoes 26 and 27 may be moved independently, and when the scraper is in operation the flat surfaces of the blades will rest squarely upon the road surface, and by turning one of the handles in one direction the rock shaft, to which the said handle is secured, will be rotated and the shoe secured to the rock shaft will be depressed, whereby that side of the frame will be elevated, or by moving both handles simultaneously both sides of the frame will be elevated.

The laterally extending portions of the curved handles are adapted to engage rack teeth or notches formed on the lower edges of a pair of locking bars 30 and 31 projecting forwardly from and pivotally connected with the longitudinal bars 18 and 19 and arranged in the rear of the shafts 24 and 25. By use of locking bars of this character the curved arms may be secured in any desired position of adjustment to hold the runner shoes from movement in their lowered po-

sition, or to sustain them in a variety of positions to adapt the scraper to be on the road surface and to hold the forward portion thereof wholly suspended above such surface.

The scraper blades are designated by the numerals 32 and 33, and are arranged in divergent relation to gather and bring the surface of the earth to the center of the roadway. The blades 32 and 33 follow the contour of the side bars, and adjacent to their forward ends are flexed inwardly and are parallel, as shown at 34 and 35. With this construction it will be manifest when the scraper is passing over the surface of the ground, by virtue of the parallel portions 34 and 35, lateral or swinging movement of the device will be prevented.

From the foregoing it will be seen that I have provided a device which is comparatively simple in structure, inexpensive to manufacture, embodying few parts, and these so arranged that the danger of derangement will be reduced to a minimum.

Having thus described the invention what I claim as new, is:—

A road grader and scraper comprising a triangular frame carrying divergent scraper blades, a pair of rock shafts journaled adjacent to the forward end of the frame, the outer ends of the said rock shafts projecting in advance of the outer faces of the blades and provided with curved runner shoes to travel over the surface of the ground, means for independently turning said shafts to vary the bearing of the runner shoes on the ground, and means for securing the rock shafts in adjusted position.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL RICHARDSON.

Witnesses:

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GEO. W. WALTERS.