(No Model.) 2 Sheets—Sheet 1.

J. M. BROOKS.

ROAD SCRAPER.

No. 481,160. Patented Aug. 23, 1892.

Fig. 1.

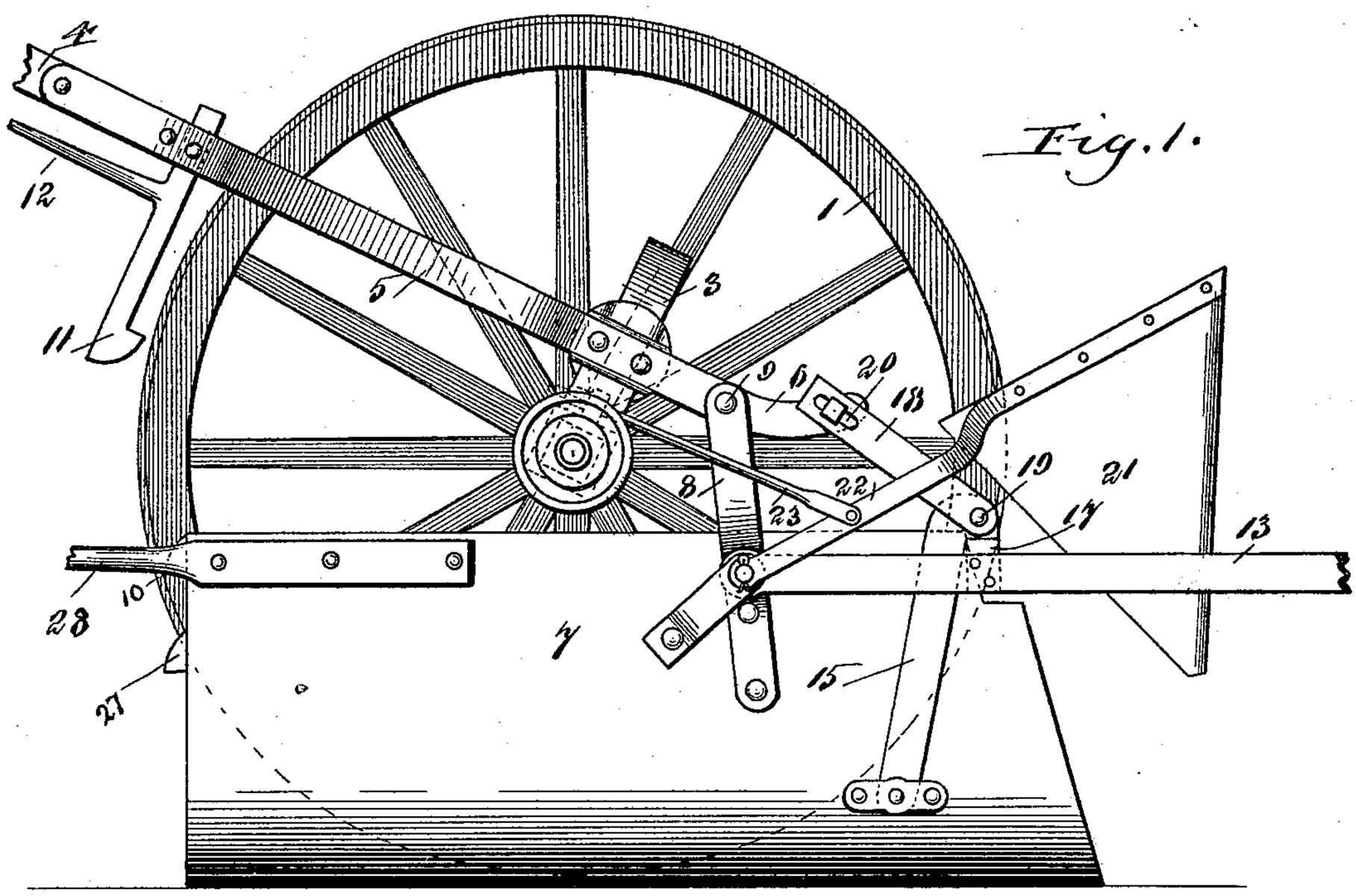
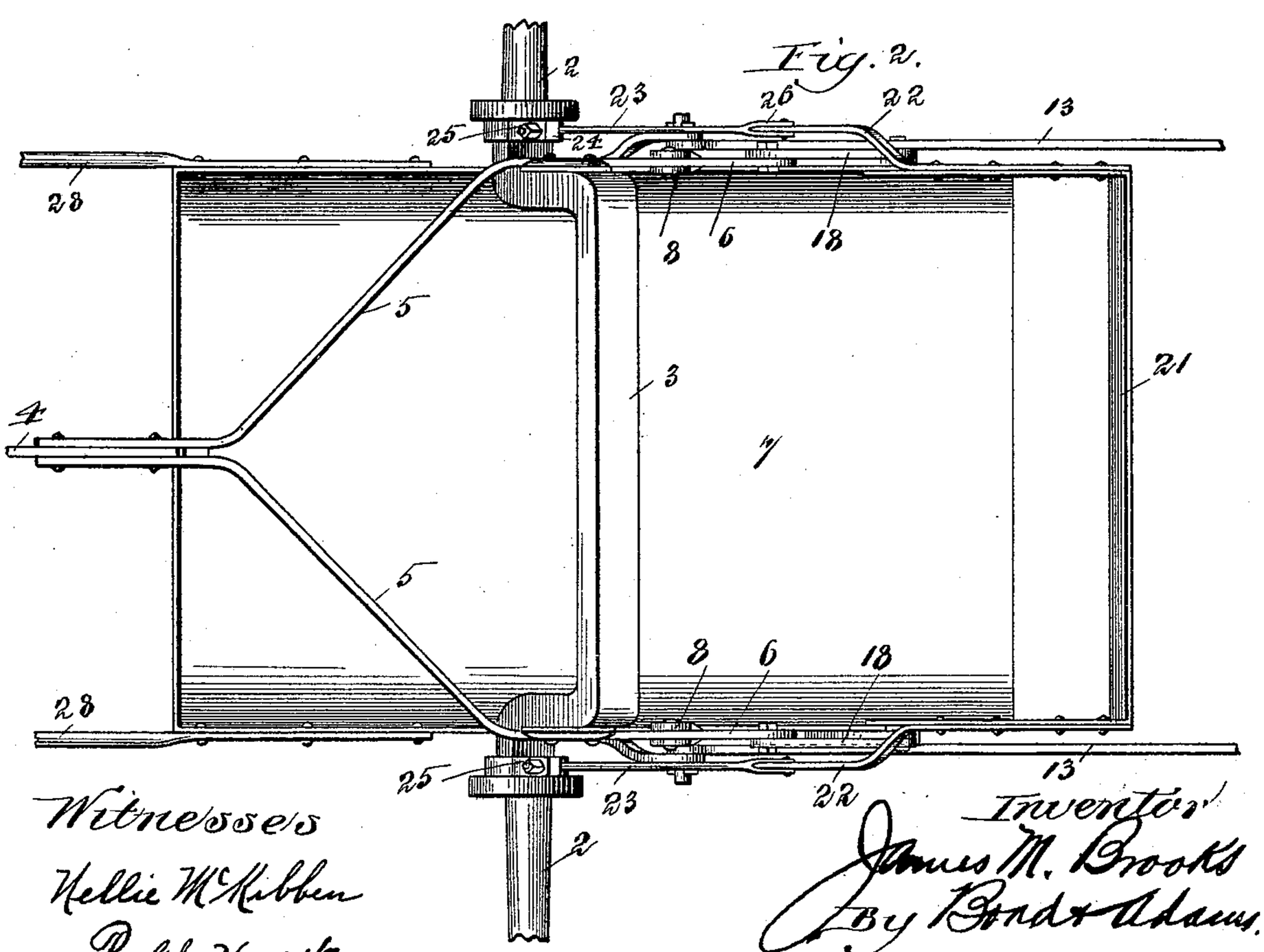


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

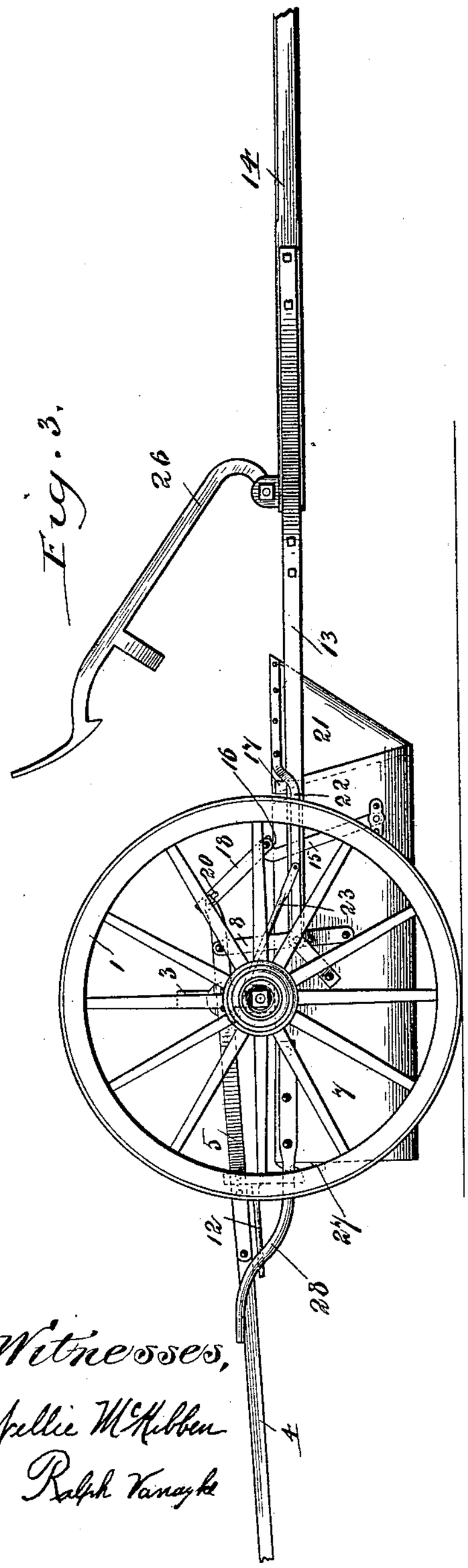
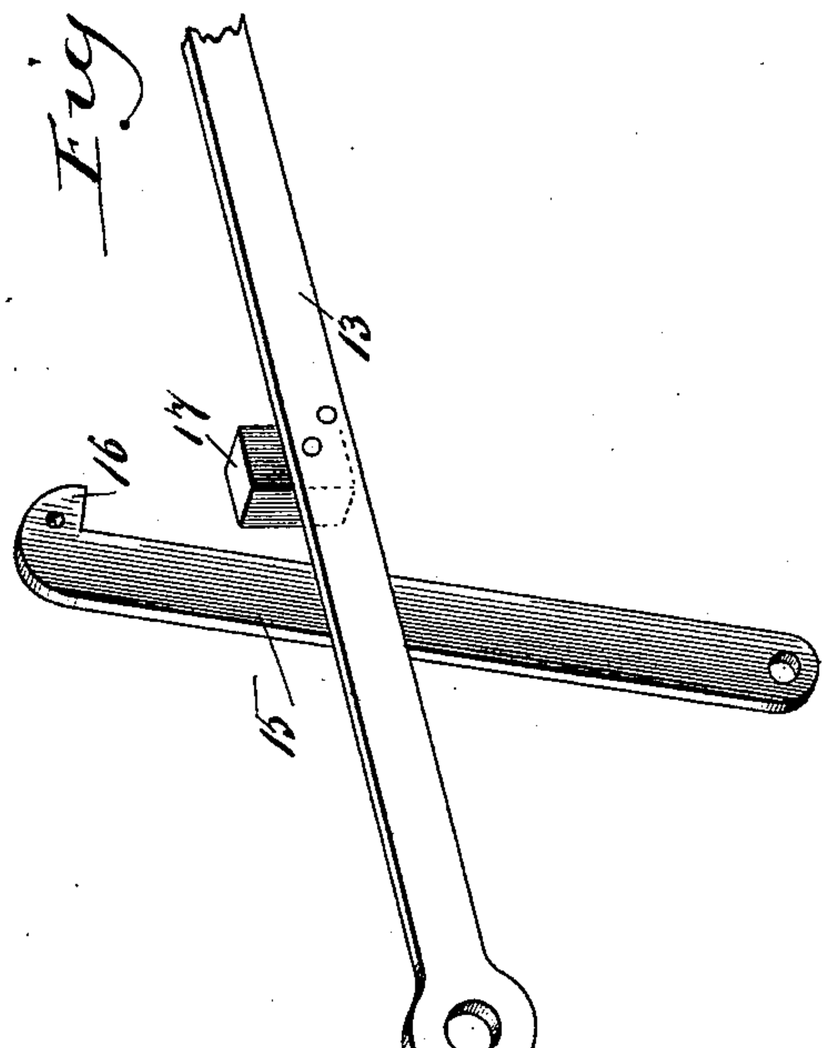


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES M. BROOKS, OF MOLENA, GEORGIA.

ROAD-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 481,160, dated August 23, 1892.

Application filed September 28, 1891. Serial No. 407,070. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. BROOKS, a citizen of the United States, residing at Molena, in the county of Pike, State of Georgia, have invented certain new and useful Improvements in Road-Scrapers, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation showing the scraper ready for loading. Fig. 2 is a top or plan view. Fig. 3 is a side elevation showing the scraper loaded, and Fig. 4 is an enlarged detail showing the devices for locking the scraper-pan in position when loaded.

My invention relates to road-scrapers, and more particularly to that class of scrapers in which the scraper-pan is carried on wheels and is adapted to be loaded by scraping the earth and is then used for transporting the earth to any point where it is desired to dump it.

The principal object of my invention is to provide new and improved devices for supporting the scraper-pan and for holding it in a horizontal position when loading, so that it will not readily tilt if it should strike an obstruction.

Another object of my invention is to provide improved devices for retaining the earth in the scraper after it has been loaded, so that it may be carried any desired distance and over more or less rough roads without danger of losing its load. I accomplish these objects as hereinafter specified, and as illustrated in the drawings.

That which I regard as new will be pointed out in the claims.

In the drawings, 1 indicates wheels which are used to carry the scraper-pan, which wheels may be either of wood or metal, as desired. They are journaled upon spindles 2, which are mounted upon the ends of an arched axle 3, as best shown in Fig. 2.

4 indicates the operating-lever, which is connected by means of arms 5 to the arch of the axle 3, as best shown in Fig. 1, the arms 5 being rigidly secured to the arched axle at about right angles to it, as shown. The arms 5 extend a short distance forward of the arched axle, forming extensions 6, to which various other portions of the lifting mechanism are secured. The extensions 6 are preferably curved upward at their ends, as shown.

7 indicates the scraper-pan, which may be of any desired pattern and is preferably made of steel, having a cutting-edge at its front end. The pan 7 is open at the front, so that it will be adapted to scrape up the earth as it is moved forward. The pan 7 is supported by means of standards 8, one of which is rigidly secured to each side of the pan 7 and projects upward and is pivoted at its upper end to the extension 6 of one of the arms 5, as best shown at 9 in Fig. 1. The standard 8 is of such length that when the lever 4 is raised to the position shown in Fig. 1 the scraper-pan will rest upon the ground. When the lever 4 is depressed to the position shown in Fig. 3, the arched axle 3 will be turned into a position more nearly in a vertical line with the spindles 2 and the standard 8 and pan will be elevated.

In order to support the rear end of the scraper-pan, it is provided with a lug 10, which is adapted to be engaged by a hook 11, which is pivoted at such a point to the lever 4 that when the lever is depressed the hook will engage the lug 10. A handle or arm 12 is provided upon the hook 11, whereby the hook may be thrown out of engagement with the lug when it is desired to raise the lever.

Instead of lugs, other suitable stops may be used.

13 indicates a draft-bail, the ends of which are connected to the scraper-pan at opposite sides, as best shown in Fig. 2. The front of the bail 13 is connected to a suitable tongue 14.

15 indicates bars, which are pivoted at their lower ends to the scraper-pan 7, one being placed at each side of the front end of the pan and on the outside of the pan. Each bar 15 is provided at its upper end with a hook 16, and each bar is made of such length that its hook 16 will be upon a level with or slightly higher than the arm of the draft-bail 13, which lies next to it. In order to prevent the bars 15 from being bent out of their proper position, they are placed between the side portions of the draft-bail and the side of the scraper-pan, as best shown in Fig. 1.

17 indicates lugs, which are secured to the draft-bail, one being placed at each side in

such position that it will be adapted to be engaged by the hooks 16 upon the upper ends of the bars 15, as best shown in Fig. 4.

18 indicates straps, one of which is placed at each side of the scraper-pan, each of which straps is connected at one end to the upper end of one of the bars 15 by pivots 19, and at its other end is pivoted to the end of one of the extensions 6 of the arm 5. By this construction when the lever 4 is depressed the upper ends of the straps 18 will be raised, throwing back their lower ends and the upper ends of the bars 15, thereby disengaging the hooks 16 from the lugs 17. The straps 18 are of such length that when the scraper-pan is resting on the ground in position for loading they will hold the hooks 16 on the upper ends of the bars 15 in engagement with the lugs 17. Tilting of the scraper-pan while it is being loaded will thereby be prevented, as the hooks 16 will then be in engagement with the lugs 17 and the bar 15 and standard 8 will act together to hold the pan 7 in a horizontal position.

21 indicates a sheet-metal hood, which is so shaped that it is adapted to fit over the front end of the scraper pan or box to close that end, so that when the scraper is loaded the dirt will be prevented from spilling. The hood 21 is pivoted by means of straps 22, secured to it at its upper edge, to the sides of the pan 7, the straps 22 being preferably pivoted to the sides of the pan upon the lower portion of the standards 8. The rear portions of the straps 22 are adapted to lie outside of the draft-bail and parallel with it when the hood 21 is lowered, and the forward portion of each of said straps is bent inward and slightly upward, so that the hood 21 will move within the draft-bail and will be supported by it, as the straps 22 will rest upon the upper edges of the draft-bail, as best shown in Fig. 3.

23 indicates connecting-rods, one of which is secured at its lower end to each strap 22 at a point between the pivot of the strap and the hood 21, and at the other end passes through a hole in a lug 24, cast or otherwise secured upon the inner portion of the axle 3, near the spindle 2. The rods 23 are adapted to move freely in the holes through which they pass, and are prevented from passing out of said holes by means of nuts or caps 25, which are secured upon their ends. The forward ends of the rods 23 are preferably forked, as shown in Fig. 2, to embrace the straps 22. The rods 23 are of such length that when the lever 4 is raised to the position shown in Fig. 1 the hood 21 will be raised sufficiently to expose the front end of the pan 7, so that the pan may be loaded. The nuts or caps 25 will then bear upon the lug 24 and the weight of the hood will then be supported by the rods 23. When the lever 4 is depressed to the position shown in Fig. 3, the scraper-pan will be allowed to swing backward sufficiently to allow the hood 21 to descend to the position shown in Fig. 3, when it will close the front portion of the scraper-pan. When the hood is in the position shown in Fig. 3, the lugs 24 will lie closer to the point where the rods 23 are connected to the straps 22, and the rods 23 will therefore move backward through the holes in the lugs 24 sufficiently to permit the hood 21 to rest in the position shown in Fig. 3.

26 indicates the usual front hook, which is pivoted at its lower end to the rear end of the tongue 14 and extends upward and backward and is adapted to engage a lug 27 on the rear end of the scraper-pan to hold the pan in a more or less perpendicular position when it is being returned for another load after being dumped.

28 indicates the usual handles on the rear end of the scraper-pan, by means of which the pan is operated.

In loading the scraper-pan the lever 4 is raised to the position shown in Fig. 1 and the pan will rest upon the ground and the hood 21 will be raised to expose the front of the scraper, as hereinbefore described. After the scraper has been loaded the lever 4 is depressed until the hook 11 engages the lug 10. The scraper-pan will thereby be raised from the ground sufficiently so that it will swing free from the ground and the hood 21 will be lowered so that it will close the front of the scraper and will be in the position shown in Fig. 3. The load may then be carried any desired distance, as the hood 21 will effectually prevent it from spilling.

The scraper is dumped in the usual manner by raising the lever 4 until the front edge of the scraper-pan engages the ground. The scraper will then be drawn to an inverted position by the team. The hood 21 remains supported by the draft-bail as the scraper is dumped and while the pan is in an upright position, and is returned to its elevated position when the pan is lowered to a horizontal position and the lever 4 is raised, as hereinbefore described.

That which I claim as new, and desire to secure by Letters Patent, is—

1. In a wheeled scraper, the combination, with a carriage having an arched axle and a lever adapted to tilt said arched axle, of a scraper-pan suspended from said lever, a hood adapted to fit over the front end of the scraper-pan, hood-supports pivotally connected with the scraper-pan, and devices connecting the hood to the arched axle, whereby the hood will be operated by the tilting of the arched axle to cover or uncover the front of the scraper-pan, substantially as and for the purpose specified.

2. In a wheeled scraper, the combination, with a carriage having an arched axle and a lever adapted to tilt said arched axle, of a scraper-pan suspended from said lever, a hood adapted to fit over the front end of the scraper-pan, hood-supports pivotally connected to the scraper-pan, and devices connecting the hood to the arched axle, whereby said hood will

be automatically lifted from the scraper-pan when the arched axle is tilted forward and lowered in front of the pan when the axle is moved to an approximately perpendicular position, substantially as described.

3. The combination, with a carriage having an arched axle and a lever rigidly secured to the downwardly-extending portion of the arched axle, of a scraper-pan swung from said lever and adapted to be lowered to rest upon the ground by elevating the lever and to be lifted from the ground by the depressing of the lever, a hood adapted to fit over the forward portion of the scraper-pan, straps pivotally connecting the hood to the scraper-pan, and devices connecting the hood to the arched axle, whereby said hood will be automatically lifted from the scraper-pan when the lever is elevated and to be lowered to its position over the front of the scraper-pan when the lever is depressed, substantially as and for the purpose specified.

4. The combination, with a carriage having an arched axle and a lever 4, having arms 5, rigidly secured to the downward-extending portion of said arched axle, said arms having forward extensions, of a scraper-pan pivotally swung from said extensions, a hood adapted to fit over the forward end of said scraper-pan, straps pivotally connecting said hood with the sides of the scraper-pan, and means for connecting said straps to the arched axle, whereby the hood will be lifted when the lever 4 is elevated and will be lowered when the lever 4 is depressed, substantially as described.

5. The combination, with a carriage having an arched axle and a lever rigidly secured to the downward-extending portion of said arched axle, of a scraper-pan pivotally swung from said lever, a hood adapted to fit over the forward end of said scraper-pan, straps pivotally connecting said hood with the sides of the scraper-pan, and rods connected at one end to said straps and at the other end movably connected to said arched axle, the arrangement being such that when the lever is elevated the hood will be raised and when the lever is depressed the hood will be lowered to its position over the front of the scraper-pan, substantially as described.

6. The combination, with a carriage having an arched axle and a lever secured to said arched axle, of a scraper-pan pivotally swung from said lever, draft-bail connected to the sides of said scraper-pan, a hood adapted to fit over the front portion of the scraper-pan, straps pivotally connecting said hood with the sides of the scraper-pan, said straps being of such shape that the forward portions will rest upon the draft-bail, whereby the weight of the hood will be supported by the draft-bail, and devices for raising and lowering said hood, substantially as described.

7. The combination, with a carriage having an arched axle and a lever 4, having arms 5, rigidly secured to the downwardly-extending portion of said arched axle, said arms having forward extensions 6, of a scraper-pan 7, pivotally swung from said extensions 6, a hood 21, adapted to fit over the forward end of said scraper-pan, straps 22, pivotally connecting said hood with the sides of the scraper-pan, rods 23, connected at one end to the straps 22 and at the other end passing through holes in lugs 24 upon the arched axle, said rods being adapted to move freely in said holes, and nuts 25 upon the ends of said rods to prevent the rods moving out of said holes, substantially as and for the purpose specified.

8. The combination, with a carriage having an arched axle and a lever secured to said arched axle, of a scraper-pan pivotally swung from said lever, straps 15, pivotally secured at their lower ends to the sides of the scraper-pan and having hooks 16 at their upper ends, a draft-bail having lugs 17 thereupon adapted to be engaged by the hooks 16, and straps 18, connecting the upper ends of the straps 15 with said lever and so adjusted that when the lever is raised the hooks 16 will engage the lugs 17 and when the lever is depressed the hooks will be withdrawn from engagement with the lugs, substantially as and for the purpose specified.

9. The combination, with a carriage having an arched axle and a lever 4, having arms 5, secured to said arched axle, each of said arms having a forward extension 6, of a scraper-pan, standards 8, secured at their lower ends to said pan and at their upper ends pivotally secured to the extensions 6, straps 15, pivotally secured at their lower ends to the sides of the scraper-pan and having hooks at their upper ends, a draft-bail 13, having lugs 17, adapted to be engaged by the hooks 16, and straps 18, connecting the upper ends of the straps 15 with the extensions 6, said straps 18 being so adjusted that when the lever 4 is raised the hooks 16 will engage the lugs 17 and when said lever is depressed the hooks 16 will be withdrawn from engagement with the lugs 17, substantially as and for the purpose specified.

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Witnesses:
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