

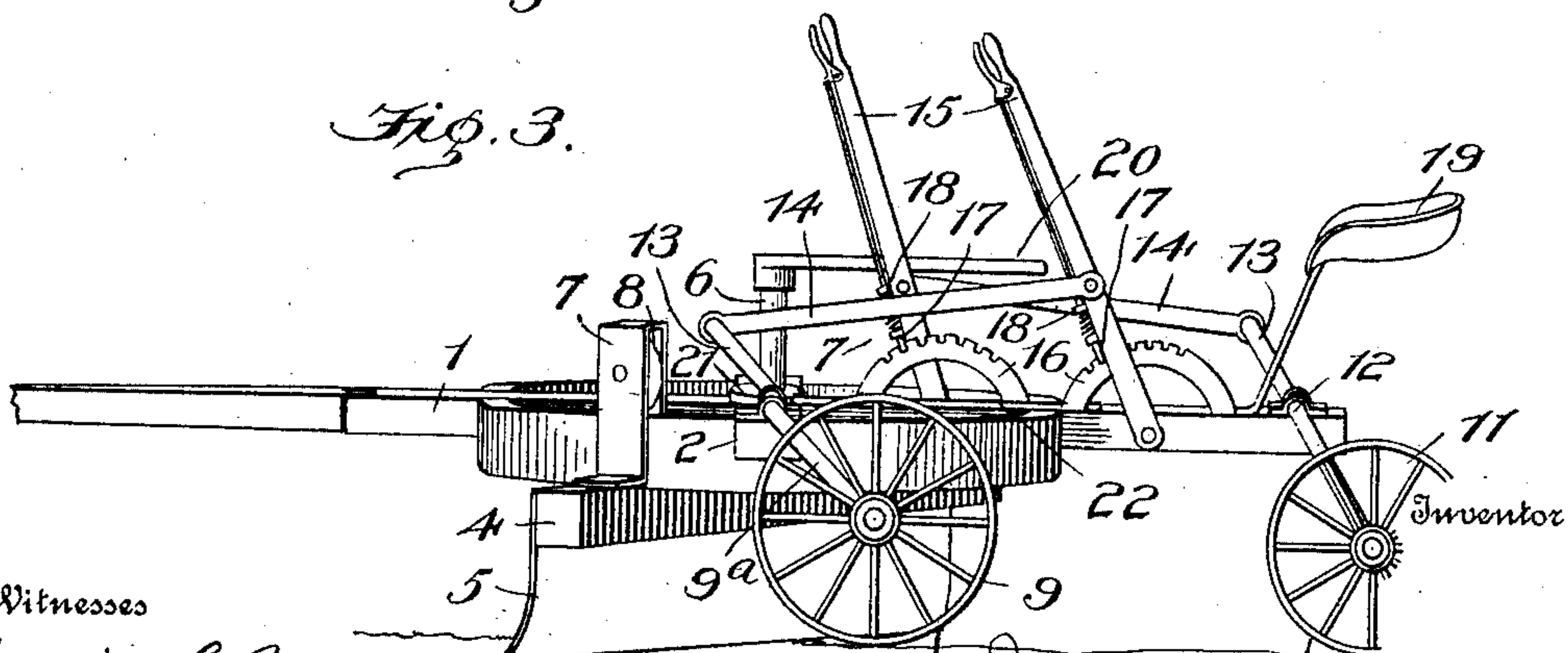
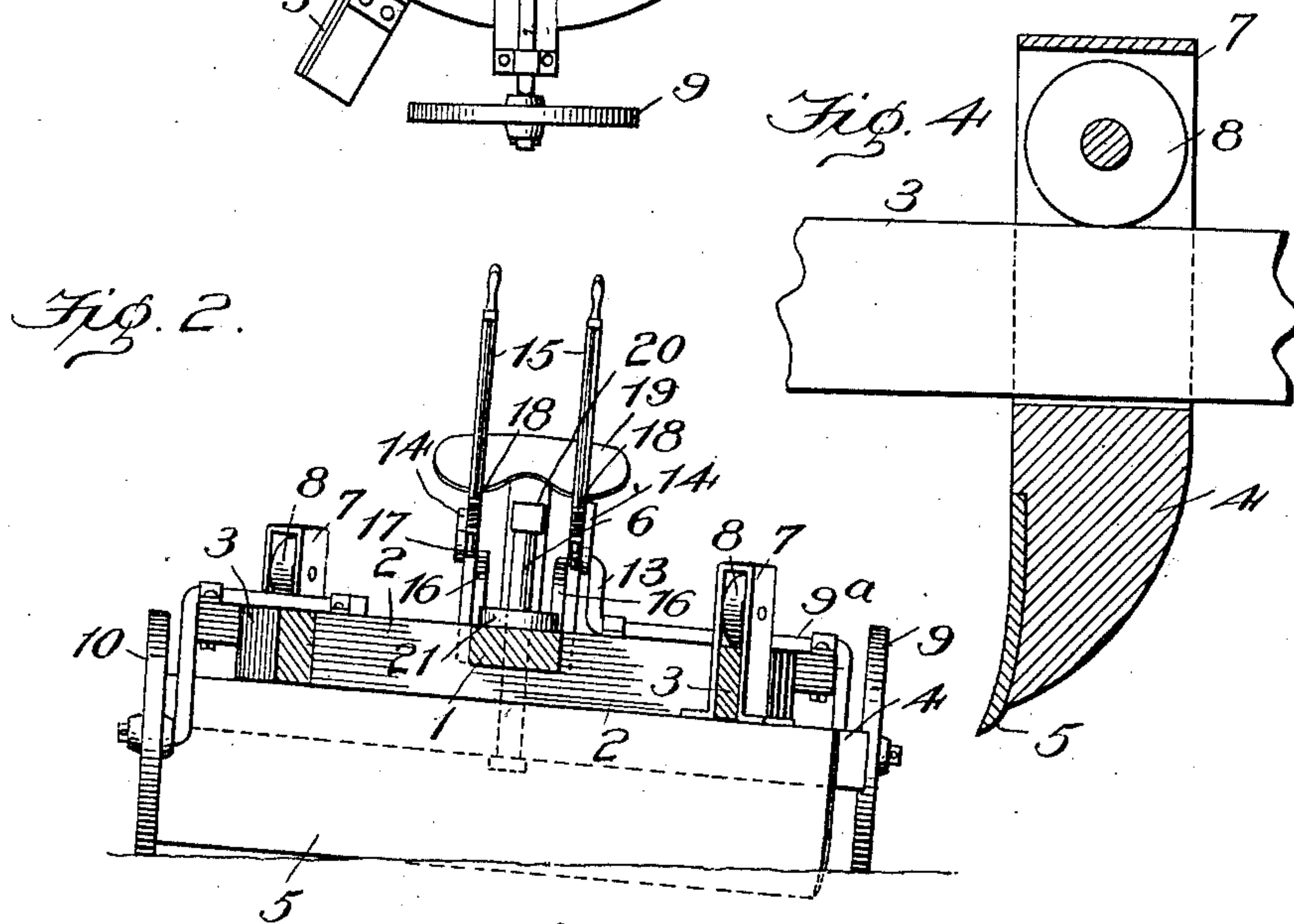
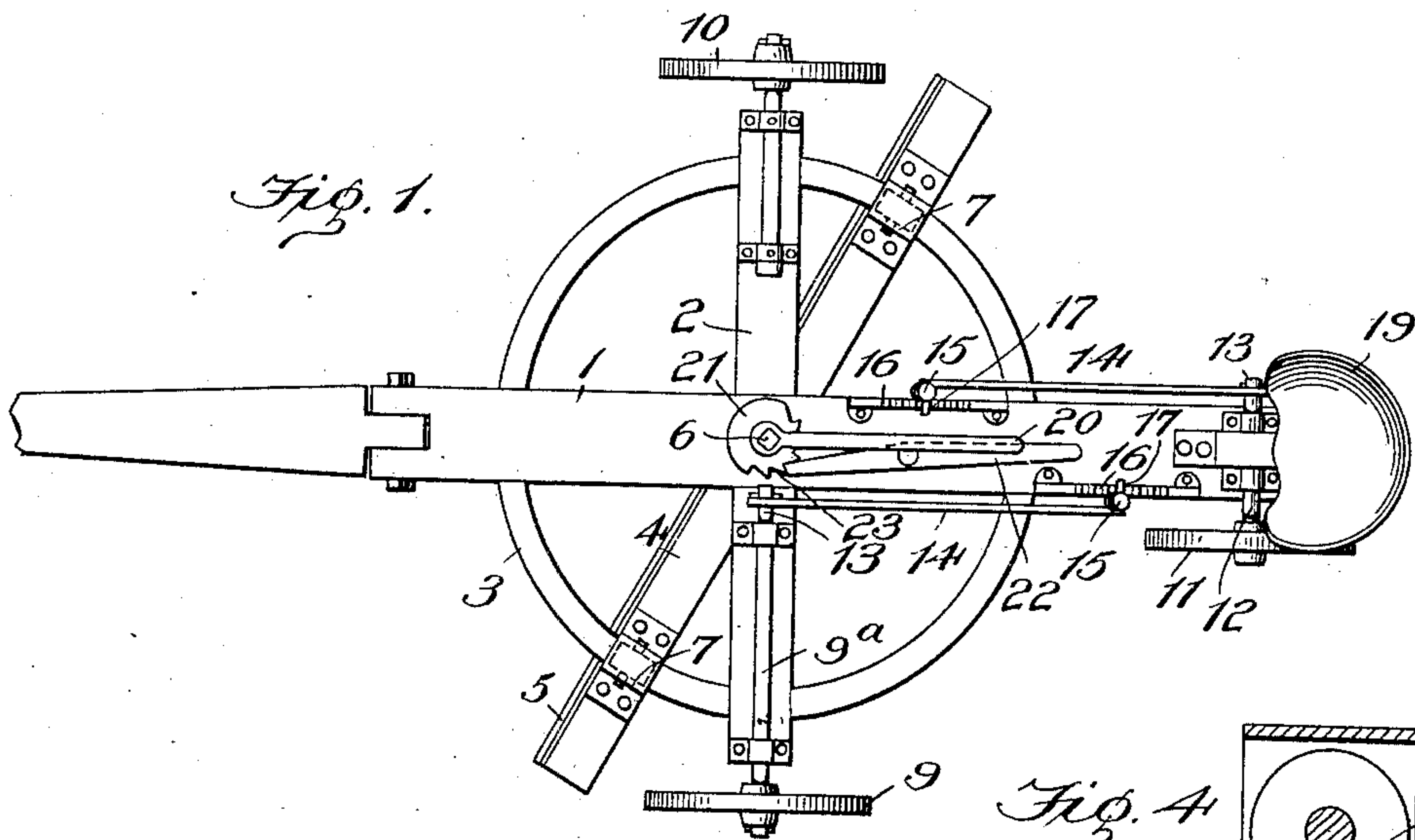
No. 840,075.

PATENTED JAN. 1, 1907.

L. MATTHEWS.

ROAD GRADER.

APPLICATION FILED JULY 31, 1908.



Witnesses

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UNITED STATES PATENT OFFICE.

LUTHER MATTHEWS, OF PARIS, TENNESSEE.

ROAD-GRADER.

No. 840,075.

Specification of Letters Patent.

Patented Jan. 1, 1907.

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To all whom it may concern:

Be it known that I, LUTHER MATTHEWS, a citizen of the United States, residing at Paris, in the county of Henry and State of Tennessee, have invented certain new and useful Improvements in Road-Graders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to wheeled road-graders with oblique grading-blade and annular carrier therefor; and my improvement resides in novel means for mounting the oblique grading-blade beam whereby it is supported and its oblique adjustment is readily effected; and in the claims appended hereto I will specifically set out the construction involving my improvement in connection with the accompanying drawings, in which—

Figure 1 is a top view of my improved road-grader. Fig. 2 is a vertical section showing the manner of mounting the grading-blade beam. Fig. 3 is a side view showing the wheeled frame adjusted to set the grading-blade beam upon the surface. Fig. 4 shows the roller-bearing in the grader-beam mounting.

The frame comprises a longitudinal draft-beam 1, to the front end of which the tongue is pivotally connected, a cross-beam 2, and a circular carrier 3 for the blade-beam and connecting the longitudinal and cross beams, the intersection of which is central with the circular carrier. The grader-beam 4 is of suitable construction to provide a steel scraping-blade 5, and it is mounted by a post 6, which passes through and is supported in bearings at the intersection of the longitudinal and cross beams, and it is on this post that the blade-carrying beam is turned horizontally to adjust and set it to the desired oblique position in its relation to the draft-line to give its blade the scraping action suited to the condition of the road-surface. The grading-beam preferably has a length greater than the diameter of its circular carrier and has a guide-yoke 7, fixed to and rising from its upper edge at each end and which embraces the circular carrier. These guide-yokes are each provided with a bearing-roll 8, which rests upon the upper edge of said circular carrier, and on these two roll-bearings the grader-beam is supported and rendered of easy adjustment and relieving there-

by all strain and the weight of the beam upon its central post. The frame is mounted upon a pair of side wheels 9 10, one of which, 9, is mounted on a crank-axle 9^a, fixed on the cross-beam, while a rear supporting-wheel 11 is mounted on a crank-axle 12, fixed on the rear end of the longitudinal beam. On these crank-axes the frame is adjusted to set the grader-blade to cut the desired depth in the ground and to support it above the ground in going from place to place out of use by means which I shall now state. Each crank-axle has an inner crank-arm 13, to which a horizontal rod 14 is connected, the rod of the center crank-axle extending rearward and the rod of the rear crank-axle extending forward, each rod connected to a shifting-arm 15, pivoted to and rising from each side of the longitudinal beam. At the pivoted end of each shifting-arm the beam has a rack 16, and each shifting-arm has a dog 17, movable in guides 18 on the arm and adapted to engage the rack, so that by disengaging the dog from the rack and setting the shifting-arm forward or backward from a vertical position will cause the crank-axle to be deflected from a vertical position and set the frame and its grader-beam down to a working position. It will be noted that only one of the side wheels is adjustable, and the purpose of this is to set the scraper-beam lower at one end than at the other, so that the grading will be made to give the crown form to the road. The shifting-arms are within reach of the rider, whose seat 19 is mounted on the rear end of the draft-beam.

The grader-beam is free to swing on its center post and suspending roll-bearings, so that it may be easily turned or swung in either direction to set it to the desired oblique angle, and the upper end of the post is provided with a crank 20, by which to turn it. To lock the grader-beam when set, its center post has a fixed circular toothed plate 21 on the top of the draft-beam, and a pawl 22, pivoted on the beam, engages the teeth 23 and locks the beam, so that the pawl need only be disengaged from the teeth to allow the grader-beam to be turned by the crank, and as the beam-carrier is concentric with the center post the beam-suspending rolls travel on the top of the circular member of the frame and is suspended thereon by the rolls, as in Fig. 4.

Referring to Fig. 2, it will be noticed that one of the frame-supporting wheels is by its

crank-shaft rendered adjustable, and it is by such adjustment that one end of the scraper-blade is raised and lowered. It is lowered to cause that end of the scraper to cut into the ground, while the non-adjustable supporting-wheel normally maintains the other end of the scraper-blade from cutting into the ground, and this lessens the draft of the scraper and by its oblique position causes the earth to be pulled from the lower to the higher end of the scraper. When not at work, the lower end of the scraping-beam is raised to bring its scraping edge horizontal and above the ground.

I claim—

1. In a road-grader, a frame having a circular member, a grading-beam having a post by which it is mounted in the frame centrally of its circular member, guide-hangers rising from the ends of the beam, bearing-rolls mounted in the hangers and supported on said circular frame member, and means on the frame for locking the beam when set.

2. In a road-grader, a frame having a circular member, a grading-beam having a post by which it is mounted in the frame centrally of its circular member, guide-hangers rising from the ends of the beam, bearing-rolls

mounted in the hangers and supported on said circular frame member, a circular toothed plate fixed on the center post at the top of the frame, and a pawl pivoted on the frame for engaging and locking the grading-beam when set.

3. In a road-grader and in combination with the oblique grading-beam, a pair of side supporting-wheels one of which is mounted on an adjustable crank-axle, a supporting-wheel mounted on a crank-axle at the rear of the frame and means connecting and adjusting said crank-axles for raising and lowering the frame and the grading-beam.

4. In a road-grader, a frame having a circular member, supporting-wheels for said frame, a grading-beam, hangers for suspending it upon the circular frame member, means for obliquely adjusting it upon said circular frame member, and means for fixing said grader-beam in its adjusted position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LUTHER MATTHEWS.

Witnesses:

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