

No. 829,605.

PATENTED AUG. 28, 1906.

J. E. RIDINGS.
ATTACHMENT TO ROAD GRADING MACHINES.

APPLICATION FILED FEB. 19, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

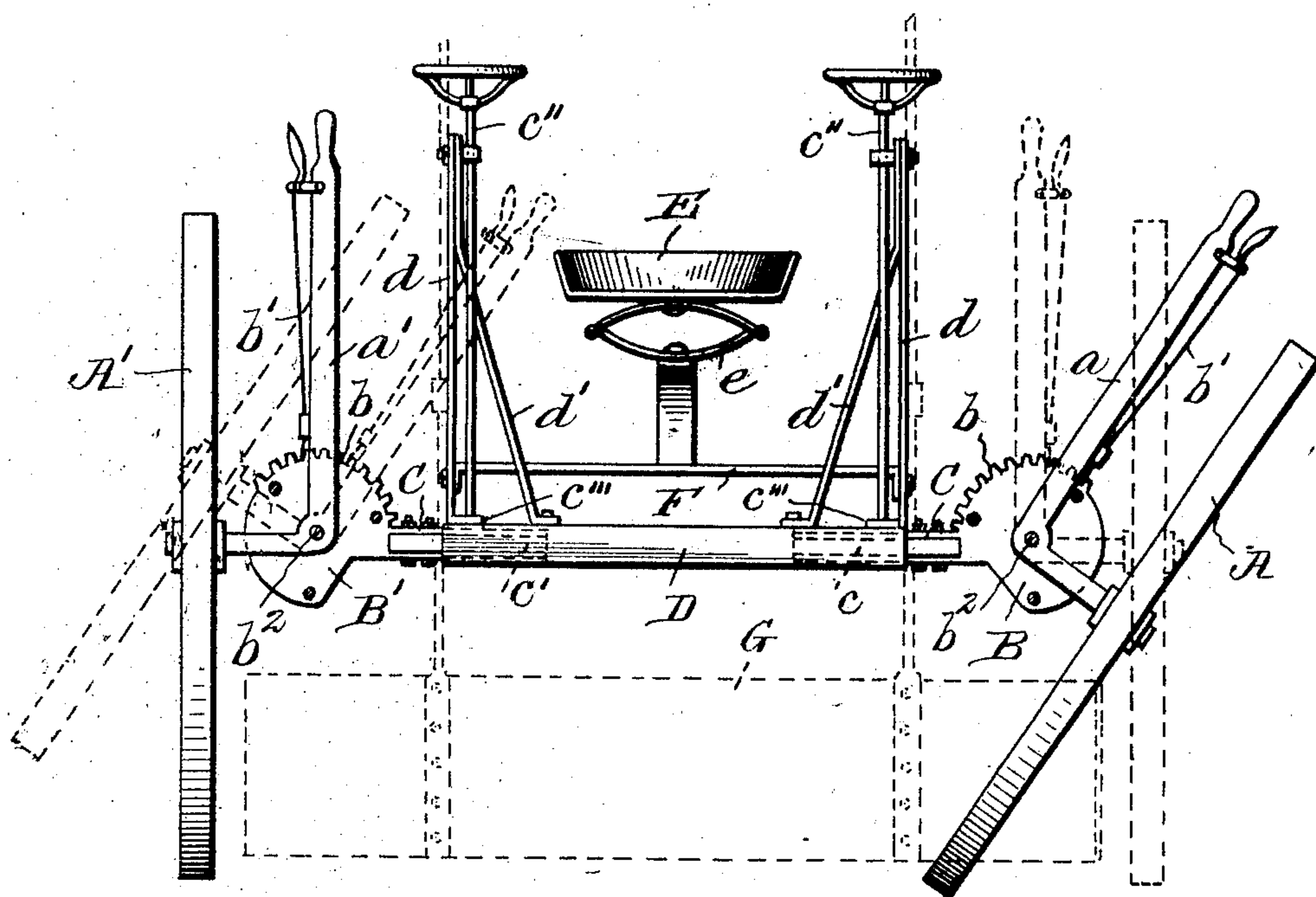
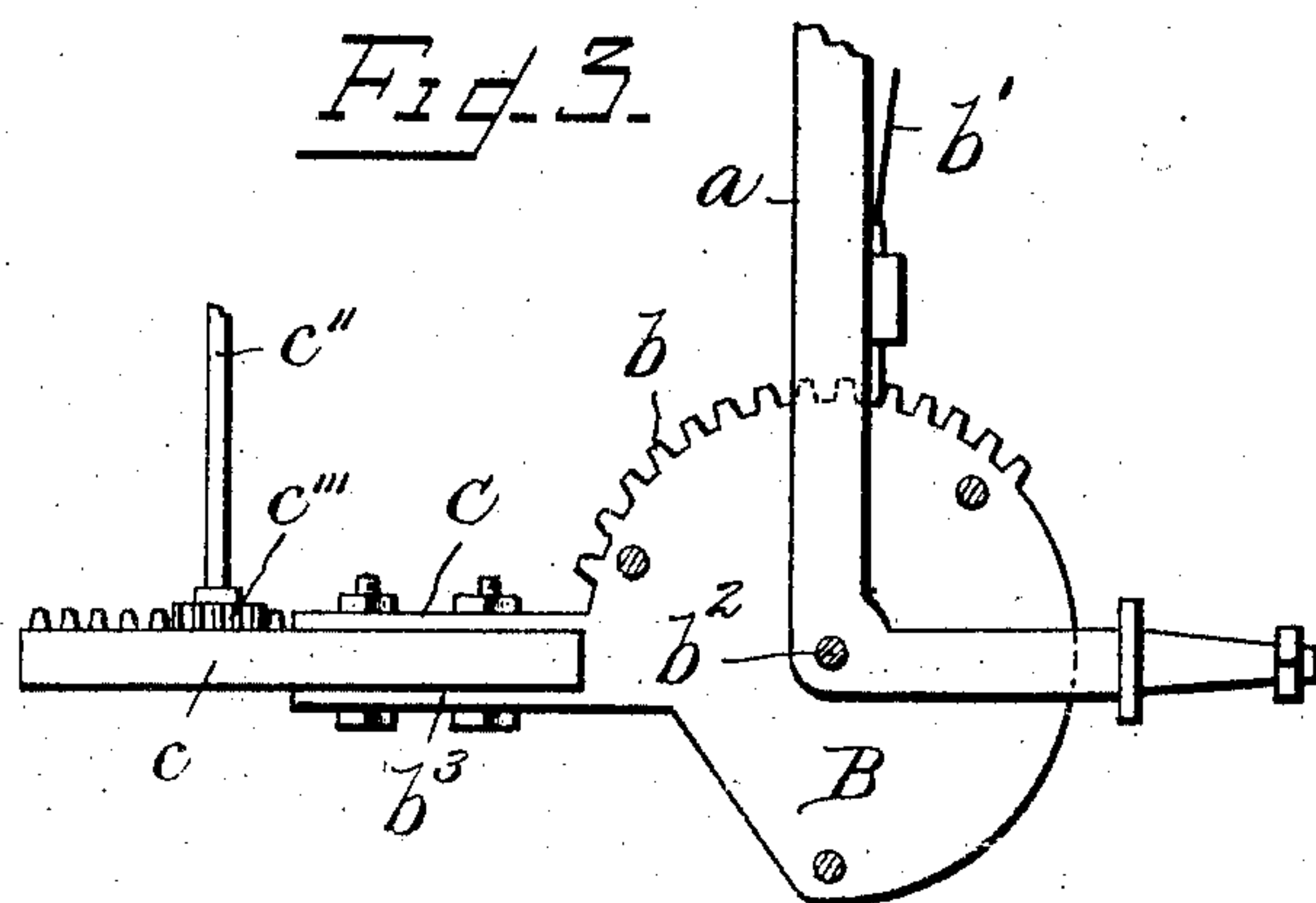


Fig. 3.



WITNESSES.

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2 SHEETS—SHEET 2.

Fig. 2.

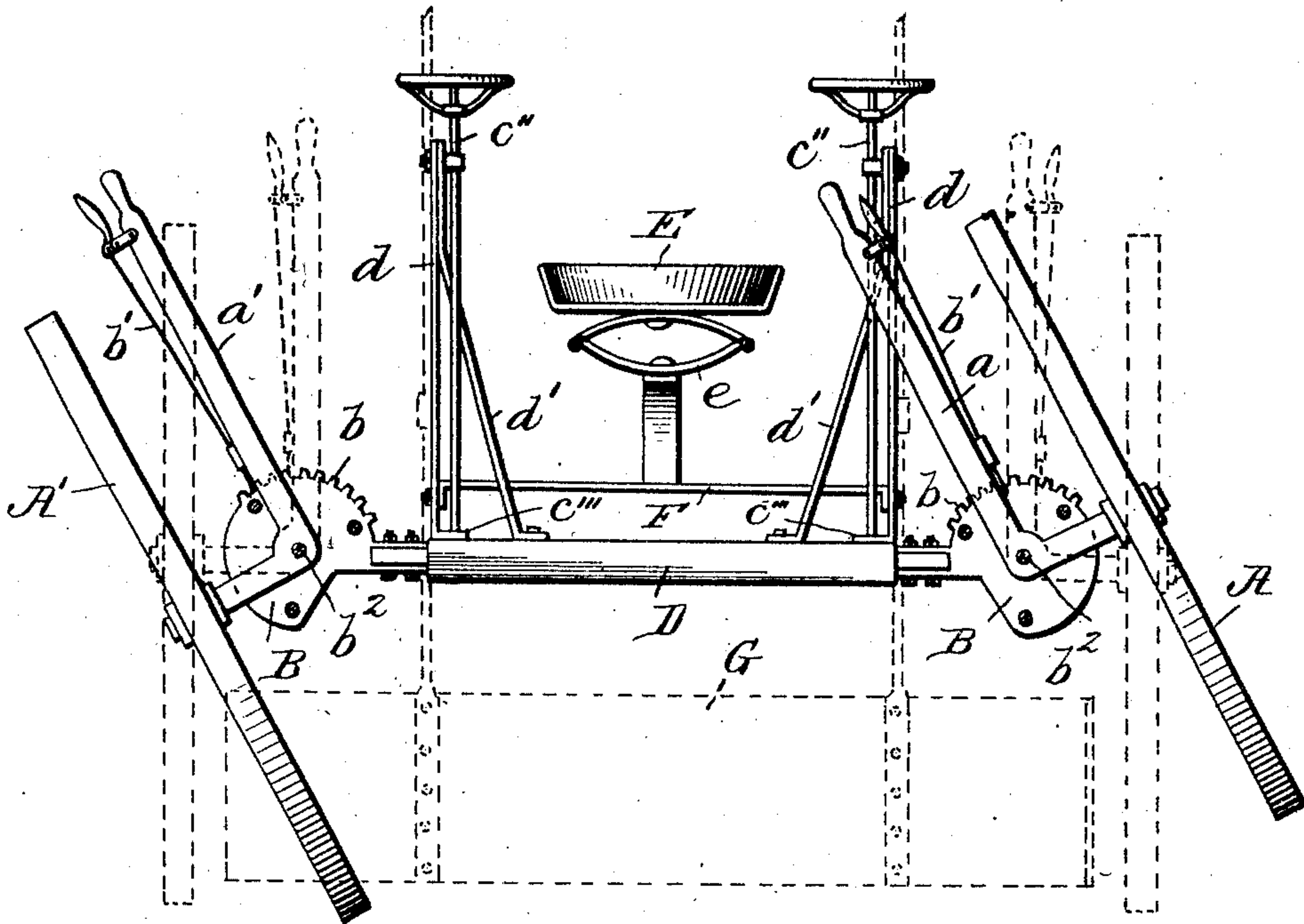
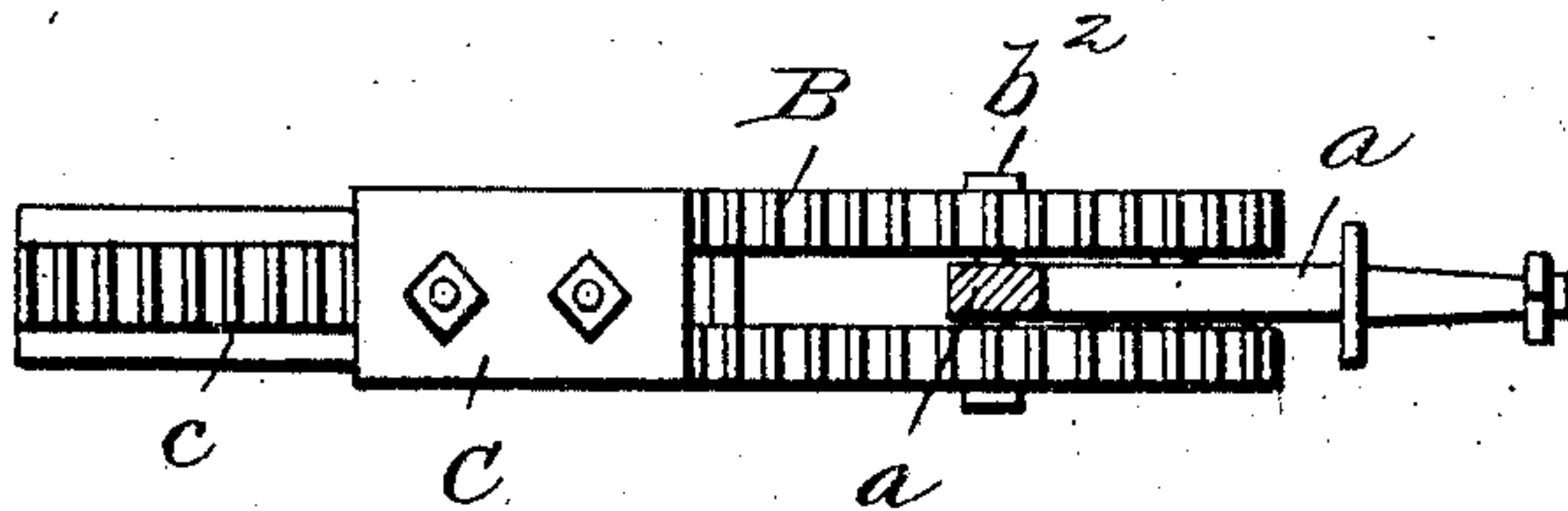


Fig. 4.



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UNITED STATES PATENT OFFICE

JAMES EDWIN RIDINGS, OF SALINA, KANSAS.

ATTACHMENT TO ROAD-GRADING MACHINES.

No. 829,605.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed February 19, 1906. Serial No. 301,791.

To all whom it may concern:

Be it known that I, JAMES EDWIN RIDINGS, a citizen of the United States, residing at Salina, in the county of Saline and State of Kansas, have invented new and useful Improvements in Road-Grading Machines, of which the following is a specification.

My invention relates to attachments to road-grading machines, which will be hereinafter more fully described, illustrated in the drawings, and particularly pointed out in the claims.

One object of my invention is to provide an attachment for any road-grading machine which will hold the grader, plow, or scraper in proper position no matter what the inclination of the ground may be.

A further object of my invention is to provide an attachment for grading-machines which may be successfully used on any of the grading-machines now in use for grading roads or streets, digging ditches, or forming dikes.

A still further object of my invention is to provide an attachment for grading-machines and the like which shall be simple in construction in all of its parts, durable and reliable in operation, and readily repaired.

I attain these objects by the attachment shown in the accompanying drawings, forming a part of this application, in which like letters refer to similar parts, and in which—

Figure 1 represents a rear view of my attachment in connection with a grading-machine of ordinary construction, partly in dotted lines, with the right wheel shown in full lines at an angle to the machine and in dotted lines in a vertical position, the left-hand wheel being shown in full lines in a vertical position, but in dotted lines at an angle to the machine. Fig. 2 represents my attachment in connection with an ordinary road-grading machine, partly in dotted lines, with both wheels set at an angle to the machine, but in proper vertical position in dotted lines. Fig. 3 represents a detail view of the sectors, the bell-crank-lever axle, and spindle, the lever being partly broken away. Fig. 4 represents a top plan view of the movable sectors, the axle and spindle, and adjusting-gears.

This attachment, as heretofore stated, may be and is intended to be used with the road-graders now in use or with any other graders which may be constructed. Its construction is such that the wheels may either or both be set at any required angle inde-

pendently of each other or on the same line of inclination, thus accommodating itself to any and every inclination of the ground and so that the dirt may be thrown to the right or left, as desired. When applied to a new grader, it may be readily applied thereto without difficulty, as the connecting parts, as shown, can be constructed and adapted to each other. When it is applied to an old grading-machine, the axle may be cut off at the ends and the attachment secured thereto without further change.

If the construction of the old machine is such that the bell-crank lever may come in contact with or interfere with any parts of such machine, said levers may be bent or shortened so as to obviate such difficulty without inconvenience or detriment. By this it should be understood that this attachment may be made a part of an entirely new machine, and thus constitute an integral part of the same or it may be applied to an old machine as an addition thereto or be substituted for some other device.

Referring now to the drawings, A is the right-hand wheel, and A' the left-hand wheel. These wheels revolve on the spindles of the bell-crank-lever axles *a* and *a'*. These lever-axles *a a'* are pivoted to sectors B and B', which are cast in the form shown in Figs. 1, 2, and 3 and are provided on their upper edges with teeth or cogs *b b'*, by which they are held in any desired position by the spring-actuated dogs *b' b'* for purposes hereinafter explained. These sectors are cast in pairs and are double-walled and bolted together, forming spaces between them for the movements of the lever-axles *a a'*, which are pivoted thereto by bolts *b'' b''*. On the inner ends of said sectors projections *b''' b'''* are cast to form boxes or chambers C for the reception and movement of sliding bars *c c'*, as shown in Fig. 1.

D is a box or chamber in which the sliding bars *c c'* move. The box D may be a part of a new machine or may be a part of this attachment to an old machine. As shown in the drawings, it is a part of a new machine on which the rods and braces *d d'* rest and are bolted. E is the driver's seat—a part of the machine—having a spring *e* and supported by a cross-bar F, secured to rods *d d'*.

Below the box D the scraper G is shown in dotted lines. This scraper may be of any preferred form and may be located at any desired position under the grader. Proper

mechanism will be provided for raising and lowering the scraper or other device; but as that is not a part of my invention I will not describe or illustrate it.

5 In the operation of my attachment the wheels A A' may be set, as shown in Figs. 1 and 2, to throw the dirt to the right or left, as desired. To do this, the bell-crank-lever axles *a a'* are simply thrown to the right or
10 left. As the wheels are independently adjustable, the right wheel may be thrown to the right and the left wheel remain in a vertical position, or both wheels may be thrown in the same direction. The wheels in like
15 manner may be thrown in opposite directions, as in digging a ditch or dike. The wheels A and A' may also be caused to take a wider or narrower tread by moving the bars *c* and *c'* by the use of the turning-rods *c'' c'''*
20 and the gears *c''' c'''* to move them inward or outward. This will bring the wheels A and A' closer together or spread them apart, as necessity or convenience may require. When the right or left wheel is thrown to the right
25 or left, as shown in Fig. 1, the grader may be successfully used against steep banks of earth or on rough or hilly places. Many other advantages in excavating-work might be mentioned.

30 Having thus fully described my invention and its operation, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a road-grading machine, of a two-wheeled attachment, hav-
35 ing wheels on opposite sides of the same, adjustable at different angles, jointly or independently, and means for adjusting the same substantially as described.

2. In an attachment for road-grading machines the combination with two adjustable wheels, of bell-crank-lever axles, pivoted to toothed sectors secured to said grading-machine, and means for locking said wheels in predetermined adjustments, substantially as described. 45

3. In an attachment for road-grading machines the combination with two double-walled toothed sectors on opposite sides of said attachment, of a common box, and bars, moving in said box, secured to said sectors
50 and means for moving said bars toward and from each other, substantially as described.

4. In an attachment for road-grading machines the combination with independently-adjustable wheels, of two bell-crank-lever
55 axles, two double-walled sectors, a box common to said sectors, bars sliding in said box connected to said sectors, and means for operating and locking the bars in place, substantially as described. 60

5. As an article of manufacture, an attachment to road-grading machines comprising two independently-adjustable wheels revolving on separately-adjustable spindles forming parts of separate axles operated by
65 separate bell-crank levers, pivoted to separate double-walled sectors, connected to bars moving in a common box to give a narrow or wider tread to the wheels and means to operate said bars, substantially as described. 70

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

JAMES EDWIN RIDINGS

Witnesses:

FRED F. EBERHARDT,
JNO. E. RYBERG.