

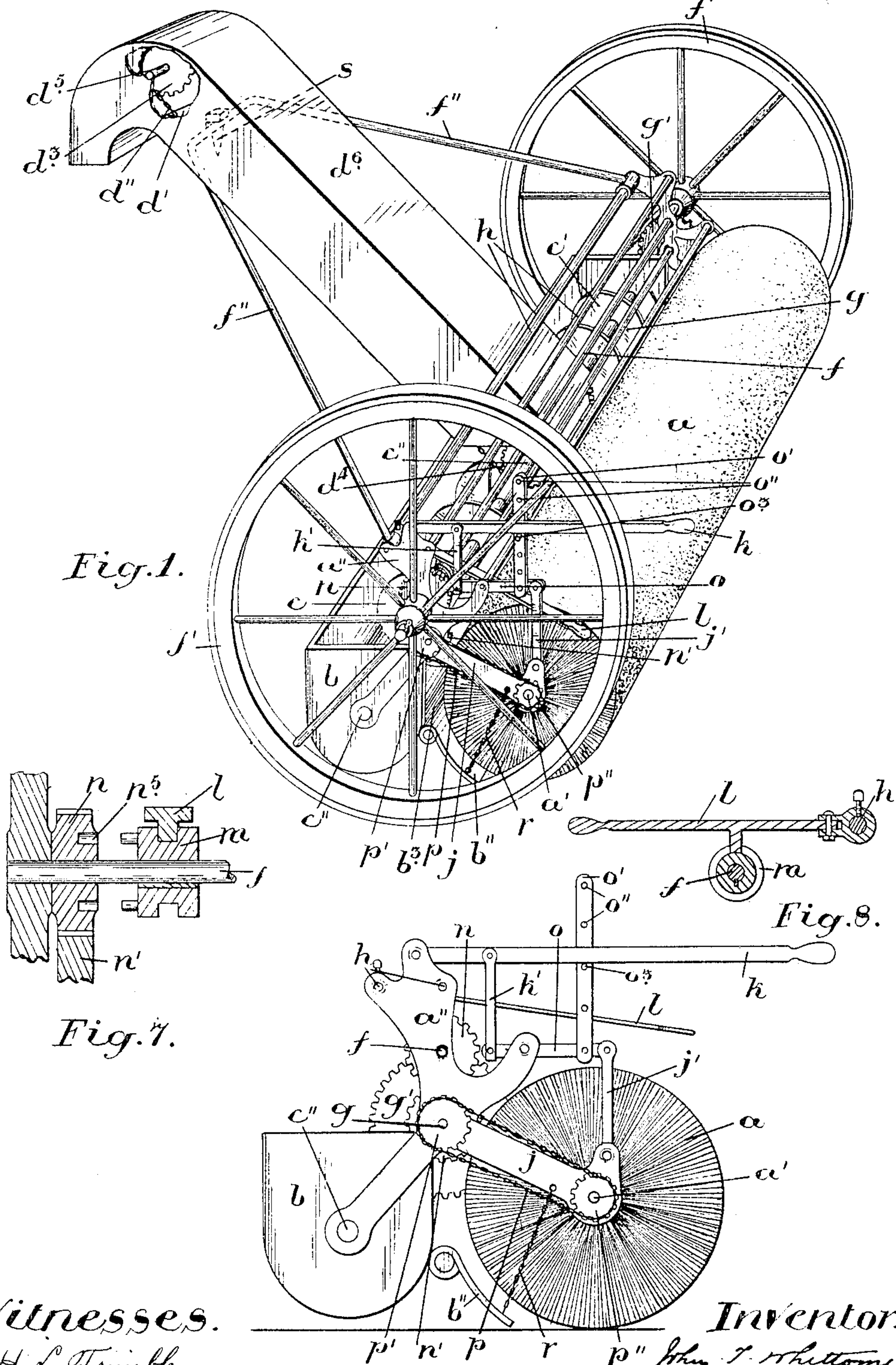
No. 799,126.

PATENTED SEPT. 12, 1905.

J. T. WHITTOME.  
COMBINED STREET SWEEPER AND COLLECTOR.

APPLICATION FILED JULY 16, 1903.

3 SHEETS—SHEET 1.



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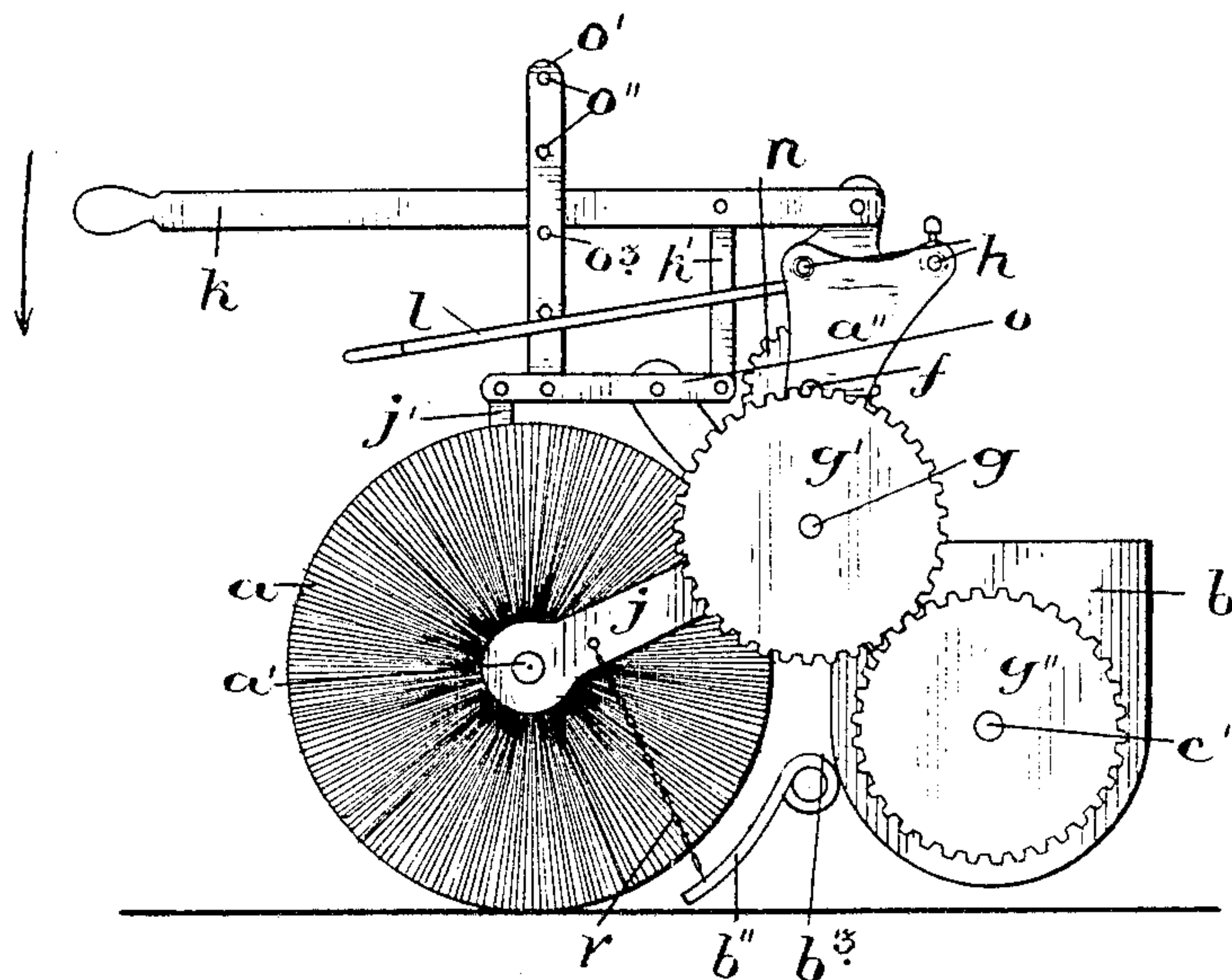


Fig. 4.

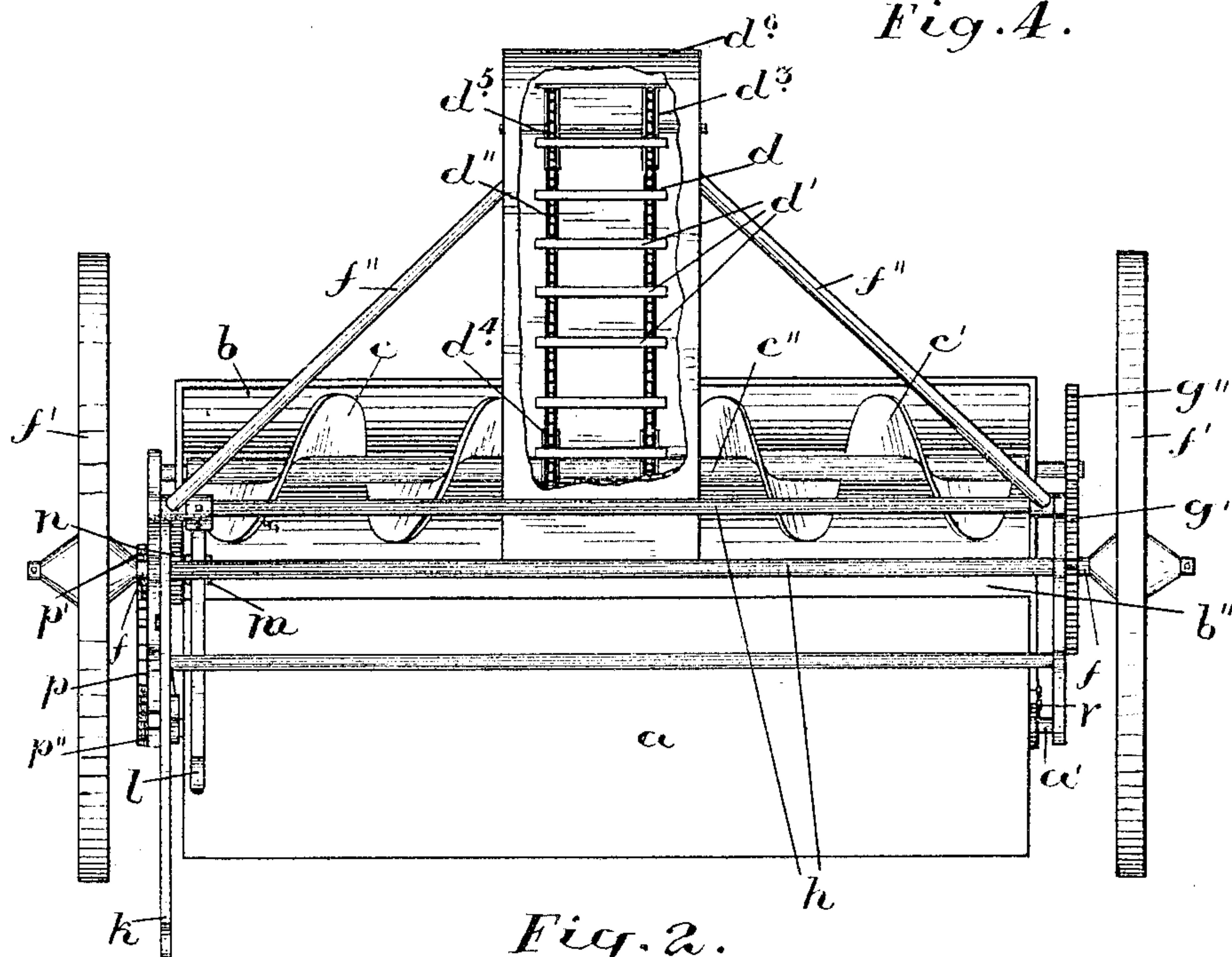


Fig. 2.

Witnesses.

H. L. Trimble.

E. B. Sheffield

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by Charles H. Riches  
his attorney.



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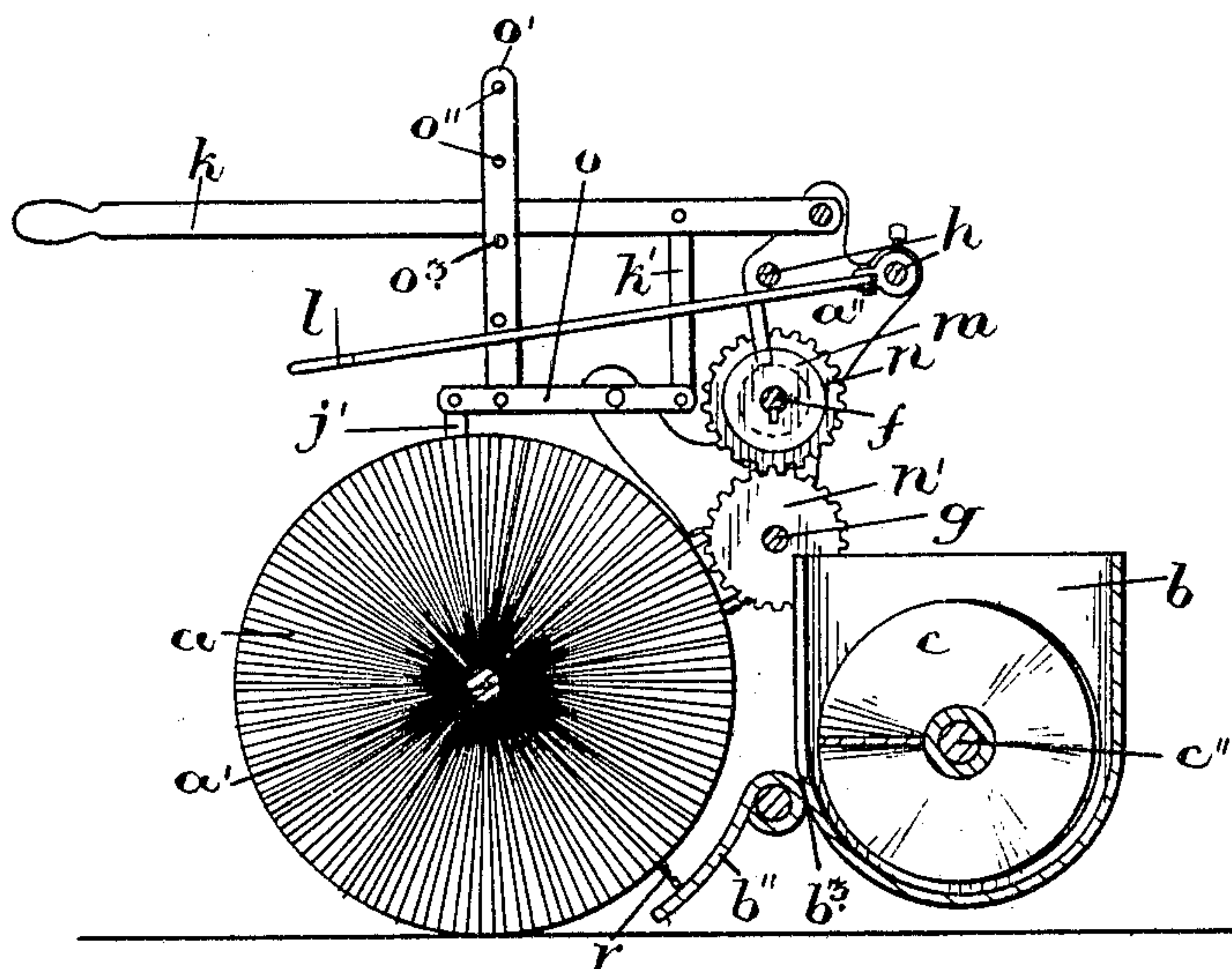


Fig. 5.

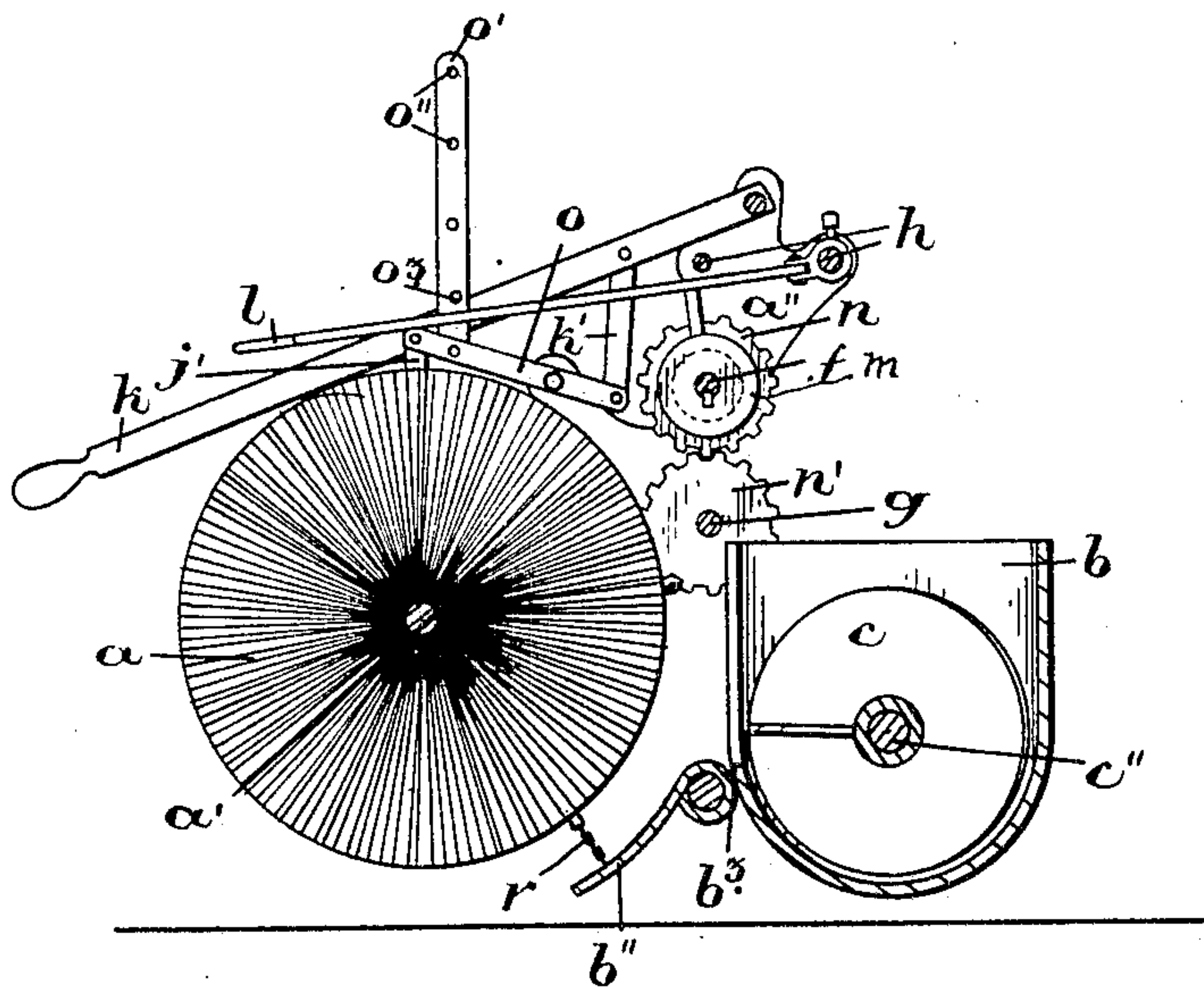


Fig. 6.

Witnesses.

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C. B. Sheffield

Inventor.

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# UNITED STATES PATENT OFFICE.

JOHN THOMAS WHITTOME, OF TAVISTOCK, ENGLAND.

## COMBINED STREET-SWEEPER AND COLLECTOR.

No. 799,126.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed July 16, 1903. Serial No. 165,866.

*To all whom it may concern:*

Be it known that I, JOHN THOMAS WHITTOME, a British subject, and a resident of 3 Parkwood road, Tavistock, in the county of Devon, England, have invented certain new and useful Improvements in a Combined Street-Sweeper and Collector; and I hereby declare that the following is a full, clear, and exact description of the same.

10 This invention relates to a combined street-sweeper and collector which can be attached to carts of varying heights, so as to render the apparatus capable of easily traveling around corners or changing its direction in a limited space; and it relates more particularly to the means whereby the brush may be adjusted to suit the various conditions and classes of roads to be swept or raised into an inoperative position; and the invention further relates to the collection of the refuse and the means by which it is conveyed to a predetermined part of the collecting apparatus and removed from the collecting apparatus into the conveyance; and the invention consists of the construction and arrangement of the elements hereinafter more fully described, and more particularly pointed out in the claims and illustrated in the accompanying drawings, in which—

30 Figure 1 is a perspective view of the combined sweeper and collector. Fig. 2 is a plan view of the construction shown in Fig. 1 looking at it from the top. Fig. 3 is an end elevation of the sweeper and collector looking at them from the same end as shown in Fig. 1, the rotary brush in this view being positioned to engage the pavement. Fig. 4 is a similar view to Fig. 3, but looking at it from the opposite end to show the means for driving the Archimedean screws. Fig. 5 is a sectional view of the apparatus looking at it from the same end as Fig. 4 to show the driving mechanism for transmitting motion from the axle to the drive-shaft, the brush in this view being in contact with the pavement. Fig. 6 is a similar view to Fig. 5 with the brush elevated from the pavement. Fig. 7 is a sectional view showing the clutch members for causing the revolution of the driving gear-wheel with the axle. Fig. 8 is a view of the shifting-lever for the movable clutch member.

Like letters of reference refer to like parts throughout the specification and drawings.

55 In carrying this invention into practice the brush *a*, having a shaft *a'*, is mounted to re-

volve at the rear of the machine in such a manner as to sweep the refuse into the receptacle *b*, having within it right and left Archimedean screws *c c'* to convey the refuse from each end of the receptacle toward the center, 60 so that it may be removed by the elevator *d* and delivered into the cart or other conveyance to carry it away.

The elevator *d* consists of a series of buckets *d'*, fixed upon chains *d''*, revoluble around 65 the top and bottom sprocket-wheels *d<sup>3</sup>* and *d<sup>4</sup>*, respectively, the bottom sprocket-wheels *d<sup>4</sup>* being fixed upon and revoluble with the shaft *c'* of the Archimedean screws *c c'* and the top sprocket-wheels *d<sup>3</sup>* being mounted 70 upon a shaft *d<sup>5</sup>*, journaled in the sides of the elevator-casing *d<sup>6</sup>*. The shaft *c'* is so positioned that the mouth of the buckets when revolving around the shaft will pass close to the bottom of the dust-receptacle *b* and scoop 75 up the refuse as they revolve. To facilitate the entry of the refuse into the receptacle, an inclined apron *b''* is hinged to it adjacent to the bottom of the opening *b<sup>3</sup>*. This apron follows along the pavement in rear of the receptacle and in advance of the brush, so that the brush during its revolution will sweep the refuse up the apron and through the opening into the receptacle, where it is immediately engaged by the blades of the Archimedean 85 screws and carried to the elevator, so that the buckets will scoop it up and carry it to the outer end of the elevator and then dump it into the carts or conveyances to receive it.

The ends of the brush-shaft *a'* are mounted 90 in radial arms *j*, oscillatingly connected to the main frame *a''*, and journaled in the main frame *a''* is the screw-shaft *c''*, upon which is supported the dust-receptacle *b*. The main frame is supported by the axle *f* of the road-wheels *f'*, by which it is revolved during their progress over the pavement, and loosely mounted upon the axle *f* is a gear-wheel *n*, having a clutch member *n<sup>5</sup>* to engage with the clutch member *m*, laterally movable upon the axle *f* and revoluble therewith. 100 When the clutch member *m* is positioned to engage with the clutch member *n<sup>5</sup>*, it will cause the united revolution of the gear-wheel *n* with the axle *f*. The gear-wheel *n* meshes with the gear-wheel *n'*, mounted upon an intermediate shaft *g*, journaled in the main frame *a''*, so that when the clutch members are in engagement motion will be transmitted by the gear-wheels from the axle *f* to the shaft *g*. Mounted upon 110



the shaft  $g$  is a sprocket-wheel  $p'$ , and mounted upon the brush-shaft  $a'$  is a sprocket-wheel  $p''$ , around which is revoluble a sprocket-chain  $p$  to transmit the motion of the shaft  $g$  to the brush. Mounted upon the shaft  $g$  is a gear-wheel  $g'$ , and mounted upon the screw-shaft  $c''$  is a gear-wheel  $g''$ , meshing with the gear-wheel  $g'$ , by which motion is transmitted from the shaft  $g$  to the Archimedean screws during the revolution of the brush.

The main frame  $a''$  consists of two side members separated from each other by distance-bars  $h$ , which hold them in their proper relative positions upon the axle  $f$ , and fulcrumed to one of the distance-bars  $h$  is a lever  $l$  to actuate the clutch member  $m$  and move it respectively into and out of engagement with the clutch member  $n$ , so that the shaft  $g$  may be caused to rotate with the axle  $f$  or allowed to remain stationary while the axle revolves.

To maintain the apron  $b''$  in its relative position to the dust-receptacle  $b$ , chains  $r$  are connected to it and to the radial arms  $j$  for the brush-shaft, the chains being of such a length that they will raise the apron out of contact with the pavement as the brush is lifted into its inoperative position.

Fulcrumed to the main frame  $a''$  is an operating-lever  $k$ , and pivotally connected to the radial arms  $j$  is a link  $j'$ . Fulcrumed to the main frame below the plane of the operating-lever  $k$  is a lifting-lever  $o$ , the forward end of which is pivotally connected to the operating-lever  $k$  by a link  $k'$ , and the rear end of which is pivotally connected to the link  $j'$ . By moving the free end of the operating-lever  $k$  downward in the direction indicated by arrow in Fig. 4 of the drawings it actuates the lifting-lever  $o$  to raise the brush from the pavement and by raising the free end of the operating-lever it actuates the lifting-lever to lower the brush into contact with the pavement. Connected to the lifting-lever  $o$  is a locking-plate  $o'$ , having a series of holes  $o''$  to receive the locking-pin  $o^3$ . When the operating-lever is adjusted to position the brush, it is held in its adjusted position by a locking-pin  $o^3$  inserted through one of the holes  $o''$  of the locking-plate  $o'$ .

The main frame is fitted with two converging draft-bars  $f''$ , united below the elevator and having a bolt  $s$ , by which they may be attached to the cart or other conveyance. When the draft-bars are connected to the cart or other conveyance, they maintain the main frame continuously in the same position during the use of the apparatus and when they have been attached the brush can be moved into contact with the pavement or raised out of engagement with it by the adjustment of the operating-lever.

Having thus fully described my invention,

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

1. A combined street-sweeper and collector, comprising a dust-collector, an elevator, an Archimedean screw mounted to revolve within the dust-collector and convey the contents therein to the elevator, a main frame supporting the dust-collector, an axle mounted in the main frame, ground-wheels mounted upon such axle, a gear-wheel loosely mounted upon the axle, a clutch member for the gear-wheel, a clutch member slidable on and revoluble with the axle, an operating-lever to position the second-mentioned clutch member, an intermediate shaft journaled in the main frame, a gear-wheel mounted on the intermediate shaft meshing with the first-mentioned gear-wheel, arms pivotally connected to the main frame in rear of the dust-collector, a sweeper-brush, a shaft for the sweeper-brush journaled in said pivoted arms, gear for transmitting motion from the intermediate shaft to the brush-shaft and gear for transmitting motion from the intermediate shaft to the Archimedean screw.

2. A combined street-sweeper and collector, comprising a dust-collector, an elevator, an Archimedean screw mounted to revolve within the dust-collector and convey the contents therein to the elevator, a main frame supporting the dust-collector, an axle mounted in the main frame, ground-wheels mounted upon such axle, a gear-wheel loosely mounted upon the axle, a clutch member for the gear-wheel, a clutch member slidable on and revoluble with the axle, an operating-lever to position the second-mentioned clutch member, an intermediate shaft journaled in the main frame, a gear-wheel mounted on the intermediate shaft meshing with the first-mentioned gear-wheel, arms pivotally connected to the main frame in rear of the dust-collector, a sweeper-brush, a shaft for the sweeper-brush journaled in said pivoted arms, gear for transmitting motion from the intermediate shaft to the brush-shaft and gear for transmitting motion from the intermediate shaft to the Archimedean screw, an operating-lever fulcrumed to the main frame, a link connected to the adjacent pivoted arm, a lifting-lever fulcrumed to the main frame below the plane of the operating-lever, to one end of which said link is pivoted, a link pivotally connected to the other end of the lifting-lever and to the operating-lever, a locking-plate connected to the lifting-lever and a locking means for the locking-plate to engage and hold the operating-lever in its adjusted position.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOHN THOMAS WHITTOME.

Witnesses:

E. W. KIMBALL,

JOHN JOLLY STEPHENS.