(No Model.) 3 Sheets—Sheet 1.

M. G. BUNNELL.

WHEELED DUMPING SCRAPER.

No. 547,842. Patented Oct. 15, 1895.

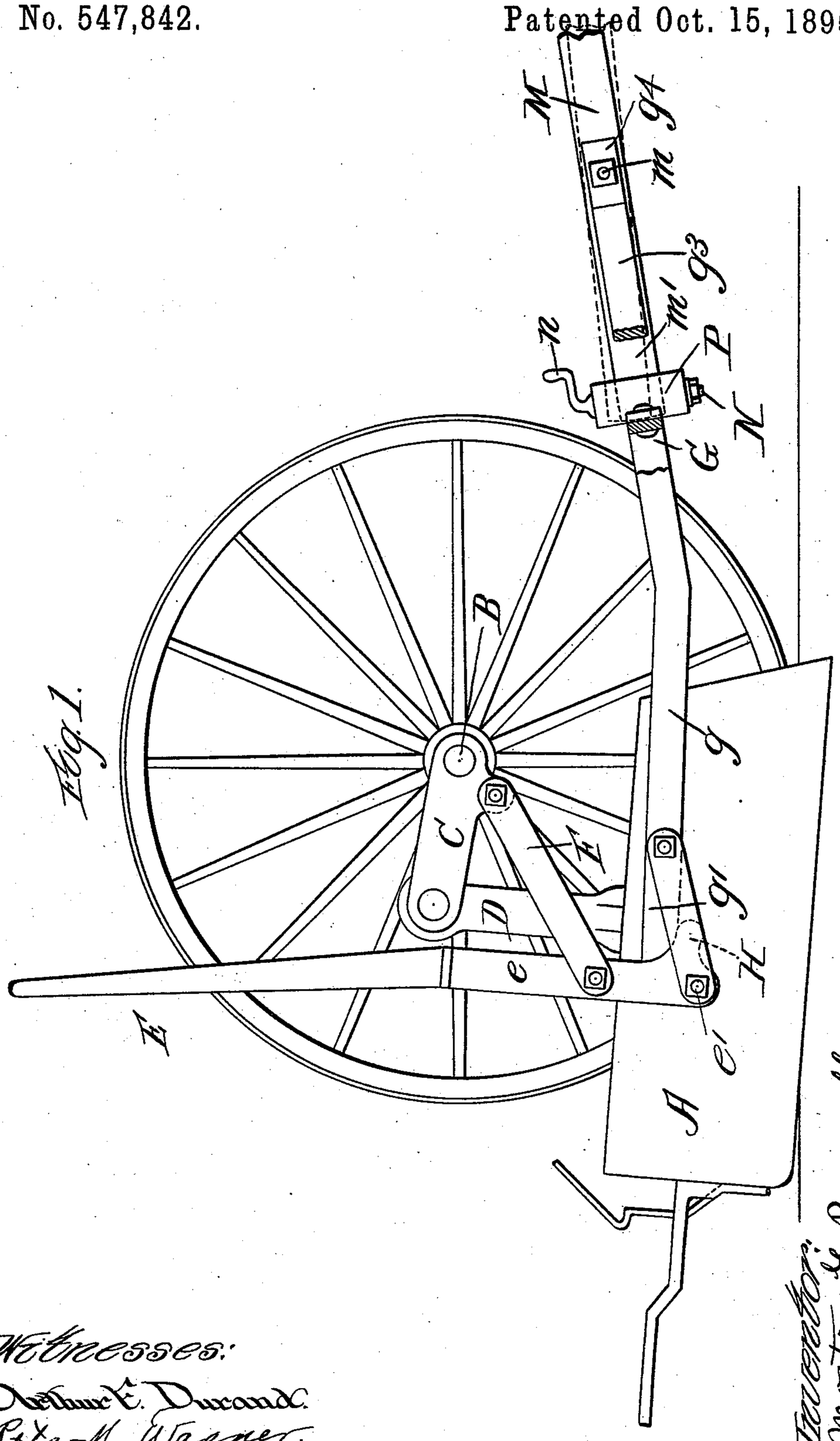

Fig. 1.

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(No Model.) 3 Sheets—Sheet 2.

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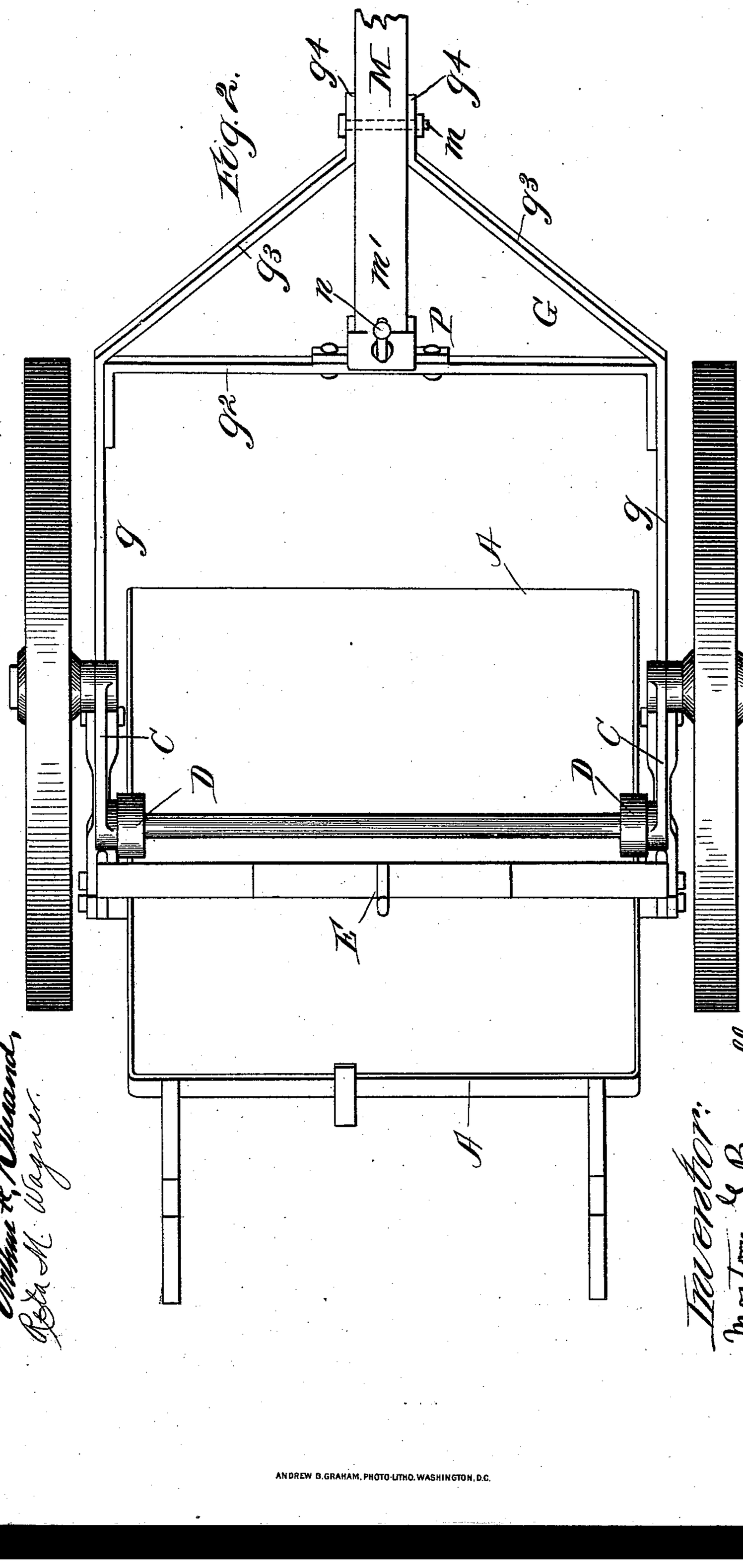

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

M. G. BUNNELL.

WHEELED DUMPING SCRAPER.

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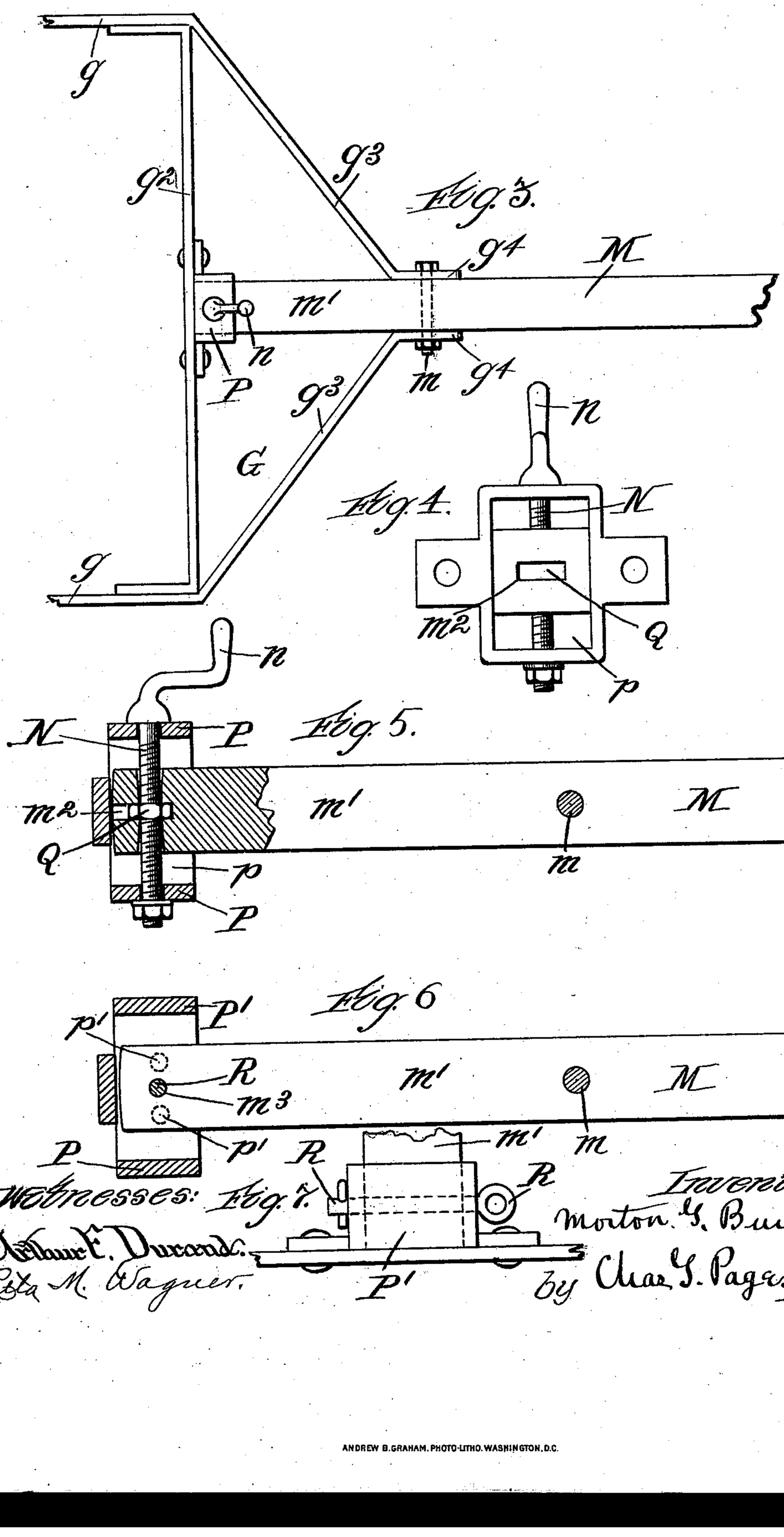

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UNITED STATES PATENT OFFICE.

MORTON G. BUNNELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO FREDERICK C. AUSTIN, OF SAME PLACE.

WHEELED DUMPING-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 547,842, dated October 15, 1895.

Application filed March 11, 1895. Serial No. 541,252. (No model.)

To all whom it may concern:

Be it known that I, MORTON G. BUNNELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Wheeled Dumping-Scrapers, of which the following is a specification.

My invention relates to wheeled dumping-scrapers of the kind in which the scraper-bowl is suspended by raising and lowering devices and pivotally attached to a draft attachment, so that when lowered for the purpose of scraping up the soil it can be temporarily held or stopped in working position. In wheeled dumping-scrapers of such character the draft attachment commonly comprises a yoke or hounds pivoted to the scraper-bowl and secured to the pole. The height at which the pole is maintained during service is dependent upon the height of the team employed for drawing the machine, and when the working pitch of the scraper-bowl is dependent upon a temporary stopping connection between the scraper-bowl and the draft attachment the pitch of the scraper-bowl will vary with the height of the team, which, in determining the height of the scraper-bowl, also determines the position of the draft attachment. Prior to my invention it has, therefore, been common to construct the said locking connection with reference to the average height of team employed.

The object of my invention is to maintain the proper working pitch of the scraper-bowl regardless of the height of the team employed and to adapt the pitch of the bowl to different kinds of work, and to such end I provide an adjustable hinge connection between the pole and the draft attachment, whereby the inclination of the pole with reference to the height of the team can be determined independently of the draft attachment, and at the same time provide during service a rigid connection between said two members.

In the accompanying drawings, Figure 1 represents in side elevation a wheeled dumping-scraper embodying my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a top plan view of the forward portion of the draft attachment and rear portion of the pole. Fig. 4 shows in elevation the device employed in Figs. 1 and 2 for locking the pole in its adjustment. Fig. 5 is a section taken through said locking device and a portion of the pole. Fig. 6 is a section through another form of locking device, the pole being in elevation. Fig. 7 is a plan of the form of locking device shown in Fig. 6.

The wheeled dumping-scraper herein selected by way of illustrating the application of my invention is generally similar to the machine described in my application, Serial No. 505,324, for Letters Patent of the United States. With reference to the features common to both of said machines the scraper-bowl A is suspended from the axle B by a crank-movement arranged for raising and lowering said scraper-bowl, and to such end the axle is cranked so as to provide it with end crank-arms or crank portions C, from which the bowl is hung by standards D, secured to the sides of the bowl.

The yoke or bail E for operating the crank-movement has its arms *e* pivoted to the sides of the bowl, as at *e'*, and connected with the crank-arms C of the axle by links F. The arms *e* of the bail constitute raising and lowering levers, and each arm is provided at its pivoted end with a cam H, which engages the rear extension *g'* of a draft attachment G when the scraper-bowl is in lowered working position. The engagement of the cams with the draft attachment serves to hold the scraper-bowl from cutting too deep into the earth and from dumping, and the pitch of the bowl is also maintained by such engagement. The draft attachment G is connected with the pole M and has rearwardly-extending arms or bars *g*, which are pivoted to the sides of the bowl and formed or provided with rear end portions *g'*, which are extended back of the points at which said arms are pivoted, so as to provide the aforesaid draft extensions, which engage with the cams H when the scraper-bowl is in working position.

In accordance with my improvement, as illustrated in the first five figures of the drawings, the parallel arms or bars *g* of the draft attachment are rigidly connected one with the other by a cross-bar g^2, and from the points

at which they are connected with cross-bar g^2 said arms are formed or provided with forwardly-projecting extensions g^3, which converge toward the pole M. The front terminal portions g^4 of the arms or bars g^3 are formed parallel with one another, as in Fig. 2, so as to provide cheeks or bearings, between which the pole is hinged by means of a pivot m. The rear end portion m' of the pole extends back from the point at which the pole is thus pivoted and is received within a vertically-oblong space or slot p in a socket-piece or bracket P, which is bolted to the cross-piece g^2 of the draft attachment. The vertical length of the slot or opening p is sufficient to permit all desired extent of independent tilt on the part of the pole, and as a means for securing the latter at a proper angle to the plane of the draft attachment the bracket is provided with an adjusting-screw N, which engages a nut Q, arranged within a mortise m^2 in the pole. The adjusting-screw has its bearings in the top and bottom of the bracket, and the mortise m^2 is arranged to extend longitudinally through the rear portion of the pole and is made of sufficient length to permit the nut to shift during the tilt of the pole. The screw N can also be provided with a handle n, whereby it can be readily operated for the purpose of adjusting the rear end of the pole either upwardly or downwardly within the bracket.

In Figs. 6 and 7 the pole is understood to be pivoted as in preceding figures and to have its rear end received within a bracket P, arranged and secured as in Figs. 1, 2, and 3. In place of the screw, however, the rear end of the pole is locked in adjustment by a pin or bolt R, passing through a hole m^3 in the pole and engaging in holes with which the vertical sides of the bracket are provided. Each side of the bracket is provided with a series of these holes, a couple of which are indicated by dotted lines p' in Fig. 6.

Various other locking devices for the foregoing-described purpose can be provided without departing from the spirit of my invention. It is understood, however, that the pole thus pivoted or hinged to the draft attachment and also locked to the same by adjustable bearing means, practically considered, provides an adjustable hinge connection between the pole and a draft attachment, which is in turn pivoted to the scraper-bowl. It is also understood that I do not confine myself to the particular means shown for temporarily locking or holding down the scraper-bowl, and, further, that I do not confine myself to the particular means shown for raising and lowering the scraper-bowl.

Various devices have heretofore been provided for holding down the scraper-bowl and for raising and lowering the same, and I can therefore employ any of such devices or any other suitable devices for said purposes not inconsistent with the securement of the results which my invention is designed to attain.

What I claim as my invention is—

1. A wheeled dumping scraper comprising a scraper-bowl, a draft-attachment pivoted to the scraper-bowl, a stopping device supported upon the bowl and arranged for engaging the draft-attachment when the scraper-bowl is in working position and maintaining the pitch of the scraper-bowl and holding the same both from cutting too deep into the earth and from dumping, the pole hinged to the draft attachment, and a locking device for adjustably securing the pole at different angles to the draft-attachment, whereby the working pitch of the bowl is fixed by the relative angles of the draft-attachment and the pole, substantially as described.

2. The combination in a wheeled dumping scraper, of the scraper-bowl, a draft-attachment pivoted to the scraper-bowl, the pole hinged to the draft attachment and extended back from the point whereat it is hinged, and a locking device for adjustably connecting the rear end of the pole with the draft-attachment, substantially as described.

3. The combination in a wheeled dumping scraper of the scraper-bowl, a draft-attachment pivoted to the scraper-bowl, a bracket secured to the draft-attachment, a pole hinged to the draft-attachment and having its rear end extended back of the point whereat the pole is hinged, and means for adjustably connecting the rear end of the pole with the bracket, substantially as described.

4. In a wheeled dumping scraper, the draft-attachment pivoted to the scraper-bowl and constructed with a cross bar g^2, and converging arm-portions g^3, the pole hinged between said converging arm-portions and having a rear end extension m', and a locking device arranged upon the cross-bar g^2 and adapted for locking the rear end extension of the pole, substantially as described.

5. In a wheeled dumping scraper, the draft-attachment pivoted to the scraper-bowl, the pole hinged to the draft-attachment, and a locking device comprising an adjusting screw arranged in bearings on the draft-attachment and engaging a nut carried by the pole, substantially as described.

6. A wheeled dumping scraper comprising the scraper-bowl suspended from the axle by raising and lowering devices, a draft-attachment pivoted to the scraper-bowl, the bail pivoted to the scraper-bowl, a stopping device for engaging the draft attachment and holding the bowl in working position, and the pole having an adjustable hinge connection with the draft-attachment, substantially as set forth.

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