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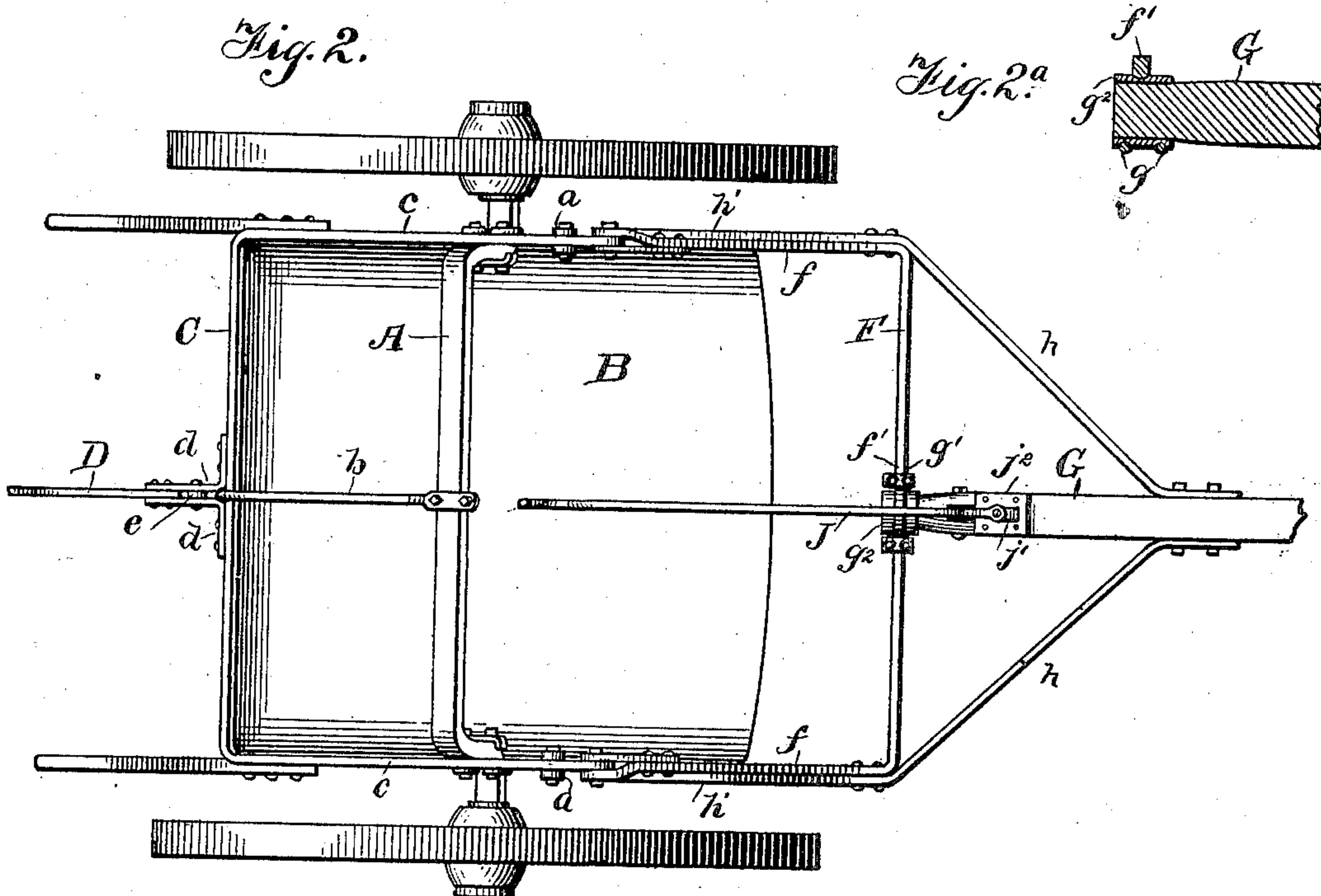
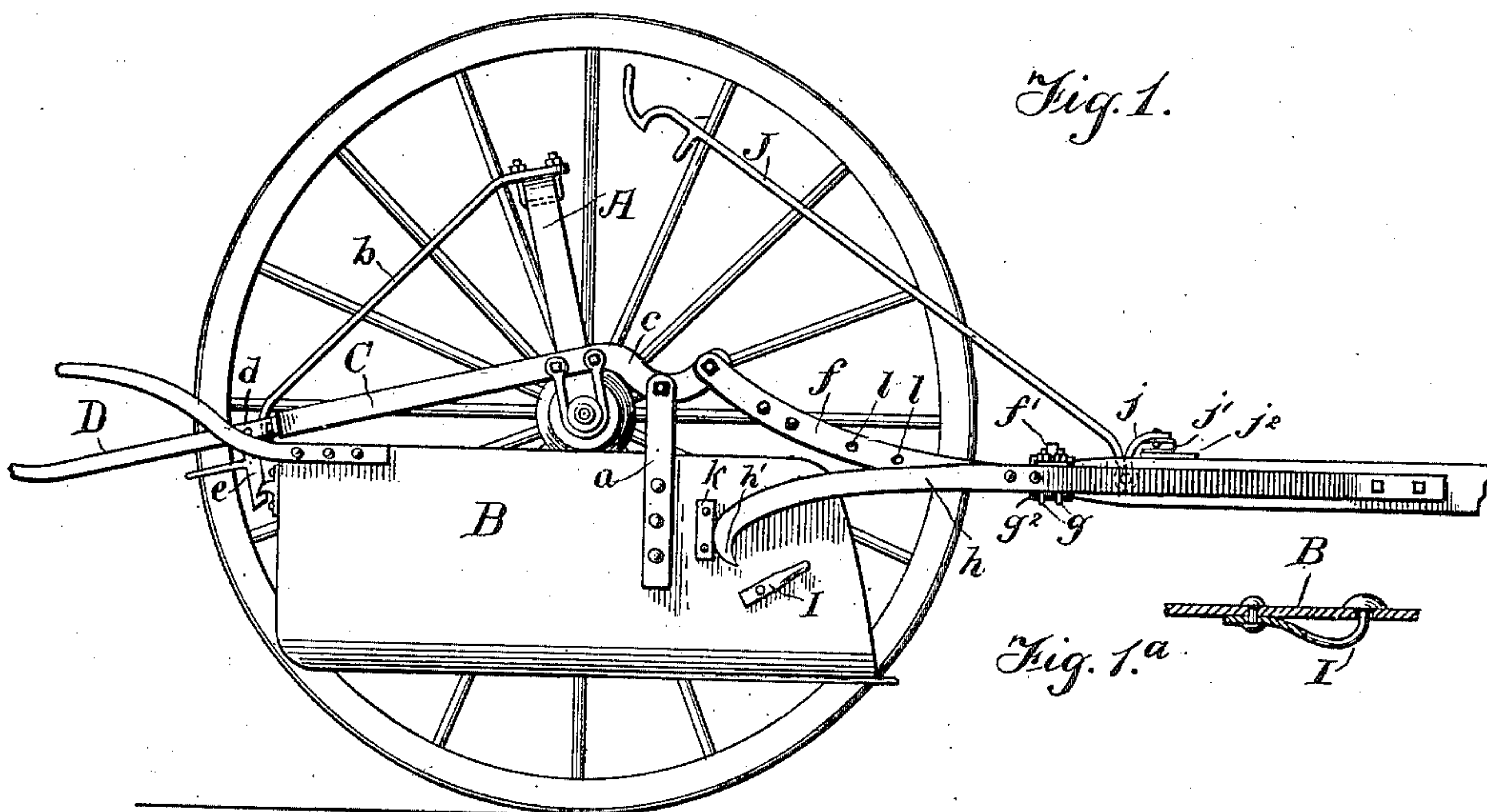
Patented July 30, 1901.

J. M. BROOKS.  
WHEELED EARTH SCRAPER.

(Application filed Jan. 14, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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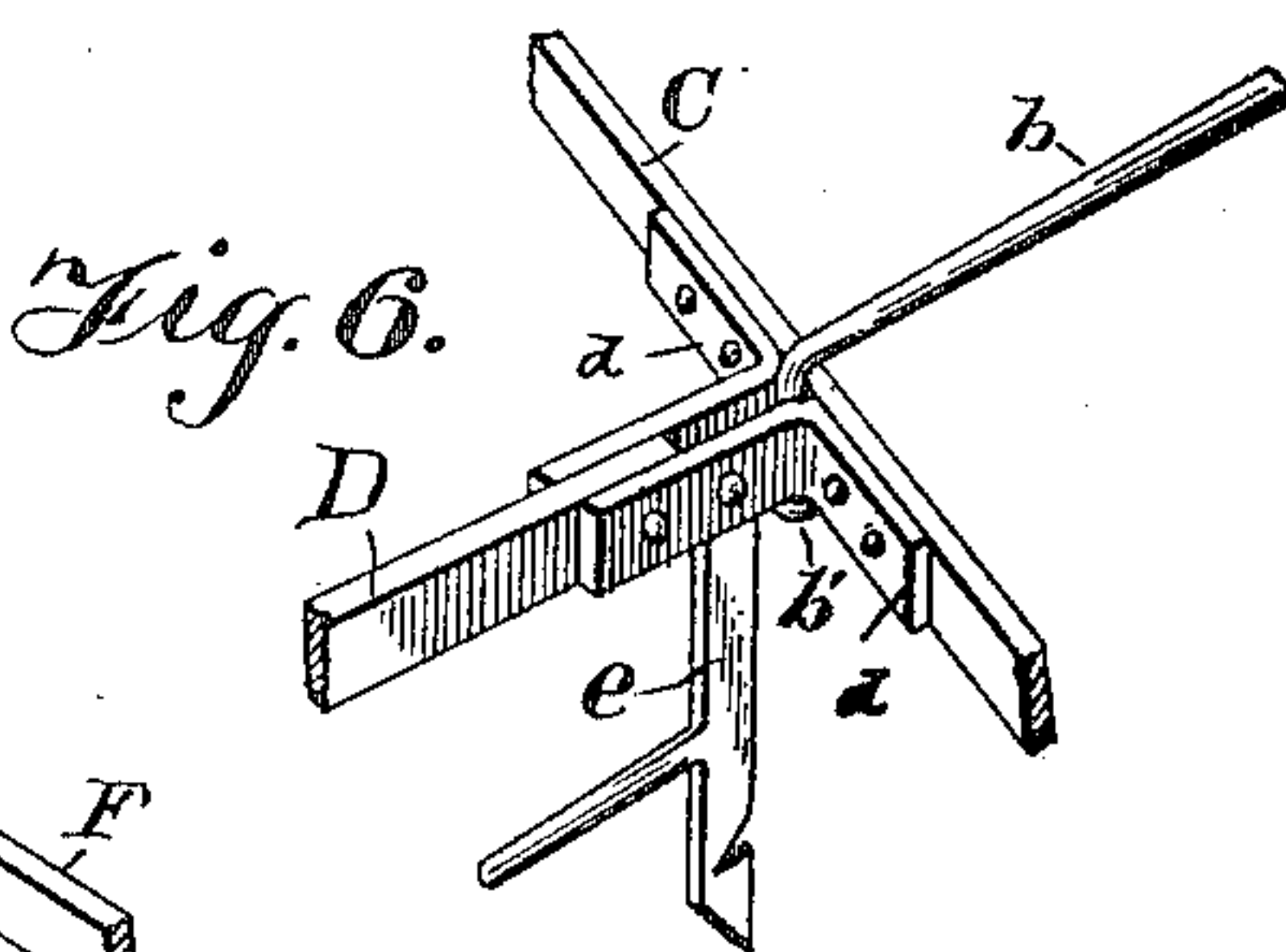
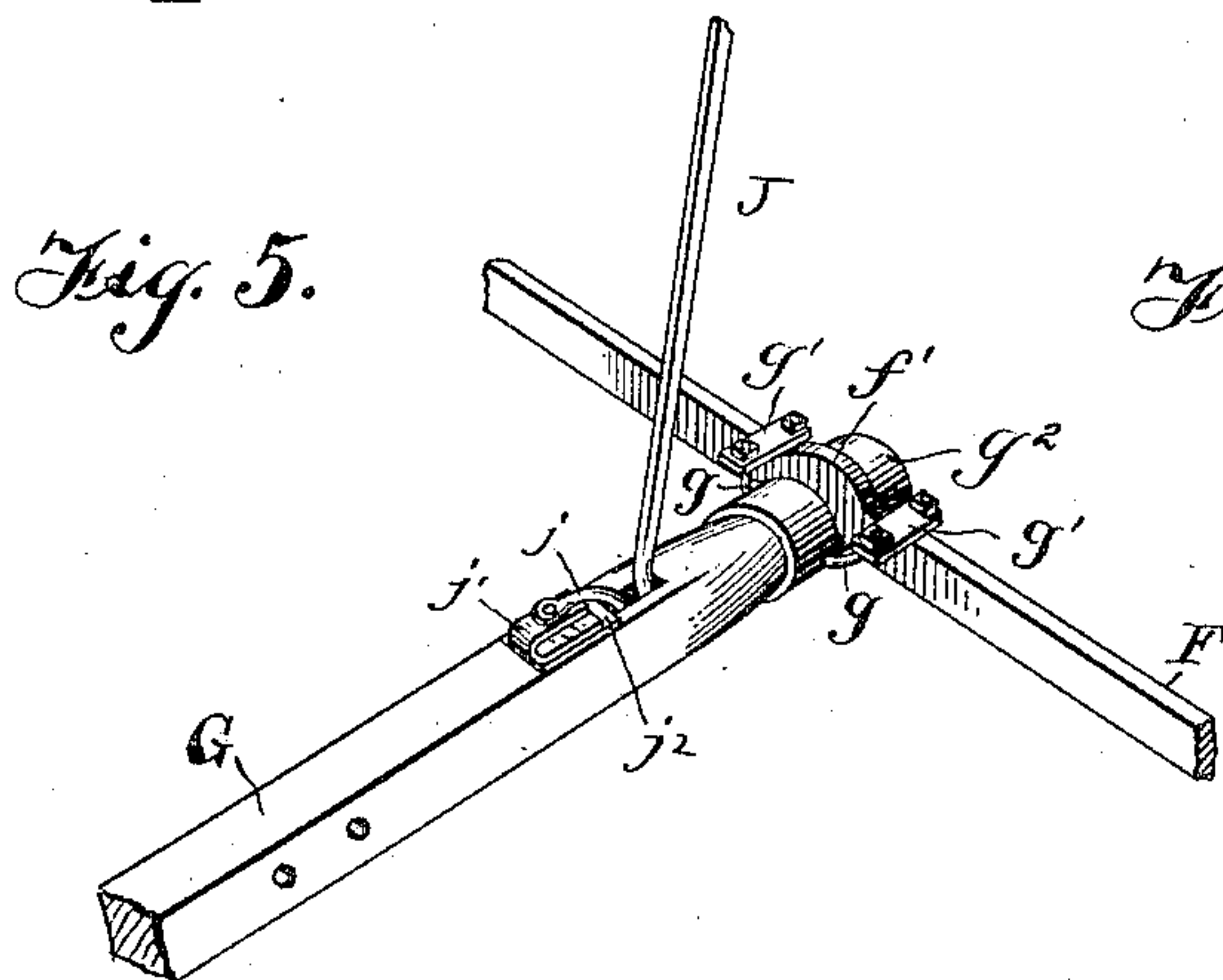
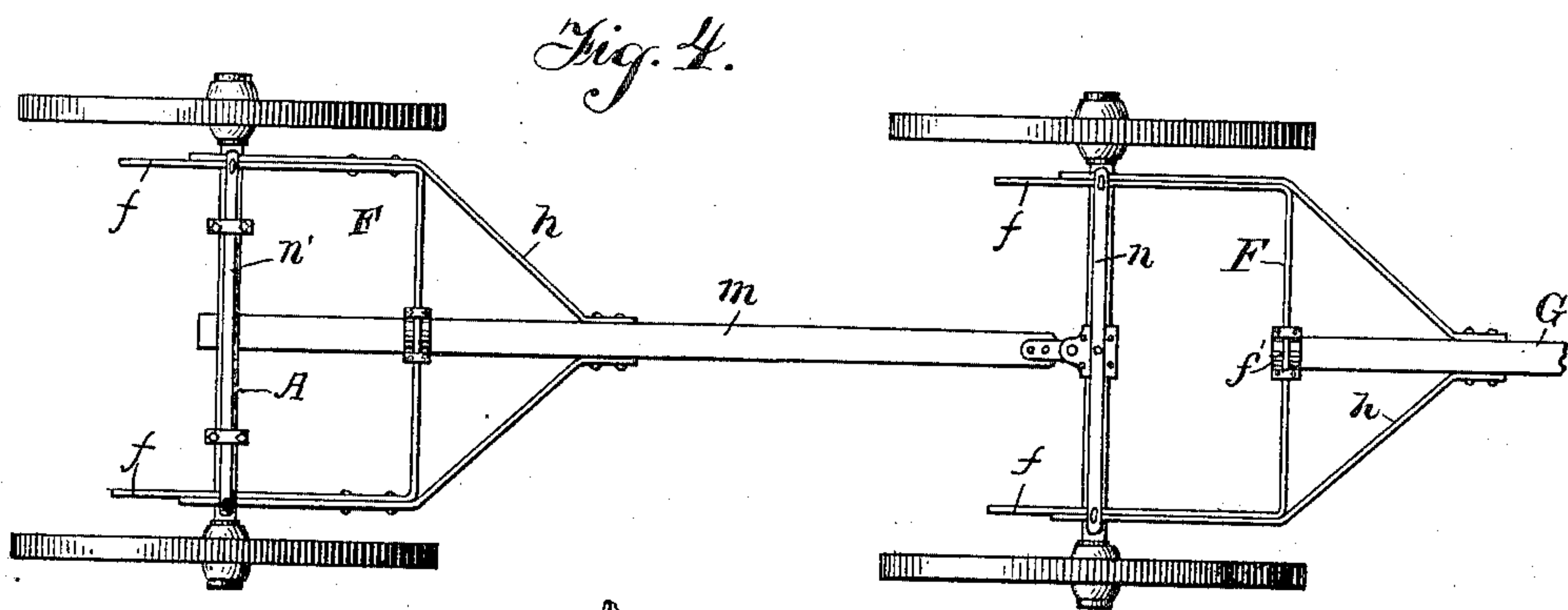
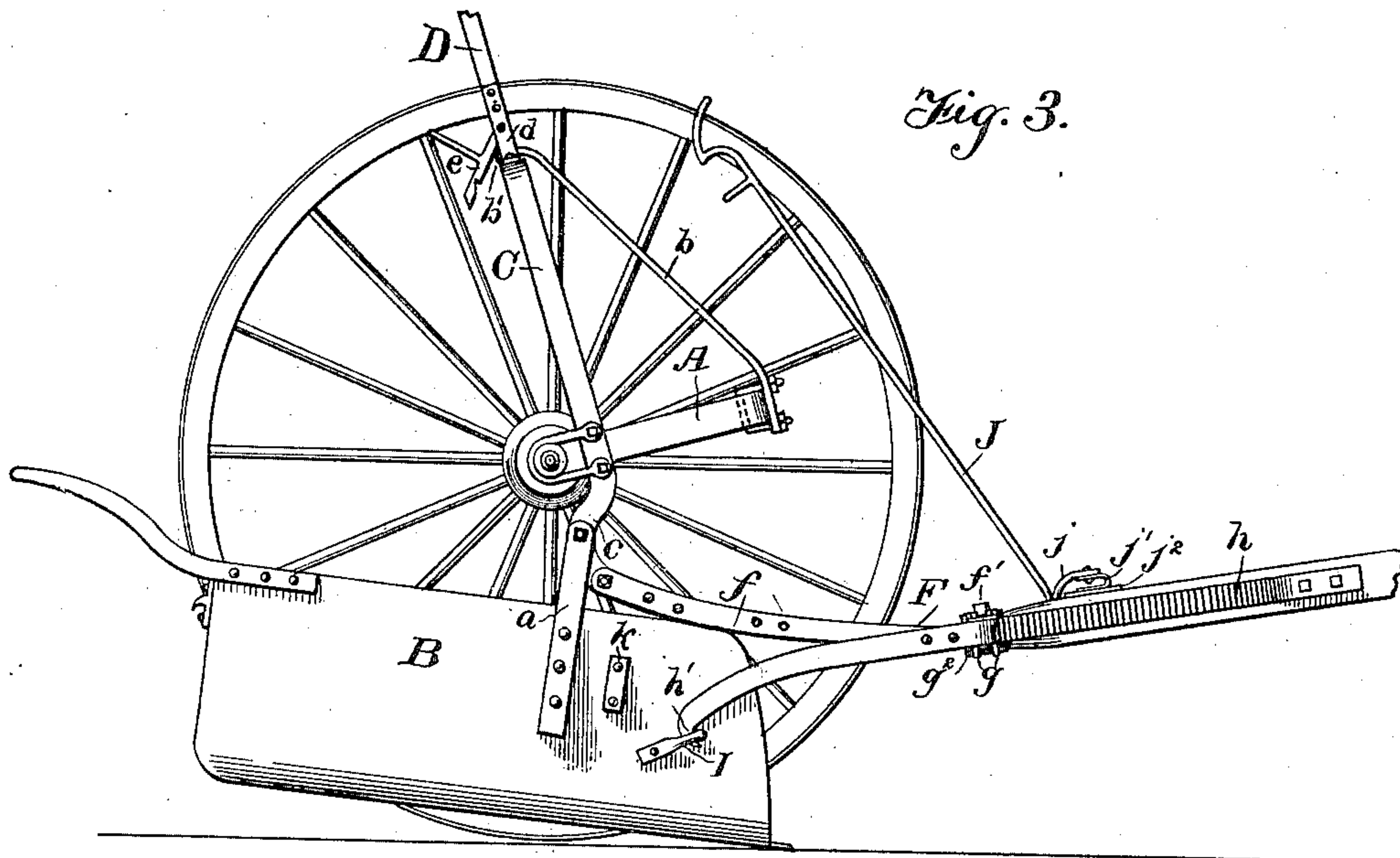
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# UNITED STATES PATENT OFFICE.

JAMES M. BROOKS, OF MOLENA, GEORGIA.

## WHEELED EARTH-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 679,291, dated July 30, 1901.

Application filed January 14, 1901. Serial No. 43,212. (No model.)

*To all whom it may concern:*

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

10 Figure 1 is a side elevation of the apparatus with one wheel removed, the scoop or bowl being raised from the ground in position for transportation, loaded or unloaded; Fig. 1<sup>a</sup>, a detail view of one of the draft-eyes; Fig. 2, a plan view of the machine with the removed wheel in place; Fig. 2<sup>a</sup>, a detail view of the rear end of the pole; Fig. 3, a side elevation showing the machine in position for loading; Fig. 4, a plan showing the manner of connecting up two of the machines to form a wagon; Fig. 5, a detail perspective of the rear end of the pole, and Fig. 6 a detail view of the connection between the arch-brace and the rear frame-bar.

25 The object of the invention is to simplify the construction of this class of machines, so that they shall be cheaper to build, less expensive to repair and keep in good working order, greatly more durable, easier to operate, 30 both as to loading and dumping, and be readily convertible into a wagon for hauling away the excavated earth where long hauls are required, as fully hereinafter set forth.

Referring to the drawings by letters, A designates an arched axle supported in the usual manner upon wheels, and B the scoop or bowl, which is pivotally hung by standards or hangers *a*, attached to the side edges of the scoop in front of the axle, to the forward-projecting arms *c* of the U-shaped frame C, the respective arms of this frame being rigidly but removably clamped to the outer sides of the axle-arch. The rear transverse bar of said frame C is rigidly connected to the top 45 of the arch by a rod *b*, the rear lower end of this rod passing down behind said transverse bar and between a pair of angle-plates *d*, riveted to said transverse bar, the extreme end of the rod being provided with a head *b'*, 50 welded or otherwise secured to it. These plates *d* extend rearward and are united to

them, just in rear of the head *d*, is pivotally hung the usual latch *e*, which is adapted to engage a lug on the rear side of the scoop, as 55 usual. The forward ends of the side bars *c* are bent slightly upward, and pivotally and detachably connected to them are the rear upward-turned ends of a pair of rearward-extending arms *f* of another U-shaped frame F, 60 which is approximately the same width as the frame C and has its forward transverse bar *f'* rigidly connected to the rear end of the tongue G in any suitable manner, preferably by being arched over the pole and clamped 65 thereto by a pair of U-shaped bolts *g*, which pass under the pole and are connected at their respective ends by short plates *g'*, which bear transversely upon the bar *f'*, a band *g*<sup>2</sup> being fastened to the tongue to afford a rigid bearing 70 for said bolts and the arch of the bar *f'*. The band *g*<sup>2</sup> is preferably recessed where the bolts and arch bear upon it to prevent lateral shifting on the band.

Connected to the opposite sides of the 75 tongue are the respective forward ends of brace-rods *h*, which extend rearward and outward and are riveted to the side bars of frame F near the front corners thereof, the rear ends of these rods or bars H being bent rearward 80 and downward and forward into hooks *h'*, which lie closely against the respective outer faces of the scoop's sides and are adapted to engage into eyes I, secured to the scoop sides just in front of and a little below the hooks. 85 Each of these eyes consists of a single rod having one end passed inward through a hole in the scoop side and riveted or headed permanently therein and its other end bent down and riveted to the outer face of the scoop side, 90 a suitable space being formed between the rod and the adjacent face of the scoop to permit the hook *h'* to engage the rod close to the point where it passes through the scoop side.

Pivoted in a slot in the tongue is the usual 95 dump-latch J, which extends upward and rearward in the usual manner to engage the rear bar of frame C when the scoop is inverted to dump its contents. This latch is of the usual construction, except that near its pivotal point 100 it is provided with a forward-extending lip *j*, to which is riveted one end of a U-spring *j'*, which bears upon a bearing-plate *j*<sup>2</sup>, fastened upon the upper surface of the tongue, and



keeps the latch normally pressed backward. The advantage of this arrangement is that it is very simple and is not liable to derangement.

5 When the scoop is loaded and raised for transportation to the dump, the latch *e* is engaged with its catch on the scoop, as shown in Fig. 1, and the draft-hooks *h'* are up out of engagement with the draft-eyes *I* and  
10 against stops *k*, riveted to the respective sides of the scoop, so that the draft is entirely upon the arms of the two U-shaped frames; but when the scoop is lowered to loading position by releasing latch *e* the draft-hooks drop into  
15 draft-eyes, and the draft strain is entirely taken by the hooks and eyes, the draft being applied directly to the scoop close to its sides, and thereby reduced to a minimum.

An essential feature of the invention lies  
20 in its simplicity and consequent durability, there being but two pivotal joints to wear and work loose on each side of the machine, these two joints being where arms *c* connect with standards *a* and arms *f*, whereas in all other  
25 machines of this class that I am aware of the pivotal joints are much more numerous, thereby rendering the machines much more expensive to build and keep in repair and more liable to injury.

30 Another feature of importance lies in the fact that the construction is such that any two of the machines may be readily dismantled partially and coupled together to form a wagon for hauling away the excavated earth,  
35 this being especially advantageous, as it avoids the necessity of keeping on hand a number of wagons for use where the excavated earth is required to be carried any considerable distance. To convert two of the  
40 machines into a wagon, as shown in Fig. 4, the frames *C*, the scoops, and braces *b* are removed and the arms *f* bolted to the arches at the point where arms *c* were bolted and preferably by the same devices, this being rendered possible not only by the provision of  
45 a pair of additional bolt-holes *l*, (see Fig. 1,) but also by the fact that the frame *F* is of the same width as the frame *C*, and will therefore exactly fit the arch. To couple the  
50 two trucks thus formed, the tongue of the rear one is removed and a suitable coupling-pole or reach *m* is inserted in its stead, this being rendered an easy matter, because of the special fastening devices used for removably securing the tongue in place. The  
55 forward end of this reach is pivotally connected to the arch of the front axle by any simple detachable device, and a suitable pivotal bolster *n* is mounted on the front arch  
60 and a suitable stationary bolster *n'* on the rear arch, whereupon the wagon thus formed is ready to receive an ordinary earth-carrying wagon-box.

Another important result in attaching the  
65 hounds or draft-arms (which are, in effect, a part of and move with the tongue) directly to the forward ends of the frame-bars *c* and

employing a supplemental pair of draft arms or hooks adapted to take the strain during the loading operation is that a greatly-in- 70 creased leverage is secured in dumping the scoop, thereby not only accomplishing a material saving in wear and tear on the machine, (the dumping operation in the machines now in use causing a very serious rack- 75 ing of the machine,) but also rendering an additional team unnecessary in dumping, an additional team being frequently required for this purpose with the machines of this character now in use. As will be seen from 80 Fig. 1, the dumping draft is applied directly and entirely to the forward extremities of the frame-bars *c*, thereby bringing the fulcrum from which the dumping leverage is exerted well up from the point on the ground where 85 the edge of the scraper engages in dumping, whereby the maximum leverage for inverting the loaded scoop is obtained.

Having thus fully described my invention, what I claim is— 90

1. In an earth-scraper, the combination of an arched axle and wheels, a rearward-extending frame connected to the axle, a pair of plates *d* attached to the rear transverse bar of said frame and extending rearward 95 to form a handle, a brace *b* attached to the arch of the axle and having its rear end passing down between said plates and headed below the same, a scoop, and draft devices.

2. In an earth-scraper, the combination of 100 an axle and wheels, a frame and a scoop swung therefrom, a tongue having a band on its rear end, a U-shaped draft-frame having its transverse bar arched over said band, and U-shaped bolts passing under the band and engaging the transverse bar. 105

3. In an earth-scraper, the combination of an arched axle and wheels, a U-shaped frame removably clamped to said arch and having its side arms extending forward of the axle, 110 a scoop swung from said arms in front of the axle, a tongue carrying a U-shaped frame approximately the same width as the aforesaid frame and having its rearward-extending arms pivotally and detachably connected to 115 the forward end of said frame, and draft means for taking the draft strain during the loading operation.

4. In an earth-scraper, the combination of an axle and wheels, a frame attached to the 120 axle and having forward-extending arms, a scoop swung from said arms, a tongue carrying a pair of rearward-extending draft-arms pivotally connected to the forward ends of said frame-arms, a pair of rearward and down- 125 ward extending draft-hooks also carried by the pole and movable with it, and means on the respective sides of the scoop with which said hooks engage when the scoop is lowered to working position, for the purposes set forth. 130

5. In an earth-scraper, the combination of an axle and wheels, a frame attached to the axle and having side arms extending forward therefrom, a scoop swung from said frame, a



tongue carrying a pair of rearward-extending arms pivotally engaging the forward ends of the frame-arms, rearward-extending draft-hooks carried by the tongue, and means on  
5 the scoop with which said hooks engage when the rear end of the tongue and the scoop are lowered.

6. The combination of an axle and wheels,  
10 a frame secured thereto and having side arms extending forward of the axle, a scoop pivotally hung to said arms in front of the axle and carrying a draft-eye on each of its sides, a tongue carrying a pair of rigid arms pivotally connected to the forward ends of the  
15 frame-arms and a pair of draft-hooks extending rearward and downward and adapted to engage said draft-eyes when lowered, for the purposes set forth.

7. The combination of an axle and wheels,  
20 a frame secured thereto and having side arms

extending forward of the axle, a scoop pivotally hung to said arms in front of the axle and carrying a draft-eye on each of its sides, a tongue carrying a U-shaped frame having a pair of rigid arms pivotally connected to the  
25 forward ends of the frame-arms, and a pair of draft-hooks attached to said rigid arms and extending rearward and downward and adapted to engage said draft-eyes when lowered, said draft-hooks having forward extensions  
30 connected to the tongue and forming braces, for the purpose set forth.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 11th day of January, 1901.

JAMES M. BROOKS.

Witnesses:

CHARLES D. DAVIS,  
HERBERT C. EMERY.