

A. Hammond.

Wheel Plow.

N^o 53,443.

Patented Mar. 27, 1866.

Fig 1

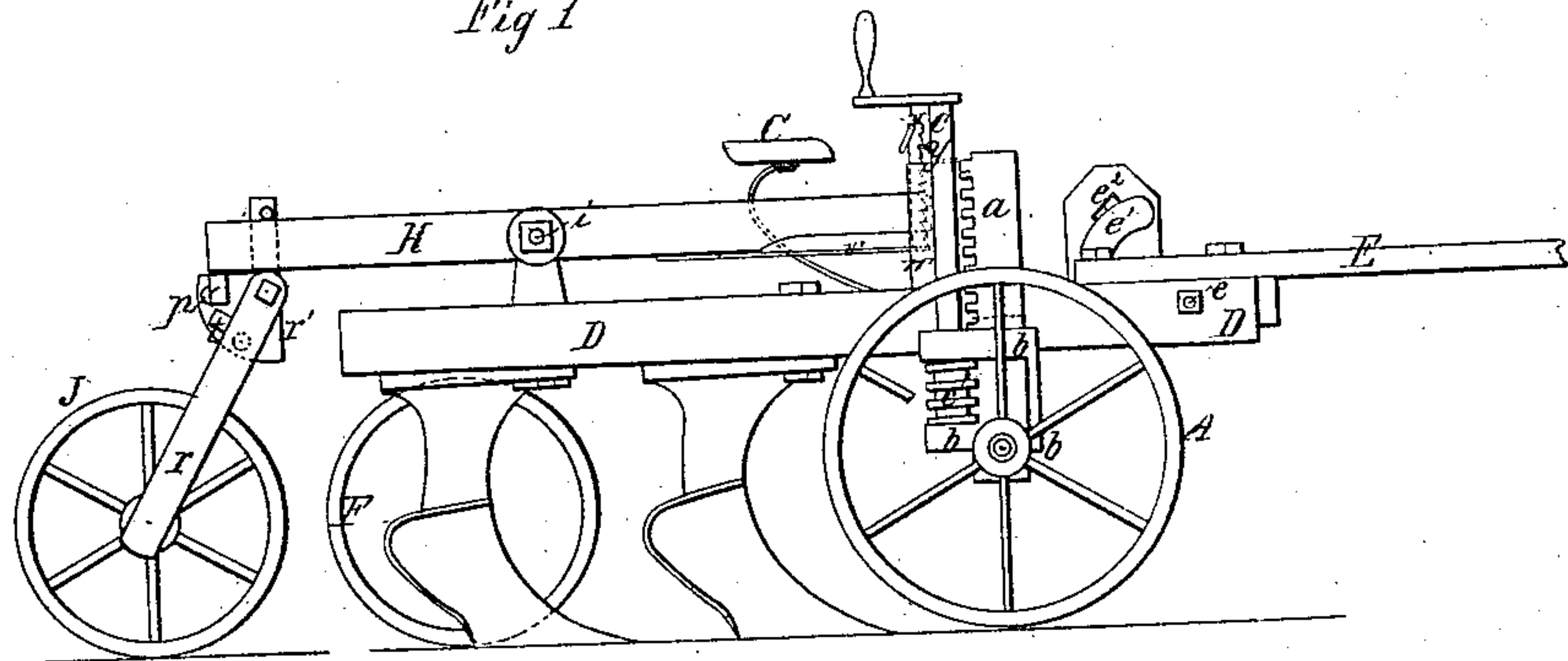


Fig. 2

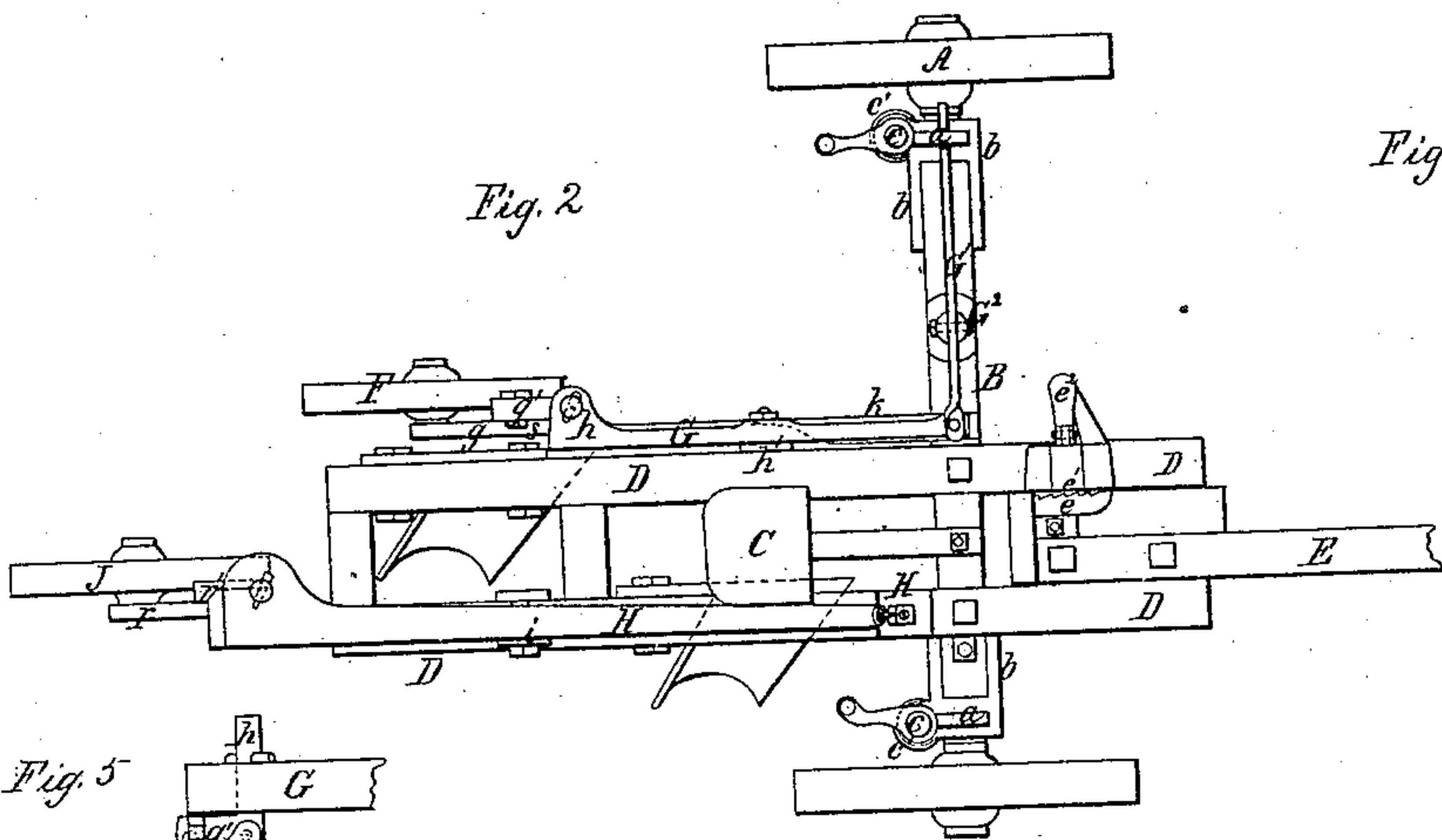


Fig. 4

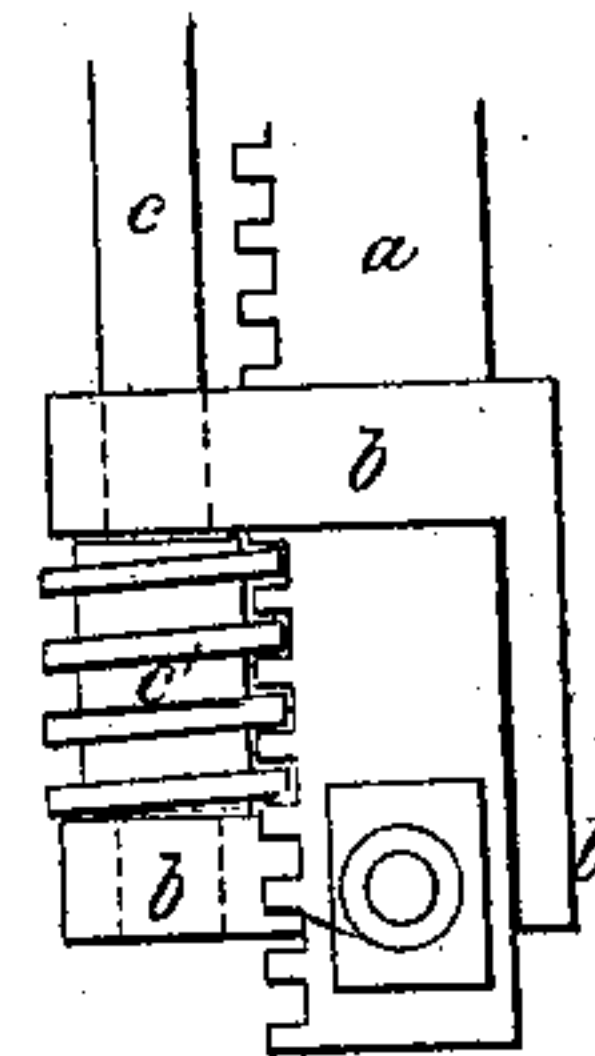


Fig. 6

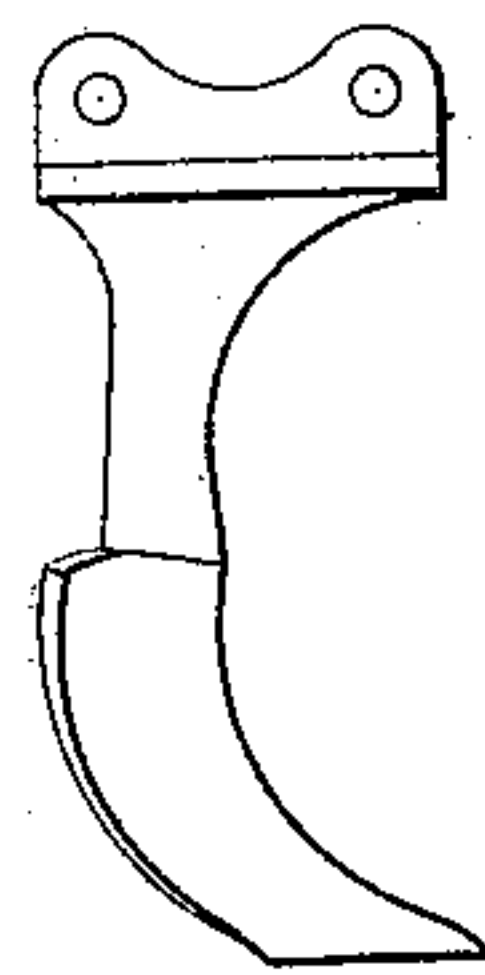


Fig. 5

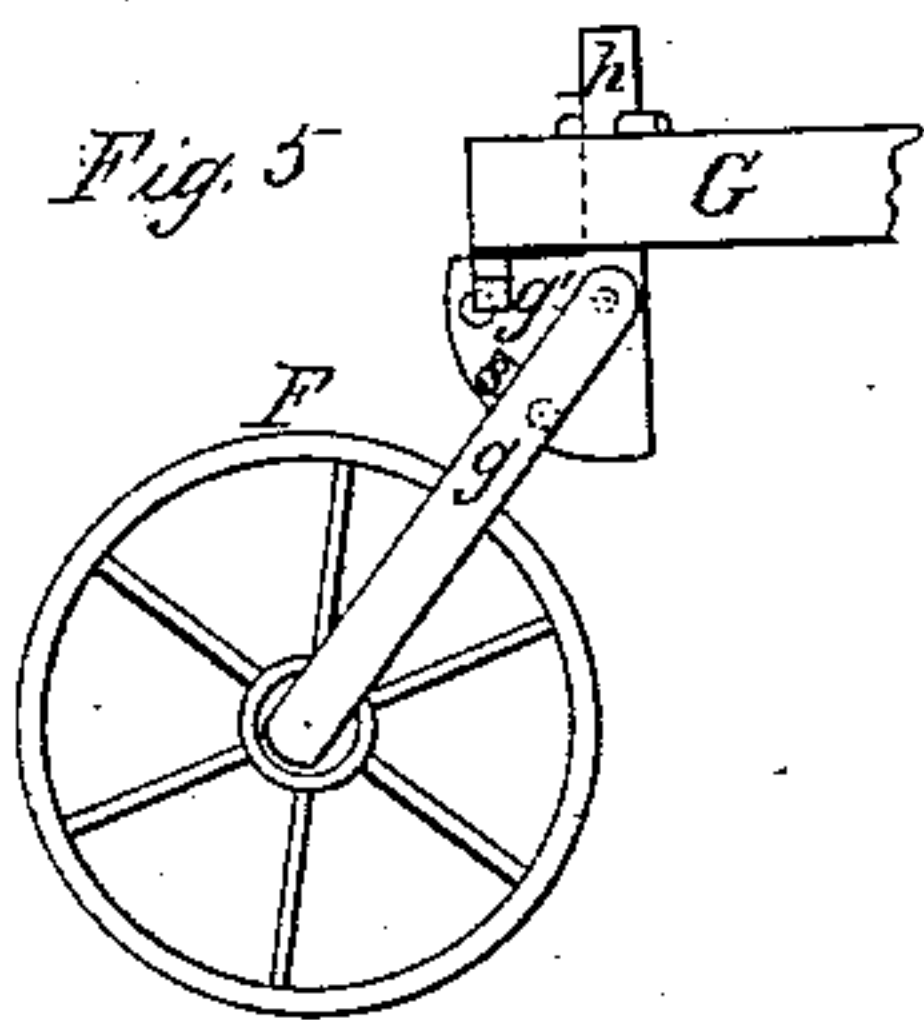
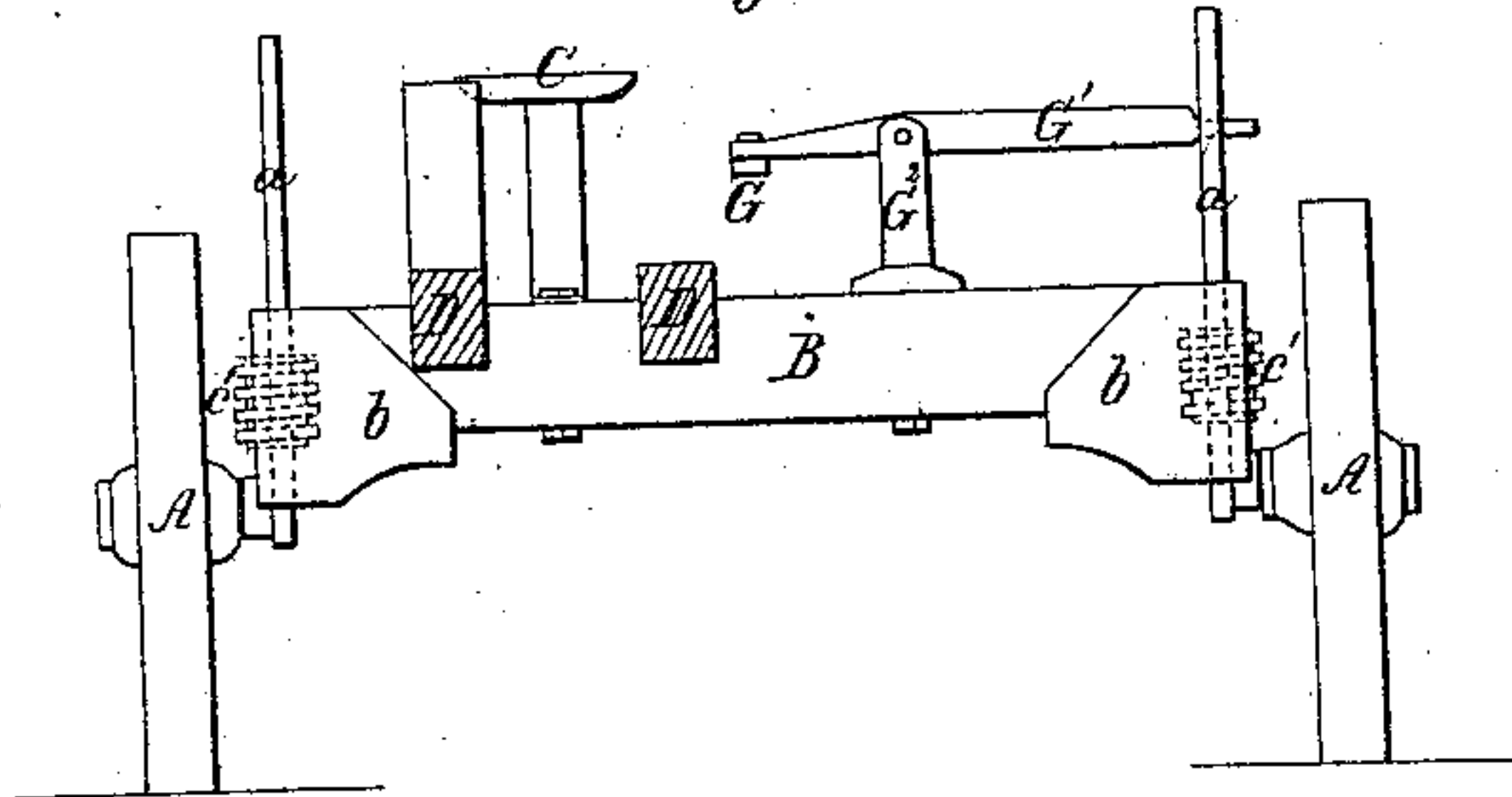


Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

A. HAMMOND, OF JACKSONVILLE, ILLINOIS.

IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. 53,443, dated March 27, 1866.

To all whom it may concern:

Be it known that I, A. HAMMOND, of Jacksonville, Morgan county, State of Illinois, have invented a new and Improved Gang-Plow; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation of one side of my improved gang-plow. Fig. 2 is a plan view of the plow. Fig. 3 is a front view of the adjustable axle-tree. Fig. 4 is an enlarged view of the rack and endless-screw adjustment for the axle-tree. Fig. 5 is a side view of one of the rear supporting-wheels. Fig. 6 shows one of the plows detached from its standard.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to employ endless screws and movable racks for the purpose of elevating and depressing the axle-tree of the transporting-wheels, and also for the purpose of adjusting one or both ends of said axle-tree for plowing on hill-sides and keeping the plow-frame level.

Another object of my invention is to arrange a supporting-wheel on the land-side of the rear plow, and to connect this wheel, by means of levers, to one of the adjustable racks, so that both wheels on the land-side of the machine can be adjusted simultaneously, as will be hereinafter described.

Another object of my invention is to sustain the weight of the rear end of the machine upon caster-wheels, which are connected to the frame of the machine by means of levers and springs, so as to allow the plows to rise or fall and thus accommodate themselves to uneven ground, as will be hereinafter described.

Another object of my invention is to construct the caster-wheel attachments in such manner that they shall prevent the plows from bearing too hard upon the plowed land and causing undue friction, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A A are the two main wheels of the machine, the short axles of which are formed on or suitably se-

cured to the lower ends of two vertical racks, *a a*, which move up and down in guides which are formed on boxes *b b*. These boxes are secured rigidly to the ends of the axle-tree B, so that their racks *a a* are always in planes perpendicular to this axle-tree. The boxes *b b* are also adapted for receiving two perpendicular rods, *c c*, having cranks on their upper extremities, by which they are turned by the attendant sitting upon the seat C. These rods *c c* have endless screws *c' c'* keyed to them, the threads of which screws engage with their respective racks, and when the screws are turned the rack-plates will be moved. In this way it will be seen that the axle-tree can be elevated or depressed horizontally, or this axle-tree can be adjusted and set at any desired inclination, so that it may be leveled upon a hill-side. By means of the racks and screws I am not only enabled to keep the axle-tree horizontal, as above mentioned, but I obtain another advantage which renders the application of this contrivance to a gang-plow very useful—viz., I obtain great power by the employment of the screw, and do not require to use separate fastenings for holding the axle-tree in position after adjustment. The screws afford a positive hold on the racks and do not allow them to move.

D D are two longitudinal beams, which are rigidly braced together and secured upon the axle-tree B. The forward ends of these beams D D extend out in front of the axle-tree and serve as hounds for the attachment of the draft-pole E. This draft-pole is pivoted at *e* to said beams, and again connected to them by means of a curved ratchet-plate, *e'*, and a spring-latch, *e''*, so that the tongue or pole can be adjusted and fixed in different positions. The plows are constructed either with or without land-side-plates and firmly bolted to the two beams D D in rear of the axle, as shown in Figs. 1 and 2.

On the land-side of the rear plow is a wheel, F, which has its short axle formed on or suitably secured to an inclined standard, *g*, which latter is pivoted by a horizontal pin to a sector, *g'*, and bears against a stop, *s*, projecting from one side of this sector, as shown in Figs. 2 and 5. The sector *g* has a vertical pin, *h*, formed on it, which passes loosely through the rear end of a lever, G, and is attached to this

lever by a cross-pin, so that the sector can turn or oscillate freely in its bearing. The lever G has its fulcrum upon a standard, *h'*, projecting up from the inside beam, D, and the forward end of this lever is sustained upon a strong spring, *k*, the forward end of which rests upon the axle-tree. One end of a transverse lever, G', is arranged on top of the forward end of the lever G, as shown in Figs. 2 and 3, and the other end of this lever G' is passed through one or the other of the holes which are through the rack *b*, (shown in Fig. 3,) thus forming a connection between this rack and the lever G. The lever G' is pivoted to a post, G², which projects up from the axle-tree, and this lever acts upon the lever G, so as to allow the attendant, while sitting upon the machine, to adjust both wheels on one side of the machine simultaneously.

On the opposite side of the machine is a longitudinal lever, H, which has its fulcrum at *i*, and which carries a caster-wheel, J, at its rear end. This caster-wheel runs in the furrow in rear of the machine, and its short axle is secured to an inclined bar, *r*, which is pivoted to a sector-plate, *r'*, that is allowed to oscillate in its bearing in the lever H. The stop *t*, projecting from said sector-plate, keeps the axle-bar *r* in proper position, and the stop *p*, projecting from the lever H, prevents the wheel J from turning so as to run off from the unbroken land. A similar stop projects from the lever G for preventing the wheel F from turning so as to run the plows from the unbroken land. The forward end of the lever H enters a vertical slot in a post, H', and is allowed to vibrate in this slot. This forward end of the lever H is notched to receive a ver-

tical toothed strip, *v*, which is connected to the forward end of a stout spring, *v'*, that is secured to the lower edge of the lever H, as shown in Fig. 1. The catch-plate *y* on top of the post H' is intended to receive the teeth of the rack *v* and to admit of the spring *v'* being adjusted and set according to the degree of tension required.

It is intended that the springs at the forward ends of the levers G and H shall be sufficiently strong to support the weight of the plows, together with the weight of earth which is lifted by these plows, thus obviating to a great extent friction on the bottoms of the plows and diminishing the draft of the machine.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. Providing for adjusting the two supporting-wheels A and F simultaneously by means of a rack and screw, or their equivalents, substantially as described.
2. Connecting the landside-wheel F to a spring or yielding lever, G, substantially as described.
3. Connecting the rear supporting-wheel, J, to a spring or yielding lever, H, substantially as described.
4. Providing for adjusting the spring *v'* of the lever H, substantially as described.
5. Pivoting the axle-bars of the rear supporting-wheels, F and J, to oscillating segments, substantially as described.

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Witnesses:

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