

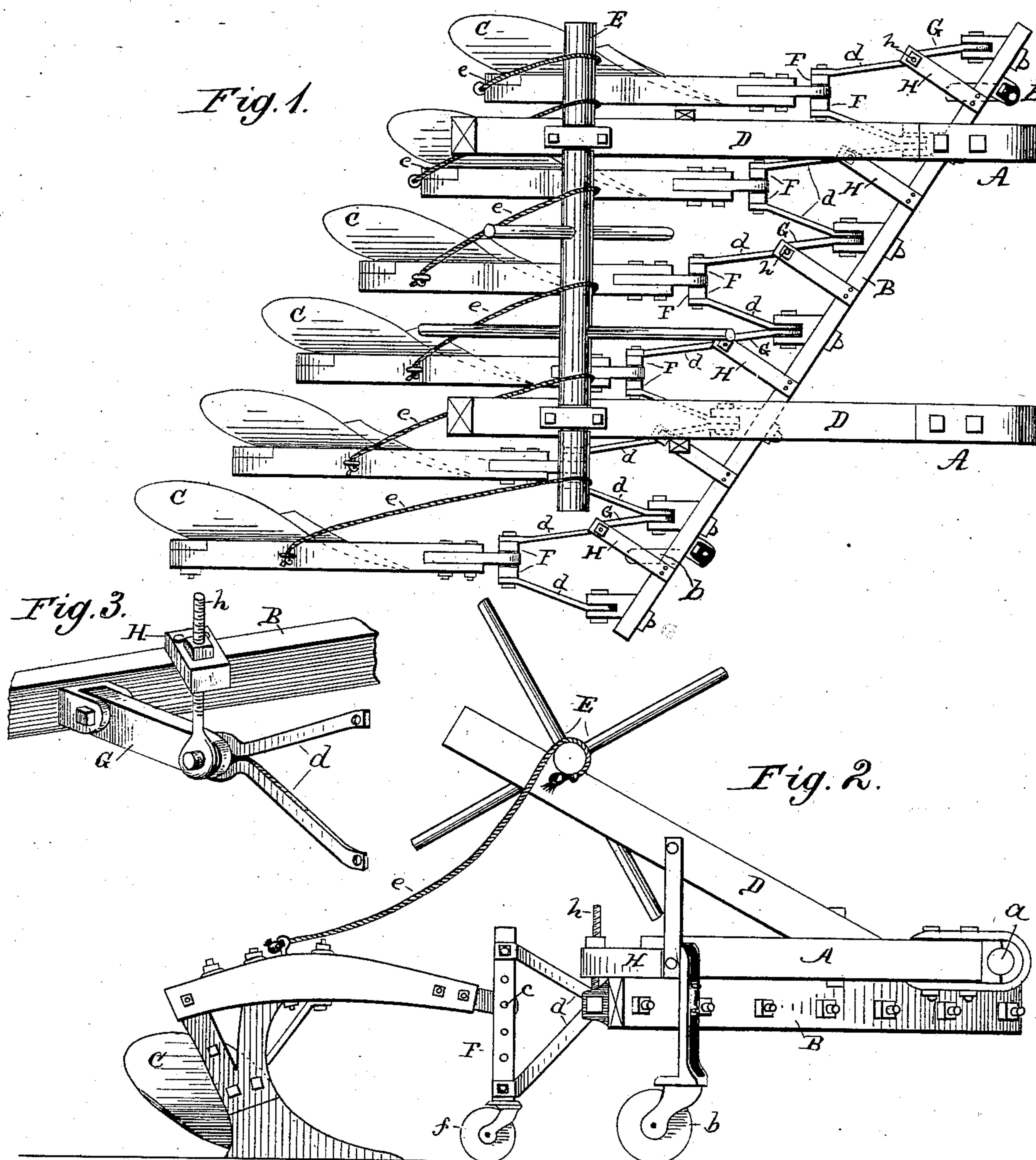
(No Model.)

W. KIMMEL.

GANG PLOW.

No. 279,768.

Patented June 19, 1883.



WITNESSES:

Thos. Houghton.

W. X. Stevens

INVENTOR:

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UNITED STATES PATENT OFFICE.

WILLIAM KIMMEL, OF MILTON, INDIANA.

GANG-PLOW.

SPECIFICATION forming part of Letters Patent No. 279,768, dated June 19, 1883.

Application filed December 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM KIMMEL, a citizen of the United States, residing at Milton, in the county of Wayne and State of Indiana, have invented a new and Improved Gang-Plow, of which the following is a specification.

My invention relates to improvements in that class of gang-plows in which a number of plows are hauled by a single force; and it has for its object to provide means whereby each plow will adapt itself to the lay of the land in its path and always plow its furrow to the same depth, means whereby each plow may be canted to the right or left to adapt its individual peculiarities to follow the run of the gang in its proper line, means whereby the plows may turn corners and may be supported to travel without plowing, and means whereby the united mechanism is guarded against danger from any one or more plows becoming rigidly caught while the gang continues to advance.

To this end my invention consists in the construction and combination of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my invention. Fig. 2 is a side elevation, showing but one plow, those which would be partly concealed being omitted. Fig. 3 is a detail in perspective.

A represents two longitudinal beams, provided at their forward ends with eyes *a* to attach to a traveling mechanical motive power—usually a traction-engine. These beams are of unequal length for the purpose of supporting a diagonal beam, B, which is rigidly fixed at their rear ends at such an angle that the plows C, attached thereto by connections of equal length, will each in succession have free space to turn its furrow behind its antecedent.

D represents two bracing-beams, secured at their forward ends to beams A and rising rearward to support a windlass, E, journaled thereon at right angles thereto. From this windlass ropes *e* extend loosely to the several plow-beams, and the windlass is provided with the usual hand-levers, by which means the operator, riding on a suitable platform on braces D, is enabled to raise all the plows out of the ground in the order of their rank for turning corners. This being done while the plows are advancing, a little practice on the part of the

operator will cause the furrows all to end with the front rank.

The diagonal beam B is provided with casters *b*, one at each end, to support the rear portion of the frame A B D, and to enable the same to follow the engine readily in turning corners. These casters have vertical slots in their shanks, through which screw-bolts pass into the diagonal beam for the purpose of allowing the beam to be set thereon at any desired height from the ground and there fixed by tightening the bolts. This frame, consisting of the longitudinal beams A, and the diagonal beam B, independently mounted on casters *b*, I call the "intermediate" frame. The forward ends of the plow-beams are supported in posts F, mounted on caster-wheels *f*, and are made vertically adjustable in a slot therein by means of an attaching-pin, *c*, adapted to fit in the forward end of the plow-beam, and in either one of several holes which are placed one above the other in the post F to adjust each plow independently of the others to plow to the depth desired.

The posts F are each attached to the diagonal beam by means of two brace-connections, *d*, like bails. The two rear ends of these bails are rigidly bolted to the two sides of the post F, and their forward ends are bent into the form of a loop or eye. One of these loops is hung in an eyebolt directly to the diagonal beam, and the other is hung to the beam by an intermediate eye-rod or link, G, of sufficient length to compensate for the angle of the diagonal beam, thus holding the two bails of each plow in rank, that the plows being each so fastened may be hauled in separate rank and file.

H represents arms rigidly secured to the diagonal beam extending over the joint of the links G with the bails *d*, and provided at that point with depending eyebolts *h*, the eye being secured to said joint and the screw-bolt made adjustable as to height in the arms H by means of nuts. One bail of each plow-post is secured directly to the diagonal beam and the other bail is vertically adjustable. By this means the bail thus attached may be raised or lowered to give each plow a sidewise cant or a vertical set, as may be desired, to cause the plow to travel in its proper file and to turn the furrow, as desired. The pin *c*, which at-

taches the plow to its post and serves to haul it, is made in such form and of such material that it will break under a strain very much greater than that caused regularly in plowing—
 5 as, for instance, when a plow gets hung under a root or rock and the force of the engine is exerted wholly upon it. I may use any material and give the same any form suitable for this purpose. If I use iron, I would cut a
 10 notch or groove at the middle of it; but I find that pins of wood answer the purpose well and are less expensive; or the plow may be connected for this purpose by one or more links designedly made of such form and material as
 15 to break by the strain of hauling the plow before such strain is sufficient to endanger any important part of the plow or the hauling device.

What I claim, and wish to secure by Letters
 20 Patent, is—

1. An intermediate frame consisting of the longitudinal beams A, provided with eyes *a*, adapted to attach the same to a traveling mechanical motor, and the beam B, secured
 25 diagonally upon beams A and provided at each end with vertically-adjustable casters *b*, and with means, substantially as specified, for independently attaching each one of a gang of plows to said diagonal beam, as and for the
 30 purpose specified, whereby the diagonal plow-attaching beam is independently mounted to run upon its own wheels, and is provided with flexible connections to attach it to a traveling mechanical motor, substantially as specified.

35 2. The combination, with the intermediate

frame described, of the brace-beams D secured thereon, the windlass E, journaled in said braces at right angles to the line of draft, the diagonal gang of plows C, and the ropes *e*, connecting each plow with the windlass, as shown
 40 and described, whereby the plows will be lifted from the ground in the order of their rank, and the gang of plows and its attachments are a complete implement dependent on
 45 an engine or other mechanical motor for propulsion only.

3. The caster-posts F, each slotted to receive the clevis of a plow, and provided with two or more cross-pin holes and a pin for holding
 50 said clevis loosely, and the bail-connections *d*, substantially as and for the purpose specified.

4. The caster-posts F, provided with vertical slots and cross-pin holes for receiving the plow-beams and hauling-pins, in combination
 55 with the two bail-hitches *d*, secured to each post, as shown and described.

5. The diagonal beam B and means for securing the same to a motor, in combination
 60 with the caster-posts F, bails *d*, and links G, as shown and described.

6. The supporting-arms H and adjusting-screws *h*, in combination with the plows C, each provided with two horizontal connections
 65 with the motor, whereby one of said connections may be raised or lowered to cant the plow, as described.

WILLIAM KIMMEL.

Witnesses:

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 CHARLEY MYERS.