

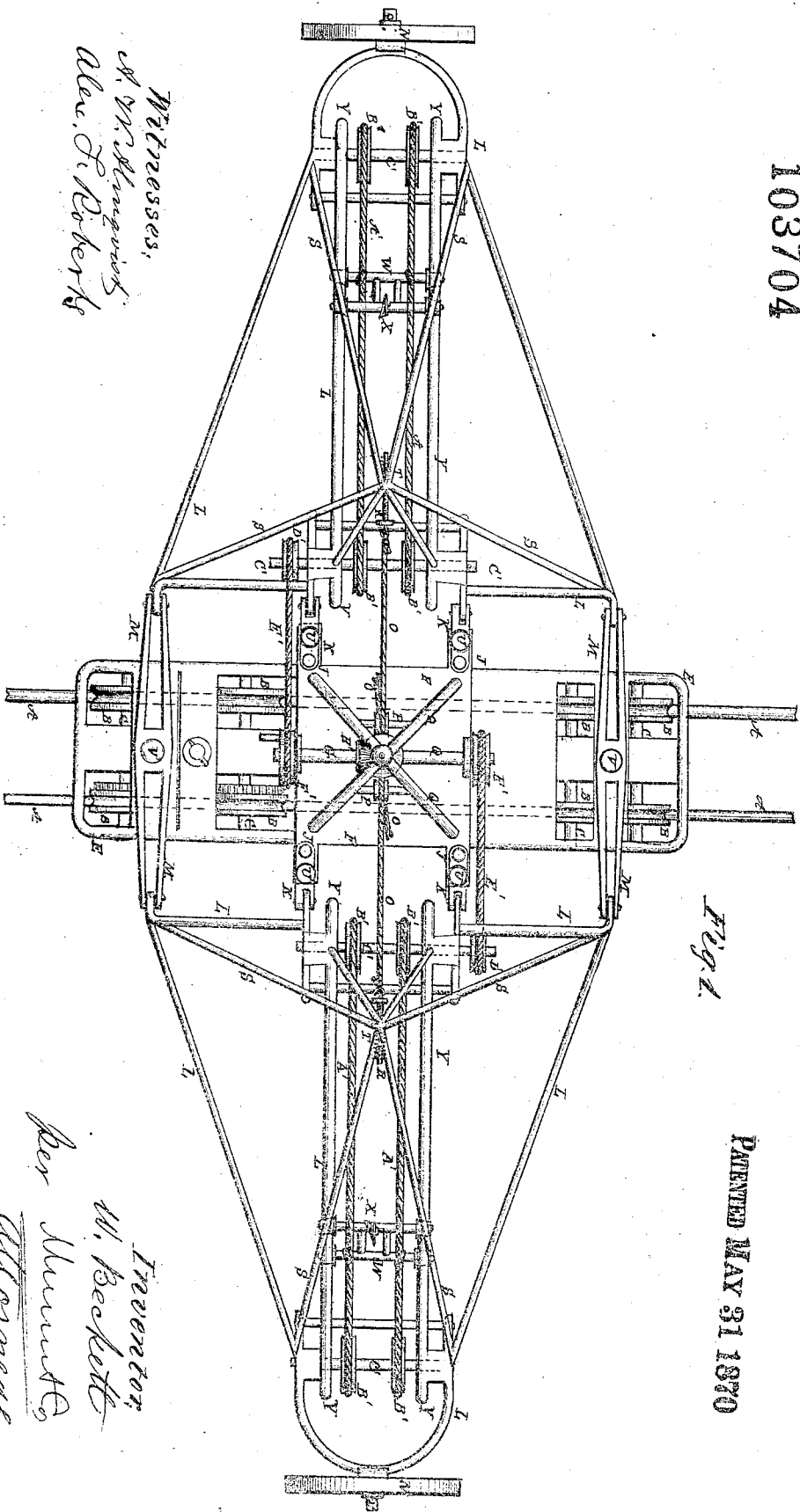
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W. Beckett. Steam Plows etc.

Sheet

Fig. 1.

PATENTED MAY 31 1870



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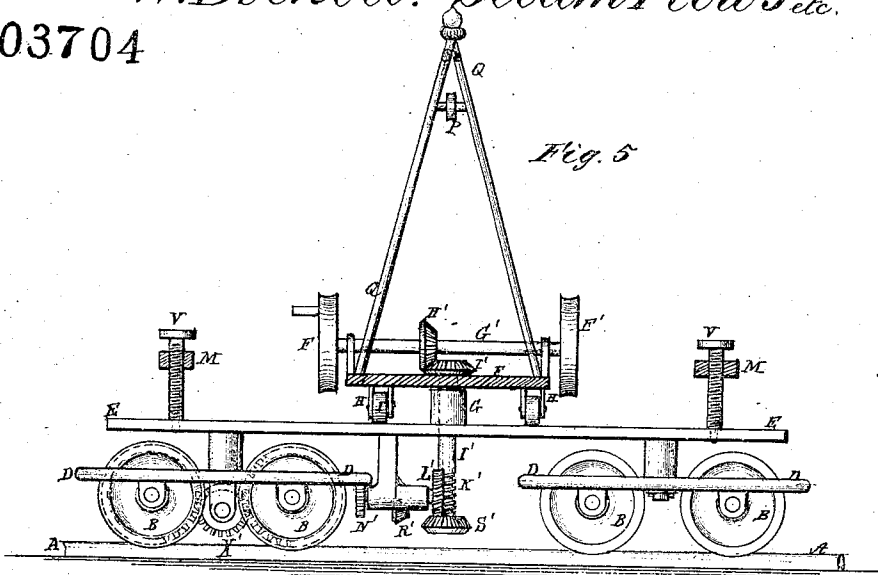
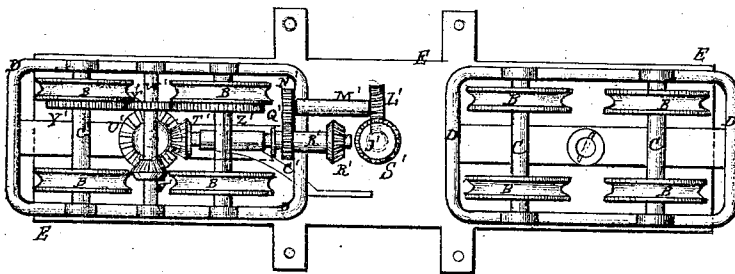


Fig. 5

Fig. 6



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WILLIAM BECKETT, OF KINGSTON, JAMAICA.

Letters Patent No. 103,704, dated May 31, 1870.

IMPROVEMENT IN STEAM-PLOWS

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, WILLIAM BECKETT, of Kingston, Jamaica, have invented a new and useful Improvement in Steam-Plows, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1, Sheet I, is a top or plan view of my improved machine.

Figure 2, Sheet II, is a rear view of the same.

Figure 3, Sheet II, is a detail view of the plow, truck, or car.

Figure 4, Sheet II, is a detail section of the same, taken through the line *y y*, fig. 3.

Figure 5, Sheet III, is a detail sectional view of the apparatus, taken through the line *x x*, fig. 2.

Figure 6, Sheet III, is an under side view of the trucks, showing the arrangement of the operating or feed gearing.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved steam plowing apparatus which shall be so constructed as to do its work thoroughly and well, and which shall be so constructed that it may be used as a power for various other agricultural and mechanical purposes; and

It consists in the construction and combination of the various parts of the apparatus, as hereinafter more fully described.

A represents the rails or track upon which the machine moves across the land to be plowed, and which track or rails are laid directly upon, and secured to the ground, the different lengths or rails being connected to each other by fish-plates.

The heads of the rails A are made low to enter the groove of the wheels B, and their bases should be made broad to give them a sufficient bearing upon the ground.

B are the truck-wheels, the faces of which should be made broad, and should be grooved centrally to receive the rails A, so that the faces or treads of the wheels may bear upon the ground upon each side of the said rails A.

C are the axles, which revolve in bearings attached to the truck-frames D. The diagonal or alternate wheels of each truck run loose upon their axles, while the other two wheels are fast to their axles, for convenience in turning. The truck-frames D are pivoted at their centers to the frame E, which extends over both trucks, by means of shafts, studs, or bolts, as shown in figs 2 and 5.

F is a platform, which is pivoted to the central

platform or part of the frame E, by a vertical shaft, and is supported by a hollow standard, G, attached to the center of the frame, and by studs or standards H, to the lower end of which are attached friction-wheels I, which roll upon the platform E, or upon ways attached to said platform or frame E.

To the four corners of the platform F are attached four vertical upwardly-projecting studs or posts, J, upon which are placed the eye-pieces K, to the outer ends of which are hinged the inner ends of the side-frames L.

The frames L are made in about the form shown in the drawing, that is to say, the inner ends of said frames are made wide, and the outer ends narrow.

M are two bars crossing above the end parts of the frame E, and the ends of which are pivoted to the ends of the inner ends of the frames L, as shown in figs. 1 and 2.

To the outer or narrower ends of the frames L are pivoted wheels N, which roll along the surface of the ground, and support the outer ends of the said frames L.

O are ropes or chains, the inner ends of which are attached to the sides of the platform F.

The ropes or chains O pass over guide-pulleys P pivoted to the upper part of the standards or frame-work Q, the lower ends of which are attached to the said platform F.

The outer ends of the ropes or chains O are attached to the eyes of the eye-bolts R, which pass through holes in the upwardly-projecting frame-work S, rigidly attached to, and forming a part of the frames L.

T are springs placed upon the outer parts of the eye-bolts R, and the inner ends of which rest against the frame-work S, so as to relieve the jar should the wheels N, or either of them, drop into a depression in the ground.

The inner ends of the frames L are raised and lowered to adjust them at the proper distance from the ground by the set or hand-screws U, which pass through screw-holes in the eye-pieces K, and the lower ends of which work in sockets formed in, or attached to the platform F.

V are set or hand-screws, which pass through screw-holes in the centers of the bars M, and the lower ends of which enter sockets or holes in the end parts of the frame E, as shown in figs. 1, 2, and 5, to prevent the platform F, and its attachments, from oscillating upon its pivoting-shaft when at work, and which, when raised, will allow the said platform, and its attachments, to be turned about the said pivoting-shaft, as may be desired.

W are the trucks or cars to which the plows X are attached, and one, two, or more of which may be used in connection with each of the frames L.

To each side of each of the trucks W are attached two wheels, which are placed the one above and the other below the continuous ways Y attached to or forming a part of the frames L, as shown in fig. 2.

The beams of the plows X are pivoted to the trucks W, and have small springs, Z, connected with them, to allow them to give should the plows strike an obstruction, and which will bring the said plows again into working position as soon as the obstruction has been passed.

The trucks W are securely attached to the chains or wire ropes A', which pass around the wheels B', rigidly attached to the shaft C' that revolves in bearings in the outer and inner ends of the frames L.

To the ends of the inner shaft C' are attached wheels D', around which passes the rope, chain, or band E', which also passes around a wheel, F', attached to the driving-shaft G', which revolves in bearings attached to the platform F. Power is designed to be applied to the shaft G' in the ordinary manner, by a steam-engine placed upon the platform F, and which is not shown in the drawing.

To the middle part of the driving-shaft G' is attached a bevel gear-wheel, H', the teeth of which mesh into the teeth of a bevel gear-wheel, I', attached to the upper end of the vertical shaft J' that passes down through the platforms F and E, and pivots the said platforms to each other, as hereinbefore described.

Upon the lower part of the shaft J' is formed a screw-thread, K', into which mesh the teeth of the screw-wheel L', attached to one end of the short shaft M', which revolves in bearings in the lower end of a standard or other support, and to the other end of which shaft is attached a gear-wheel, N', the teeth of which mesh into the teeth of the gear-wheel O' attached to the sleeve R'.

The sleeve R' slides upon the shaft Q', with which it is connected by a tongue and groove, or other convenient means, so as to carry the said shaft Q' with it in its revolution, and, at the same time, may be free to slide longitudinally upon the said shaft Q'. To the forward end of the sleeve R' is attached a small bevel gear-wheel R', which, when the sleeve R' is slid forward, meshes into the teeth of the gear-wheel S' at-

tached to the lower end of the vertical shaft J'. This arrangement of the gearing enables the machine to be fed or moved forward with a faster or slower movement, as may be desired. The shaft Q' revolves in bearings attached to the frame E, and to its rear end is attached a bevel gear-wheel, T', the teeth of which mesh into the teeth of the gear-wheel U', which revolves upon the lower end of the bolt-spindle or shaft by which the truck-frame D is pivoted to the frame E, so that the gear-wheels T' U' may mesh into each other, whatever position the truck may have with reference to the frame E. The teeth of the gear-wheel U' also mesh into a bevel gear-wheel, V', attached to the transverse shaft W', which works in bearings attached to the truck-frame D. To the shaft W' is also attached a gear-wheel, X', which meshes into the gear-wheels Y' Z' attached to the front and rear axles of the truck.

To enable the plows to be conveniently adjusted at the proper angle, an endless screw A' is swiveled to the frame of the plow-truck W, and passing through a whole or half nut connected with the plow, so that, by turning the said screw, the plow may be conveniently adjusted at the required angle.

Having thus described my invention,

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

1. The combination of frames D and E, pivoted together as set forth, with the platform F, vertical shaft, hollow standard G, studs H J, and friction-wheels I, as described.

2. The subject-matter of third clause, in combination with the eye-pieces K and frames L, whose outer ends rest upon the ground, in the manner described.

3. The combination of the swiveled screw A' with the plow-truck W, and plow X, substantially as herein shown and described and for the purpose set forth.

The above specification of my invention signed by me this 15th day of December, 1869.

W. BECKETT.

Witnesses:

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