No. 826,137. PATENTED JULY 17, 1906.

C. S. BALYEAT.

COMBINED ROLLER AND HARROW.

APPLICATION FILED JULY 11, 1903.

Fig. 1.

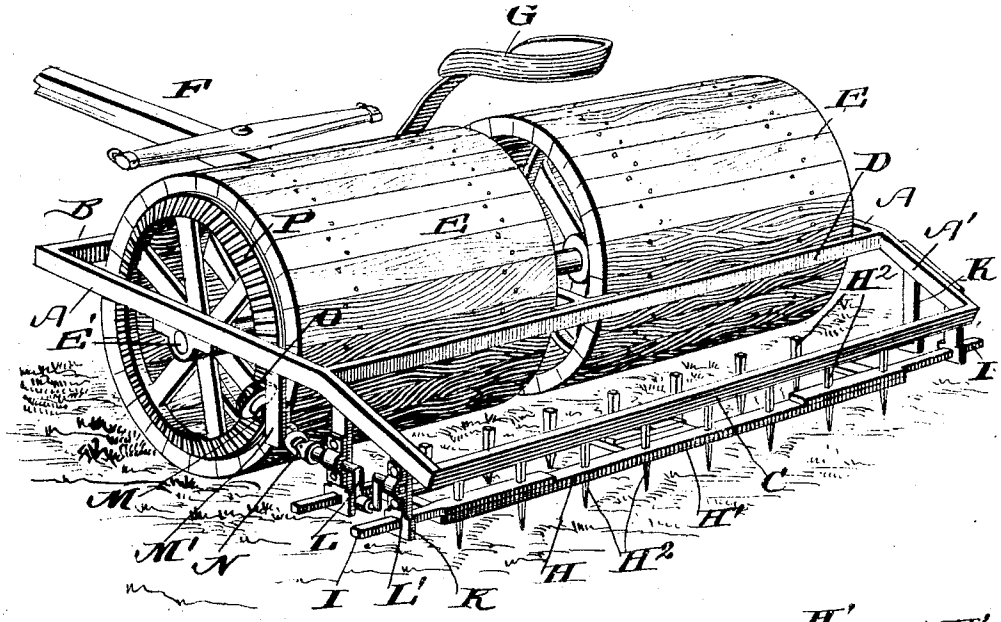


Fig. 3.

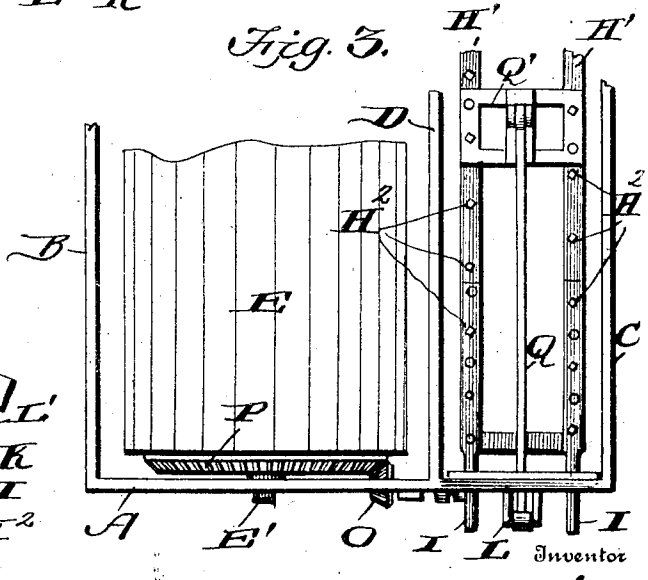
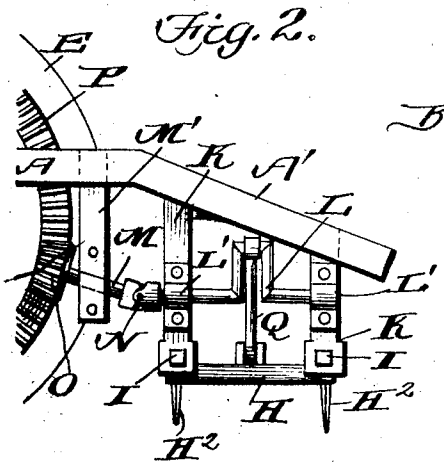


Fig. 2.



Witnesses

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CLARENCE S. BALYEAT, OF TOLEDO, OHIO.

COMBINED ROLLER AND HARROW.

No. 826,137. Specification of Letters Patent. Patented July 17, 1906.

Application filed July 11, 1903. Serial No. 165,159.

To all whom it may concern:

Be it known that I, CLARENCE S. BALYEAT, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Combined Roller and Harrow, of which the following is a specification.

This invention is a combination land-roller and harrow, the object being to provide a simple and efficient machine by means of which clods of earth can be crushed or broken up and the roller-surface raked or harrowed and left in a level condition.

With this object in view my invention consists, essentially, in the employment of a land-roller and a reciprocating harrow arranged at the rear of said roller, together with means connected to the harrow and operated by the land-roller for the purpose of reciprocating said harrow.

The invention consists also in certain details of construction and novelties of combination, all of which will be fully described hereinafter and pointed out in the claim.

In the drawings forming part of this specification, Figure 1 is a perspective view showing a combined roller and harrow constructed in accordance with my invention. Fig. 2 is a detail view showing in elevation the mechanism for operating the harrow. Fig. 3 is a partial top plan view showing one of the rollers, a portion of the harrow, and means for operating said harrow.

In carrying out my invention I employ a main frame which consists of the side beams A, front beam B, rear beam C, and intermediate cross-beam D, and it will be noted that the rear ends of the side beams A are bent downwardly beyond the intermediate cross-beam, as most clearly shown at A'. Rollers E are mounted upon the axle E', which is journaled in suitable bearings connected to the side beams A.

F indicates the draft-pole, and G the seat, which are constructed and arranged substantially the same as poles and seats now in common use.

The harrow H consists of the parallel toothed bars H', having the harrow-teeth H^2 inserted therein, and these toothed bars are reduced at their opposite ends, as shown at I, said reduced portions working in depending guide-hangers K, connected at their upper ends to the inclined portions A' of the side beams A, and mounted upon one pair of hangers is the crank-shaft L, the ends being journaled in suitable bearings L', fastened to the hangers, the forward end of said crank-shaft being connected to a shaft M by means of a universal joint N, said shaft M having a toothed gear O mounted upon its forward end, which gear meshes with a beveled toothed ring P, fastened upon the adjacent end of the land-roller, the shaft M, carrying the beveled gear, being supported in a suitable hanger M', connected to the main frame, and it is obvious that as the roller is rolled over the ground the shaft M will be rotated, turning the crank-shaft L, and connected to the crank portion of said shaft is a pitman Q, the opposite end of said pitman being connected to a cross-bracket Q', connecting the toothed bars of the harrow, so that as the land-rollers are rolled over the earth the harrow will be rapidly reciprocated horizontally in a direction transverse to the movement of the rollers, so that the clods of earth are crushed and rolled flat and the harrow will rake the surface and leave it smooth and harrowed.

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

A device of the kind described comprising a rectangular frame having one side in a lower plane than the opposite side, rollers journaled in the frame, a toothed ring carried by one of said rollers, hangers carried by the ends of the frame adjacent the lower side, longitudinally-movable toothed bars carried by the hangers, a bracket connecting the bars, a shaft, a pinion on the shaft meshing with the toothed ring, a crank-shaft connected by a universal joint to the first-mentioned shaft, and a pitman pivotally connecting the crank-shaft and the bracket thereby moving the bars in unison.

CLARENCE S. BALYEAT.

Witnesses:
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