W. GUTENBERGER.

Land-Roller and Clod-Crusher.

No. 199,536. Patented Jan. 22, 1878.

Fig. 1.

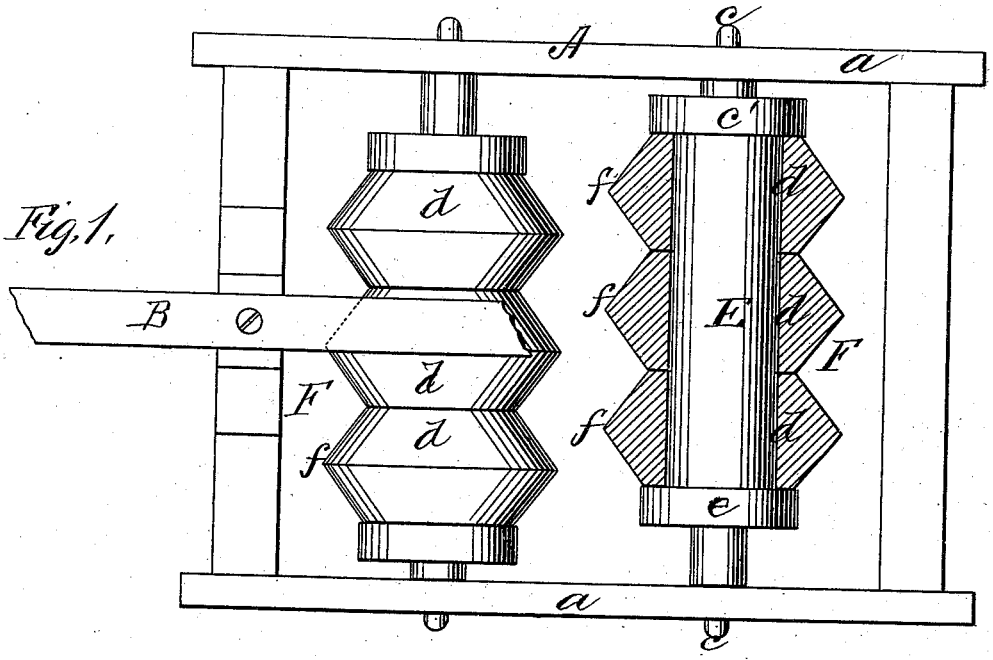
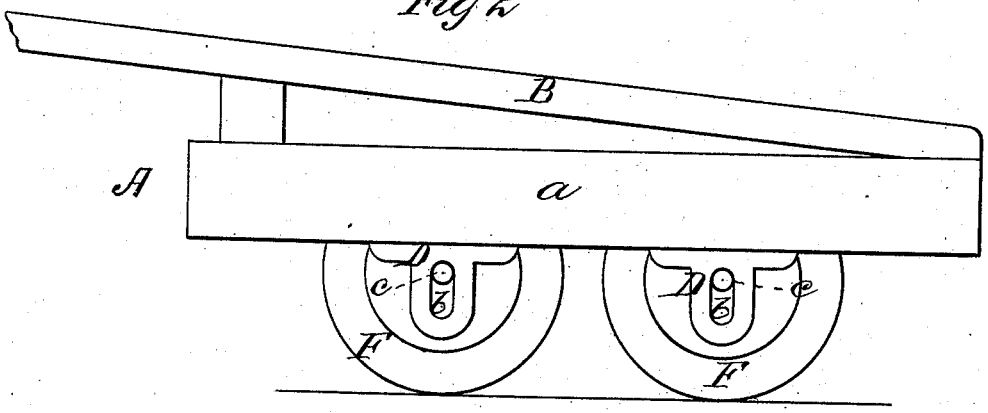


Fig 2



WITNESSES

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WILHELM GUTENBERGER, OF SACRAMENTO, CALIFORNIA.

IMPROVEMENT IN LAND-ROLLER AND CLOD-CRUSHER.

Specification forming part of Letters Patent No. **199,536**, dated January 22, 1878; application filed December 1, 1877.

To all whom it may concern:

Be it known that I, WILHELM GUTENBERGER, of Sacramento city, in the county of Sacramento and State of California, have invented a new and valuable Improvement in Land-Rollers and Clod-Crushers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of this invention with one roller in section. Fig. 2 is a side view of the same.

This invention has relation to improvements in land-rollers and clod-crushers.

The nature of the invention consists in certain combination of parts, as more fully hereinafter shown and described.

In the annexed drawings, the letter A designates a preferably rectangular frame, the transverse bars of which are centrally connected by a draft-bar, B. Upon the side rails *a* of this frame are rigidly secured, directly opposite each other, and at a suitable distance apart, the metallic plates D. These plates are each provided with an oblong vertical slot, *b*, in which are journaled the rabbeted spindles *c* of the shafts E. These shafts are preferably of wood, and are of a length to be received between the side rails *a* of the frame aforesaid. At one end of these shafts, inside of the rails *a*, is a collar, *c'*, rigidly secured thereto or forming a component part thereof, which serves as a stop for a number of independent roller-sections, *d*, which constitute the rollers F. These sections rotate independently of each other upon the shaft E, and are held in proper juxtaposition to each other by a second collar or stop, *e*.

The sections have each an angular periphery, as shown at *f*, and when put upon the shaft form a serrated roller, F, the sections of which have independent rotation upon their shaft. These sections may be so arranged relative to each other on different shafts that the apexes of the sections on one shaft shall follow the depressions upon the other or others.

It is evident that the whole superficies of the soil to be leveled will be acted upon by one or the other of the sections upon the different shafts, and that the clods will be broken up by the angular edges thereof, instead of being driven into the softer parts of the soil.

It is also evident that the surface of the ground will be leveled with sufficient accuracy for all agricultural purposes, only unimportant ridges being left after the passage of the apparatus.

The journals of the shafts E having their bearings in the oblong slots *b* of the plates D, each roller will adapt itself independently of the other to inequalities of the soil.

In practice I may sometimes interpose bearings of Babbitt metal or other suitable composition or metal between the spindles *c*, and the constant bearing at the upper end of the slots *b*, in order to reduce the friction to the minimum and protect the plates D.

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

In a land-roller and clod-crusher combined, the combination of the frame A, having hangers D, provided with oblong slots *b*, the shaft E, having spindles *c* journaled in said oblong slots, and free to move up and down to the unevenness of the ground, and the annular sections *f*, mounted closely on said shaft E between the stops *c'* and *e*, but capable of an independent rotating movement on said shaft, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILHELM GUTENBERGER.

Witnesses:

R. WILTENBROCK,

FRANCIS K. HEPBURN.