G. U. RELYEA.

Fertilizing Machine.

No. 83,816. Patented Nov. 3, 1868.

Fig. 1.

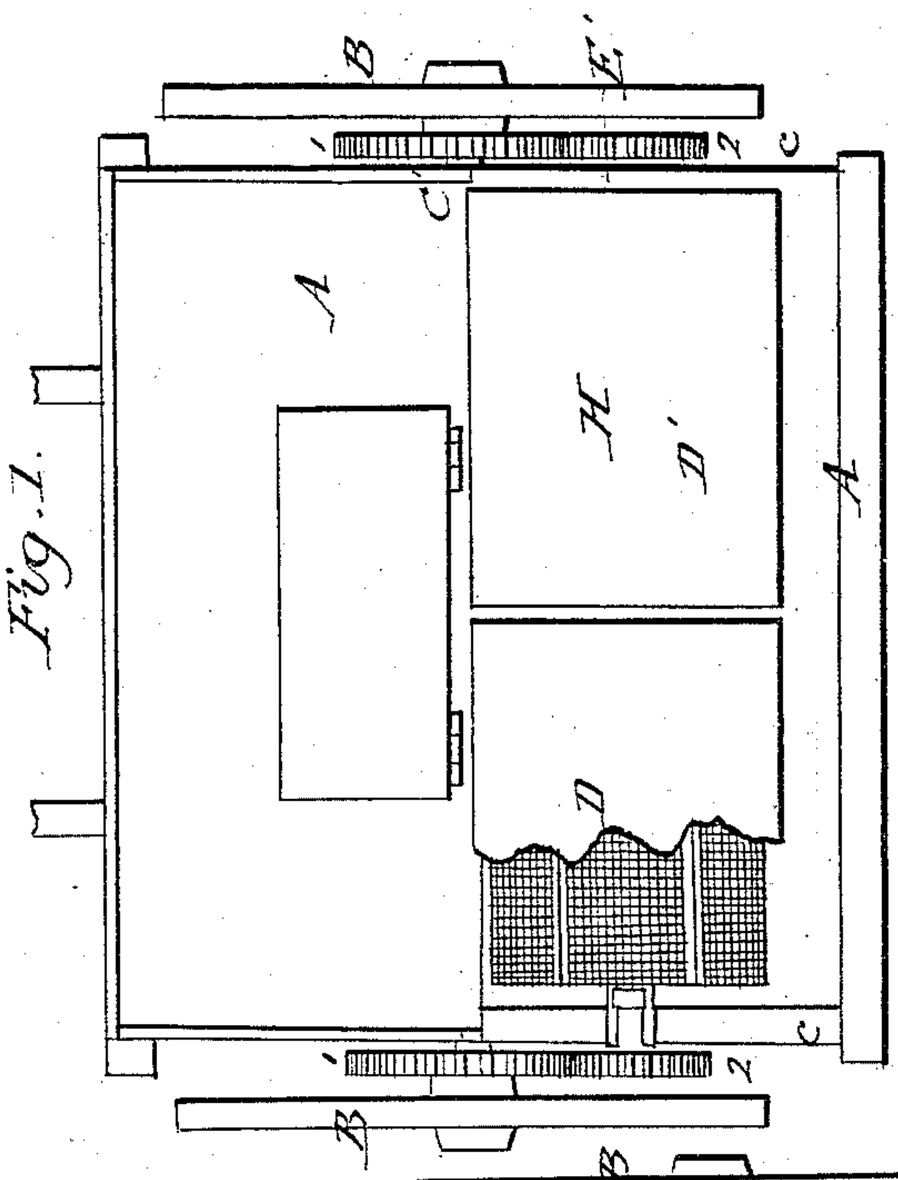


Fig. 2.

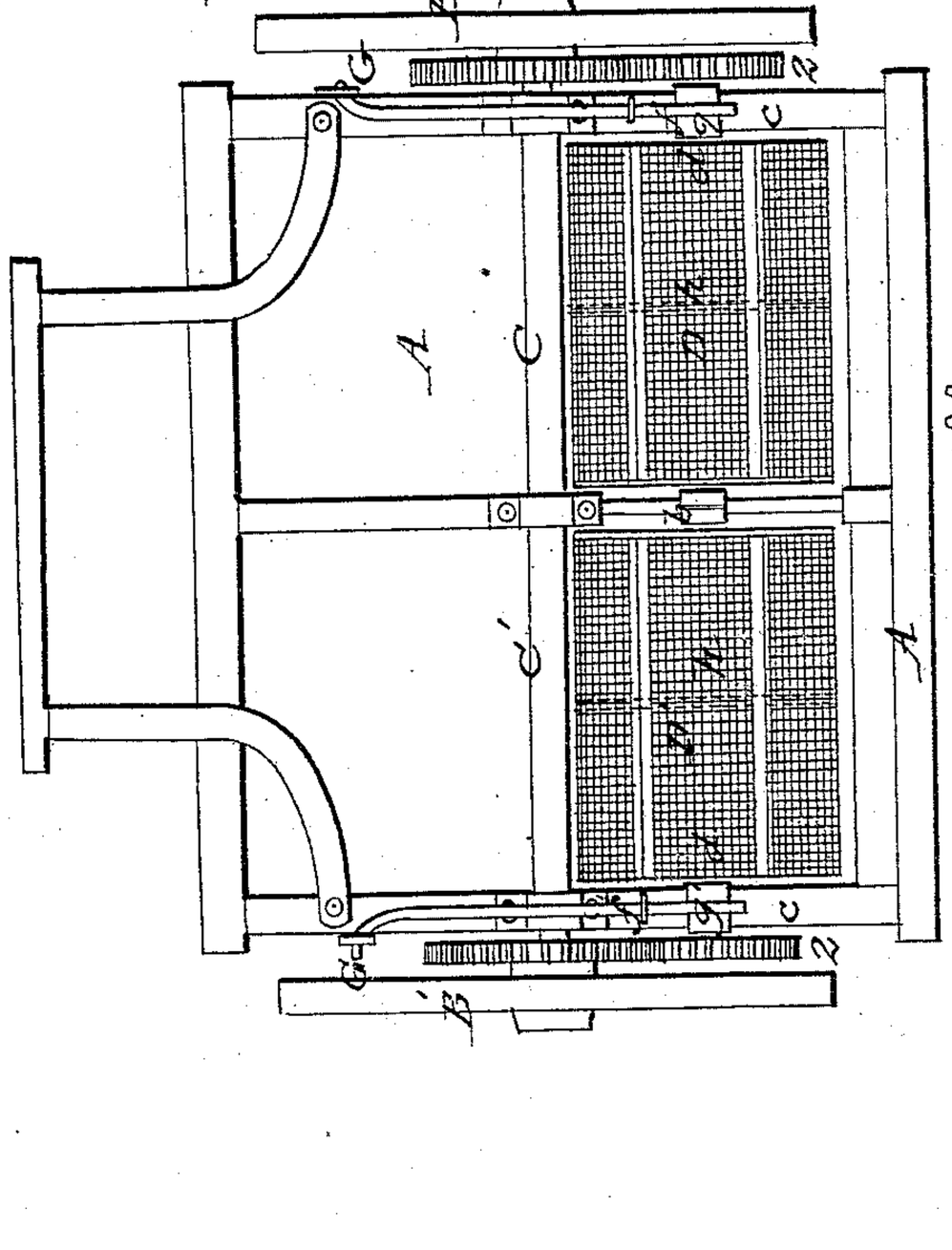


Fig. 3.

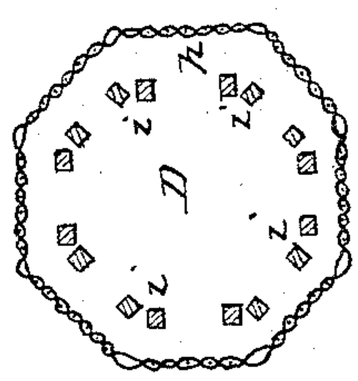


Fig. 4.

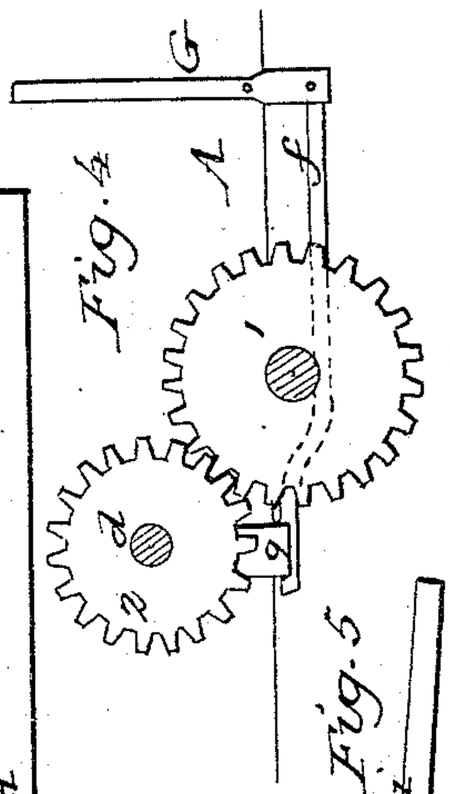
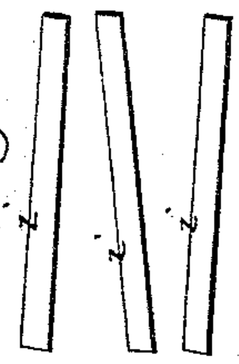


Fig. 5.



WITNESSES:

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United States Patent Office.

GEORGE U. RELYEA, OF WATKINS, NEW YORK.

Letters Patent No. 83,816, *dated November* 3, 1868.

IMPROVEMENT IN MACHINE FOR SPREADING PLASTER, LIME, &c.

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, GEORGE U. RELYEA, of Watkins, in the county of Schuyler, and State of New York, have invented a certain new and useful Improvement in Machines for Spreading Plaster, Lime, Salt, and other substances; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a plan of the top of my improved machine.

Figure 2, a plan of the bottom.

Figure 3, a vertical section of one of the receptacles or sifters.

Figure 4, a view showing the arrangement of the gearing and lever-work.

Figure 5, view of the cross-slats.

Like letters of reference indicate corresponding parts in all the figures.

My invention consists in the special arrangement of the machine, as hereinafter set forth, whereby either receptacle or sifter, with connecting-mechanism on one side of the machine, may be worked independently of the corresponding parts on the opposite side; and it further consists in combining, with the perforated receptacles or sifters longitudinal angular bars, and vertical division-plates inside, whereby the plaster or other substance is kept thoroughly stirred and lightened, in condition for passing uniformly through the meshes.

In the drawings, A indicates the main frame, B B′, the driving-wheels, and C C′, half axles, resting in a central bearing, *a*, and made fast to the driving-wheels.

In the rear of the axles are mounted two revolving receptacles or sifters D D′, likewise mounted in half axles or shafts E E′, with a fixed central bearing, *b*, in line with *a*, but having the outer ends or journals, *d d′*, resting in sliding bearings *g g′*, which move forward and back on rails *c c*. This sliding movement is produced through the medium of connecting-rods *f f′*, thrown by levers G G′, as clearly shown in fig. 4. The pinions 2 2, on journals *d d′*, are therefore correspondingly thrown in and out of gear with cog-wheels 1 1, fast on the driving-wheel axis.

By this construction, I divide, so to speak, the working-mechanism into two separate and distinct parts, on opposite sides of the machine, each of which is as independent in its action as if it were embodied in a machine by itself; that is, each driving-wheel, with its independent half axle, drives one of the receptacles or sifters on its half shaft, while, if desired, the opposite side may be stationary and entirely out of gear.

The especial advantage of this arrangement is, that while the desired width of spreading-capacity is attained by the use of two sifters, at the same time, in turning a corner, the mechanism of the swing-side of the machine may be stopped, thereby making the spreading even, and preventing the wasting of material. It also allows one side to be stopped in passing waste spots, while the other side still keeps in operation. It also enables me to spread a narrow line, when desired, for instance, next to a fence.

This effect is produced by a compact and simple arrangement of machinery mounted in a simple frame.

I am not aware that the mechanism of plaster-sowers has before been thus arranged in halves, each operated throughout independent of the other, by the action of one of the driving-wheels, whereby a wide or narrow spread is made. Neither am I aware that two sifters or receptacles have ever before been so arranged in line that the disengagement of the gearing is produced by throwing back the outer journals while the inner ones remain fixed.

The sifters may be hexagonal, octagonal, or other suitable form, in cross-section, and the planes or faces of the same are made of wire cloth, perforated metal, or other material that will produce the necessary sifting-action. One or more of these planes may be made to slide out and in, to form a door, to insert the substance to be spread upon the soil.

Inside, I divide each receptacle into compartments, by one or more vertical division-plates, *h*. I also place longitudinally in these compartments, bars *i i*, situated in a circular line, intermediate with the shaft and periphery, and arranged also in an alternately angular position, as clearly shown.

By thus combining the bars with the sifters, the revolutions will keep the plaster constantly stirred up, and prevent packing, to which it is prone, by reason of its great weight and dampness, and therefore the sifting-action will be produced with greater ease and uniformity than could otherwise be the case. The alternate angular position of the bar assists this action, by working the plaster longitudinally from one end to the other, and their location, intermediate with the periphery and shaft, allows a free passage to the meshes. At the same time the division-plates *h* hold the plaster properly in the several compartments, and prevent a concentration to either end, which, under some circumstances, and especially on inclined soil, might be the result.

Hinged covers H H are made to turn over and enclose the sifters on top, to shut off dust.

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

1. The combination, in the same machine, of two independent sets of mechanism for sifting plaster, &c., situated end to end, the said sets consisting of revolving sifters D D′, with the inner ends fixed, but the outer ones resting in slide-boxes *g g′*, to throw out of gear, by means of connections *f f′*, G G′, and the axle of the driving-wheels, and the shaft of the sifters, made in halves, the whole arranged as described, and operating in the manner and for the purpose specified.

2. The combination, with the perforated sifters D D′, of the angular bars *i i* and division-plates *h h*, the whole arranged as described, and operating in the manner and for the purpose specified.

In witness whereof, I have hereunto signed my name, in the presence of two subscribing witnesses.

GEO. U. RELYEA.

Witnesses:

J. W. THOMPSON,

GEO. H. JACKSON.