(No Model.)

J. J. ADAMSON.

COMBINED PULVERIZER AND GRAIN DRILL.

No. 308,726. Patented Dec. 2, 1884.

Fig. 1.

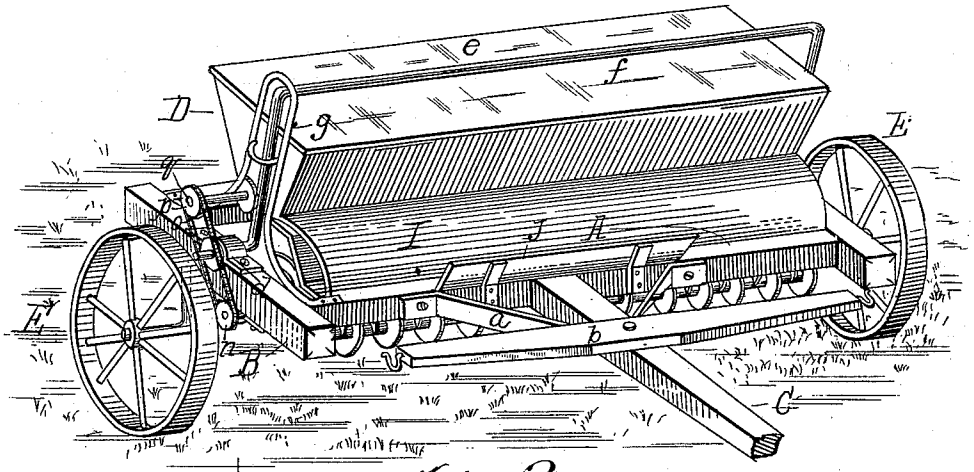


Fig. 2.

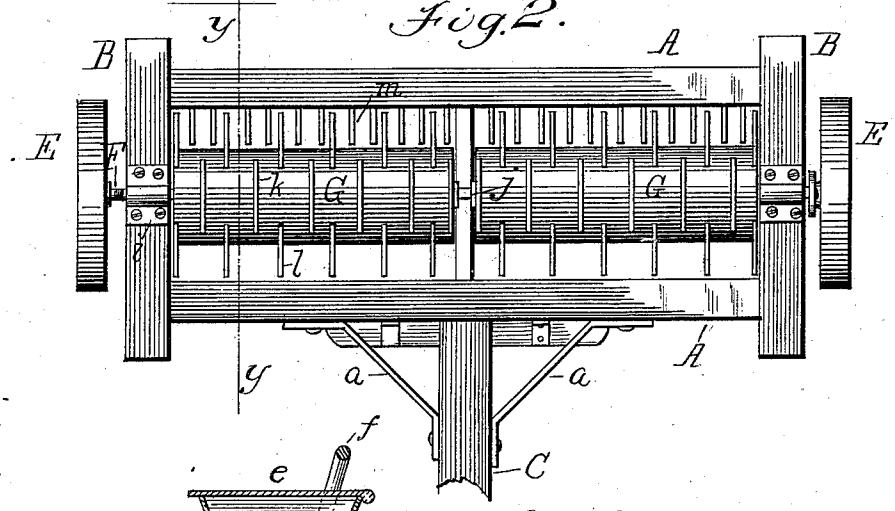
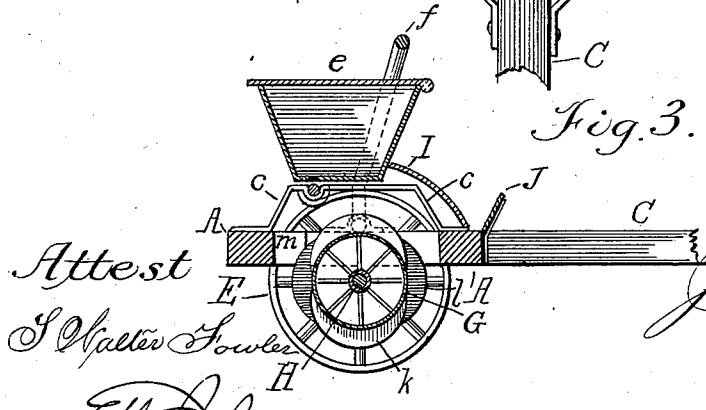


Fig. 3.



Attest

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UNITED STATES PATENT OFFICE.

JAMES J. ADAMSON, OF OLNEY, ILLINOIS.

COMBINED PULVERIZER AND GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 308,726, dated December 2, 1884.

Application filed January 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. ADAMSON, a citizen of the United States of America, residing at Olney, in the county of Richland and State of Illinois, have invented certain new and useful Improvements in Combined Pulverizer and Grain-Drill; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention has relation to combined planters and ground-levelers; and it consists in the improved construction and combination of parts hereinafter described and set forth.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of a machine constructed in accordance with my invention. Fig. 2 is an inverted plan, and Fig. 3 is a section on the line *y y*, Fig. 2.

A B are respectively bars constituting the frame of the machine. A tongue, C, is centrally secured to the front bar, A, and is braced by suitable rods, *a*, and carries a suitable draft-tree, *b*. A hopper, D, is suitably supported on the frame by means of standards *c*. The carrying-wheels E turn on the end of an axle, F, which is bent up and in, so as to be journaled in bearing *d*, secured upon the upper side of the bars B. The axle is then bent vertically to extend up above the cover *e* of the seed-box, and the said vertical portions are united transversely by a horizontal bar, *f*. A vertical spring-standard formed by the bent rod *g*, secured at its ends to the frame at one side of the same, is adapted to normally bear against one of the vertical portions of the axle and maintain the same in the position shown in Fig. 1. A cylinder or cylinders, G, are rigidly secured to a shaft, H, by a series of spiders, *h*, the ends of the shaft H turning in bearings *i*, formed on the under side of the bars B. The shaft H has rigidly secured to it, at each side of its bearings, a series of disks, *j*, which prevent lateral displacement of said shaft in its bearings. The cylinder or cylinders G have projecting from them at various points a series of crescent blades, *k l*. As shown in Figs. 2 and 3, the blades *k* are arranged diametrically opposite each other, and do not extend more than a fourth the circumference of the said cylinder or cylinders. The blades *l* are arranged so as to alternate with the blades *k*, and are located at points on the circumference of the cylinder between the blades *k*. A series of fingers, *m*, project from the rear bar A into and between the blades *k l*, so as to remove dirt clinging to said blades. One end of the cylinder-shaft H carries rigidly a small band-pulley, *n*, which, by the motion it derives from the revolution of the cylinder, drives by a belt, *o*, a second pulley, *p*, rigidly secured on the end of the hopper-valve shaft *q*. A curved plate or guard, I, is secured at the front of the machine between the hopper D and frame, and prevents any dirt being thrown by the cylinder upon the clothes of the attendant, whose feet rest on the fender J. By disengaging the axle from the spring-standard *g* and moving the rod *e* so as to turn the vertical portions of the shaft to a horizontal position, thereby throwing up the crank extremities of the shaft rearwardly and elevating the carrying-wheels E, the weight of the machine is thrown upon the cylinder or cylinders, causing the blades of one transverse series to cut into the ground, while the draft on the machine results in the revolution of the cylinder and the successive cutting action of all of the blades.

By arranging the blades *k l* as herein described the necessity for a continuous blade is dispensed with, the resistance of the blades greatly reduced, and all the ground within the transverse area of the machine subjected to the pulverizing action of the blades and the leveling action of the cylinder or cylinders. Furthermore, the crescent shape of the blades enables them to more readily and gradually enter the ground.

I claim—

1. The combination, in a ground-leveling and roller machine, of a frame, a cylinder journaled therein, a series of crescent-shaped blades arranged, as described, to have their smallest portions enter and leave the ground, and each pair of which nearly embrace and

are in a peripheral line on said cylinder, and a series of pairs of crescent-shaped blades arranged in different peripheral lines, and spanning the space between the first-mentioned series, substantially as set forth.

2. The combination, in a ground-leveling and roller machine, of a frame, a cylinder or roller journaled therein, a series of crescent-shaped blades, each pair of which nearly embrace and are in a peripheral line on said cylinder, and a series of pairs of crescent-shaped blades arranged in different peripheral lines, and spanning the space between the first-mentioned series, carrying-wheels supporting the frame, a bent axle, and a vertical spring, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES J. ADAMSON.

Witnesses:

WILLIAM MATTOON,

HARRISON M. SPAIN.