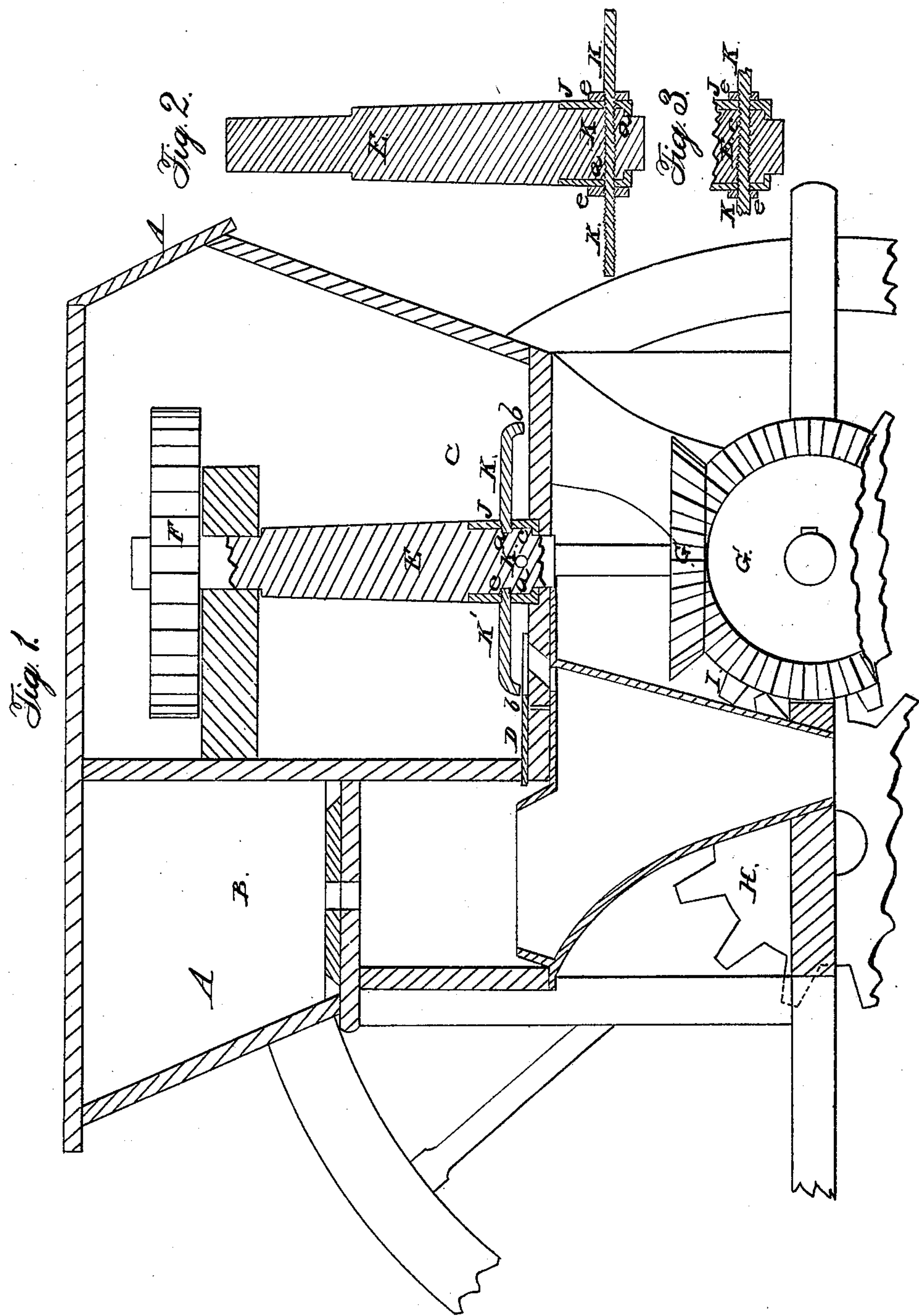


MAY & COONTZ.

Fertilizer.

No. 19,431.

Patented Feb. 23. 1858.



UNITED STATES PATENT OFFICE.

WM. H. MAY, OF ALEXANDRIA, AND CHARLES W. COONTZ, OF WINCHESTER,
VIRGINIA.

IMPROVEMENT IN MACHINES FOR SOWING FERTILIZERS.

Specification forming part of Letters Patent No. **19,431**, dated February 23, 1858.

To all whom it may concern:

Be it known that we, WILLIAM H. MAY, of the city and county of Alexandria, and C. W. COONTZ, of Winchester, in the county of Frederick, both in the State of Virginia, have invented a new and useful Improvement in Fertilizer-Distributers; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical longitudinal section of the same. Fig. 2 is a detached vertical section of the stirring-shaft.

Similar letters of reference in each of the several figures indicate corresponding parts.

The nature of our invention consists in the combination of a metal ferrule or thimble, wooden shaft, and the metal stirring-arms, when said ferrule is arranged on the lower end of the shaft and screw-tapped, and the arms furnished with a screw-thread, and connected with and fastened to the thimble and shaft, in the manner presently described.

By providing a metal thimble on the lower end of the wooden shaft a liability of the shaft splitting whenever stirring-arms are inserted and from strainage is avoided, and by tapping the ferrule and forming a screw-thread on the arms a ready and permanent connection and also an easy disconnection of them from the shaft, in case one gets broken, can be effected.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A represents a hopper of a grain-drill. It has two chambers, B C—one for grain, the other for the fertilizing agents—a suitable slide being provided for the grain-chamber and a graduating-valve, D, for the fertilizing-chamber.

E is one of a series of vertical wooden shafts. These shafts are arranged in a straight line alongside each other and gear together by means of cog-wheels F, and receive their motion by means of two bevel-wheels, G G', and two spur-wheels, H I, arranged as shown in the drawings.

The machine thus far described we are aware is old; but the following we believe is new in connection with the same.

J is a metal ferrule or thimble, arranged on the lower end of each of the shafts. These ferrules are applied by reducing the end of the shaft just the thickness of the metal of which they are formed, and thus having their outer surface flush with the periphery of the shaft. They should be sufficiently thick to allow of the screw-top *a*, which is formed in and through them, being of sufficient length to take a firm hold upon the stirring-arms.

K K' represent the stirring-arms. Those K are straight, while those K' are bent down at right angles at their outer ends, as indicated at *b*. These stirring-arms have a screw-thread, *c*, formed on one end, so as to enter the taps *a*, provided in the ferrule and shaft, as shown in Fig. 1. It is essential with the arms K that the screw be formed on the end, as shown in Fig. 1, as it would be impossible to attach them, owing to their bent ends, if formed as shown in Fig. 2. In this figure it will be seen that one rod passes entirely through the shaft, and its ends form two stirring-arms, the screw-thread being extended from one end along nearly two-thirds of the length of the rod, and consequently passes entirely through the shaft. Two nuts, *ee*, are employed to retain this rod in place after it has been passed through the shaft.

Instead of forming the screw-thread as shown in Fig. 2, it may be formed at the center of the rod, being just the same length as the thickness of the shaft, as shown in Fig. 3.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination of a metal ferrule or thimble, J, wooden shaft E, and metal stirring-arms K K', when said ferrule is arranged on the lower end of the shaft, and the stirring-arms furnished with a screw-thread and connected with and fastened to the thimble and shaft, substantially as and for the purposes set forth.

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Witnesses:

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