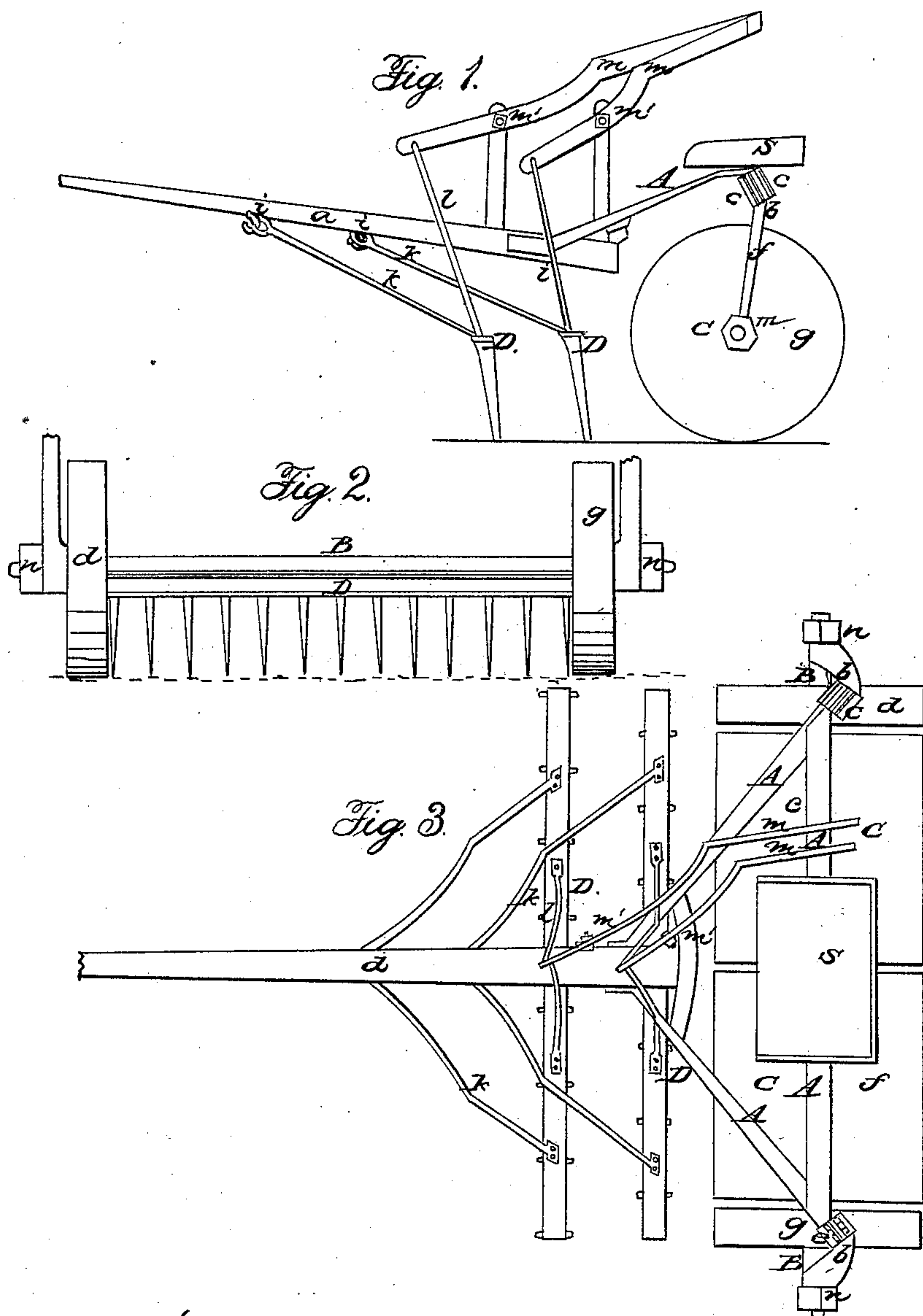


W. R. MEARS.
Roller and Harrow.

No. 50,259.

Patented Oct 3. 1865.



Witnesses:
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A. Wagner

Inventor:
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UNITED STATES PATENT OFFICE.

WM. R. MEARS, OF GRAFTON, ILLINOIS.

IMPROVEMENT IN ROLLER AND HARROW COMBINED.

Specification forming part of Letters Patent No. 50,259, dated October 3, 1865.

To all whom it may concern:

Be it known that I, WILLIAM R. MEARS, of the city of Grafton, in the county of Jersey and State of Illinois, have invented a new and useful Improvement in Combined Roller and Harrow for Agricultural Purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a side elevation of one of the improved machines. Fig. 2 is a sectional rear-end view of the machine with the rollers removed, in which condition the machine only acts as a harrow. Fig. 3 is a top plan of the machine with the rollers and harrows combined.

I construct the wrought-iron frame A, having the tongue *a* for the attachment of the propelling-power and connected with the axle B, on which the roller C revolves.

To the tongue *a* are secured the harrows D.

The frame A, in its vertical arm supporting one end of the axle B, is jointed at *b*, the joint being made good by a stirrup-strap, *c*, which surrounds the jointed parts when they curve, so that these jointed parts are firmly secured against movement in any direction whatever.

The stirrup is secured by means of screw-bolts.

When the joint *b* is unfastened and the nut *n* taken off the roller C, or any part of it, can be slid off from the axle-shaft B.

The roller C is made of cast-iron, stone, or wood, and is in four parts, *d*, *e*, *f*, and *g*. The outer parts, *d* and *g*, form wheels, and all combined act in the manner in which rollers usually act.

When the rollers are not needed they, being cumbersome, should be easily removed. This is effected in any machine by unfastening the joints of the frame A at *b*, taking off one of the nuts *n*, which secures the wheels to the axle, and moving off any of the parts of the roller and replacing the outer part, so that the

parts of the roller remaining are *d* and *g*, which then act and are meant to be used as common wheels. The machine is then a harrow.

The harrows are supported from the frame by means of the arms *k* on the hooks *i*, and they can be easily lifted out of these hooks. The harrows are formed of teeth set into a single straight bar, the teeth in each harrow being set so as to cover the centers of the spaces left by the other harrows. The harrows are further supported and regulated by the hanging arms *l*, which are attached to and moved by means of the levers *m*, so that they can be raised from the ground to pass obstacles or be out of way when not used. The levers *m* are pivoted to the fulcrums *m'*, which are erected upon the shaft *a*. The manner of securing these parts is by screw-bolts, so that all of them can be removed at will. When the levers *m* are unfastened and the arms *k* of the harrows D are lifted out of the hooks the harrows can be removed from the machine entirely, and it then can be used as a simple roller.

The roller-wheels *d* and *g* fit up against a shoulder in the axle B, and they are secured in position by the nuts *n* on the outer ends of the axle.

At a convenient point on the frame A there should be constructed the rider's seat S.

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

1. The combination and arrangement of the levers *m m'*, connecting-bars *l l*, and stay-bars *k k* with the harrow-bars D D and frame A of my improved machine, all substantially in the manner and for the purpose herein described.

2. The arrangement and combination, with each other and with the frame A, of the sectional rollers C C and harrows D D, to constitute a combined roller and harrow, substantially as herein described.

W. R. MEARS.

Witnesses:

GEORGE K. HUTHET, Jr.,
A. WAGNER.