

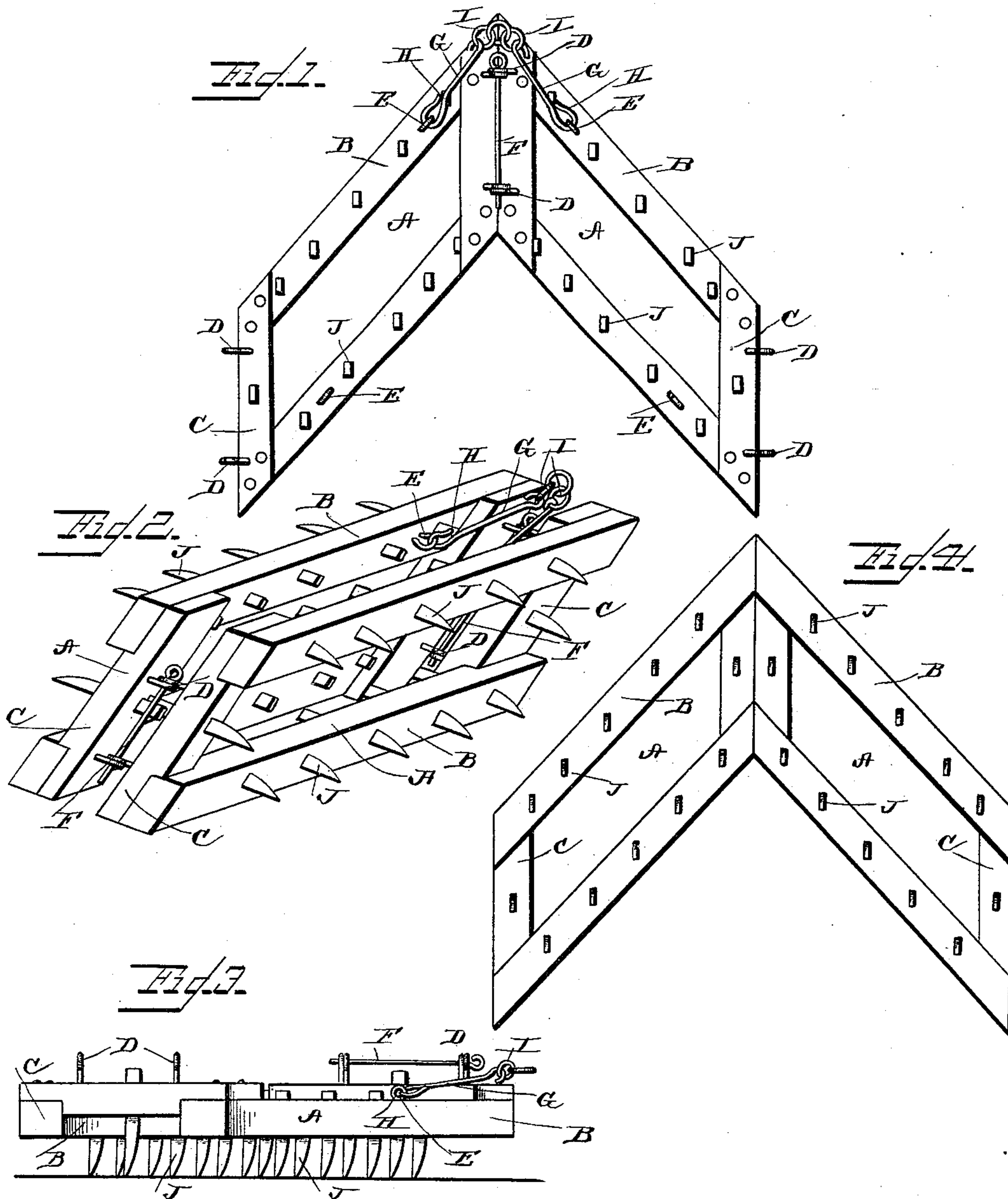
(No Model.)

J. M. SHUBERT.

REVERSIBLE FOLDING HARROW.

No. 379,826.

Patented Mar. 20, 1888.



Witnesses,
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UNITED STATES PATENT OFFICE.

JESSE M. SHUBERT, OF WATER VALLEY, KENTUCKY.

REVERSIBLE FOLDING HARROW.

SPECIFICATION forming part of Letters Patent No. 379,826, dated March 20, 1888.

Application filed August 18, 1887. Serial No. 247,251. (No model.)

To all whom it may concern:

Be it known that I, JESSE M. SHUBERT, a citizen of the United States, and a resident of Water Valley, in the county of Graves and State of Kentucky, have invented certain new and useful Improvements in Reversible Folding Harrows; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a top plan view of my new and improved reversible folding harrow, showing the same opened in its operative position. Fig. 2 is a perspective view showing the harrow folded up ready to be drawn to or from the field. Fig. 3 is a side view of the harrow in its open operative position, and Fig. 4 is a bottom plan view.

The same letters of reference indicate corresponding parts in all the figures.

My invention consists in a new and improved folding reversible harrow, which is so constructed that it may be changed to attach the team to either end, and which can be folded, so as to draw it from place to place in the same manner as a sled; and my invention will be hereinafter fully described and claimed.

Referring to the several parts by letter, A A indicate the two sections of which my new and improved harrow is here shown as composed, although it may be enlarged by having additional sections added to it, as hereinafter described.

Each section is formed with the parallel side bars, B B, and the parallel slanting end bars, C C, so that the section has something of a diamond shape. In the end bars, C, are secured the elevated hinges D D, which rise about six (6) inches above the top of the end bars, C; and upon the side bars, B B, about one-third of the distance from the points of the sections, are secured the staples or eyes E E. The sections are secured or hinged together by the hinge-rods F, the ends of the sections being placed together, as shown in the drawings, so that together the sections form a V, and the hinge-rod is then passed through

the eyes of the hinges D of the two sections, thus hinging the said ends together.

G G indicate the stretcher-rods, which are formed at their inner ends with the spring-hooks H H, which are hooked in the staples or eyes E E when the ends of the sections have been hinged together, and which are connected at their outer ends by the rings I, to the central one of which the team is hitched.

The harrow-teeth J are formed of flat steel and are set in the bars of the harrow-sections, so that they all lie straight in planes parallel with the end bars of the sections, one edge of each tooth being formed perfectly straight, while the other is curved or rounded. The end teeth of the sections are set back from the points thereof, so that they will stand back from the point or front end of the harrow and in operation will crush and break the clods instead of starting them to rolling down the sides of the harrow, as in the old-style harrows.

The sections are formed precisely alike at both ends, and have the hinges D and eyes E or staples at each end, as before described, so that they can be secured (hinged) together at either end, as will be readily seen, by means of the hinge-rod F, passing through the eyes of the elevated hinges D D, when the spring-hooks at the rear or inner ends of the stretcher-rods G G are hooked in the staples or eyes E E, and the harrow is ready for operation, the spring-hooks preventing the stretchers from working loose at any time, either when the harrow is in operation or when it is folded as a sled, as hereinafter described.

It will thus be seen that by making the harrow reversible the teeth will last longer and remain sharper for a very long time, much longer than if it were not reversible, as when the teeth become dull on one edge the harrow-sections can be reversed and the team hitched to the other end of the harrow, so as to bring the sharp edges of the teeth into play. Also, as the teeth are formed on one side with the straight edge and on the other with the curved edge, it will be seen that the harrow can be arranged with the straight edges of its teeth forward for turning up and loosening the ground, while by reversing the harrow the curved or rounded edges of the teeth can be

brought into play for harrowing fresh-plowed sod land, and to cover grain in land on which there is a good deal of trash, and also to harrow in new ground containing a great number of roots, where the teeth with their curved edges will not carry the trash or hang in the roots.

By hitching the team, through the stretcher-rods, to the eyes E E, which are secured to the side bars of the harrow at about one-third the distance from the forward ends of the same, the harrow will have a lighter draft, and this arrangement will also make the draft or pull keep the front end of the harrow from rising up and doing imperfect work, keeping it down, so that it will always do effective work.

The harrow can be folded up by turning the two sections back to back and securing them in this position by the hinge-rod F, passing the same through the eyes of the hinges at those ends of the two sections, as shown in Fig. 2 of the drawings, when the harrow will be held firmly in its folded position; and as the said hinges rise six inches above the upper surface or sides of the ends of the sections it will be seen that when the harrow is thus folded and the hinge-rod passed through the eyes of the hinges the sections will be held about twelve inches apart, so that when the folded harrow is turned upon its straight edges, or rather upon the sides of two of its side bars, the said bars will be held twelve inches apart, and the harrow can then be drawn along in the manner of a sled; and, as the side timbers which are then operating as runners are twelve inches apart, there will be little danger of the sled overturning, even on rough and uneven roads. The harrow can be thus folded up without detaching the horses, making it exceedingly quick and handy for use to haul out a stump or log, if one should be in the field in the way of the harrowing, thus saving the time which would be required to drag it out without a sled or wagon, or which would be consumed in bringing a sled or wagon for the purpose, as it is only necessary here to fold up the harrow, insert the hinge-rod F through the eyes of the hinges, and load the stump or log on the sled thus formed, when it can be hauled off the field. The harrow is thus folded up to form a strong sled when starting for the field, so that a plow, seed, grain, &c., may be carried on it to the field, which is a great convenience.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my new and improved reversible folding harrow will be readily understood.

It will be seen that my harrow is comparatively simple and very strong in construction; that its teeth will remain sharp for twice the usual length of time and will last longer; that either the straight or curved edges of the teeth can be employed; that it can be readily folded and secured to act as a sled for many purposes, and that it is exceedingly efficient, effective, and convenient in operation. It can be used with two or more sections, as the sections are made all alike, and additional sections can be readily attached, making it a four or six horse harrow.

I am aware that harrows having sections hinged to each other at an angle have before been made, and I am also aware that harrows have been made with teeth having a curved and a straight edge, either of which edges may be presented in the direction of the draft; but I am not aware that any harrows have been made in which both ends of two sections formed in the shape of a parallelogram have been provided with hinges or eyed rods which would admit of the sections being placed on edge and connected to form a sledge; and

I therefore claim and desire to secure by Letters Patent of the United States—

In a folding harrow, the harrow-sections having the shape of a parallelogram, the eyed rods D, projecting with their eyes some distance above and beyond the front and rear end pieces of the sections, the hinge-rod F, fitting in the eyes, and the stretcher rods and rings G I at the united sharp angles of the sections, all constructed and combined to have the sections folded together to slide on their rear edges and held a sufficient distance apart by the eyed rods to form a sled capable of carrying a load, as shown, and for the purpose specified.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JESSE M. SHUBERT.

Witnesses:

F. D. COX,
C. E. RICE.