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IMPROVEMENT IN SHOVEL-HARROWS.

Specification forming part of Letters Patent No. **176,375**, dated April 18, 1876; application filed January 26, 1876.

To all whom it may concern:

Be it known that I, JEREMIAH STOEVER, of Freeport, in the county of Lebanon and State of Pennsylvania, have invented a new and useful Improvement in Shovel-Harrows, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to obtain greater ease and efficiency in the operation and effect of the harrow, in working up and preparing the ground for seeding, by the improved setting and regulation of the wheels, and their ready adjustment by means of the movable sleeve and screw, for deeper or shallower working of the ground, as required, or to elevate and free the shovels from the ground when the harrow is otherwise in motion; also, their self-adjustment otherwise to all the movements and course of the harrow in moving forward or turning either way when in any way in motion.

A, Figure 1, shows the frame, of a fixed width, entirely of metal, which is constructed of the central beam *a*, from the front end of which radiate the side beams *b*, and from a point between the ends there radiate beams *c*, the set of beams being united at rear to transverse bars *d*, the parts thus forming, in a measure, two triangular structures, one within the other. To the beams *a b c* there are secured, respectively, the standards *e*, to which are attached the shovels *f*, which shovels are of narrow form, double-pointed, and are bolted to each standard so as to be fixed in position, and yet reversible when one point is worn or broken. B B represent the wheels on which the cultivator is mounted, the rear wheels having

their axles attached to arms C, whose upper ends are formed with bosses *p*, which are fitted to vertical supporting-rods D, rising, respectively, from the rear angles or corners of the frame A, said rods being held firmly in position by braces *k*, which are bolted to the frame. From the front angle or corner of the frame there depends a rod, E, on which is journaled the boss of the arm L of the front wheel B. The several rods D E have fitted on them sleeves G, which will be held in adjusted position by means of set-screws H, whereby, when the arms C L are adjusted to the depth of penetration of the shovels, or the cultivator otherwise in motion, the wheels may have free movement, both vertically and laterally. The standards *e* are pivoted to the beams *a b c* by metal bolts *m*, and stayed in position by wooden pins *n*, which, in the event of too violent resistance in irregular or rough land or obstacles, break, and thus free the standards of strain thereon.

I claim as my invention—

1. The sleeves H G, sliding on the rods D E, and provided with set-screws H, in combination with the arms C E, formed with bosses *p*, sliding on said rods, substantially as and for the purpose set forth.

2. The frame *a b c d*, wheel-arms C E, with bosses *p*, rods D E, sleeves H G, and set-screws H, the standards *e*, shovels *f*, and bolts and pins *m n*, combined and operating as set forth, and forming an improvement in shovel-harrows, as specified.

JEREMIAH STOEVER.

Witnesses:

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