

J. H. JOHNSON.

Subsoil Plow.

No. 108,485.

Patented Oct. 18, 1870.

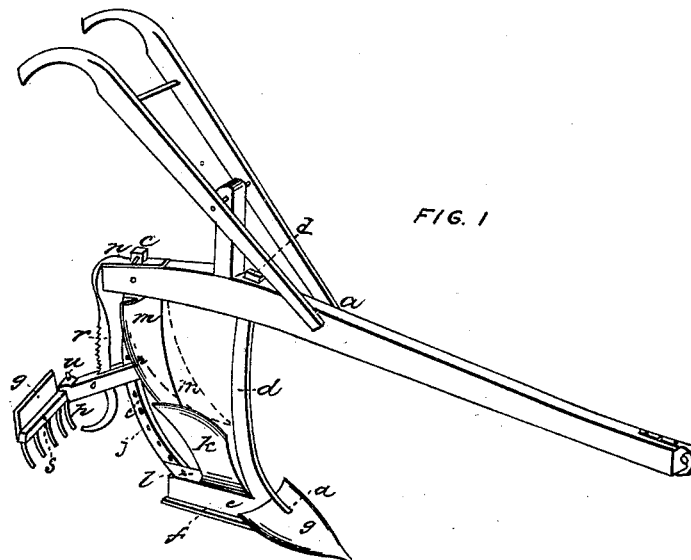


FIG. 1

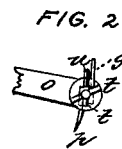


FIG. 2

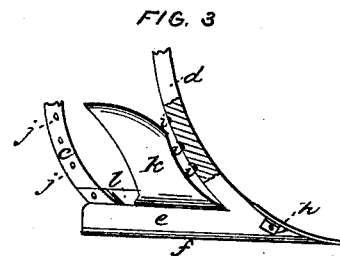


FIG. 3

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN SUBSOIL-PLOWS.

Specification forming part of Letters Patent No. 108,485, dated October 18, 1870.

*To all whom it may concern:*

Be it known that I, JOHN H. JOHNSON, of Bentonville, in the county of Benton and State of Arkansas, have invented a new and Improved Plow; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a view in perspective. Fig. 2 is a side view of the bar to which the harrow and packer are attached, showing the slots in its cylindrical-shaped end; and Fig. 3 is a side view of a fragment of the plow, showing the front standard partly in section.

This invention relates to an improvement in plows; and it consists in the combination and arrangement of parts hereinafter described, for the purpose of subsoiling, furrowing, pulverizing, harrowing, and packing the ground, two or more operations being performed at the same time.

In the drawings, *a* is the plow-beam, *d* *e* the plow-standards, and *e* the runner, having a steel plate, *f*, secured to its bottom by screws or otherwise. The standard *d* is secured to the beam *a* by keys in the usual manner.

*g* is a subsoil-plow, secured through its ears *h* to the standard *d*, which, at its back edge, has three or more conical depressions, *i*, made in it to receive the point of the plow *k*. Standard *e* has holes *j* made through it to correspond in position with the depressions *i*.

*k* is a diamond-shaped plowshare, its point resting in the lowest depression *i* in standard *d*, and having the bar *l*, which is attached to it, bolted to the standard *e* through the lower hole, *j*.

*m* is a shovel-plowshare secured to the standard *e*, and having its point resting in one of the depressions *i* in the bar *d* when in working position. (Shown by dotted lines in Fig. 1.)

*o* is an arm, to which the harrow *p* and packer *q* are attached. It is slotted at one end to receive the standard *e* and the spring *r*, and is secured to the former by a bolt, which serves as a pivot for it to turn upon. The other end of the arm *o* is made cylindrical in form, the cylinder having the slots *i* in its left end for

the reception of the pin *u*. The harrow *p* consists of several teeth secured to the bar *s*. The packer *q* consists of a steel plate secured to the side of the bar *s*, so as to project in the opposite direction from the teeth of the harrow *p*. The bar *s* is round at one end, that it may pass through the hole in the cylindrical end of the arm *o*, and a small hole is made in the round end for the reception of the pin *u*. The ratchet-tooth spring *r* is provided with a hole near its upper end, which passes over the top of the standard *e*, and is held in place by a pin or key. The teeth on the outside of the spring serve to hold the arm *o* in any required position. The spring *r* should be removed when the ground is very rough, to permit the harrow or packer, as the case may be, to clear any obstacle that comes in its way.

The harrow and packer may be set at a different angle than that shown in the drawings by turning the bar *s* and placing the key *u* in the empty slot. But two slots are represented. More may be provided.

The shovel-plowshare *m* and subsoil-plowshare *g* may be used at one time with the harrow *p* or the packer *q*. The plowshare *k* and the subsoil-share *g* may also be used in the same manner; but the shovel-plowshare *m* and the diamond wing share *k* are never used together.

The harrow *p* is shown as in use. To use the packer *q*, remove the pin *u* and turn the bar *s* one-half round, and then insert the pin *u*.

The points of the plowshares *k* and *m* may rest in either one of the depressions *i* and the bar *e*. Share *m* may be bolted to the standard *e* through either hole *j* that will cause it to be in a proper position for working.

By constructing a plow as herein described, the ground can be subsoiled, furrowed, and harrowed or packed, or subsoiled, pulverized, and harrowed or packed, at one operation by a very simple rearrangement of the parts composing the invention.

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

1. The standards *d* and *e*, provided with depressions *i* and holes *j*, respectively, and

the plowshares *g* and *k*, arranged relatively one to the other and to the beam *a*, in the manner and for the purpose hereinbefore specified.

2. The bar *o*, ratchet-toothed spring *r*, and harrow and packer *p g*, arranged relatively to each other and to the plow-beam *a* and stand-

ard *c*, in the manner described, for the purpose specified.

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Attest:

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