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and ascertaining the amount of tax under the law are not reviewable here. No complaint is made of the law itself, if it applies to this company, so far as the disputed portions of its road are concerned. The administration of the law by the officers or the courts of the State involves no questions of which we can take jurisdiction. The law being valid, the courts of the State have exclusive jurisdiction, appellate or otherwise, of all cases brought before them involving proceedings for its enforcement.

The judgment in each of the cases is affirmed.

BROWN & Others v. DAVIS & Others.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR
THE NORTHERN DISTRICT OF NEW YORK.

Argued December 17, 1885.—Decided January 11, 1886.

Claim 2 of reissued letters patent No. 8589, granted to Charles F. Davis and William Allen, February 18, 1879, for an "improvement in grain drills" (the original patent, No 74,515, having been granted to said Davis as inventor, February 18, 1868), namely: "The shoes or hoes of a seed planter, attached to the main frame, substantially as described, in combination with a lever, or its equivalent, whereby they can be shifted at the pleasure of the operator, from a straight to a zigzag line, or *vice versa*," makes the lever, or its equivalent, an essential element of the combination; and the claim is not infringed, where the lever is dispensed with and the human hand is substituted, although in the patent the hand is applied to work the lever.

In view of a prior invention, claims 1 and 3 of the reissue, which were not made in the original patent, were held to be limited to the special shifting apparatus of the patent, because, if extended to cover shifting arrangements not substantially using a rotating crank-shaft, they became claims which could not lawfully have been granted in the original patent, and, as claims in a reissue, were invalid, because the application for the reissue was made nearly eleven years after the original patent was granted, and after machines effecting the shifting by other means than a rotating crank-shaft had gone into use subsequently to the date of the original, and no sufficient excuse was given for the laches and delay.

It appeared as a fact, that new matter was introduced into the specification of the reissue for the purpose of reaching machines which the claims of the

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original patent would not reach, and of laying a foundation for claims 1 and 3 of the reissue.

Claims 4, 5 and 6 of the reissue were held not to be infringed, because the shifting mechanism of the patent, with its rotating crank-shaft, was an element in each claim, in view of a prior invention, and was not used by the defendant.

This was a suit in equity on an alleged infringement of a patent. The facts are stated in the opinion of the court.

Mr. E. E. Wood and *Mr. B. F. Thurston* for appellants.

Mr. S. D. Bentley (*Mr. William F. Cogswell* was with him on the brief) for appellees.

MR. JUSTICE BLATCHFORD delivered the opinion of the court.

This is a suit in equity, brought in the Circuit Court of the United States for the Northern District of New York, on re-issued letters patent No. 8589, granted to Charles F. Davis and William Allen, February 18, 1879, for an "improvement in grain drills," the original patent, No. 74,515, having been granted to said Davis, as inventor, February 18, 1868. The application for the reissue was filed January 24, 1879. The defences set up in the answer are, want of utility and novelty, invalidity of the reissue, and non-infringement. The specifications of the original and reissued patents are here placed side by side, the parts in each not found in the other being in italic:

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"Be it known that I, Charles F. Davis, of Auburn, *in the* county of Cayuga, *and* State of New York, have invented certain new and useful improvements in grain drills; *and I do hereby declare* the following *to be* a full, clear, and exact description *of the same*, reference being had to the ac-

Reissue.

"Be it known that I, Charles F. Davis, of Auburn, county of Cayuga, State of New York, have invented certain new and useful improvements in grain drills, *of which* the following *is* a full, clear and exact description, reference being had to the accompanying drawings, making part of this specification,

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companying drawings, making a part of this specification, in which Figure 1 represents a *top* plan of the drill, with the seed-box removed, but its position shown by *red* lines, to show the parts underneath it. *Figure 2* represents the crank-rod or shaft to which the front ends of the drag-bars are attached, *when* detached from the machine. *Figure 3* represents an end view of the drill, with the wheel removed, to show the parts behind it, and representing, by *black*, dotted and *red* lines, the several operative parts, and their positions under the changes of the machine or its parts. Similar letters of reference, *where they occur in the separate figures*, denote *like* parts in all of the drawings.

The object and purpose of my invention *are* to shift or change the seeding shoes or hoes from a straight to a zigzag line, and *vice versa*, and, further, to so hang the shoes or hoes, as, in addition to the shifting process, to admit of being raised separately, or the whole series together, as may be found necessary.

To enable others skilled in the art to make and use my invention, I will proceed to

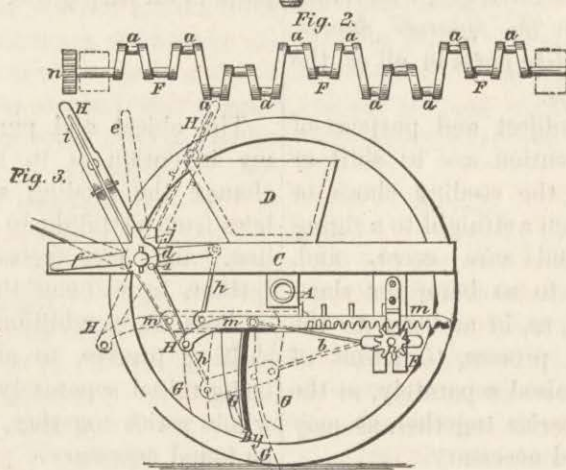
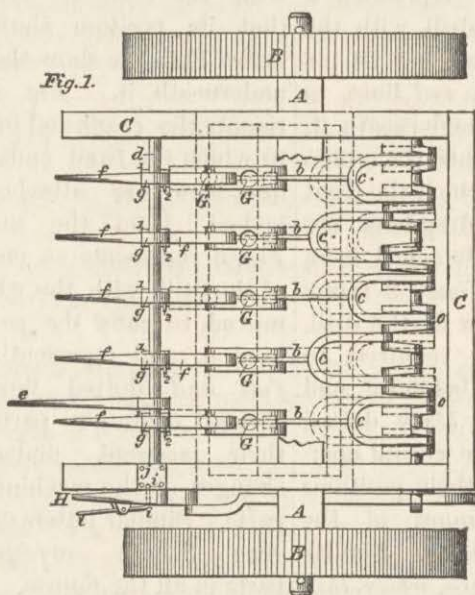
in which Figure 1 represents a plan or *top view* of the drill, with the seed-box removed, (but its position shown by *dotted* lines,) to show the parts underneath it. *Fig. 2* represents the crank-rod or shaft to which the front ends of the drag-bars are attached, detached from the machine. *Fig. 3* represents an end view of the drill, with the wheel removed, to show the parts behind it, and representing, by *full and dotted* lines, the several operative parts, and their positions under the changes of the machine or its parts. Similar letters of reference denote *corresponding* parts in all the figures.

The object and purpose of my invention *is* to shift or change the seeding shoes or hoes from a straight to a zigzag line, and *vice versa*, and further, to so hang the shoes or hoes, as, in addition to the shifting process, to admit of being raised separately, or the whole series together, as may be found necessary.

To enable others skilled in the art to make and use my invention, I will proceed to

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describe the same with refer- | describe the same with refer-
ence to the drawings: | ence to the drawings:



Upon an axle, A, supported | Upon an axle, A, supported
on the usual carrying wheels, | on the usual carrying-wheels,

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B B, is mounted a main frame, C, and on the main frame a seed-box, D, the slides of which may be operated in any of the well-known ways. In bearings, E, in the front portion of the main frame, is hung, so as to rock or turn therein, a zigzag or crank shaft, F, (shown detached in Fig. 2,) and to the cranks or wrists, *a a a*, of this shaft are connected, *seriatim*, the drag-bars, *b b b*, by means of bows or yokes, *c*, each bow or yoke taking two of said wrists, as shown in Fig. 1. To the rear ends of these drag-bars, *b*, are attached the shoes or hoes, G, in any of the usual well-known ways. In the projecting rear portion of the main frame C there is hung a shaft, *d*, upon which there is a lever, *e*, by which it can be rocked or rolled in its bearings. At suitable distances upon this shaft *d* there is placed a series of levers, *f f*, one for each shoe or hoe, which are kept in their proper positions on the shaft by pins, 1, 1, or other suitable devices, but which can be moved independent of the shaft or of each other, or all together, as will be explained. The levers *f* have a hub or swell, *g*, at their central portions, where they are slipped on to the shaft

B B, is mounted a main frame, C, and on the main frame a seed-box, D, the slides of which may be operated in any of the well-known ways. In bearings, E, in the front portion of the main frame, is hung, so as to rock or turn therein, a zigzag or crank-shaft, F, (shown detached in Fig. 2,) and to the cranks or wrists, *a a a*, of this shaft are connected, *seriatim*, the drag-bars, *b b b*, by means of bows or yokes, *c*, each bow or yoke taking two of said wrists, as shown in Fig. 1. To the rear ends of these drag-bars, *b*, are attached the shoes or hoes, G, in any of the usual well-known ways. In the projecting rear portion of the main frame C there is hung a shaft, *d*, upon which there is a lever, *e*, by which it can be rocked or rolled in its bearings. At suitable distances upon this shaft *d* there is placed a series of levers, *f f*, one for each shoe or hoe, which are kept in their proper positions on the shaft by pins, 1, 1, or other suitable devices, but which can be moved independent of the shaft or of each other, or all together, as will be explained. The levers *f* have a hub or swell, *g*, at their central portions, where they are slipped on to the shaft

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d; and into each one of these hubs is set a pin, 2, which is above the pins 1, 1, in the shaft, so that each lever can be turned upon the shaft; but, when the shaft is rocked or turned, then all the levers are worked simultaneously. To the forward ends of these levers *f* the shoes or hoes are respectively connected by a link or hinged rod, *h*, the rearward-projecting ends of said levers serving as handles for the operator to seize and work separately, when necessary to do so, or he can raise the whole series by seizing and working the lever *e*. One end of the shaft *d* projects through the timber of the main frame, for convenience of placing the parts, and upon it is a lever, *H*, and a spring-locking lever, *i*, connected with it, both of which levers the operator may grasp at once, and by pressure first unlock the catch, and then move the main lever, *H*, and the shaft *d*, as well as the parts connected with it. The catch or locking-lever *i* takes into or against a stop-plate, *j*, on the main frame, when not otherwise controlled. The upper portion of the lever *H* serves as a handle to work it by, and to the lower end of it is pivoted a rack-bar, *m*, which takes into a pinion *n*,

d; and into each one of these hubs is set a pin, 2, which is above the pins 1, 1, in the shaft, so that each lever can be turned upon the shaft; but, when the shaft is rocked or turned, then all the levers are worked simultaneously. To the forward ends of these levers *f* the shoes or hoes are respectively connected by a link or hinged rod, *h*, the rearward-projecting ends of said levers serving as handles for the operator to seize and work separately, when necessary to do so, or he can raise the whole series by seizing and working the lever *e*. One end of the shaft *d* projects through the timber of the main frame, for convenience of placing the parts, and upon it is a lever, *H*, and a spring-locking lever, *i*, connected with it, both of which levers the operator may grasp at once, and by pressure first unlock the catch and then move the main lever, *H*, and the shaft *d*, as well as the parts connected with it. The catch or locking-lever *i* takes into or against the stop-plate, *j*, on the main frame, when not otherwise controlled. The upper portion of the lever *H* serves as a handle to work it by, and to the lower end of it is pivoted a rack-bar or connecting-rod, *m*, which

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fastened on the end of the crank or zigzag shaft F, and, when the pinion *n* is turned, the crank shaft is also turned, and, as it is turned, it shifts the shoes or hoes into a zigzag or a straight line, as the case may be. When the lever H, and the zigzag shaft F, and their several connected and operative parts, are in the positions shown by the *black* lines in Figs. 1 and 3, the shoes or hoes G are then in a straight line across the machine; but, when the lever H is shifted into the position shown by the *red* lines in Fig. 3, it turns the shaft and moves the parts connected with them, and the shoes or hoes will then stand in a zigzag line across the machine, as shown by the *red* lines, or in what may be termed two lines, one in advance of the other; and, that the shoes or hoes may be thus moved into one or two lines, and still be susceptible of being raised up separately, or in their series capacity, their connections and attachments must all be hinged or yielding. When there is an odd number of shoes or hoes on the machine, the odd one should be in the rear series, in which case there would be no necessity of locking the lever H when the shoes *were* so

takes into a pinion, *n*, fastened on the end of the crank or zigzag shaft F, and, when the pinion *n* is turned, the crank shaft is also turned, and, as it is turned, it shifts the shoes or hoes into a zigzag or a straight line, as the case may be. When the lever H, and the zigzag shaft F, and the connecting-bar *m*, and their several connecting and operative parts, are in the positions shown by the *full* lines in Figs. 1 and 3, the shoes or hoes G are then in a straight line across the machine; but, when the lever H is shifted into the position shown by the *dotted* lines in Fig. 3, it turns the shaft and moves the parts connected with them, and the shoes or hoes will then stand in a zigzag line across the machine, as shown by the *full* lines, or in what may be termed two lines, one in advance of the other; and, *in order* that the shoes or hoes may be thus moved into one or two lines, and still be susceptible of being raised up separately, or in their series capacity, their connections and the attachments must all be hinged or yielding. When there is an odd number of shoes or hoes on the machine, the odd one should be in the rear series, in which case there would be no

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arranged, as the greater resistance on the greater number would always keep them so. But, if an even number of shoes be used, and an equal number in each row, then the lever would have to be locked or fastened in both of its positions.

It is obvious that other mechanical devices may be used for shifting the shoes or hoes from a straight into a zigzag line, or *vice versa*. I have devised several ways of accomplishing this movement, *as, for instance*, a sheave, pulley, or chain wheel may be keyed to the end of the crank shaft, and to this sheave or wheel a chain may be attached, and, passing around it, *extend thence to the lever*, so that, by *working the lever*, the same effect would be attained as by the rack and pinion.

Another plan may be as follows: A crank or cross arms may be placed on the turning shaft, and, by means of con-

necessity of locking the lever H when the shoes *are* so arranged, as the greater resistance on the greater number would always keep them so. But, if an even number of shoes be used, and an equal number in each row, then the lever would have to be locked or fastened in both of its positions.

It is obvious that other mechanical devices may be used for shifting the shoes or hoes from a straight into a zigzag line, or *vice versa*. I have devised several ways of accomplishing this movement. *The rack-bar or connecting-bar m may be used for this purpose, and thereby the shoes or hoes may be shifted from a straight to a zigzag line, or vice versa, said connecting-bar m being held in position, if desired, by any of the usual mechanical devices for that purpose; second, by means of a sheave, pulley or chain wheel, which may be keyed to the end of the crank-shaft, and to this sheave or wheel a chain may be attached, and, passing around it, so that, by means thereof, the same effect can be attained as by the rack and pinion.*

Another plan may be as follows: A crank or cross arms may be placed on the turning shaft, and, by means of a con-

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necting rods, *which connect the cranks or arms with the levers*, the shaft may be turned, and the shoes thus thrown into a straight or zigzag line, as may be desired; or, instead of the crank-shaft *to shift the shoes*, the shoes may be united in sets to different bars, which may be straight, both bars being united to cross-bars or heads at their ends. Now, by shifting these two bars, *they will shift the shoes attached to them, and change them* into the positions hereinabove described. When the hoes are set in a zigzag line, as above mentioned, and are in that position raised up, a pin, 3, in the extreme end of the shaft *d*, will take against a pin, 4, in the lever H, and thereby shifting the hoes into more nearly a straight line, as they rise, or into quite a straight line, depending upon the extent to which they are raised.

Having *thus fully* described my invention, what I claim *therein* as new and desire to secure by letters patent, is:

1. *So attaching the shoes or hoes of a seed-planter to the main frame, as that, by means of a lever, or its equivalent, said shoes may be shifted from a straight to a zigzag line, or*

necting rod or rods, the shaft may be turned by the operator, and the shoes thus thrown into a straight or zigzag line, as may be desired; or, instead of the crank-shaft, the shoes may be united in sets to different bars, which may be straight, both bars being united to cross-bars or heads at their ends. Now, by shifting the relations of these two bars, and by the means aforesaid, or by the connecting-rod m, the operator can shift the shoes or hoes attached to them into the positions hereinabove described. When the hoes are set in a zigzag line, as above mentioned, and are in that position raised up, a pin, 3, in the extreme end of the shaft d, will take against a pin, 4, in the lever H, and thereby shifting the hoes into more nearly a straight line, as they rise, or into quite a straight line, depending upon the extent to which they are raised.

Having *now* described my invention, what I claim as new and desire to secure by letters patent, is:

1. *The shoes or hoes of a seed-planter, attached to the main frame, substantially as described, whereby they may be simultaneously shifted from a straight to a zigzag line, or*

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vice versa, at pleasure, substantially as described.

2. *I also claim, in combination with a series of shoes or hoes that are capable of being changed from a straight to a zigzag line, or vice versa, the so connecting of said shoes, by independent levers, to the lifting-bar, as that they may be raised by the operator individually, or as a whole, substantially as described.*

3. *I also claim hinging the shoe to both its drag-bar and its individual lever, so that the shoe may be raised and lowered in either of its changed positions, by a lever that is permanently located, substantially as described."*

vice versa, by a single movement.

2. *The shoes or hoes of a seed-planter, attached to the main frame, substantially as described, in combination with a lever or its equivalent, whereby they can be shifted, at the pleasure of the operator, from a straight to a zigzag line, or vice versa.*

3. *The shoes or hoes of a seed-planter, attached to the main frame, substantially as described, in combination with a rod or its equivalent, whereby they can be shifted from a straight to a zigzag line, or vice versa.*

4. *A series of shoes or hoes that are capable of being changed from a straight to a zigzag line, or vice versa, in combination with independent levers, connecting said shoes or hoes with the lifting-bar, whereby they can be raised by the operator individually or as a whole, substantially as described.*

5. *The shoe hinged to both its drag-bar and its individual lever, so that it can be raised or lowered, in either of its changed positions, by a lever that is per-*

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manently located, substantially as described.

6. *In combination with a series of shoes or hoes that are capable of being changed by the operator at the rear of the machine, from a straight to a zigzag line, or vice versa, a shaft and lifting lever connected therewith, whereby the whole series can be raised at once by the operator, to pass obstructions, substantially as described."*

The cause was heard in the Circuit Court, on pleadings and proofs, and a decision rendered in May, 1881, *Davis v. Brown*, 19 Blatchford, 263, in pursuance of which an interlocutory decree was entered, in June, 1881, declaring the reissued patent to be valid, and to have been infringed as to all its claims, and awarding a recovery of profits and damages and a perpetual injunction. On the report of a master, a final decree was entered in February, 1882, by which the plaintiffs recovered \$5689.91, as damages and costs. The defendants have appealed to this court.

The specification of the original patent stated the purpose of the invention to be, to change the seeding shoes or hoes from a straight to a zigzag line, and *vice versa*; and, also, to so hang the shoes or hoes, as, in addition to the shifting process, to allow the shoes or hoes to be raised all together, or any one separately. The mechanical means described in that specification, for shifting the shoes, are these: In the front part of the machine is a rotating shaft, with cranks on it, so arranged that the shaft does not have a straight continuous axis, but has sets of axes in different lines, alternating, so that, yokes being attached, each to two of the cranks, and each two of the cranks having axes in a different line from the line of the axes of the next two adjoining cranks, the yokes being of substantially equal length, and being connected by drag-bars, at

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the rear ends of the drag-bars, to the shoes, a rotating motion given to the crank-shaft will shift the shoes, by moving all of them, each alternate shoe moving in an opposite direction from that in which the shoe next to it moves, and thus a space being opened or closed, of double the distance through which any shoe travels. To rotate the crank-shaft, there is a cross shaft in the rear of the machine, on the end of which is an upright lever, which extends upwards to form a handle, and has pivoted to it below a bar, which extends forward, and the forward end of which is formed into a rack, which works into a pinion on the end of the crank-shaft. By moving the lever, the rack and pinion are worked, and the crank-shaft is rotated, and the shoes are shifted. The extent of the rotating movement of the crank-shaft is about half a circle, back and forth. The original specification says, that, instead of employing the crank-shaft, the shoes may be united in sets to different bars, which may be straight, both bars being united to cross-bars or heads, at their ends; and that, by shifting these two bars, the shoes attached to them will be shifted. But there is no more specific description of mechanism for the purpose, nor any drawing of such mechanism.

In the defendants' machine, every alternate shoe is connected with an immovable part of the frame, and every other alternate shoe is connected with a swinging cross-bar, which hangs down so as to have a motion back and forth in the arc of a circle, by reason of its being hung in bearings in the side of the frame. A rod extends from near the middle of the width of the swinging cross-bar to the rear part of the frame, behind the line from which the shoes are suspended, which rod is supported in the centre of its length, and terminates, at its rear end, in a handle, so that an operator can work it, and, by pulling it, shift simultaneously all the shoes that are attached to the swinging cross-bar. Two coiled springs are so arranged, that, when the rod is pulled, the springs are compressed, and, when the rod is released, the action of the springs tends to throw the swinging cross-bar and the shoes attached to it towards the front of the frame again, restoring them to the position from which the pulling of the rod moved them. Thus,

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only alternate shoes are shifted, but the positions of the toes of the shoes, relatively to each other, can be simultaneously changed, and a wider space, in a straight line, be opened between any two toes at any time. The shoes are so set that their toes are never in a straight line across, but, when nearest to each other, are somewhat out of a straight line, and the pulling of the rod causes the distance between them to increase. The shoes which move in increasing such distance do so through the rotating motion to and fro of the swinging cross-bar to which they are attached, such motion being imparted by the pulling, at the rear of the machine, of the rod attached to the swinging cross-bar. In the plaintiffs' machine, the shoes which move, in increasing such distance, do so through the rotating motion to and fro of the crank-shaft to which they are attached, such motion being imparted by the pushing at the rear of the machine of the rod that carries the rack, the rod being worked by a lever.

An examination of the claims of the original and reissued patents shows that claim 2 of the reissue is substantially the same as claim 1 of the original; that claim 4 of the reissue is substantially the same as claim 2 of the original; and that claim 5 of the reissue is substantially the same as claim 3 of the original.

The Circuit Court held that claim 2 of the reissue was infringed, although in the defendants' machine there is no lever such as the lever H of the patent, and no equivalent or substitute for it. The view taken was, that claim 2 was infringed, because the defendants use a rod, the end of which is pushed and pulled by the hand of the operator, while in the patent the lever H pulls and pushes the end of the rod. But the lever, or its equivalent, as a mechanical instrument, is made an essential element in claim 2, and dispensing with the lever, and using instead the human hand, is not the use of an equivalent, although in the plaintiffs' machine the hand is applied to work the lever. *Water Meter Co. v. Desper*, 101 U. S., 332, 337; *Gage v. Herring*, 107 U. S. 640, 648; *Fay v. Cordesman*, 109 U. S. 408, 420, 421; *Sargent v. Hall Safe and Lock Co.*, 114 U. S. 63, 86.

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In order to determine what construction ought to be given to the other claims of the reissue, it is necessary to consider an invention made by one Powers, at Madison, Wisconsin, in 1862, the invention of Davis being carried back only to September, 1866. During the winter of 1861-2, and the spring of 1862, Powers was selling, at Madison, grain drills with iron drag-bars. During the season of 1862, noticing the working of drills in the field, he conceived the idea that the shoes could be put into single and double ranks by a more easy method than that then used. He worked out a plan, and made a model of it, and applied for a patent, November 10, 1862. The patent was ordered to issue December 6, 1862, but was never issued. The reason is not stated. The specification filed states that the "invention consists of a device to enable the shovels or plows of a drill to be set in single or double rows or ranks, with greater ease and facility than hitherto." The method described and shown in the drawings is to have a cross row of stationary shovels; and a cross row of other shovels, attached to a cross-bar, which is arranged, at each end of it, so as to slide to the extent of eight inches to and fro, in a groove. Thus, two rows may be made, or the sliding cross-bar may be set at a point where all the shovels will be in a line, and one row be formed. The movable cross-bar is moved by hand, and secured, when set, by bolts. The claim covers "the method of double and single ranking the drill teeth, by the adjustment of the sliding cross-bar A, to which are attached the alternate drill teeth or shovels, to different positions between the side pieces of the frame." The description states, that, "by this device, double or single ranking can be effected in a moment, instead of the more tedious process of other similar machines," and that "double and single ranking is a highly important feature in a drill, to adapt it to different soils and circumstances." Powers put this shifting arrangement "on to two or may be three drills" which he had on hand. He testifies to the use of two of them, and says they worked perfectly, so far as changing the rank of the drill was concerned. This was a completed invention. The idea of changing the relative positions of the shoes by having one row of them stationary and moving the other, which is the idea de-

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veloped in the defendants' machine, was fully embodied in Powers' machine. It had no lever and rod to do the work of the hand in moving the sliding cross-bar, and that cross-bar was held in position, when set, by bolts.

In view of this invention of Powers, we are of opinion that the invention of the Davis patent must be limited, so far as the shifting apparatus is concerned, to the special arrangement of the rotating crank-shaft described, and shown in the drawings. The words "substantially as described," found in each of the first two claims of the original patent, properly confined those claims to the shifting mechanism described. If claim 1 of the reissue is given a construction which includes any arrangement for shifting not substantially using a rotating crank-shaft, it becomes a claim which could not lawfully have been granted in the original patent; and, as a claim in a reissued patent, it is invalid, within the defences set up in the answer, because the application for the reissue was made nearly eleven years after the original patent was granted, and after machines effecting the shifting by other means than a rotating crank-shaft had gone into use subsequently to the date of the original patent, and no sufficient excuse is given for the laches and delay. The same remarks apply to claim 3 of the reissue.

In view of the rulings of this court on the subject of reissued patents, made since the decision in this case was made by the court below, in May, 1881, this case must be considered in view of the fact that the new matter introduced into the specification of the reissue was put in for the purpose of reaching machines which the claims of the original patent would not reach, and of laying a foundation for claims 1 and 3 of the reissue. The inventor and patentee, Davis, distinctly says this, in his testimony. The principal interpolation is in these words: "The rack-bar or connecting-rod *m* may be used for this purpose, and thereby the shoes or hoes may be shifted from a straight to a zigzag line, or *vice versa*, said connecting-bar *m* being held in position, if desired, by any of the usual mechanical devices for that purpose." In the original specification *m* is called a "rack-bar," because it is pivoted at one end to the lower end of the lever H, and has on its other end a rack tak-

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ing into a pinion on the end of the crank-shaft. But, in the reissue, *m* is called "a rack-bar or connecting-rod." Again, in the reissue, the reference to the letter H, as connected with and working the chain to be used with the sheave or wheel, in the second suggested alternative means of shifting, is erased, so as not to make the use of the lever H necessary. Before these changes, the defendants' machine, which has no lever and no rotating crank-shaft, would not have been within the scope of the original claims, but, if the rack-bar were to become a connecting-rod, it was thought it might cover the rod in the defendants' machine. Claim 3 of the reissue was framed on this view, of shifting by a rod alone, while claim 1 is made so broad as to seem to claim shifting by any means, by a single movement.

As to claims 4, 5 and 6 of the reissue, the shifting mechanism of the patent, with its rotating crank-shaft, must, in view of the Powers invention, be considered as an element in each claim; and that mechanism is not used by the defendants.

It follows from these views, that

The decree of the Circuit Court must be reversed, and the case remanded, with a direction to dismiss the bill, with costs.

PRESSER v. ILLINOIS.

ERROR TO THE SUPREME COURT OF THE STATE OF ILLINOIS.

Argued November 23, 24, 1885.—Decided January 4, 1886.

The doctrine that statutes, constitutional in part only, will be upheld as to what is constitutional, if it can be separated from the unconstitutional provisions, reasserted.

A State statute providing that all able-bodied male citizens of the State between eighteen and forty-five, except those exempted, shall be subject to military duty, and shall be enrolled and designated as the State militia, and prohibiting all bodies of men other than the regularly organized volunteer militia of the State and the troops of the United States from associating together as military organizations, or drilling or parading with arms in any city of the State without license from the governor, as to