CASES ADJUDGED

IN THE

SUPREME COURT OF THE UNITED STATES,

AT

OCTOBER TERM, 1888.

McCORMICK *v.* GRAHAM'S ADMINISTRATOR.[1]

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

No. 108. Argued December 5, 6, 1888. — Decided January 7, 1889.

Claims 1 and 2 of letters patent No. 74,342, granted to Alvaro B. Graham, February 11, 1868, for an improvement in harvesters, namely, "1. The combination, as set forth, in a harvester, of the finger-beam with the gearing-carriage, by means of the vibratable link, the draft-rod, and the two swivel-joints, M and M′, so that the finger-beam may both rise and fall at either end, and rock forward and backward. 2. The combination, as set forth, in a harvester, of the finger-beam, gearing-carriage, vibratable link, draft-rod, swivel-joints, and arm, by which the rocking of the finger-beam is controlled," are not infringed by a machine constructed under letters patent No. 193,770, granted July 31, 1877, to Leander J. McCormick, William R. Baker, and Lambert Erpelding, assignors to C. H. & L. J. McCormick.

It is apparent from the proceedings in the Patent Office on the application for Graham's patent, and from the terms of his specification and of claims 1 and 2 as granted, that the intention was to limit the modification which Graham made, to the particular location of the swivel-joint, M′, on which the crosswise rocking movement takes place, and to the rigid arm by which the positive rocking of the finger-beam in both directions is affected and controlled.

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[1] The docket title of this case is *McCormick and others* v. *Whitmer, Administrator of Graham.*

In the defendants' machine there is no such rocking of the finger-beam as in Graham's patent, but only a swinging movement, as in prior patents, on a pivot in the rear of the finger-beam; and there is no arm which can depress the finger-beam, but only a loose connection to it, the same as existed before; and there is no swivel-joint, M′, located and operating as in the Graham patent; and it does not infringe claim 1 or claim 2.

In equity, for an accounting for infringement of letters patent. Decree awarding damages to the complainant.

Respondents appealed. The case is stated in the opinion.

Mr. Robert H. Parkinson, with whom was *Mr. Joseph G. Parkinson* on the brief, for appellants.

Mr. Thomas A. Banning, with whom was *Mr. Ephraim Banning* on the brief, for appellee.

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 Illinois, by Hugh Graham against Cyrus H. McCormick, Leander J. McCormick, and Robert H. McCormick, on the 8th of June, 1877, founded on the alleged infringement of letters patent No. 74,342, granted to Alvaro B. Graham, February 11, 1868, for an "improvement in harvesters." In the course of the suit the defendant Cyrus H. McCormick having died, his executor, Cyrus H. McCormick, and his executrix, Nettie Fowler McCormick, were substituted as defendants in his stead.

The defences set up in the answer were want of novelty and non-infringement. After issue joined, proofs were taken on both sides, and on the 24th of April, 1882, the court made an interlocutory decree, holding the patent to be valid as regarded its first and second claims, decreeing that the defendants had infringed those claims, awarding a recovery of profits to the plaintiff from the 12th of August, 1870, the date of the assignment of the entire patent by the patentee to the plaintiff, and referring it to a master to take an account of profits and damages. On the 21st of July, 1884, the master made a report awarding a sum of money in favor of the plaintiff, to

which both parties filed exceptions. On a hearing, the court sustained some of the defendants' exceptions and overruled all others, and rendered a money decree in favor of the plaintiff. Both parties prayed appeals to this court, but the plaintiff did not perfect his appeal. Since the record was filed in this court, the plaintiff has died, and his administrator, Peter Whitmer, has been substituted in his place as appellee.

Only claims 1 and 2 of the patent are involved. The specification states, among other things, that one object of the improvements which constitute the invention set forth in the patent, is to obtain a greater capacity of movement in a floating finger-beam, while retaining its connection with a gearing-carriage that is drawn forward by a stiff tongue; that, to that end, the first of the improvements of the patentee "consists of the combination of the finger-beam with the gearing-carriage by means of a vibratable link extending crosswise to the line of draft, a draft-rod extending parallel with the line of draft, and two swivel-joints, the one for the vibratable link, and the other for the draft-rod, so that the finger-beam can rise and fall at either end, and rock forward or backward independently of the gearing-carriage, while maintaining its connection with it;" and that his "next improvement consists of the combination of the finger-beam, gearing-carriage, vibratable link, draft-rod, and swivel-joints, with an arm connected with the finger-beam, to enable it to be rocked for the purpose of setting its guard-fingers at any desirable inclination to a horizontal line."

The specification further says: "My improvements may be embodied in a machine having the finger-beam arranged in advance of the axial line of the shaft or arbor of the driving-wheel, or arranged in the rear of that axial line. In the former case, the vibratable link that connects the finger-beam with the gearing carriage will be arranged in advance of the driving-wheel, and in the latter case in the rear of the driving-wheel. In the former case, also, the rod, hereinbefore called a 'draft-rod' (because the strain to which it is subjected is a pulling-strain) becomes a pushing or thrust rod, and connects the inner end of the finger-beam with the rear of the gearing-

carriage. In the former case, the radius-bar for the reel and raking-platform connects with the rear end of the gearing-carriage, and in the latter case with its front end. I prefer to construct a harvesting-machine with the finger-beam in the rear of the line of the axle of the driving-wheel, and, as a description of such a machine, perfected by my improvements, will enable them to be fully understood, all of my improvements are embodied in the harvesting-machine of that description which is represented in the accompanying drawings, and which is an illustration of the best mode which I have thus far devised of embodying them in a working-machine."

There are twelve figures of drawings. The specification states that the machine is what is commonly called a "combined machine," and is adapted to reaping and mowing; that, when used for the former purpose, it is arranged as represented in figures 1 to 6; that, when used for the latter purpose, certain of its parts are removed, as thereinafter stated, and a grass-divider is substituted for the grain-divider, at the outer end of the finger-beam; and that the gearing which imparts motion to the sickle and reel is mounted upon a carriage, A, which is supported by two running or ground wheels, and is provided with a tongue to which the horses are hitched.

The parts of the specification which relate particularly to the subject-matter of claims 1 and 2 are as follows: "The finger-beam G of the machine projects at one side of the rear end of the gearing-carriage A, and is fitted with guard-fingers, H, through the slots of which a scalloped cutter, I, is arranged to reciprocate endwise. The end of this cutter that is nearest the gearing-carriage is connected with the crank-wrist g of the crank-shaft D^2, by means of a connecting-rod, J. The finger-beam is connected with the rear end of the gearing-carriage in the following manner: The end of the beam nearer the carriage is provided with a shoe, K, from which lugs a a project upward. These lugs are perforated to admit a joint-bolt, a^1, which connects the shoe with one end of a vibratable forked link, L, whose other end is connected by a swivel-joint, M, with a bracket, N, secured to the rear of the gearing-carriage. This swivel-joint is formed by a cross-head (m, Fig. 1^a), the

centre of which is bored transversely, to permit a journal formed on the end of the forked link L to turn in it. The ends of the cross-head *m* are formed into journals, which turn in bearings upon the bracket N. Hence the finger-beam can both rise and fall freely at either end, and rock forward and backward, without twisting the link that forms its connection with the gearing-carriage. Moreover, the axis of the cross-head *m* of the swivel-joint is arranged in line, or thereabout, with the axis of the crank-shaft D^2, that imparts motion to the cutter, so that such rising or falling, or rocking, does not materially change the distance between the crank-shaft and the cutter. The shoe K of the finger-beam is connected also with the front end of the gearing-carriage by a draft-rod, O, and the connection between the rear end of this draft-rod and the said shoe is a swivel-joint, M′, of which the joint-pin a^1 of the vibratable link L is the longitudinal axis, and its T-head m^1 the horizontal axis. This swivel-joint, therefore, while maintaining a firm connection with the draft-rod, gives free play for both the longitudinal and rocking movements of the finger-beam. Hence, when the machine is used for cutting grass, the said finger-beam may be left free, not only to rise and fall at either end, but also to rock or to be rocked forward and backward, so that the points of its guard-fingers incline toward or from a horizontal plane. In order that the finger-beam may be rocked by the conductor of the machine, the vibratable link L is fitted with an arm, *l*, whose upper end is connected by a rod with the lower end of a lever, P, that is pivoted to the gearing-carriage near its forward end. The upper end of this lever P extends within the reach of the driver, who sits upon the driver's seat, Q, so that he may rock the finger-beam by moving the said lever to and fro. This rocking lever P is fitted with a spring-bolt, whose end can engage in any one of a number of notches formed in a segment, R, which is attached to the gearing-carriage concentrically with the pivot of the rocking lever, so that the finger-beam may be fastened in the desired position by the engagement of the spring-bolt in the appropriate notch. The rocking lever is fitted with a lever-handle, *p*, and rod connect-

ing with the spring-bolt, by which the spring-bolt may be withdrawn from the notched segment and held disengaged therefrom during the movement of the lever. In order that the connection between the cutter on the finger-beam and the crank-shaft on the gearing-carriage may not obstruct the free rocking of the finger-beam, the connecting-rod J is connected with the cutter I by means of a swivel-joint, S, consisting (see Fig. 1^b) of a head, *s*, that is pivoted to the cutter-stock (by a shank that extends lengthwise therewith, and turns in an ear, s^1, secured to the end of the cutter-stock), and of a cross-pivot, s^2, that passes through the said head and through two ears formed upon the connecting-rod J."

There are ten claims in the patent, claims 1 and 2 being as follows: "1. The combination, as set forth, in a harvester, of the finger-beam with the gearing-carriage, by means of the vibratable link, the draft-rod, and the two swivel-joints M and M^1, so that the finger-beam may both rise and fall at either end, and rock forward and backward. 2. The combination, as set forth, in a harvester, of the finger-beam, gearing-carriage, vibratable link, draft-rod, swivel-joints, and arm, by which the rocking of the finger-beam is controlled."

It will conduce to a solution of the questions involved in the case, to give a history of the progress of the application for the patent through the Patent Office, as gathered from certified copies of those proceedings found in the record. On the 4th of December, 1865, the patentee, Alvaro B. Graham, as assignor to himself, William B. Werden, and Cyrus A. Werden, filed in the Patent Office an application for a patent, which was sworn to by him on the 25th of February, 1864. The specification of this application stated that one object of the invention was the free passage of the finger-bar over the ground, and the perfect moving of it to adjust itself to the inequalities of surface over which it might pass; and that another object of the invention was the cutting in a proper manner of lodged grass or grain. It also stated that the machine had a finger-bar, I, the inner end of which was attached, by a joint, *h*, to a bar, J, which was at the rear of the main frame, A, and was connected thereto, at its left-hand side, by a swivel or universal joint,

K, such joint being composed of a rod, *i*, which was allowed to turn in a bearing, *j*, attached to the main frame, the end of the bar J being cylindrical and allowed to turn in the rod *i*; that the joint K admitted of the bar J and finger-bar I being raised vertically, and also admitted of those bars being turned in a more or less inclined position, in their transverse section, to admit of the fingers and sickle being turned more or less down towards the ground, as might be required; that this adjustment of the fingers and sickle was effected through the medium of a lever, M, which was connected by a rod, *l*, with an upright, *m*, on the bar J; that this lever M might be retained in any desired position, within the scope of its movement, by means of a perforated bar, *n*, into the holes of which a pin on the lever caught; that the finger-bar I might be raised separately from the joint *h*, as a centre, through the medium of a lever, N, which, like the lever M, was attached to the main frame A, and had a chain or cord attached to its lower end, said chain or cord passing around a pulley, *q*, on the bar J, and being attached to the upper end of an upright, *r*, attached to the finger-bar at the joint *h*; that both bars, I and J, might be elevated simultaneously by a lever, O, which was also attached to the main frame A, and bore at its lower end on another lever, P, the outer end of which was connected by a chain, *s*, with the bar J; that the lever O might be retained at any desired point, within the scope of its movement, by means of a rack-bar, P′; that, in case an obstruction presented itself to the inner end of the finger-bar I, the lever O was actuated in order to raise such end of the finger-bar, and, if an obstruction presented itself to the outer end of the finger-bar, the lever N was actuated; and that the applicant did not claim the connecting of the finger-bar I to the bar J, by a joint *h*, for that had been previously done.

There were five claims in the specification, the first two of which were as follows: 1. "The attaching of the bar J to the main frame A by means of the swivel or universal joint K, when used in combination with the finger-bar I, attached to it by a joint, *h*, and this I claim irrespective of any peculiar position of the parts or particular application of the same to the

frame of the machine, so long as the desired result is obtained." 2. "The arrangement of the lever N, chain or cord *p*, and upright *r*, substantially as shown, for raising the outer end of the finger-bar I, as set forth." On the 30th of December, 1865, the Patent Office rejected claims 1 and 2 on a reference to prior patents. On the 24th of March, 1866, the applicant erased claims 1, 2 and 3, and substituted for claim 1 the following: 1. "The combination of the finger-bar I and bar J attached to the frame A by means of the universal joint or swivel K, in the manner and for the purpose herein specified." On the 4th of April, 1866, the Patent Office rejected this substituted claim 1, by a reference to a prior rejected application and to a prior patent. On the 1st of October, 1866, it allowed the two remaining claims applied for, which had been numbered 4 and 5 originally. On the 18th of June, 1867, the applicant filed a withdrawal of the amendments filed March 24, 1866, the effect being to limit the invention claimed under the patent to the two claims allowed October 1, 1866, and the patent was granted July 23, 1867, as No. 67,041, with those two claims, which in no manner relate to any question involved in the present suit.

Prior to such withdrawal of June 18, 1867, and on the 11th of February, 1867, Mr. Graham filed an application which resulted in the patent in suit, No. 74,342, issued February 11, 1868. Claims 1 and 2 of the specification of that application originally read as follows: 1. "The combination, in a harvester, of the finger-beam with the gearing-carriage, by means of a vibratable link, draught-rod, and two swivel-joints, so that the finger-beam may both rise and fall at either end, and rock forward and backward, substantially as set forth." 2. "The combination, in a harvester, of the finger-beam, gearing-carriage, link, draught-rod, swivel-joints, and arm, by which the rocking of the finger-beam is controlled, substantially as set forth." There were fifteen claims in all made in the specification. On the 29th of July, 1867, the Patent Office rejected claims 1 and 2, by a reference to prior patents. On the 31st of December, 1867, the applicant amended claims 1 and 2 so as to read as they are in the patent as granted. The changes

thus made in those two claims, and which, under the circumstances, were made to secure the issuing of the patent, the claims having been rejected in the shape in which they were first proposed, were these: In claim 1, "the combination as set forth," was substituted for "the combination;" "the vibratable link," for "a vibratable link;" "the draught-rod," for "draught-rod;" "the two swivel-joints, M and M′," for "two swivel-joints;" and the words "substantially as set forth" were erased. In claim 2, "the combination as set forth," was substituted for "the combination;" "vibratable link," for "link;" and the words "substantially as set forth" were erased. In the second claim the word "the" was always prefixed to the enumerated elements composing the combination claimed.

The principal question for determination, in the view we take of the case, is that of infringement. The Circuit Court, in its opinion, delivered on the making of the interlocutory decree, (10 Bissell, 39, and 11 Fed. Rep. 859,) considered especially two prior patents, one granted to David Zug, October 4, 1859, No. 25,697, and the other granted to F. Ball, October 18, 1859, No. 25,797. In considering those patents, on the question of infringement as well as on the question of novelty, the Circuit Court said: "The two claims of the Graham patent, which are alone in controversy here, are the first and second. The first claim is for a combination of the finger-beam with the gearing-carriage by means of the vibratable link, the draft-rod, and the two swivel-joints, M and M′, so that the finger-beam may both rise and fall at either end and rock backward and forward; and the second claim is the same as the first with this only added, that an arm is attached to the vibratable link by which the rocking of the finger-beam is controlled by the driver. The object of this invention, as set forth in these two claims, seems to be mainly to produce the rocking motion of the finger-beam as described and by the method described. In the Ball patent, while there may be said to be something equivalent to the swivel-joint M of the plaintiff's machine, where it is attached to the frame, and also something similar to the draft-rod and the arm, there is noth-

ing to produce the rocking motion, which is the essential object in the first two claims of the plaintiff's machine; and consequently there is no swivel-joint M′, as in the plaintiff's machine; so that there is nothing in the Ball machine to prevent the validity of the combination in the first two claims of the plaintiff's patent. The Zug machine has, if not a swivel-joint like that of the plaintiff's at M, where connected with the frame, something which seems substantially similar. It has a vibratable link and it has something which is equivalent to the draft-rod, the main difference being that it is attached beneath the shoe instead of above, but there is no swivel-joint M′. There is an arm which is attached to the draft-rod and shoe by which it can be raised and lowered, but Zug claims in his patent that when the machine is in progress over the field, and when the finger-bar strikes any obstacle, there is a device in a box in which the forward part of the draft-rod is fastened, by which the finger-bar yields to the obstacle; and that there is also a mode by which the vibratable rod is attached to the frame, called 'joint 16,' in his patent, and what has been termed an open clevis where the vibratable link is connected with the draft-rod, by which a motion is given to the finger-bar, and thus the finger-bar is relieved from the obstacle. Zug does not claim that the finger-bar in his machine has a rocking motion, but only that the mode by which the draft-rod is fastened and the motion given to the finger-bar, prevents the obstacle which the machine may meet from doing damage to it. These seem to be the main differences between the two machines, and the question is, whether there is anything in the Zug machine to prevent the combination named in the first two claims of the plaintiff's patent from being valid. The defendants' machine has the swivel-joint attached to the frame, the vibratable link in the same form as the plaintiff's, and the draft-rod attached forward in substantially the same way as the plaintiff's, but instead of having a swivel-joint at M′, as stated in plaintiff's machine, forward of the shoe, the draft-rod has a swivel-joint at the rear end of the shoe; and there is an arm attached to a part of the vibratable link substantially like that of the plaintiff's;

and the substantial difference, as it seems, between the plaintiff's device as described in the first and second claims, and that of defendants', is, that the draft-rod is attached to the rear part of the shoe, and not to the forward part, as in the plaintiff's patent. There are also other devices in the defendants' machine which may make it different from the plaintiff's. But as to the swivel-joint, the vibratable link, and the mode in which the motion is produced in the finger-bar, there does not seem to be much difference in substance; and in both machines, and by substantially the same means, there is produced a rocking motion. In this connection it is noticeable that the defendants, in the claim set forth in the specification of their patent, make a rocking motion of the shoe and cutter a feature of their combination. In their second claim they say that they claim the combination of the 'shoe, and the drag-bar extending over and in rear of the shoe, and its swiveled pin connecting it with the rear end of the shoe, whereby the drag-bar sustains the thrust of the shoe while leaving it free to rock on its hinges.' Again, in their fifth claim, they say that they claim the combination 'of the shoe, the forked coupling-arm, the drag-bar extending over and in rear of the shoe, the swivel-pin connecting the two, the rocking lever and the detent mounted on the drag-bar, and the adjustable link connection between the lever and coupling-arm, whereby the shoe readily may be rocked or adjusted.' And again, the motion which seems to be produced in the operation of plaintiff's machine is more distinctly described in the seventh claim made by the defendants in their patent, as follows: The combination 'of the shoe, the drag-bar, the forked coupling-arm,' and the other elements of mechanism before mentioned, 'whereby the shoe is first rocked, and then lifted by one continuous movement of the lever.' It must be confessed that the difference between the Zug machine and the first two claims of plaintiff's patent is not very marked. But in view of the description contained in the specifications of Zug's patent and in those of the plaintiff's patent, we are inclined to think that the plaintiff's patent may be sustained on the ground that there is a difference in the manner in

which the draft-rod is attached to the shoe, and the finger-bar to the shoe and to the vibrating link; and that there is also a difference in the manner in which the combination of the various parts are adjusted; and that there is an effect produced in the plaintiff's machine which does not exist in the Zug machine. In the plaintiff's machine there is a rocking motion, and not a mere vibratory motion, such as exists in the Zug machine in consequence of the open clevis; neither is there in the plaintiff's machine the yielding of the draft-rod, as described in the Zug patent; and it is obvious, too, from the manner in which the parts are constructed in the Zug machine, that there is only a small vibratory action of the finger-bar; so that, on the whole, we think that the combination as described in plaintiff's patent may be sustained. Then, from what we have said, we do not see that there can be any substantial difference between the combination, as described, in the plaintiff's machine, of the swivel-joints, draft-rod, and vibratable link, with the frame and shoe and finger-bar, and that of the defendants' machine. The differences which have been stated between the two machines in this respect do not constitute any difference in principle. The one is substantially the same as the other. The additions which have been made to defendants' machine, such as the device by which the pressure of the cutting apparatus upon the ground is regulated, and other devices which have been made, do not affect the combination as claimed in the plaintiff's machine. The attachment of the draft-rod to the rear part of the shoe instead of to the front part, which is substantially the only difference that there seems to be in the mode of construction, cannot constitute a difference in principle, and cannot prevent the defendants' machine from being an infringement of the plaintiff's patent. It may be said that there are differences also between the defendants' machine and that of the plaintiff, in the manner in which the arm is attached to the vibratable link, and also as to the mode in which the force applied to the arm may operate upon the finger-bar; but these are differences of form and not of substance."

The specification referred to in that opinion as the specifica-

tion of the defendants, and quotations from claims 2, 5 and 7 in which are made, is a patent under which the defendants' machines were constructed, No. 193,770, granted July 31, 1877, to Leander J. McCormick, William R. Baker, and Lambert Erpelding, assignors to C. H. and L. J. McCormick.

The invention of the patentee is carried back to November or December, 1863, at which time he made a model containing his perfected invention, which he shortly afterwards sent to his patent solicitors, and which was sent to the Patent Office with the application sworn to February 25, 1864, and filed December 4, 1865. The delay seems not to have been attributable to the applicant.

The patents introduced in this case as affecting the questions of novelty and infringement, and which were prior to the invention of Graham, and which seem to be relied on by the appellee, were as follows: To George C. Dolph, No. 18,141, issued September 8, 1857; to W. S. Stetson and R. F. Maynard, No. 24,063, issued May 17, 1859; the Zug patent; the Ball patent; and one to Stephen S. Bartlett, No. 34,545, issued February 25, 1862.

We are of opinion that the Circuit Court took an erroneous view of the question of infringement. The capacity of the finger-beam to "rise and fall freely at either end," spoken of in the specification of the plaintiff's patent, was not a new thing with him, but had been used for many years in mowing and reaping machines, the finger-beam moving on a pivot at its inner end; and the plaintiff, in the specification of his patent of July 23, 1867, stated that he did not claim the connecting of the finger-bar, I, to the bar, J, by the joint, *h*, because that had been previously done. It was also old to have a lever connected by a loose connection, by which the driver could tip up the front edge of the finger-bar arbitrarily, and secure it so that it could not fall below the inclination at which he had set it, although it was left free to tip up further automatically.

The arrangement spoken of in the plaintiff's specification, whereby the finger-beam can "rock forward and backward without twisting the link that forms its connection with the

gearing-carriage," was secured by making the pivot on which the crosswise tilt takes place, at a point in front of the beam, so that the pivot rises and falls with the guard-fingers, and an arm is provided by which the movement of the finger-beam in both directions is controlled by the driver, instead of its being independent of his control in its downward movement, as was the case in prior machines. It is apparent, from the proceedings in the Patent Office on his application, and from the terms of his specification and of claims 1 and 2 as granted, that the intention was to limit the modification which he made, to the particular location of the swivel-joint, M', on which the crosswise rocking movement takes place, and to the rigid arm by which the positive rocking of the finger-beam in both directions is effected and controlled.

In a mowing machine for cutting grass, where it is desirable to cut near to the ground in order to cut and use as much of the grass as possible, the front edge of the finger-beam must bear closely on the surface of the ground, with a yielding pressure, so that it will rise freely in order to pass over such irregularities in the surface of the ground as do not require that the finger-beam should be bodily lifted. This yielding pressure is secured by a capacity in it to swing upward on its heel as a pivot, because, if its front edge were held rigidly down upon the ground, the guard-fingers would be driven into every obstruction. This necessity does not exist in machines for harvesting grain, because in them the finger-beam is set several inches above the ground, the grain being the desirable object, rather than the straw, and the carrying of the finger-beam at an elevation prevents its meeting with obstructions; and hence there is no such occasion, as in mowing machines, for its front edge being left free to swing upward.

The capacity, if any, which Graham added to the machines in general use, was one for raising and lowering the pivot of oscillation, which had before been stationary, and a further capacity for a positive downward tilt or forward rocking, which enabled the driver to tip up the heel of the finger-beam and force the fingers under lodged grain or grass. The rocking forward and backward, spoken of in the plaintiff's specifi-

cation, is applied to a tilting backward which rocks the front of the finger-beam upward, and to a tilting forward which rocks the heel of that beam upward and its front downward. In the defendants' machine, there is no such rocking backward and forward, but there is a swinging motion, the same as in the prior Ball patent, the pivot on which the tilting takes place being in the rear of the finger-beam, and there being no means of positively tipping the front of the beam downward or of raising its heel to force its front edge and the finger-guards downwards. In the Ball patent, the draft-rod passes under the finger-beam, and in the defendants' machine the draft-rod passes over the finger-beam, to reach the pivotal point, which is in both cases the same. In both of them, the weight of the finger-beam being in front of the pivot tends to hold its front edge down upon the ground, but, when the finger-guards strike any elevation, the front edge of the beam swings up freely on its rear pivot, the tendency being for its weight to carry it back to its original position as soon as the elevation is passed. In the Ball patent, there is a lever connected with a chain which can raise the finger-beam or hold it up, but cannot affirmatively depress it, its downward movement being dependent solely upon the fact that its weight is in front of the pivot on which it turns. In the defendants' machine, there is a substitute for the Ball chain, namely, a loose sliding link, which permits of the same upward movement that the chain does, and which cannot force or hold the beam down. In both the Ball machine and the defendants' machine, the propelling force from the draft-rod is exerted from the pivot in the rear, and in both the front edge of the finger-beam, where the guards are situated, is left free for the swinging movement above mentioned.

In contradistinction to this, the pivotal connection between the finger-beam and the draft-rod in the plaintiff's machine, instead of being at the heel of the finger-beam, is placed in front of it, at the swivel-joint, M′, and a rigid arm, *l*, is mounted on the vibratable link, so that the beam can thereby be rocked backward and forward by the driver, to tip the heel of the shoe up and the front down, or the front up and

the heel down, the heel of the finger-beam being lifted by the forward rocking of the arm *l*, and its front being lifted by the backward rocking of such arm. By the locking of the lever which works the arm, the finger-beam can be set at any desired inclination. The movement of the finger-beam in each direction is positive. In the defendants' machine, it swings on a pivot at its rear, which is not raised or lowered by the upward or downward tilt of the guard-fingers, while in the plaintiff's machine, as the finger-beam rocks on the swivel-joint M', the heel of the finger-beam is lifted from the ground as the finger-guards are turned downward.

In the Zug patent, of October, 1859, there is a finger-beam attached to the rear end of the machine by a vibratable link, which is itself attached at its rear end loosely to the machine, and is also fitted loosely within the draft-rod, so that there is a considerable rising and falling motion to the front end of the shoe, whereby the guard-fingers can be elevated and depressed to a considerable extent, and in substantially the same manner as in the defendants' machine, the raising and lowering of them being accomplished at a similar point as in the defendants' machine, the difference in the rising and falling motion of the finger-beam in the Zug and in the defendants' machine being a difference only in degree.

In the Ball patent of October, 1859, there is a finger-beam attached by a hinged, vibratable link, and there is a draft-rod, which is hinged at its front end. A shoe is attached to the rear end of the draft-rod, with a free up-and-down hinged joint. The finger-beam of the machine is attached in front of this hinge, and such hinged connection admits of the rising and falling of the front of the shoe and of the finger-beam. This motion is not a rocking motion, as in the plaintiff's patent, but is substantially the same rising and falling motion that is found in the defendants' machine, the only material difference being that, in the Ball patent, the draft-rod extends under the shoe and the finger-beam, and prevents them from falling down lower than a horizontal position; whereas, in the defendants' machine, the draft-rod extends over the shoe and finger-beam to the same point of attachment as in the Ball patent

and thus the finger-beam can fall lower than in the Ball patent, and even to below a horizontal position; but the finger-beam in the Ball patent can rise and fall as freely at either end as in the defendants' or the plaintiff's machine, and the crosswise rising and falling motion in the Ball patent is of the same character as in the defendants' machine, but wholly unlike the rocking motion, or the forward and backward motion, of the finger-beam in the plaintiff's patent.

In the Bartlett patent of February, 1862, there is a finger-beam attached at its rear by a vibratable link, which has a swivel-joint at its outer end and a free joint at its inner end, in connection with a shoe and with a draft-rod which extends from the front end of the machine to the rear end of the shoe; and the finger-beam is attached to the shoe in front of the vibratable link. There is also a lever which rocks forward and backward, and is so arranged that the finger-beam and the draft-rod rise and fall, and the finger-beam rocks forward and backward, substantially in the same manner as in the plaintiff's patent, though with a less perfect motion. But there is considerable forward and backward rocking motion, and the rocking takes place with substantially rigid lever devices, and there is substantially the same rising and falling motion of the finger-beam at either end as in the plaintiff's patent.

In view of this prior state of the art, the question of infringement stands in this way: In the defendants' machine, there is, in combination with the gearing-frame, a vibratable link connection with the finger-beam, not very materially different from the vibratable link connection in the plaintiff's patent; but the draft-rod in the defendants' machine is different from that of the plaintiff's patent, in that its forward connection is not substantially a swivel-joint, but is so hinged as to afford no torsional action, and the draft-rod is connected with the shoe at nearly the extreme rear end of the shoe, while the draft-rod in the plaintiff's patent has swivel-joints at both its forward and rear ends, and such joints have substantially a free torsional capacity. So, too, the draft-rod in the plaintiff's patent is attached to the shoe in front of the finger-beam,

instead of at the extreme rear end of the shoe, as in the defendants' machine. As a consequence of these several arrangements, the finger-beam in the plaintiff's patent rocks freely both forward and backward, in such manner that the rear of the finger-beam may be elevated and the guards be thrown down, or the front of it may be elevated and the guards be thrown up, with an equal rocking motion in either direction; whereas, in the defendants' machine, when the finger-beam is operated upon by the lever, the front part of it merely rises and falls with a swinging motion from its pivoted point in the rear. The defendants' machine differs from the plaintiff's patent, in that its finger-beam cannot be raised at all at its rear by the lifting lever, and cannot be positively moved downward by that lever. Therefore, as the finger-beam in the defendants' machine does not have the motion which results from the combination of the elements specified in the first claim of the plaintiff's patent, and does not "rock forward and backward" in the sense of that claim, or in the sense described in the specification of the plaintiff's patent, it does not infringe such first claim. Nor does it contain the swivel joint M', specified in the first claim, located and operating as in the plaintiff's patent. The first claim of that patent must, in view of the state of the art, and of the special limitations put upon it on the requirement of the Patent Office, be limited to the special construction and arrangement set forth in that claim.

The same views apply to the second claim of the patent, which contains combined all the elements set forth in the first claim, with the addition of the rigid arm, *l*. That arm, in the plaintiff's patent, has a rigid connection with the vibratable link to which it is attached, and through such arm the finger-beam is made to rock backward or forward by positive action, in either direction; while in the defendants' machine there is no such rigid arm, but only a connection by which the front of the finger-beam can be lifted, while it falls by its own weight when released, instead of being positively forced down, as in the plaintiff's patent. This species of lifting device was old.

In regard to the extracts set forth in the opinion of the Cir-

cuit Court from the defendants' patent of July, 1877, we are of opinion that the second, fifth, and seventh claims of that patent, in speaking of the shoe as "rocking," can only refer to its swinging on a hinge at its rear end; and that the term "rocking" is not used in the sense in which it is used in the plaintiff's patent, because, neither in the defendants' patent nor in their machine has their shoe or their finger-beam any such rocking motion as is described in the plaintiff's patent.

It results from these views that, on a proper construction of claims 1 and 2 of the plaintiff's patent, the defendants have not infringed it; and that

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

SARGENT *v.* BURGESS.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF PENNSYLVANIA.

No. 127. Argued December 12, 13, 1888.— Decided January 7, 1889.

Claim 3 of letters patent No. 223,338, granted to John M. Gorham, January 6th, 1880, for an improvement in wash-board frames, namely, "3. In combination with a wash-board, a protector located below the crown-piece and between the side pieces of the wash-board frame, and constructed to fold down into or upon said wash-board even with or below the general plane of said wash-board frame, substantially as and for the purpose shown," cannot, in view of the state of the art, and of the course of proceeding in the Patent Office on the application for the patent, be so construed as to cover a protector which does not have the yielding, elastic or resilient function described in the specification.

The defendant's protector, constructed in accordance with letters patent No. 255,555, granted to Charles H. Williams, March 28th, 1882, and having no yielding or resilient function, and not being pivoted, or folding down, after the manner of the Gorham protector, does not infringe claim 3.

IN EQUITY for the infringement of letters patent. The case is stated in the opinion.