

v.40F, no.4-16 DEERING V. MCCORMICK HARVESTING MACH. CO.
SAME V. WINONA HARVESTER WORKS ET AL., (TWO CASES.)

Circuit Court, D. Minnesota.

November 30, 1889.

1. PATENTS FOR INVENTIONS—HARVESTERS—INFRINGEMENT.

The fifth claim of letters patent No. 191,264, dated May 29, 1877, for improved harvester, being a combination of toothed arms, a slotted receiving platform, and fixed springs, with the characteristics described in the patent, and co-operating for compacting the gavels, is not infringed by a harvester with a compressor in alignment with the packers, and below them, near the tail of a stationary receiving platform, working as a resistant to compact the gavel, the platform having one wide slot, through which the teeth move the wisps against overhanging rods.

2. SAME.

Letters patent No. 223,812, for improvement in harvester machines, that the grain may be freely delivered by means of a swinging side elevator, conveying the grain, properly straightened, to the receiving table, so that it can be bound at the middle, are not infringed by a harvester with a swinging platform, and an elevator which drops the grain on an inclined board, with slots through which packing arms operate to compact the grain, with an endless apron, which is not connected with the harvester elevator.

3. SAME—PRIOR STATE OF THE ART.

The twenty-first claim of letters patent No. 266,913, relating to mechanism for compressing the bundle of grain just before tying, in connection with a spring link for relieving the binding mill from strain, and obviating breakage when the grain is no longer compressible, is not infringed, in view of the former state of the art, by a device furnishing an elastic yielding of the compressor, which is not of the peculiar construction set forth in the claim.

4. SAME.

In view of the prior state of the art, claims nos. 8, 4, 9, and 10, under letters patent no. 272,598, dated February 20, 1888, whereby an automatic grain-binder regulates the position of the band in the gavel so as to place the gavel in its proper position, relative to the length of the grain, without the attention of the operator, must be limited to the peculiar construction of mechanism as set forth in the specifications by which this result is obtained.

5. SAME—ANTICIPATION.

The combination of the swinging butt-adjuster, arms and a board pivoted to the adjuster, as set forth in claims 20 and 21 of letters 272, 598, is anticipated by the "Heller Butt-Adjuster," used on harvesters in 1878 or 1880.

6. SAME.

Letters, patent No. 251,147, dated December 20, 1881, describing a mechanism for raising, lowering, and fastening the grain platform of a harvester, is anticipated by a patent issued to one Bacon in 1838 for lowering, fastening, and raising windows.

In Equity. Bill for infringement of patents.

Banning & Banning and *B. F. Thurston*, for complainant.

Parkinson & Parkinson, for McCormick Manufacturing Company.

Dyrenforth & Dyrenforth, for the Winona Harvester Works and others.

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NELSON, J. Three suits are brought by William Deering—two against the Winona Harvester Works and others, which are consolidated, and the other one against the McCormick Harvesting Machine Company—for the infringement of certain letters patent for improvement in harvesters, or harvester binders. They are heard together. In controversy, there are involved with the McCormick Company letters patent No. 191,264, issued May 29, 1877, to John F. Steward; No. 223,812, issued January, 27, 1880, to William F. Olin; No. 266,913, issued October 31, 1882; also No. 272,598, issued February 20, 1883, to John

F. Steward. The same patents are involved in the suit against the Winona Company, and, in addition, letters patent No. 278,639, issued May 29, 1883, and letters patent No. 301,190, issued July 1, 1884, also letters patent No. 251,147, issued December 20, 1881, to John W. Webster. The first two patents involved in the Winona Company's suit, and not in the McCormick case, relate to the "knotter" by which the cord is held around the bundle of grain; and counsel consent that a decree may be entered against that company for an infringement of these patents, so that they are eliminated from this controversy. The complainant and the McCormick Company are extensive manufacturers and competitors throughout the grain-producing regions of the world, and by their efforts have stimulated the inventive genius of that class of persons interested in the improvement and development of practical machinery for cutting and binding grain. The Winona Company was a new enterprise, inaugurated under the superintendence and management of men formerly in the employ of the complainant, and manufactured a machine in its general features and operation like those introduced and sold by the complainant, and also by the McCormick Company.

Steward Patent, No. 191,264, dated May 9, 1877—Defenses: No infringement, and want of novelty and patentability, and estoppel. It is remarkable that no machines are in use, at the present time, manufactured precisely according to the Specifications, claims, and design of this patent; and, although the complainant is the owner, he does not construct the machine sold by him like the drawing of the patent. The charge is made that both defendants infringe the fifth claim of this patent. This claim is as follows:

"The combination of the toothed arms, *p*, slotted receiving platform, *H*, and the fixed spring arms, *u*, *v*, for compacting the gavels, substantially as specified."

It is necessary to a proper understanding of this claim, and the devices involved, to look at the mechanism of the machine described, and for which the patent was granted, and its purposes, in the light of the existing state of the art. This patent is denominated "Improvement in Grain-Binders." The patentee, in his description, says:

"I have invented new and useful improvements in harvesters. The object of this invention is to improve the construction of grain harvesting and binding machines; and its nature consists * * * in providing a device for compacting the grain ready for binding; * * * in providing devices for retaining the cut grain in proper position at all times while being forced into the binding wire; and in the several parts, and combination of parts, hereinafter set forth and claimed as new."

The claim, in connection with the drawings and model exhibited, calls for a slotted receiving platform, toothed arms arranged to pass through it and protrude, so as to engage and force forward the flowing grain, and spring arms fixed directly opposite the slots in the platform, operating as resistants to the arms moving forward through the slots, and

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thus the packers or arms, with the springs directly opposite, acting as resistants, compact the gavel while it is being formed, and finally press it through

and under the springs, to be operated upon by the needle arm, and bound. When Steward applied for this patent he was familiar with the operation of a binder, then in the market, on the Gordon or McElroy machine, and alleges that the combination of this fifth claim in the patent was the result of his personal experience in the field, and that the necessity of such improvement was then demonstrated. In order to make a machine effective as a binder, the wisps of grain must be formed into a gavel of proper size to make the bundle. This could only be accomplished by some device which would press the wisps of grain together, and finally hold them, until the binding mechanism tied the bundle. In 1868, Carpenter received letters patent for "improvement in grain-binders," and his invention related to improvements for conveying the grain from the platform to the binding mechanism, and there compressing it into a bundle by means of compressor rods and the revolving rake. The compressor rods and the teeth of the revolving rake perform, to some extent, the same duties as the teeth, *p*, and the spring rods in the Steward patent. The rods are pivoted at one end only, and they operate as resistants in an opposite direction to the teeth on the revolving rake. They are held down by a spring pawl, which tends to make them rigid, so as to hold the bundle being formed by the wisps brought up by the rake teeth. The rods spring back when released by the pawl at the proper time, and the bundle is carried over the shaft which carries the binder arm.

So the Storle patent, 1869, has spring rods under which, on the platform, the wisps are raked, and these spring rods tend in a slight degree to compact the gavel as it forms, and keep the grain down. In the Whitney machine, 1875, overhanging curved rods, called "E," drop down, and, as the wisps are brought along by the rake teeth, the rods operate as resistants to compact the gavel. The Gorham machine was patented about this time, and the Gordon one year earlier,—called "Gordon-McElroy" by counsel. The latter had overhanging spring wires fastened to a rock shaft, and their function was to compress the gavel and hold it until a bundle was ready to be bound. As in the Storle and the Whitney, the bundle was formed, by the revolving rake teeth, called "arms" or "packers," and the rods acting upon the grain on the platform. In the Gordon machine the spring rods were not placed directly opposite the advancing arms, and there was a difficulty in the practical operation of the machine in the field; and, as I understand the witness, this difficulty was due to the form of the overhanging rods, and the fact that they were not independent resistants. Steward then, in his patent, provided a device for compacting the grain for binding. He changed the shape of the Gordon spring rods, and fastened them to a cross bar, not a rock shaft, so each would hang directly opposite to a slot in the platform, through which a tooth upon the revolving rake or, as described in the patent, tooth of the sliding bar, operated. These rods had independent springs, and operated as resistants independent of each other. He made a receiving platform, H, tilted by a crank shaft, and its function is particularly described in the specifications of the patent. It is described

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as slotted and the purposes for which this platform is introduced could not be accomplished unless it was slotted, and was capable of being tilted; so then, whenever the receiving platform, H, is spoken of, it must be understood that reference is made to a receiving platform, described in the patent as slotted, and firmly attached to a shaft or journal bar, connected with a crank and other devices, so that the platform, H, shall be tilting, and can be raised and returned to its proper position, as appears in the drawings accompanying the patent. The specification requires the receiving platform, H, to be constructed in this manner; and when the patentee introduces in a combination claim the platform, H, whether it be designated as a slotted platform, or a tilted platform, reference is made to the platform particularly described in the patent as an element of the combination. My construction of the fifth claim, therefore, is that it is limited to a combination of the toothed arms, receiving platform, slotted and tilting, and the fixed springs, each having the characteristics designated in the patent, and co-operating for compacting the gavels in the peculiar manner described in the patent; and the claim is not infringed, except by, the combination of the same elements possessing the essential characteristics of those designated in the claim, and co-operating in the same way, for the same purpose. The defendants use no such combination. They have a compressor in alignment with the packers, and below them, near the tail of the receiving platform, and working as a resistant to compact and press the gavel. The grain in their machine passes from the elevator over and onto a receiving platform, with one wide slot, through which the packers or teeth move forward the wisps against and under two wires or rods overhanging, and coming down to that part of the platform, which drops and permits the bundle, when tied, to fall to the ground. The receiving platform is not tilting, but stationary. The rods do not hang down, and operate as compactors and resistants, opposite the slot through which the teeth advance in alignment with them, but are located at each side of it, and continue to bear upon the gavel, and prevent the straws of grain from slipping down, while the gavel is compacted or pressed between the teeth and the compressor. This is not the combination of the fifth claim, in the Steward patent, of elements therein described, co-operating for the purposes designated; and the defendants do not infringe such claim, as charged. It is unnecessary to consider the other defenses.

Olin Patent, No. 223,812.—Defenses: No infringement, want of novelty and patentability, and equitable estoppel. The defendant the Winona Company is charged with the infringement of all the six claims of this patent, and the defendant McCormick Company is charged with the infringement of all the claims except the fourth. The patent issued to Olin for “improvements in harvesting machines,” and the nature of the invention, is stated as follows:

“In that class of harvesting machines where the grain is received upon a carrier platform and elevated over the drive wheel by an elevator and deliverer

to the binders, or an automatic binder, it is desirable that there shall be no stoppage in the flow of the grain in its passage to its place of delivery; that the butts of the grain shall be carried up parallel, or nearly so, with the heads of the grain, so as to deliver the grain in proper shape for binding purposes; and that the grain shall be delivered to the receiving table so that it can be bound at or near the middle. The object of this invention is to provide devices for attaining all these results, and it consists in interposing a roller between the lower end of the elevator and the inner end of the grain carrier, to facilitate elevating the grain, and prevent clogging at that point, and prevent the grain from being carried down, or falling through between the elevator and carrier; in providing a belt or chain [called 'Q' in the patent] at the grain side of the machine for elevating the butts of the grain, supported on a swinging bar, so that it can be adjusted according to the length of grain being elevated, to deliver the grain so that it can be bound at the middle; in devices for operating and adjusting the elevator for the butts; in the peculiar construction of the cover; in arranging and operating the belt for the butts so that it prevents any clogging by short grain at the heel of the sickle; in arranging the device for elevating the butts so that it will bear against the butts of the grain, and crowd or move the grain back on the elevator towards the center, for the purpose of straightening the grain in its passage up the elevator, and delivering it so that it can be clasped or bound near the middle, to facilitate the ease of binding."

The drawings and model exhibited show and describe two rollers between the grain carrier, or receiving platform, of a harvester, and an elevator which carries the grain over the drive-wheel, and a supplemental swinging side elevator or belt for elevating the butts, arranged so that it will bear against the butts, and crowd the grain back on the main elevator towards the center, and at the same time straighten the grain as it passes up, and delivering it so that it can be clasped and bound near the middle. The peculiar means of adjustment of the swinging elevator, and the mode of combining it with the harvester elevator, and the devices and mechanism used, are set forth at length. The claims are:

(1) "In combination with a harvester elevator, a swinging elevator pivoted at its lower end, and suitable devices for shifting its upper end, whereby the swinging elevator forms a means for elevating the butts of the grain, and delivering grain of different lengths at the same point, substantially as specified." (2) "The adjustable elevator or belt, Q, having its pulleys or wheels arranged with their faces parallel with the upper surface of the main elevator, in combination with such main elevator, for carrying the butts up even with "the heads, substantially as specified." (3) "The adjustable elevator or belt, Q, having its lower end, c, advanced in front of the line of grain travel, and arranged as described in relation to the main elevator, substantially as and for the purposes set forth." (4) "The pivoted frame or bar, e, supporting the elevator, Q, in combination with the sliding bar, I, rod, n, and lever, o, for adjusting the upper end of the belt, substantially as and for the purpose

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specified.” (5) “The shaft, *W*, wheel, *h*, and frame, *i*, in combination with the gear-wheel, *g*, and pulley-wheel, *d*, for driving the elevator and keeping the gear-wheels, *g*, *h*, in gear, substantially as specified.” (6) “The elevator or belt, *Q*, in combination with the inclined board. It, and main elevator, substantially as and for the purpose set forth.”

In the operation of harvesters, it was found that the straws which have been cut do not fall so as to lie evenly upon the moving receiving

platform. Some of them, particularly in short grain, assume an angular position; the heads of grain, when reaching the elevator, being in advance of the butts, so that, when carried up, the swath of grain is not presented to be bound at or near the middle. The straws in the swath move along up the elevator in the angular position assumed when they reached it. In 1875, to overcome this difficulty, Elward was granted a patent, in which he placed a short endless apron, set at the inner edge of the receiving platform, with its rear end nearest the elevator, obliquely to the line of cut, so as to engage the passing butts of grain, and move them backward prior to delivery to the elevator. He says this apron may be operated either by the friction of the passing butts, or it may be given a positive movement. Green, also, in 1877, obtained a patent for improvement in grain-binders, and in it he has a grain-guide. "which is pivoted at the lower front corner of the elevator frame, on the grain side thereof, and which is provided at its upper end with a handle convenient to the driver sitting in his seat." The object of this guide is to move the butts of straw backward, so that the elevator will deposit the short grain into a receiver at its upper end, to be delivered to the compressing devices in proper position for being bound at or near the middle of its length. He claimed (No. 19) "an adjustable grain-guide, T, combined with a grain elevator in a harvester, substantially as described." As early as 1853, Watson and Renwick had a grain-binder patent, in which the grain was elevated to the binding apparatus "by means of a series of shifting endless bands, which, without stopping the machine, could be adjusted to present the grain to the binder in such position that the band will be passed around the middle of the sheaf, whether it be long or short." So, Marsh, in 1864, had along-side of the elevator a traveling independent belt, with teeth, to carry up the butts of grain, and prevent them from lagging, and this belt moved faster than the elevator; and the belt is claimed in combination with the elevator and the traveling platform, upon which the grain, when cut, falls. All these devices, in the several patents mentioned, were placed on the side of the machine, where the grain was first taken from the receiving platform and elevated. Olin followed with his devices for elevating the grain so that it could be bound at or near the middle, and they were all on the side of the upwardly inclined moving canvas or elevator, which carries the grain from the receiving platform. The supplemental butt elevator in his patent is pivoted at its lower end, and acts upon the butts as the grain ascends. It facilitates the ease of binding properly near the middle, operating in combination with the main elevator, by straightening the grain in its ascent. The specifications and claims refer to those parts of a harvester concerned in elevating the grain from the platform, which receives it when cut, to the point where it is discharged and falls upon the binder platform; and the supplemental swinging butt elevator, Q, is described in the patent, so located that its teeth will engage with the butts of grain on a roller called "I," interposed between the foot of the main elevator and the end of the moving receiving platform, and carry them up, as well as force them backward.

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The defendant's harvester has a receiving platform and an elevator, which drops the grain brought up onto an inclined board or binding deck, having slots through which packing arms project, and operate to compact the grain while the gavel is forming; and at the upper end of this deck or descending table is pivoted an endless apron, arranged so that its face side engages the butts, which facilitates the descent of the grain at the butt ends, and adjusts it lengthwise in proper shape for binding. This endless apron has a downward movement, and operates on the grain after it is delivered from the elevator, and adjusts it between the point of discharge from the elevator and the point at which it is subjected to the binding mechanism; but it does not operate, in combination with a harvester elevator, to carry the grain up as it passes from the platform upon which the cut grain falls. It is urged that there is no; difference in the function and operation of the supplemental swinging elevator of Olin and defendant's endless apron; and the complainant's expert, Bates, says, in considering the first claim:

“* * * As shown and described in the patent, this belt, [the Olin swinging belt elevator,] is arranged with one end low down near the carrier platform, H, [the platform upon which the cut grain falls,] and the other end up near the highest point of travel of the grain; but it is obvious that these positions might be changed, and the device still operate in exactly the same way to push the grain back, and to convey the butts forward. For example, the receiving end of the belt, Q, might be further along on the path of the grain, even at the highest point on its path, or beyond it, and the deliver; end also further along, even at the point P, [a receiving table beyond the upwardly inclined canvas or elevator,] or near it. *** I therefore understand the essentials of this device to be that it shall be combined with the devices; which elevate or convey the grain from the carrier platform to the binder; that it shall be pivoted at its receiving end, so that its delivery end may swing back and forth to accommodate grain of different lengths, and that its delivery end shall be provided with devices by which it may be moved back and forth for that purpose; and that it is immaterial at just what point in the path of the grain said swinging belt or conveyor, Q, is located. * * * I am also aware that in the claims the device is called an 'elevator;' and this is correct, but perhaps slightly misleading, as, Whatever its position in a machine of the class illustrated in the patent, it assists in elevating the grain from the point, H, to the point, P, even though it were so located that it acted on the grain only on the downward portion of its path.”

Renwick, defendant's expert, says, in considering the Olin patent, that it is limited strictly to an arrangement in which the pivoted end of the swinging elevator shall be literally and absolutely the lower end, and in which the swinging elevator operates upon the grain while it is being elevated from the platform upon which it is deposited by the cutters. I think Renwick has construed the patent correctly, and the complainant's expert,

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Bates, has overlooked, or not taken into account, the statements of the patentee, when he says:

“The elevator, Q, need not extend the entire length of the elevator, but may ‘Stop some distance below the upper elevator roller.’”

And again, when he says:

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“In order to elevate the butts even with the heads, the belt or elevator, Q, is so arranged that the teeth, b, will engage with the butts of the grain on the roller, I, and carry them up while the heads are being carried up by the elevator belts, M. The lower pulley, c, is to be so arranged that it will permit the teeth, b, on the elevator, Q, to clear the end of the roller and engage the butts, and this pulley, c, is located as close to the main frame as is possible and permit the operation of the butt elevator; which location of the pulley brings the butt elevator in position to enable it to catch any short grain, which short grain is liable to fall down and be caught by the heel of the sickle, and clog the sickle. By locating the lower pulley, c, of the belt, Q, at the proper distance above the main frame, A, the teeth, b, on the elevator will come in contact with such short grain, and force it forward onto the carrier platform; thus keeping the heel of the sickle clear at this point.”

There is no infringement of the claims by either defendant.

Steward Compressor Patent, No. 266,913.—Infringement by both defendants of twenty-first claim alleged,—Defenses: “Want of novelty and patentability;” “prior use, before claim inserted, for more than two years;” “no infringement.” The twenty-first claim is as follows:

“The combination of the vibrating arm, G², the shaft, F², by which it is supported and moved, provided with a crank, E², a moved part of the machine, and the connecting link, provided with a spring so that its length may elastically yield, whereby said Vibrating arm will oppose the needle, and co-act therewith as a compressor, and move away to permit the escape of the bundle, substantially as described.”

This combination relates to the mechanism for compressing the bundle, and squeezing it to the requisite smallness, just before tying. The object of securing the arm, G², to the shaft, F², at the location described, in relation to the needle arm, V, which forms a part of the combination, is to allow the vibrating arm, G², to co-act with this arm as a compressor, and relieve the binding wire from strain. The defendants' expert in his testimony describes the operation of the compressor arm, G², and the needle arm, V, and speaks of the spring link connecting the rock shaft, F², with shaft moving the needle arm, V, as being placed there to obviate breakage of the needle or arm, or stopping the machinery, which would occur, when the grain was no longer compressible, without the spring-link connection, so as to permit compressing the spring in the link. I think he is correct, for in the specification the patentee says:

“This spring is strong enough to operate the crank, * * * and yet allow the rod * * * to slide through the head or socket, when the arm, G², has completed the compression of the bundle, so that no injury can result if the crank * * * continues its movement after the arm, G², has compressed the bundle.”

The spring link directly connects the two shafts actuating the compressor and the needle arm and allows the rod to yield, so that the movement of the compressor, G^2 , may be such as to adapt it to bundles of various sizes; but the patentee states that it is strong enough to obviate breakage, and, when the expert states that the purpose is to avoid accident, it is true, and the only criticism of the statement made is that the device incidentally avoids breakage, while its purpose is to produce elastic

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compression. Yielding compression is obtained by the mechanism adopted, and undoubtedly the peculiar construction of the link spring, and its location, avoids accident; so that it may fairly be said that, if the main purpose is elastic or yielding compression, it can only be accomplished by the use of a device between the arms to prevent breakage also. But elastic yielding of the compressor arm is found in many grain-binders before Steward's patent; most of them cited by defendants, or put in evidence. See particularly the Baker patent, No. 191,096, which even Steward admits in his letter to Messrs. West & Bond of March 30, 1878, came close to him. All are different in construction, and the movement of the compressor is such as to adapt it to bundles of various sizes. The spring connection is used in all; not directly between the two shafts actuating the arms, but indirectly for accomplishing like results. Steward attempted on July 15, 1882, to broadly claim the use of a spring link for elastic compression, (see Steward file contents,) which was rejected upon reference to Buxton and others, and he then modified his claim as it now stands in his patent. I think he must be limited to the peculiar construction in which the connection between the compressor arm and the needle arm, by use of the spring link, is direct; and any combination like the Buxton or Baker or Adams or Appleby, where an indirect spring connection was put in, is not an infringement. It is unnecessary to consider the defenses of prior use and others interposed, inasmuch as neither defendants infringe.

Steward Patent, No. 272,598, February 20, 1883.—Alleged infringement by defendant McCormick Company of the third, fourth, ninth, and tenth claims, and by defendant Winona Company of the twentieth and twenty-first claims.—Defenses: No infringement; want of novelty and patentability. The patent was granted for a "grain-binder," and the specification says:

"The object of my invention is to provide means that, combined with an automatic grain-binder, shall make it automatically regulate the position of the band on the gavel,—that is, shall automatically place the band upon the gavel in its proper position, relative to the length of the grain, without any aid or attention from the operator; and its nature consists in locating, in such position as to be influenced by the heads of the incoming grain or gavel or bundle a device to be moved thereby, the said device connected with means for adjusting the relative positions of the said grain and the binding mechanism."

The McCormick Company is charged with infringing—

Third Claim. The combination of the swinging revolving canvas for advancing the butts of the grain with the board, *e*, for retarding the heads of the same. *Fourth Claim.* The combination, with the delivery apparatus of a harvester, of a self-setting plate, *e*, on the binder table, adapted to be operated by the grain for directing scattering grain into the succeeding gavel, substantially as described." *Ninth Claim.* In combination with the bundle discharging mechanism of a grain-binder, the board, *e*, for the purposes set forth.

Tenth Claim. The combination of the discharge arms, the board, *e*, and the butt-adjusting mechanism, substantially as described.”

The patentee describes the ordinary grain adjusting and butting mechanism found in many binders, which, he says, “constitute no part of

the present invention, only as combined with other elements." At the top of the chute or deck, where the butts of the grain are delivered by the elevator, he places the grain-adjusting mechanism, which consists of \mathcal{E} frame, D , carrying a roller at each end, around which rollers is drawn an endless canvas, called "d." This frame is pivoted so as to swing, and vibrates on the axis of the larger or upper roller, which is driven from the gearing of the harvester; and the endless canvas, in revolving, has a downward movement, and operates on the butts of the grain delivered from the elevator, and adjusts them before subjected to the binding mechanism. On the side of the deck, opposite the swinging revolving canvas, is a swinging board, e , pivoted to the harvester frame at its upper end, and nearly equal in width to that of the butt-adjusting canvas, for the purpose of retarding the heads of grain in its descent. The specification says:

"The use of the canvas, d , and the board, e , produces a new and beneficial result in their* joint action upon the grain, in grain that stands thin on the ground, and hence is of that condition which always passes up the elevators head first. The butts are advanced by the revolving canvas, and the heads are retarded by the contact with the board, e , and thus reach the binding receptacle in much better condition than when the old devices, or none, are used."

The board, e , has a spring, e^1 , secured at one end at about middle of its length, and the other secured to the framework of the binder, and by this means the board is caused to press elastically towards the grain. The board, e , has an arm, e^2 , secured "at its upper edge, and near its top or hinged end, the said arm reaching upward over and parallel with the decking, and connecting by a joint with the rod, d^5 . By this means the movement of the board or plate, e , is transmitted to the adjuster, D , so that it moves in a reverse direction. In other words, the two parts, operating, one on the heads, and the other on the butts, of the grain, are so connected that they approach or recede from each other when one is moved. These parts, because of their weight, are inclined to swing apart, and also, because of the tendency of the motive power on the canvas, d , to swing its frame outward, and hence, the spring, e^1 , must be strong enough to overcome these tendencies, and as much stronger as is wished to have the parts moved quickly by the said spring when it is at liberty to move them. With the above described parts in the positions shown in Fig. 3, and the bundle as there shown, it is plain that, if the bundle is quickly ejected, it must engage the curved part of e , and force it out of its way, and hence backward, and, the butting canvas being connected thereto it will be moved forward. Two forces, then, are apparent,—the bundle to force the parts opposing its head and butt from each other, and the spring to retract them. In order that each bundle shall leave the parts fixed for the time being in any position it may have caused them to assume, I provide a locking

device that shall at all times retain the parts, except just while the head of each bundle is passing the curve on the plate, *e*, which device is constructed as follows: * * *

A locking apparatus is then described in the specification, which is released when the bundle, is, discharged, and then engages with the board,

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e, and holds it in the position in which it has been set by the outgoing bundle, until it shall be reset by any succeeding bundle. Each outgoing bundle, when it is operated upon by the discharge arms, tends by the movement communicated from the board, e, to the revolving canvas, to set the revolving canvas in a position to feed the grain further forward or further backward. Certain parts of the invention are said to be capable of use singly, as well as jointly, and the independent use of the board, e, is described, when the rods between the board, e, and the revolving canvas are disconnected, and the locking device is removed, and the rod attached to the butt adjuster is fixed to the top of the deck by a pin. "I have an elastically swinging board for directing scatterings caused by imperfect adjustment of the reel of the harvester, or any other cause, into the gavel, whether the grain be long or short, and especially when short, as without this board there is a clear space between the heads of the gavel and the rear limit of the chute, where scatterings may pass freely to the ground." The joint action is then described:

"With the parts all connected, as best shown in Figs. 2 and 3, I have, as before stated, a device for regulating the position "of the grain relative to the binding mechanism, the operation of which I will now describe. * * * The cut grain falls on the platform canvas, and is conveyed to and elevated by the elevating canvases, and delivered in a loose state onto the table, when it is engaged by the usual pushing mechanism, and forced forward to the binding mechanism, where it is bound, and from which it is finally ejected by the discharge arms or other means. With the butting mechanism, and the board or plate, e, in their positions nearest approaching each other, we will suppose the grain first acted upon to reach them. If the grain is long, the head of the bundle, when discharged, will press forcibly against e, more especially against its curve, and force it backward, it being at the proper instant permitted to move by being unlocked by the action of the cam, f^A . The first bundle thus bound may be carried too far backward in its approach to the binding mechanism, and hence bound too near the butt; but, when it is discharged, the butt-adjusting device acts under the influence of the plate, e, and is hence moved forward to a position more nearly in keeping with the requirements, and the next bundle will be bound further from the butt. If, when going into a field of short, grain, the butt-adjusting mechanism and plate, e, are wide apart, the first bundle will be deposited too far forward in the receptacle, and hence bound too near the heads; but, upon its discharge, the board, e, will be permitted to jump or swing with a quick movement to a position as far forward as the position of the bundle at that instant will permit, and hence the butting mechanism will be set for short grain. If the device is set to proper position for the first bundle before going into the grain, it will be properly bound, and it will leave the parts in position for the succeeding one. For the sake of clearness, I will further say the butt-adjusting mechanism, in all cases, directs the grain to the binding devices, (except litterings, that are thrown backward.) The position to which the butt adjuster is swung determines the relative position of the

gavel to the binding mechanism. The passage of a bundle so long or far backward that its head will forcibly move the swinging plate, when the latter is unlocked, will cause the butt-adjusting mechanism to move forward, and deposit the succeeding grain in a position further forward in relation to the binding devices. If grain of decreasing length passes, the spring, e, will Cause the plate, e, to jump, when unlocked, until it meets the heads of the same, and the butt-adjusting mechanism thus be moved to deposit the grain of each succeeding shorter gavel a little further back in relation

to the binding mechanism. * * * The modifications that may be made in this arrangement are almost unlimited. For instance, the butting device may be of any kind competent to give the swath direction into the receptacle, or it may be of the kind that moves the gavel bodily endwise. The board or plate, *e*, may be connected with the butting mechanism in various ways, and the plate, *e*, itself may be varied; yet, should any device be used capable of being influenced by the heads of the grain, whether in swath, gavel, or bundle, for the purposes set forth, I should consider it an equivalent. The spring, e^I , may be connected with the butting mechanism direct, as to any of the moving parts. The locking arrangement may be varied, and even dispensed with, under some circumstances. These suggested modifications are shown in an additional figure,—that numbered 7. In this the grain is shown as operated at each end by the two plates or boards; and it is plain that as the distance between these boards at their delivery end is regulated by the length of the grain, the butt-board will be caused to deliver the incoming grain properly. This would be used in that class of binders where the grain accumulates in the receptacle in a free state, and is taken bodily therefrom by the needle. The plate, *e*, may be located upon the elevator, and connected with the adjusting or butting mechanism, and produce the same effect.”

In harvesters, boards for adjusting butts and heads of grain in their descent down the delivery board or deck, hinged and located on opposite sides, with a series of holes, in which pins may be placed, in the deck, to adjust the head or wind board, and in the arm attached to the butt-board, and, thereby giving direction to the movement of the descending grain, for feeding it further forward or further backward, are old. Many resemble the boards of Steward, and represented in his diagram, Fig. 7, and will co-act upon the grain, when adjusted, so as to present the gavel in proper shape for binding. Elward (May, 1876) described them in his patent, but the movement of one board did not communicate a movement in an opposite direction to the other. There was conjoint action only when adjusted by the operator. In 1877, Appleby and Bullock substituted a traveling butter for the adjustable butter-board. Steward's butting mechanism and board, differ from others in a conjoint action between them, which he describes, and also a conjoint action between the bundle-discharging mechanism of a grain-binder and the board, *e*, whereby the bundle-discharging mechanism imparts a positive movement to the outgoing bundle against the board, so that it is set for the incoming bundle. The purpose of Steward's invention is, by combination of the parts described, to adjust the butter-board forward and backward, with the board, so that, “whatever the length of grain which passes, its center will always be at the same place;” and this is done through the connection described in the specification between the board or plate, and the endless canvas, by which it is made to swing backward and forward automatically, and thereby feed the butts of grain nearer to or further from the path of the needle. In the defendant's machines the butt-board or

endless canvas is adjusted by hand to different fixed positions, and relative to the path of the needle; and this was a common method of construction before Steward. The adjustment of the endless canvas in the Steward patent, when disconnected from the board, e, is by hand, as the common

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method before his invention; and the elastic pressure of the board, *e*, towards the grain is caused by the spring, *e*¹, when not restrained by the locking mechanism, and is thus adjustable as circumstances may require. The Deering circular of 1880, put in evidence, shows a board opposite the butter canvas, constructed and adjusted as in defendant's machine. Chapman, in patent, June 19, 1877, and Buxton, in 1879, and Puetz, in 1880, have pivoted wind-board and butter attached to the deck, closely corresponding to the Steward board, *e*, and butt-adjuster, without the spring and rod connection. In September of 1881, McCormick substituted a spring for a pin behind the wind-board, (corresponding to board, *e*.) so as to give to it elastic and automatic adjustment. Gotlieb Heller also, in the spring of 1878, put a wind-board on his machine, and held it at an angle by a spring, using it during the harvest of 1878, and the next season, whenever the binder was used, until the machine was laid aside. Rubin, George Heller, Schlesener, and others corroborate him, and prove it beyond doubt that at that time he put a wind-board with a spring behind it, corresponding to board, *e*, of Steward, for retarding the heads, and keeping short grain or scatterings from falling down. In view of these devices used before the construction of his mechanism, Steward must be limited to the peculiar construction of mechanism by which the conjoint action is obtained of the board, *e*, and the swinging butter, *D*, and also to the combined action of the self-setting board, *e*, and the delivery apparatus, operating in connection with butt-adjuster, whereby the bundle, as it passes out, fixes the position of the board, *e*, and the adjuster, *D*, for the succeeding gavel; and such combination of the bundle-discharging mechanism and the board, *e*, whereby the bundle-discharging mechanism imparts a positive movement to the outgoing bundle against the board, *e*, and at the same time sets it for the incoming bundle; and also to the conjoint action of the discharge arms, and the board, *e*, and the adjuster, *D*. He must be restricted to the exact combinations shown, which are not used by the defendant McCormick Company.

The two claims which it is insisted the Winona Company infringe are:

Twentieth. The combination, in a grain-binder, of moving butt-adjusting mechanism, and the board, substantially as described. *Twenty-First.* The combination of the swinging butt-adjuster, the arms, *d*², *d*³, and *d*⁴, and the board, *d*¹, pivoted to the swinging butt-adjuster, substantially as described."

The Winona Company undoubtedly use the mechanism, operating in the same manner, as described in the Steward specification and claims. The only difference between the butt-adjuster in the defendant McCormick machine and the Winona is the attachment, *d*¹. The arms, *d*², *d*³, and *d*⁴, with the frame, *D*, when operated, move like a parallel rule, and constitute a parallelogram; thus keeping the board attachment, *d*¹, parallel to the edge of the chute. Heller had put on a similar attachment, pivoted to the end of a butt-adjuster,

in 1878; and, although the construction of the adjuster and attachment was crude, it operated

successfully, and embodied, substantially, the alleged invention described by Steward. Although Heller may have been in error when, in his deposition, he stated that the exhibit "Heller Butt-Adjuster, with Adjustable Extension," produced and put in evidence, was the identical device he put on his machine in 1878, the fact that he put on an extension to the butt-adjuster, and used it, is fully proved. Schlesener, who contradicts Heller on the identity of the exhibit "Heller Butt-Adjuster," and says that he and Heller put it on his machine in 1880, corroborates him in regard to a butt-adjuster, with extension, being on Heller's machine in 1878. My conclusion is that there is no infringement by the Winona Company of these claims.

Webster Patent, No. 251,147, dated December 20, 1881.—Infringement by the Winona Company of the four claims alleged. This patent describes a mechanism for raising and lowering and fastening the grain platform. The object of this invention was to arrange mechanism to hold the grain end of the platform at any desired height from the ground, and permit of the easy adjustment of the platform to different heights. The parts are so combined and arranged that the operator can use the hand, which disengages the pawl, to assist, also, in raising and lowering the platform. This device, performing the same function in a different situation, has been in use for many years preceding Webster. It is found in a patent to Bacon, granted in 1838, for raising, lowering, and fastening windows, having the ratchet standard, the pawl, spring, and lifting handle, operating in substantially the same way as in Webster. The act of lifting disengages the pawl, and releasing of the hold upon the handle permits the pawl to engage. Such a device is used upon the windows of railway cars; and in addition to the notched window casing, for which the ratchet standard is the equivalent, and the pawl and its handle, there is a handle at the top of the window frame to aid in raising. There is no mechanical difference between the function of the two devices in Bacon and Webster, and there is no invention in using the sash-fastener mechanism for raising, lowering, and fastening a grain platform by making the parts larger and stronger. A combination of parts to perform a certain function, when patented, entitles the patentee to that combination in all situations for all analogous purposes. The alleged infringement cannot be sustained.

My conclusion, therefore, is that the bill against the defendant the McCormick Harvesting Machine Company must be dismissed, and the complainant is entitled to a decree only against the Winona Harvester Works and others for an infringement of the knotter patents, No. 278,639 and No. 301,190, and it is so ordered.