Miller Vs. Eagle Mfg. Co.

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Miller v. Eagle Manufacturing Company

No. 143

Argued December 11-12, 1893

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151 U.S. 186

APPEAL FROM THE CIRCUIT COURT OF THE UNITED

STATES FOR THE SOUTHERN DISTRICT OF IOWA

SYLLABUS

No patent can issue for an invention actually covered by a former patent, especially to the same patentee, although the terms of the claims may differ.

The second patent, in such case, although containing a claim broader and more generical in its character than the specific claims contained in the prior patent, is also void.

But where the second patent covers matter described in the prior patent essentially distinct and separable, and distinct from the invention covered thereby and claims made thereunder, its validity may be sustained.

A single invention may include both the machine and the manufacture it creates, and in such case, if the inventions are separable, the inventor may be entitled to a monopoly of each.

A second patent may be granted to an inventor for an improvement on the invention protected by the first, but this can be done only when the new invention is distinct from and independent of the former one.

It is only when an invention is broad and primary in its character and the mechanical functions performed by the machine are as a whole entirely new that courts are disposed to make the range of equivalents correspondingly broad.

The invention claimed and protected by the letters patent issued June 7, 1881, to Edgar A. Wright for new and useful improvements in wheeled cultivators was anticipated by the claim in letters patent No. 222,767, granted to him December 16, 1879, for improvements in wheeled cultivators.

The first claim in the said letters patent of June 7, 1881, was anticipated by letters patent No.190,816, issued May 15, 1877, to W. P. Brown for an improved coupling for cultivators.

The said letters patent of December 16, 1879, in view of the state of the art at that time, are to be limited and restricted, if they have any validity, to the specific spring therein described, and as thus restricted, they are not infringed by the sale of cultivators manufactured by P. P. Mast & Co. in accordance with various letters patent owned by them.

In equity for the infringement of letters patent. The case is stated in the opinion.

MR. JUSTICE JACKSON delivered the opinion of the Court.

The appellee, as assignee of letters patent No. 222,767, dated December 16, 1879, and No. 242,497, dated June 7, 1881, issued to Edgar A. Wright, for certain new and useful improvements in wheeled cultivators, brought this suit against the appellants, who were the defendants in the court below, for the alleged infringement thereof.

The defenses made in that court were that Wright was not the first and original inventor of the improvements described in the patents, that the same were shown and described in previous devices and letters patent set forth in the answer, that the invention shown in each of the patents in suit is identical, that in each the supposed improvements relate to a spring and its attachments, that the function and operation of the parts are exactly the same in each, that one or both of the letters patent in controversy were issued without authority of law, and therefore void, that in view of the state of the art at the date of the alleged improvements of Wright, the letters patent granted to him did not exhibit any patentable invention, and for that reason are invalid, that the defendants were not engaged in the manufacture of cultivators, but have

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sold cultivators manufactured by P. P. Mast & Co., of Springfield, Ohio, constructed under and in accordance with various letters patent owned by that company, that they sold the cultivators of this company without notice or reason to suppose that they were an infringement of the patents of Wright, and that they do not in fact infringe the same.

The class of cultivators to which the Wright patents in question relate are of the ordinary character of wheeled, straddle-row cultivators, having vertical swinging beams, or drag bars, to carry the shovels or plows, suspended from an arch or frame, mounted on two wheels, a tongue fastened to the frame and beams connected with the horizontal portions of the arch, which serves as an axle for the wheels, and surrounding the axle on each side a pipe box to which the beam is secured, the pipe box revolving on the axle, and the beam carrying the shovels adjusted so as to swing up or down with the pipe box, according to the direction in which it is turned.

The patented device consists of a round steel rod or wire spring, having at its fixed end a coil attached to the swinging beam or plow bars, and, extending from the coil, a slightly curved arm, the outer end of which terminates in a bend or shoulder, from which the rod continues to form a short arm, terminating in a sharp bend or curl at the free end of the spring. This spring is so adjusted that the outer or free end thereof bears against the under side of an adjustable grooved roller, fixed upon an outwardly extending arm upon the upright portion of the axle. This spring, with its adjustment, is intended to have a duplex action, covering the double effect of either raising or depressing the beams carrying the shovels. The curvature of the spring is such that, as it moves along the groove of the roller, it presses against the latter at different points of its periphery, and thereby the direction of its action is shifted or changed as the position of the swinging beam is changed. Such changes in the direction of its action will assist in drawing or pulling the beam upwards in a vertical direction, giving it increased leverage as the spring is moved forward in its bearings on the roller.

In his original application, filed May 23, 1879, Wright fully

described his improved device for use in connection with cultivators, and claimed for it not only its lifting and depressing action, but also its lifting power, which increased as the beams were raised.

An interference with other pending applications being anticipated as to the broad claims of the invention, the application was divided, on November 12, 1879, for the purpose of obtaining one patent for the lifting and depressing effect of the spring on the beams and another for the lifting power of the spring, increasing as the beams rise; the latter being sought upon the original application, while the former was based upon the divisional application of November 12, 1879. Patent No. 222,767, for the double effect or duplex action of the improved spring, was granted on December 16, 1879, and thereafter, on June 7, 1881, patent No. 242,497, for the single effect of increased lifting force in raising the plow beams, was granted after interference had been disposed of.

The court below sustained the validity of both patents and held that the defendants infringed the first, second, third, fourth, and sixth claims of patent No. 222,767, and the first, second, third, and fourth claims of the patent granted June 7, 1881 (No. 242,497). The complainant waiving an accounting for profits and damages, a final decree was entered enjoining the defendants from making, using, or selling to others to be used cultivators constructed and operated in the manner and upon the principle described in the letters patent in controversy. From this decree the present appeal is prosecuted.

The appellants assign numerous errors, which need not be separately noticed and considered, as they are embraced in the general proposition that the court erred in holding that the patents sued on were valid, and that the cultivators sold by the defendants infringed the same.

In the specification forming part of the letters patent 222,767, issued December 16, 1879, under the divided application filed November 12, 1879, the patentee states:

"The object of my invention is to give the operator mechanical assistance in raising and lowering the plows without interfering with their usual action and movement, to prevent the

plows from rising out of the ground accidentally, and to limit their descent, and to this end the invention consists in a spring which serves the double purpose of lifting or holding down the plows at will as may be required; in so constructing and applying a spring that it exerts a lifting action on the plow only when the latter is raised above its usual operative position; in so constructing and applying a spring that it limits the descent of the plow; also in details of minor importance, hereinafter described."

"In carrying out my invention, the one spring may be adapted to serve all or either one or more of the offices above enumerated, and may be modified in its form, construction, and arrangement as desired, provided its mode of action is retained."

It further stated that the improved springs may be attached to either the plows, as shown in Figs. 1 and 2, or to the axle, as shown in Fig. 3.

image:a

The improvements are described in the specification as follows:

"As shown in Figs. 2 and 3, each spring consists of a round steel rod or wire having at the fixed end a coil, *a* , and extending from the coil a long slightly curved arm, *b* , the outer end of which terminates in a sharp bend or shoulder, *c* , from which the rod continues to form a short arm, *d* , the end of which has a sharp bend or curl, *e* , as represented in Figs. 2 and 3."

"When the spring is to be applied to the plow beam, as shown in Figs. 1 and 2, I first provide the upright portion of the axle with an outwardly extending arm or rod, E, carrying a laterally adjustable grooved roller, F, to serve as a bearing for the free end of the spring. The coiled end of the spring is then seated in a metal bearing plate, G, which is secured rigidly but adjustably to the beam by means of a bolt, H, as shown, the free end of the spring being at the same time seated against the under side of the roller, and the parts so adjusted that when the beam is in its lowermost position the extreme end, *e* , of the spring, will bear against the front of the roller, and the spring be under a strong tension."

"When the beam and its shovels are down in an operative position, so that the shovels enter the ground, the portion, *d* ,

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of the spring bears beneath the roller, as shown in Fig. 1, and serves to hold the beam down, so as to keep the shovels in the ground, but at the same time allows them a limited vertical movement when required."

"Whenever the shovels enter to the full depth desired, the end, *e* , of the spring encounters the roller and serves to check the descent and to suspend the beams."

"When the beam is raised, the spring continues to urge or hold them down until the bend or angle, *e* , of the spring passes the roller, whereupon the spring instantly changes its action and tends to lift the beam."

The specification then proceeds to state:

"I am aware that cultivator plows have been heretofore suspended when in action by springs which exerted little or no lifting force when the shovels were lifted above the ground, and which exerted an increasing lifting force as the shovels descended."

"I am also aware that springs actuated by manual devices, and not automatic, have been employed to force cultivator shovels into the ground."

"I am not aware, however, that any one has hitherto applied a spring in such a manner that it served both to elevate and hold down the beam or shovels, nor that anyone has suspended the beams by a spring which would lift the whole or the greatest part of the weight to the highest point required, and still permit an easy motion of the shovels in the ground, with little or no tendency to rise therefrom; neither am I aware that anyone has ever caused a lifting or depressing spring, which permitted a movement of the beam and shovels, to limit their descent."

"I therefore claim to be the inventor of each and all of said features, broadly considered, and it is obvious that they may be changed, modified, or altered in the

form of embodiment as desired, it being obvious to the skilled mechanic that there are many equivalent ways of securing the same end without departing from the limits of my invention."

"I do not claim in the present patent the broad idea of a lifting spring which acts with increasing force as the beam

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rises, as I have made the same the subject of a separate application bearing date prior hereto, but"

"Having described my invention, what I do claim is:"

"1. In combination with a vertically swinging beam or drag bar, a spring, substantially as described and shown, arranged to urge the beam downward when in action, and urge it upward when it is lifted above the operative position."

"2. In combination with a vertically swinging beam or drag bar, a double acting automatic spring, substantially as described, serving the double purpose of holding the beam down to its work and of assisting to lift it when it is thrown out of action."

"3. In combination with a vertically swinging beam or drag bar, a spring, substantially as shown, adapted to exert an automatic spring action upward or downward upon the beam according to the position of the latter."

"4. In a cultivator, the combination of a frame, a vertically swinging beam or drag bar attached thereto, and an automatic spring, substantially as described, connected with one of said members and arranged to urge the beam downward while the latter is in an operative position, but not when it is raised above said position. . . ."

"6. In a cultivator, the combination of a main frame, a vertically moving beam or drag bar connected therewith, and a spring, substantially as described, interposed between said parts, and acting vertically upon the beam; said spring being constructed and arranged to pass a center or dead point as the beam moves

vertically, and, in passing said point, cease or change the direction of its action on the beam."

The second patent, No. 242,497, issued June 7, 1881, while describing in both the specification and the drawings the same invention or device covered by the patent of December 16, 1879, attempts to limit the invention and patent to the lifting operation of the springs, increasing as the beams are raised. The specification, forming a part of this patent, states that --

"The invention relates to that class of machines, generally wheeled, which have vertically swinging beams or drag bars

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to carry the shovels or plow points, and the object of the invention is to render the operations of the machine easier and less laborious to the attendants by applying springs thereto in such manner that they will assist the operator in raising the beams and shovels attached thereto from their operative to their inoperative positions, and this, without having the springs exert any objectionable lifting strain upon the beams when the latter are in action."

"To this end, the invention consists in applying lifting springs in such manner that they exert upon the beams a maximum power or strain when the latter are above an operative position."

"The spring, operating in accordance with my improved plan, may be made and applied in various forms, which will readily suggest themselves to the skilled mechanic without departing from the limits of my invention."

"My springs may be arranged to sustain the whole or any desired portion of the weight of the beams when the latter are raised, and they may be arranged to exert a slight lifting strain when the beams are in action, or, if preferred, arranged to cease their lifting strain entirely at such time."

"The essential feature of my invention consists in applying a lifting spring or springs in such manner that they do not increase their lifting strain as the beam is

depressed, the construction preferred being such that the springs exert an increased lifting action as the beams rise from an operative to an inoperative position."

"I am aware that springs have been applied in various ways to assist in lifting the beams in this class of machines; but in all cases their arrangement was such that they acted with an increased lifting strain as the beams were lowered, the consequence of which arrangement was that the springs exerted their greatest upward strain when the shovels were in the ground at a time when it was desirable that the shovel should not be lifted, and, on the other hand, exerted but little force when the beams were elevated and when it was required that they should be sustained to relieve the operator. This old action, it will be seen, is the reverse of that which is

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desired, and the principal object of my invention is to reverse the old mode of action and have the springs act with little or no upward strain when the shovels are in the ground, but with strong upward pressure when the beams are lifted."

"The accompanying drawings illustrate one manner of embodying my invention. The springs represented in the drawings are adapted to serve the double purpose of holding the beams down and of lifting them, or assisting to lift them, when they are raised above an operative position. No claim is made in the present case to this duplex action of the springs, nor to the peculiar form or arrangement of the springs, otherwise than as regards the feature of exerting an increasing or a maximum strain on the beams as the latter rise, the peculiar construction of the spring being already covered in a patent hitherto granted to me."

After describing the drawings and the operation of the spring, the specification proceeds as follows:

"While it is believed that the form of spring represented in the drawings is preferable to all others, the invention included, as before stated, any spring so combined with the beam or its equivalent that a greater or stronger lifting force or

effect is exerted upon the beam when the latter is above the operative position than when it is in use -- or, in other words, the invention includes any and all beam-lifting springs the effect of which is lessened or avoided when the beam descends to an operative position."

"I believe myself to be the first to apply a spring in such manner as to secure the above mode of action, and the first to so apply a spring in such manner that as it loses tension it acts with an increasing force or effect to lift the beam -- or, in other words, with an effect which is not lessened by the decrease in the tension of the spring within the usual limits of operation."

"Among other arrangements which may be substituted for that shown is that of having a radius bar or link introduced between the spring and beam as a substitute for the curved spring and roller."

Having thus described his invention, the patentee claimed:

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"1. In a cultivator, the combination of a vertically swinging drag bar or beam and a lifting spring, which acts with increasing force or effect on the beam as the latter rises, and *vice versa.* "

"2. In a wheeled cultivator, the combination of a vertically moving beam and a lifting spring, substantially as described, whereby an increasing upward strain is communicated to the beam as the latter rises."

"3. The combination of a wheeled frame, a vertically moving beam or drag bar attached thereto, and a lifting spring, substantially as described, which exerts a greater strain or effect upon the beam when the latter is elevated than when it is depressed."

"4. The combination of a vertically moving beam, a lifting spring, and a shifting or changing bearing or fulcrum, whereby the lifting action or effect of the spring upon the beam is increased as the beam is elevated, substantially as described and

shown."

It is not deemed necessary to make a separate analysis of the respective claims alleged to be infringed.

The novelty of Wright's invention consists, as held by the court below, in the application of a double acting spring to assist the operator in either lifting the plow beams, or the plows attached thereto, or in sinking them deeper in the earth, as occasion might require, while the cultivator is in service. The first patent, issued in 1879, covered both the lifting and depressing actions or operations, while the second patent covered only the lifting effect. The spring device which was designed to accomplish these effects or operations is the same in both patents. The drawings in each of the patents are identical and the specification in each is substantially the same. Under these circumstances, can it be held that the second patent has any validity, or must it be treated as having been anticipated by the grant of the 1879 patent? If, upon a proper construction of the two patents -- which presents a question of law to be determined by the court -- *Heald v. Rice,* 104 U. S. 749 , and which does not seem to have been passed upon and decided by the court below -- they should be

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considered as covering the same invention, then the later must be declared void under the well settled rule that two valid patents for the same invention cannot be granted either to the same or to a different party.

Thus, in *Suffolk Companies v. Hayden,* 3 Wall. 315, it was held that where two patents showing the same invention or device were issued to the same party, the later one was void although the application for it was first filed, thereby deciding that it is the issue date, and not the filing date, which determines priority to patents issued to the same inventor on the same machine.

In *James v. Campbell,* 104 U. S. 382 , the Court say:

"It is hardly necessary to remark that a patentee could not include in a subsequent patent any invention embraced or described in a prior one, granted to himself, any more than he could an invention embraced or described in a prior patent granted to a third person; indeed, not so well, because he might get a patent for an invention before patented to a third person in this country, if he could show that he was the first and original inventor, and if he should have an interference declared. . . . If he was the author of any other invention than that which the specification describes and claims, though he might have asked to have it patented at the same time, and in the same patent, yet if he has not done so, and afterwards desires to secure it, he is bound to make a new and distinct specification for that purpose, and make it the subject of a new and different patent."

When a patentee anticipates himself, he cannot, in the nature of things, give validity to the second patent.

In *Mosler Safe Co. v. Mosler,* 127 U. S. 355 , it was held that, a patent having issued for a product as made by a certain process, a later patent could not be granted for the process which results in the product.

In *McCreary v. Pennsylvania Canal Co.,* 141 U. S. 467 , it was held that where a party owned two patents, showing substantially the same improvement, the second was void, the Court saying:

"It is true that the combination of the earlier patent in this case is substantially contained in the later. If

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it be identical with it or only a colorable variation from it, the second patent would be void, as a patentee cannot take two patents for the same invention."

In *Underwood v. Gerber,* 149 U. S. 224 , it was ruled that where a patentee obtained two patents on the same day, upon applications filed on the same day, they could not be treated as one patent with two claims, and that the complainant, in suing upon the second, or the one having the latest number, could not use the

first, or the one with the earlier number, to help sustain the action.

In *Odiorne v. Amesbury Nail Factory,* 2 Mason 28, the reason for the rule since established by the above-cited cases was stated to be that the power to create a monopoly is exhausted by the first patent, and for the further reason that a new and later patent for the same invention would operate to extend or prolong the monopoly beyond the period allowed by law.

The result of the foregoing and other authorities is that no patent can issue for an invention actually covered by a former patent, especially to the same patentee, although the terms of the claims may differ; that the second patent, although containing a broader claim, more generical in its character, than the specific claims, contained in the prior patent, is also void; but that where the second patent covers matter described in the prior patent, essentially distinct and separable from the invention covered thereby, and claims made thereunder, its validity may be sustained.

In the last class of cases, it must distinctly appear that the invention covered by the later patent was a separate invention, distinctly different and independent from that covered by the first patent -- in other words, it must be something substantially different from that comprehended in the first patent. It must consist in something more than a mere distinction of the breadth or scope of the claims of each patent. If the case comes within the first or second of the above classes, the second patent is absolutely void.

It is insisted on the part of the appellee that

"whether this invention shall be protected in part of its *features* by one

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patent, and as to the rest by another, or shall be completely protected by a single patent, is a matter which concerns solely the Patent Office and the inventor."

Under the rule announced in the foregoing authorities, this proposition cannot be sustained.

The second and principal contention of the appellee is that the patent of 1881 covers a distinct and separate invention from the first, and, in support of that proposition, the appellee relies upon the rule announced in *Garratt v. Seibert,* 98 U. S. 77 ; *Sewall v. Jones,* 91 U. S. 190 , and *Merrill v. Yeomans,* 94 U. S. 568 . These cases do not, however, establish the appellee's position.

In *Garratt v. Seibert,* the arrangement for the operation of the device in the second patent was entirely different from the original patent. In *Sewall v. Jones,* it was held that there might be a patent for the process and one for the product. In *Merrill v.Yeomans,* it was held that where a patent described an apparatus, a process, and a product, and the claims covered only the apparatus and the process, the law provided a remedy by a surrender of the patent and a reissue for the purpose of embracing the product.

A single invention may include both the machine and the manufacture it creates, and in such cases, if the inventions are really separable, the inventor may be entitled to a monopoly of each. It is settled also that an inventor may make a new improvement on his own invention of a patentable character, for which he may obtain a separate patent, and the cases cited by the appellee come to this point, and to this point only: that a letter patent may be granted where the invention is clearly distinct from and independent of one previously patented.

It clearly appears from a comparison of the two patents and their respective specifications and drawings that the first function or object of the patent of 1879, relating to the lifting power of the spring, is identical with the sole object or function covered by the patent of 1881, and that the improved device and combination for the accomplishment of the lifting operation are identical in both patents.

The invention covered by the first patent, as stated in the specification, consists in a spring which serves the double purpose of lifting or holding down the plows at will, and it is further stated that one spring may be adapted to serve all, or either one or more, of the offices above enumerated.

The patent of 1879 thus embraces both the lifting and the depressing effects or operations of the spring device, while that of 1881 seeks to cover only the increased lifting effect of the same device. The first patent clearly includes the second. No substantial distinction can be drawn between the two, which have the same element in combination, and the same spring arrangement and adjustment to accomplish precisely the same lifting effect, increasing as the beams are raised from their operative positions. The matter sought to be covered by the second patent is inseparably involved in the matter embraced in the former patent, and this, under the authorities, renders the second patent void.

If the two patents in question had been granted to different parties, it admits of no question that the last would have been held an infringement of the first, for the reason that the patent of 1879 just as clearly includes as a part of the invention the increased lifting effect of the spring device, increasing as the beams are raised, as that disclosed in the patent of 1881. It certainly did not involve patentable novelty to drop or omit from the patent a claim for the depressing action of the spring arrangement which might be effected by any mere mechanical contrivance.

This view of the case is sustained by the statement in the specification forming a part of the patent of 1881, in which it is said:

"The springs represented in the drawings are adapted to serve the double purpose of holding the beams down, and of lifting them, or assisting to lift them, when they are raised above the operative position. No claim is made in the present case to this duplex action of the springs nor to the peculiar form or arrangement of the springs otherwise than as regards the feature of exerting or increasing a maximum strain on the beams as the latter rise, the peculiar construction of the spring being already covered in a patent hitherto granted to me. "

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This statement admits that the peculiar construction of the spring device by means of which the lifting effect was to be accomplished was already covered in a patent previously granted to the patentee, referring to the patent of 1879. In thus

admitting the existence of a prior patented device identical with that described in the second specification and drawings, it is difficult to understand upon what principle the patentee can be allowed to withdraw from the operation of such prior patent one of its distinct elements and make it the subject of a second distinct patent. It is not the result, effect, or purpose to be accomplished which constitutes invention or entitles a party to a patent, but the mechanical means or instrumentalities by which the object sought is to be attained; but a patentee cannot so split up his invention for the purpose of securing additional results, or of extending or of prolonging the life of any or all of its elemental parts. Patents cover the means employed to effect results. *Rubber Tip Pencil Co. v. Howard,* 20 Wall. 507; *Fuller v. Yentzer,* 94 U. S. 288 .

The prior invention covered the means, and the only means, by which the results sought by the patent of 1881 were to be accomplished, and it is settled that the patentee of such prior device would be entitled to all of its uses, whether described or not. *Roberts v. Ryer,* 91 U. S. 150 ; *Stow v. Chicago,* 104 U. S. 547 . Under these authorities, a single element or function of a patented invention cannot be made the subject of a separate and subsequent patent, and it therefore follows that this *increased* lifting effect of the spring device, sought to be covered by the 1881 patent, being clearly shown and described in the specification, drawings, and claims of the 1879 patent, was not the subject matter of a valid patent.

This conclusion is no way affected by the reservation attempted to be made in the 1879 patent of the "broad idea of a lifting spring which acts with increasing force as the beam rises," for the reason that the broad idea sought to be reserved is embodied in identically the same mechanical device constituting the invention and covered by the first patent, which completely occupies all the ground that was reserved. The

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spring and its connecting apparatus are the same in each patent, and the claims of the first covered the double automatic action -- *upward* or *downward.* There is nothing in the specification or claims to indicate that in the first patent the lifting

action is in any degree slighter or weaker as the beam rises than in the second patent; on the contrary, both specifications clearly indicate that the spring device acts with increasing force in each patent as the beam rises.

In addition to this, it distinctly appears that every claim of the 1881 patent could have been properly included and made a part of the claims of the 1879 patent. With the exception of the first broad claim of the 1881 patent, each of the other claims include the spring device with the limiting and qualifying words, "substantially as described," and, by virtue of its reference to the specification, the lifting element of the spring device is shown to be the same in each patent. There is nothing in either patent or the specification or claims thereof to indicate that there is any greater or stronger lifting action in the one than in the other. It is thus shown that one and the same mechanical device, which covers the entire invention, is described in each of the patents, and the effort to secure a second patent on one part thereof, or on its function, after such part or its action had been clearly described and covered by a prior patent, cannot be sustained.

To hold under these circumstances that the first and second patents, in respect to the lifting effect of the same spring device, present distinct inventions, or that both are valid for the same invention, would involve the drawing of distinctions too refined for the practical administration of the patent law.

But, aside from this 1879 patent, we think that the broad claim of the 1881 patent is clearly anticipated by the patent of W. P. Brown, No.190,816, dated May 15, 1877, for an improved coupling for cultivators. The specification, forming a part of this patent, states that to

"render the manipulation of the plows or cultivator easy, I provide an arrangement whereby either springs, weights, or the draft bar may be utilized for sustaining a part of the weight of the said cultivators when they are lifted from the ground to be hung up or shifted laterally.

In accomplishing this, I construct the pipe box with a hooked arm, *m* , to lock the pipe box, and as the cultivator beam in the rear is rigidly attached to the pipe box by the stirrup or sleeve, the spring has a tendency to rock the pipe box, and assist the driver in lifting the cultivators."

The flat, curved spring device shown in this patent, with the link or arm connecting its free end with the plow beam, exerts little or no force when the drag bars, carrying the plows, are in an operative position; but when the latter are raised above their normal position, and as they are lifted, the spring exerts an increased lifting effect, sufficient to suspend the drag bars and attached shovels in the air. While differing in form and mode of attachment, this Brown device clearly anticipates the first broad claim of the patent of 1881.

It admits of little or no question that if this Brown patent was one of later date than the Wright patent of 1881, it would be held to be an infringement thereof, and, under the authorities, "that which infringes if later, anticipates if earlier." *Peters v. Active Mfg. Co.,* 129 U. S. 530 ; *Heating Co. v. Burtis,* 121 U. S. 286 , 121 U. S. 295 ; *Grant v. Walter,* 148 U. S. 554 ; *Gordon v. Warder,* 150 U. S. 47 ; *Knapp v. Morss,* 150 U. S. 221 .

In this view of the case it is not deemed necessary to determine whether the C. A. Hague patent, No. 243, 123, of June 21, 1881, or the Berlew & Kissell Patent, No. 260,447, dated July 4, 1882, anticipated that of Wright. The proofs do not show with sufficient clearness that either of these parties perfected and put in practical operation the spring device incorporated in their patents prior to the date of the invention of Wright. The proofs show, however, that they were experimenting -- as was Wright -- in 1876, 1877, and 1878 with springs for cultivators, but the evidence tends strongly to show that they did not perfect any operative device prior to May 1, 1879.

The remaining branch of the case turns upon the proper construction to be place upon the 1879 patent in view of the state of the art as illustrated in prior devices and patents.

The Peter Monaghan patent, No. 26,606, dated December

27, 1859, for an improvement in cotton cultivators contains a bow-shaped spring, with deflected ends, one of which is secured to the cross-pieces of the shafts, while the other is free, and is in contact with the frame to which are attached the shovels. The spring shown in this patent is of such construction and location as to exert a constant lifting effect on the frame carrying the shovels, and, when the operator releases the handles, acts automatically in lifting the frame, and in holding the plows above their operative position.

A similar flat or curved spring device is shown in the A. H. Allison patent, No. 61,649, dated January 29, 1867, for corn and cotton cultivators, where one end of the spring is fastened to the cross-beam of the main frame, while the free end bears and raises the cross-head to which is suspended the shovels. The shovels are made to enter the ground by means of a lever which forces the beam down, and by releasing the lever, the springs operate to raise the shovels from the ground and suspend them above their operative position.

In the H. N. Dalton patent, No. 95,437, dated October 5, 1869, for an improvement in a spring for a gang plow, the spring is coiled around a crank axle, upon which the wheels revolve in the ordinary manner. The coiled spring is of such strength that, when released by the lever or other appliances governing it, the axle is turned by the force of the spring, thereby raising the frame to which the plow is attached. One of the objects accomplished by the coiled spring is to enable the operator to lift the gang plow entirely from the ground.

Again, a spring device closely resembling that of the Wright invention is shown by the letters patent 154,666, dated September 1, 1874, issued to Marquis L. Gorham, relating to wheeled straddle-row cultivators, consisting of an improved device by means of which shovels are held and adjusted on the shovel standards. The device described in the specification and drawings consists of a spiral regulating spring, in connection with suspension rods and drag beams, so

constructed as to suspend the drag bars to any height, or regulate the depth at which the shovels or plows shall work. The suspension rods connected with the spiral spring are arranged to assist in

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raising the drag bars for the purpose of elevating the plows in a fixed position when turning or moving the machine. This spring device is connected with the beams, and by means of screw nuts may be contracted so as to regulate the height of the drag bars carrying the shovels. The spring device in this patent exerts automatically an increased lifting force as the beams are raised or elevated above their operative position. The second claim of that patent is

"the suspension rods, *d* , regulating springs, *g* , drag bars, *i* , in combination with hangers, *e* , to which they are attached, substantially as they are described."

In addition to the foregoing spring improvements in cultivators and like implements, letters patent for door-spring devices were issued to H. S. Frost in 1867, and to L. A. Warner in August, 1875, and April, 1879, which have automatic horizontal action in operating or closing the door, corresponding exactly in principle, operation, and function with the vertical action in the Wright spring device. These door springs and their adjustment close or open the door just as the dead center is passed, either in an outward or inward direction. One or more witnesses testified in this case that these door-spring devices could readily be adapted to cultivators by the exercise of ordinary mechanical skill, and be made to perform, by change in position, the lifting and depressing action of the Wright spring. The witness Hague stated that he actually so applied these door springs in 1877 and 1878. We need not determine in this case whether the use of such springs in cultivators is analogous to their original use, so as to form anticipating devices. They show, however, the state of the art in reference to spring devices for producing action in different directions.

Is shown in the testimony that the spring device described in Wright's patent of 1879 interfered with the lateral motion of the beams, and therefore interfered with

their successful operation. It also appears that the spring had a constant tendency to fly off the wheel, which compelled the adoption of a loop or bail (not described as a part of his device) to counteract such tendency, and further that the springs were

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subject to frequent breakage, so that their use was discontinued in 1883, about which time the appellee commenced the use of the same device as that employed in the cultivators manufactured by P. P. Mast & Co., under the patents issued to Gardiner & Downey, No. 237,740, February 15, 1881; Berlew & Kissell, No. 260,447, July 4, 1882, and to J. M. Elder, No. 222,391, December 9, 1879, and sold by the appellants.

The form of spring as shown in these patents was substantially adopted in 1883 by the appellee on the theory that the Wright patent comprehended all forms of springs for accomplishing the upward and downward action. The use of this substituted spring for that described in the patent is, to some extent, explained by the fact, which appears in the record, that Wright obtained letters patent 259,656, dated June 13, 1882, for certain improvements in walking straddle-row cultivators, the specification forming part of which states

"that the invention relates to an improved manner of constructing the frame and applying the springs for the purpose of raising, or assisting the operator to raise, the beams or drag bars; the springs having, in some cases, the additional function of holding the shovels to their proper place in the ground. The improvement consists mainly in providing the frame with axles capable of rotating independently of the wheels, coupling the wheels directly to the axles, and providing the axles with arms arranged to cooperate with a spring, a weight, or draft device to which the term is attached."

The spring in this 1882 patent of Wright's is spiral, encircling a rod, and bears upon collars on the lower ends of the same. This rod is pivoted to another rod which is firmly fastened to the axle. When the shovels are in an operative position,

the spring performs no function. But when the rod attached to the axle, and pivoted to the rod upon which the spring is mounted, is thrown off its center, then the function of the spring is to depress or elevate the shovels, just as the pivoted rod connected with the spring is thrown backward or forward. The real object of the spring is to raise the shovels, which is accomplished by slightly elevating the handles. This

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action deflects the straight downward pressure of the spring to an angle formed by the bent joint between the rigidly attached rod on the axle and rod encircled by the spring, thereby causing the axle to revolve forward. When the spring is straight and in a vertical line with the axle, it performs no function whatever, just precisely the same as with the door spring when the door is in the neutral position or on the dead center. The form of this spring and its mode of operation are identical with that adopted by the appellee in 1883 in place of the original spring device shown in the patent of 1879.

The taking out of this patent, covering precisely what is now claimed for the patent of 1879, clearly indicates that the latter patent was not supposed to extend to the device covered by the 1882 patent, which is not distinguishable from the prior patents issued to Gardiner & Downey, Berlew & Kissell, and J. M. Elder, under which P. P. Mast & Co. construct the cultivators sold by the appellants.

The range of equivalents depends upon the extent and nature of the invention. If the invention is broad or primary in its character, the range of equivalents will be correspondingly broad under the liberal construction which the courts give to such inventions. The doctrine is well stated in *Machine Co. v. Lancaster,* 129 U. S. 263 , where it is said:

"Where an invention is one of a primary character, and the mechanical functions performed by the machine are as a whole entirely new, all subsequent machines which employ substantially the same means to accomplish the same result are infringements, although the subsequent machine may contain improvements in the

separate mechanism which go to make up the machine."

Tested by this rule and in view of the prior devices and the great variety of springs in use previous to the granting of his patent, Wright cannot be treated as a pioneer in the art. Neither can he nor his assignee be allowed to invoke the doctrine of equivalents, such as the courts extend to primary inventions, so as to include all forms of spring devices and adjustments which operate to perform the same function or accomplish the same result.

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Again, the issuance of the patents to Gardiner & Downey, Berlew & Kissell, and Elder creates a *prima facie* presumption of a patentable difference from that of the Wright patent of 1879. *Corning v. Burden,* 15 How. 252; *Duff v. Sterling Pump Co.,* 107 U. S. 636 .

We think it manifest, from the prior state of the art, if the invention covered by his patent of 1879 was not anticipated, and if it has any validity, that it must be limited and confined to the specific spring device which is described in the specification and shown in the drawings forming parts of the letters patent. Being thus limited, there is clearly no infringement in the device used by the appellants or their principals P. P. Mast & Co.

The specific device described in and covered by the Wright patent could not be used in the appellants' combination, nor the appellants' spring in the appellee's combination. This interchangeability or noninterchangeability is an important test in determining the question of infringement. *Prouty v. Ruggles,* 16 Pet. 336; *Brooks v. Fiske,* 15 How. 212; *Eames v. Godfrey,* 1 Wall. 78.

In respect to the so-called depressing action of the spring, when the drag bars and shovels are lowered to an operative position, it is perfectly manifest that little or no effect is produced in that direction, for the reason that the downward movement of the shovels is limited, and more greatly restricted than the upward movement of the beams or drag bars; the range of movement, in other words, not being in the

downward line anything like that in the upward direction of the drag bars. Hence the depressing effect of the claim is of no practical importance. The operator holding the handles of the cultivator is not assisted to any appreciable extent in keeping the plows in the ground by the depressing action of the spring. The downward action or position of the shovels is not required to go, and does not in fact go, below their operative position at which point the spring device becomes practically inoperative.

Our conclusion on the whole case is that the patent of 1881 is anticipated by that of 1879; that the first claim thereof is

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anticipated by the Brown patent; that the patent of 1879, in view of the state of the art, is to be limited and restricted, if it has any validity at all, to the specific spring therein described, and, as thus restricted, it is clearly not infringed.

We are therefore of opinion that the decree of the court below should be

Reversed, and the cause remanded, with directions to dismiss the bill.