

"Much is said in the evidence on the part of the defendants as to the obvious character of this or that arrangement, and that any mechanic would know enough to do this or that. This is the oft-repeated story in belittling inventions. The invention consists primarily in finding out what mechanical operation is necessary to produce the practical result arrived at. When such operation is hit upon, the mechanical work is easy. It is easy, when the mechanical operation is seen, to say that it was obvious that certain mechanical arrangements would affect it; but mechanical arrangements are tried, and tried in vain, to reach a practical result, because the mechanical arrangement which is to effect such result is not yet seen. In looking at the completed thing, the mechanical operation is there; but the inventor, though he knew all about cams and levers, and other mechanical arrangements, did not have in advance before him the coveted mechanical operation."

To the same effect are the cases of *Potts & Co. v. Creager*, 155 U. S. 597, 15 Sup. Ct. 194, and *Mast, Foos & Co. v. Dempster Mill Mfg. Co.*, 49 U. S. App. 508, 27 C. C. A. 191, and 82 Fed. 327.

The facts of this case, in the light of the authorities cited, lead to the conclusion that the invention of the patent was not anticipated. The only other issue left for consideration is that of infringement. In the light of the proofs, this issue is hardly debatable. Infringement is clear. A decree will be entered for the complainant, and a reference will be made to a master for an accounting.

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WILSON et al. v. McCORMICK HARVESTING MACH. CO.

(Circuit Court of Appeals, Seventh Circuit. February 16, 1899.)

No. 427.

1. PATENTS—INFRINGEMENT—CONSTRUCTION OF CLAIMS.

A feature of construction covered by one claim of a patent for a machine cannot be read into another claim, in which it is not mentioned, for the purpose of making out a case of infringement.

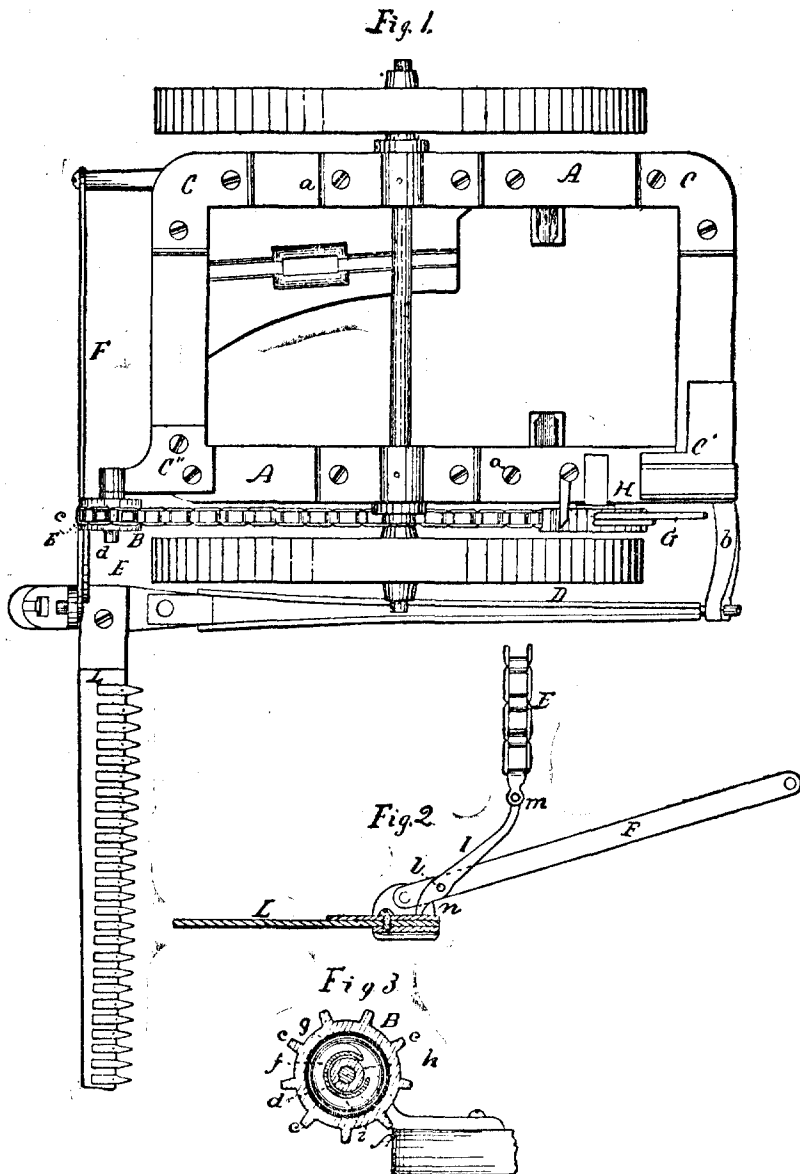
2. SAME—IMPROVEMENT IN MOWING MACHINES.

The Smith patent, No. 233,035, for an improved mowing machine, the essential feature of which is a spring so combined with other mechanism as to assist in sustaining the weight of the finger-bar throughout its length while the machine is in operation, in view of the prior art, covers a device having only a narrow range of equivalents, and which is not infringed by a machine having a spring which, to a limited extent, exercises the same function, but only so incidentally and undesignedly that, had the device preceded that of the patent, it would not have been an anticipation.

Appeal from the Circuit Court of the United States for the Northern Division of the Northern District of Illinois.

This was a suit in equity by George V. Wilson and Elmore A. Barnes, surviving co-partners trading as the Hussey Manufacturing Company, against the McCormick Harvesting Machine Company, for the alleged infringement of a patent. From a decree dismissing the bill, complainants appeal.

This appeal is from a decree dismissing for want of equity the bill brought by appellants against appellee charging infringement of letters patent of the United States No. 233,035, issued on October 5, 1880, to Ephraim Smith, assignor of appellants, for "an improved mowing machine." The diagrams accompanying the specification are shown here:



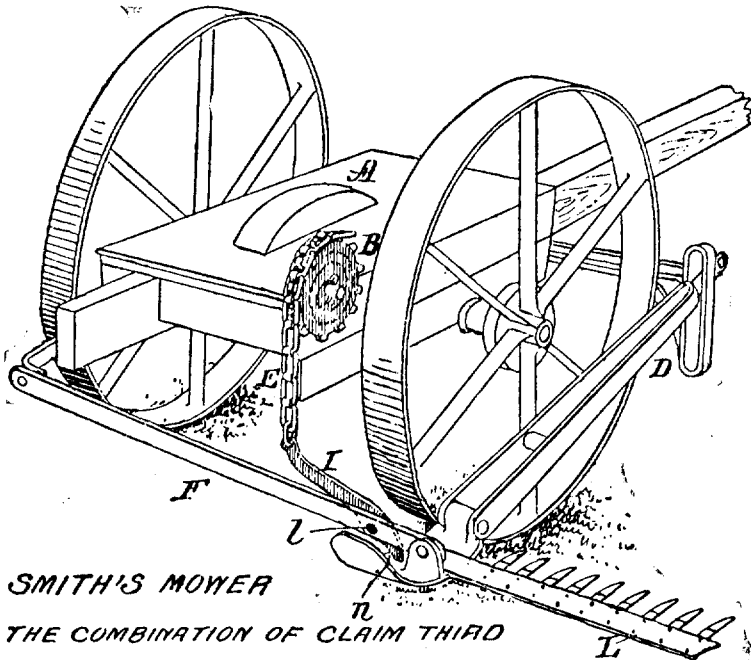
The specification says: "Fig. 1 is a top view of the principal parts of a mowing machine, showing my improvements and the mode of their application; Figs. 2 and 3, views of parts detached. Like letters designate corresponding parts in all the figures. My invention consists: First, in the arrangement of a spring-sheave, in connection with the hinge-bar, lifting chain, cord, or band, and the lifting and adjusting lever, so that it acts between the said hinge-bar and lever upon the chain without interfering with the direct action of the lever on the hinge-bar through the chain; second, in a lever mounted on the hinge-bar, arranged, in combination with the lifting-

chain and the finger-bar, so that the sustaining action of the chain is directly transmitted to the finger-bar in such a manner as to keep the outer end of the finger-bar constantly sustained thereby, both when the machine is at work and when the finger-bar is raised out of action; and, third, in the combination of this lever, thus acting on the finger-bar and acted on by the lifting-chain, with the aforesaid spring-sheave, whereby the action of the latter is constant upon the finger-bar through the said lever, substantially as hereinafter specified. In the drawings, A represents the machine-frame mounted on wheels, as usual; B, my improved spring lifting-sheave; D, the drag-bar; E, the lifting and adjusting chain; F, the hinge-bar; G, the adjusting and lifting lever; H, an arc or segment attached to the said lever, and receiving the chain, band, or cord, E, to be partially wound or taken up thereon; I, my improved finger-bar balancing-lever; and L, the finger-bar, which here is to be understood as including the cutter-bar and other parts to be lifted therewith. \* \* \* The driver, as he sits on his seat (not here represented), moves the lever, G, to raise and adjust the finger-bar by acting on the chain, E, and through that lifting or lowering the hinge-bar, F, and with it the finger-bar hinged thereto. The spring-sheave, B, is arranged and applied to the chain, E, substantially as shown in Fig. 1. The use of this spring-sheave is to nearly counterbalance the hinge-bar, F, and finger-bar, L, and its appendages, and thereby to cause the finger-bar to run lightly over the ground, and rise easily over obstructions, and lessen side draft on the machine, and also to render the operation of raising the finger-bar easy to the driver. At the same time it does not interfere with the direct action of the lever, G, in raising and lowering the finger-bar, and in sustaining it at the proper height; for, since it is coupled to the chain, E, between the said lever and the hinge-bar, it acts freely to balance and lift on the finger-bar, thereby rendering the draft of the same light, the part of the chain between the sheave and the lever, G, allowing a slack as well as a taut chain while the machine is working; but at the same time the finger-bar is firmly sustained all the time by the lever, G, just the same as if the spring-sheave were not applied at all. This is an important feature, since the spring-sheave could not be relied on of itself to sustain the finger-bar, and prevent its plunging into the ground, on meeting an obstruction. The chain, E (having preferably the construction shown in the drawings), fits with its open links over sprocket projections, c, c, on the periphery of the sheave, B, which is mounted on a fixed pivot, d, secured to the frame of the machine. The spring, f, within the sheave, is of sufficient strength to nearly counterbalance the weight of the finger-bar and its appendages, and is adjustable in force by winding up on its pivot. This spring is peculiarly mounted in the sheave. Its outer end is coupled to the inner periphery of the sheave by a hook or bolt, g, while its inner end, in the form of a hook, holds upon the edge of a notch, h, made in a cylindrical or hollow projection, i, secured around the pivot, d, or formed therewith; all substantially as shown in Fig. 3. By this construction, not only has the spring a firm and sure hold at its inner end by the enlarged bearing on which it holds, but it is prevented from bearing on the hub of the sheave, and consequently from interfering, by friction or pressure, with the free movement of the sheave. The sheave is turned to wind up the spring to the requisite force before mounting the chain, E, over its sprockets, and when the forward end of the chain is secured to the lever, G, or its segment, the whole device is complete, and ready for operation. When the rear end of the chain, cord, or band, E, is attached directly to the hinge-bar, F, which carries the heel or inner end of the finger-bar, the lifting action of the same operates simply to lift that end of the finger bar, the outer end of the same being dependent on the rigidity of its connection with the hinge-bar to be lifted, and there is, consequently, a sagging of the said outer end, unless some provision is made to lift it properly. For this purpose I employ a balancing-lever, I, which is pivoted to the hinge-bar, F, at l, Fig. 2; the inner end, m, of the same, being connected directly with the rear end of the lifting-chain, E, which has no other connection with the hinge-bar or finger-bar, and lifts them thereby. The outer end, n, of the said lever, I, bears on the heel end of the finger-bar inside of its pivot-joint, and a little distance therefrom, as shown. The two arms of the lever are so proportioned in length—the inner arm, m, being the longer—as to obtain the desired leverage on the finger-bar to balance

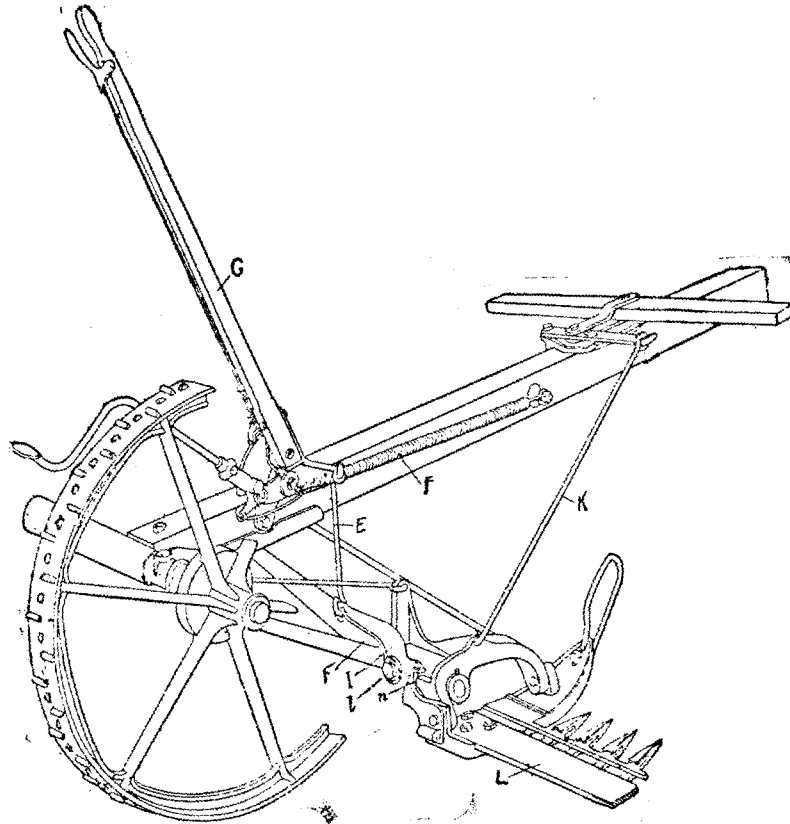
it by the lifting of the chain, E. With this construction and arrangement of the lever, I, while the mower is in operation, the constant lifting of the spring-sheave, B, on the chain, E, acts through this lever to partly sustain the weight of the finger-bar, and to keep the outer end thereof elevated, as desired, so as to run very lightly with little side draft on the machine, and to ride freely over obstructions; and the elastic movement imparted to the finger-bar by the said spring-sheave is made even more sensitive by this lever, and when the driver draws on the chain, E, by the lever, G, to raise the finger-bar, the connection of the chain being directly with the lever, I, the outer end of the finger-bar feels the lifting action as quickly as the inner end, and it is preferable to so balance the finger-bar that its outer end will rise a little quicker and more than the inner end thereof. Thus the action of the lever, I, is constantly upon the finger-bar, and controls all its movements."

The claims are the following, infringement of the second and third only being alleged: "(1) The spring-sheave, B, in combination with the chain, E, hinge-bar, F, and lifting-lever, G, arranged to be connected with the chain between the lever and hinge-bar, and not interfere with the action of the lever on the finger-bar through the said chain, substantially as and for the purpose herein specified. (2) The lever, I, mounted on the hinge-bar, F, in combination with the finger-bar, L, lifting-chain, E, having a yielding support, and mechanism for adjusting the chain, and securing it in any desired position, whereby the weight of the finger-bar is partly sustained, and its outer end counterbalanced, when the machine is in operation, substantially as herein set forth. (3) The combination of the lifting-chain, E, spring-sheave, B, lever, I, and finger-bar, L, operating together, substantially as and for the purpose herein specified."

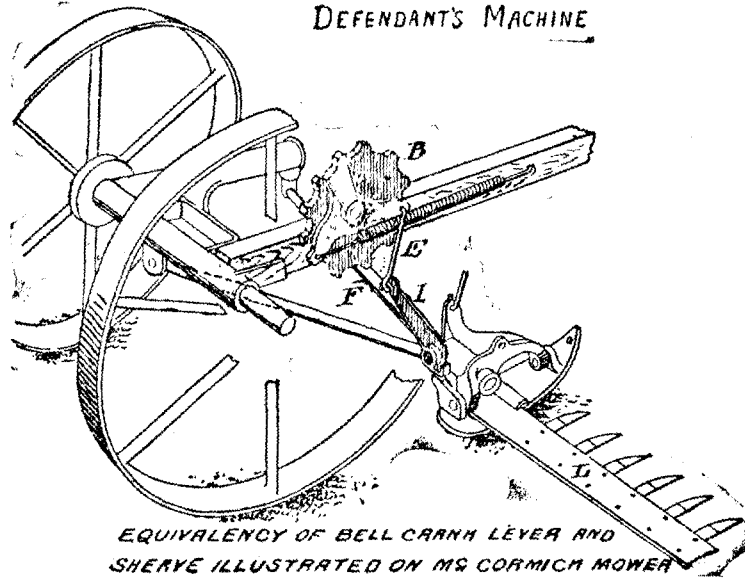
The following is alleged to be a faithful representation of the combination of the third claim:



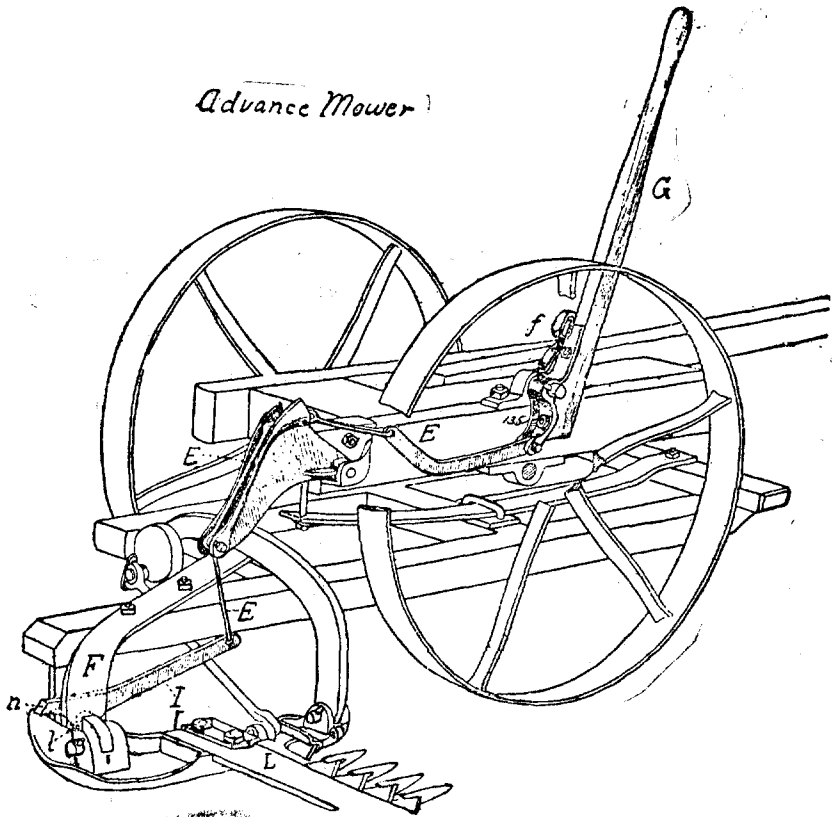
The following cuts show the defendant's machine, and a perspective drawing designed to illustrate the supposed equivalency of a bell-crank lever and the spring-sheave of the Smith patent, and the Advance mower, made under the patent of April 27, 1869, to McCormick, Erpelding, and Baker, which is alleged to anticipate the Smith patent if the defendant's machine infringes it:



DEFENDANT'S MACHINE



EQUIVALENCY OF BELL CRANK LEVER AND  
SHEVE ILLUSTRATED ON M<sup>S</sup> CORMICK MOWER



In this cut of the Advance, *f* is the spring applied to the heel of the lifting-lever, *G*, exerting its stress in the same direction as in defendant's machine; that is, so as to pull upward on links, *E*, which in turn lift on the long arm of supplemental lever, *I*, which has its fulcrum in the hinge-bar, *F*, and presses with its short arm, at *n*, on the spur extended inward from the shoe of the finger-bar, *L*.

Francis T. Chambers, for appellants.

Robert H. Parkinson, for appellee.

Before WOODS, JENKINS, and SHOWALTER, Circuit Judges.

WOODS, Circuit Judge, after making the foregoing statement, delivered the opinion of the court.

Our conclusion is that the court below was right in deciding "that, in view of such limitations as ought to be put upon the complainants' patent, the defendant's device does not infringe." It would be impossible, within the reasonable limits of an opinion, to follow counsel through hundreds of pages of brief in the discussion of the evidence found in the three large volumes which constitute the printed record. We content ourself with a presentation of propositions which are thought to determine the merits of the appeal.

The first claim, though not in issue, it is to be observed, does not include the lever, I, and connects the spring-sheave with the chain "between the lever and the hinge-bar."

The second claim includes expressly the lever, I, and other parts, designated by letters, except the spring-sheave, B, which is included by implication only, if at all. The implication, if admissible, may arise from the requirement that the chain, E, have "a yielding support," and that there shall be a "mechanism for adjusting the chain and securing it in any desired position." "A yielding support" for the chain, it is evident, might be found in other forms than the spring-sheave described. It might be simply a wheel, or a pulley; but, in order both to support the chain and secure it in any desired position, the spring-sheave, with its sprocket projections, and the lever, G, or the full equivalents thereof, would seem to be necessary. That this claim is not infringed is clear, not only because the "mechanism for adjusting the chain and securing it in any desired position" is not to be found in the defendant's machine, but because there is nothing in that machine which can be adjusted, and so held, as to operate like the chain of the patent in suit. That chain is adjusted and held in position not solely by the lever, G, called the adjusting and lifting lever, but also by the action of the spring-sheave and its sprocket projections, the combined result of which is, as stated in the specification, that "it [the spring-sheave] does not interfere with the direct action of the lever, G, in raising and lowering the finger-bar and in sustaining it at the proper height; for, since it is coupled to the chain, E, between the said lever and the hinge-bar, it acts freely to balance and lift on the finger-bar, thereby rendering the draft of the same light, the part of the chain between the sheave and the lever, G, allowing a slack as well as a taut chain while the machine is at work; but at the same time the finger-bar is firmly sustained all the time by the lever, G, just the same as if the spring-sheave were not applied at all." There are here features of construction, adjustment, and operation which not only cannot be found in the machine of the defendant, but cannot be introduced without a reconstruction which would destroy its identity. The chain, either slack or taut, between the spring-sheave and the adjusting and lifting lever, G, with its segment, H, and the consequent effect upon the operation of the entire mechanism, are the characteristics which must have been deemed to make the combination patentable.

The third claim is a specific one for the combination of the parts designated by the letters E, B, I, and L, "operating together, substantially as and for the purpose herein described." The hinge-bar, F, is not mentioned, and can be included only by implication. Is the implication necessary or justifiable? The lever, I, to be anything more than a prolongation of the chain, must, of course, have a fulcrum; but that might be provided in many ways. It might, for instance, be a fixed pivot secured to the frame of the machine, or a pivot supported by springs or otherwise, so as not to be rigidly fixed and unyielding, and, on that account, perhaps better adapted to serve its purpose. It is therefore to be presumed that the claim was not intended to be

restricted to the hinge-bar, F, but to include any form of fulcrum which might be found available; that is to say, any form which would enable the parts mentioned to "operate together substantially as and for the purpose specified." Anything less would not meet the requirements of the claim. If a fulcrum cannot be supplied by implication, the claim is perhaps void, because it does not show an operative device; but that the hinge-bar, F, expressly included in the second claim, cannot be read into the third, where it is not mentioned, seems to be clear. In *McCarty v. Railroad Co.*, 160 U. S. 110, 116, 16 Sup. Ct. 240, 242, it was suggested that a feature of construction described in the specification should be read into the claims for the purpose of sustaining the patent, but the court said:

"While this may be done with a view of showing the connection in which a device is used, and proving that it is an operative device, we know of no principle of law which would authorize us to read into a claim an element which is not present, for the purpose of making out a case of novelty or infringement. The difficulty is that, if we once begin to include elements not mentioned in the claim, in order to limit such claim and avoid a defense of anticipation, we should never know where to stop. If, for example, a prior device were produced, exhibiting the combination of these claims plus the springs, the patentee might insist upon reading some other element into the claims—such, for instance, as the side frames, and all the other operative portions of the mechanism constituting the car truck—to prove that the prior device was not an anticipation. It might also require us to read into the fourth claim the flanges and pillars described in the third. This doctrine is too obviously untenable to require argument."

So here, if it be conceded, on grounds of necessity, that the hinge-bar, F, is to be included in the claim, it is equally necessary, in order that the parts named shall operate, together with that bar, "substantially as and for the purpose specified," that the lifting-lever, G, be also included. Indeed, that lever, as an auxiliary to the spring-sheave, is more important to the complete accomplishment of the declared purposes of the invention than is the hinge-bar, F, which, as we have seen, could be substituted by other means. "This," says the specification, "is an important feature, since the spring-sheave could not be relied on of itself to sustain the finger-bar, and prevent its plunging into the ground on meeting an obstruction. \* \* \* When the forward end of the chain is secured to the lever, G, or its segment, the whole device is complete, and ready for operation." To demonstrate this, it is only necessary to refer to the perspective drawing intended to show equivalency between the bell-crank lever found in the defendant's machine and the spring-sheave in the Smith patent, from which, it will be observed, the lever, G, is omitted. But for the present purpose let it be assumed that the third claim does not include that lever, or its equivalent. So construed, the claim is for the combination of the lifting-chain, E, the spring-sheave, B, the lever, I (having for a fulcrum the hinge-bar, F), and the finger-bar, L, operating together substantially as and for the purpose stated, in so far (it must be further implied) as they may so operate without the aid of the lifting-lever, G. The several parts named, even if operative without the lever, are not in the appellee's machine. The parts which are found there are not approximately equivalent, nor are they combined and



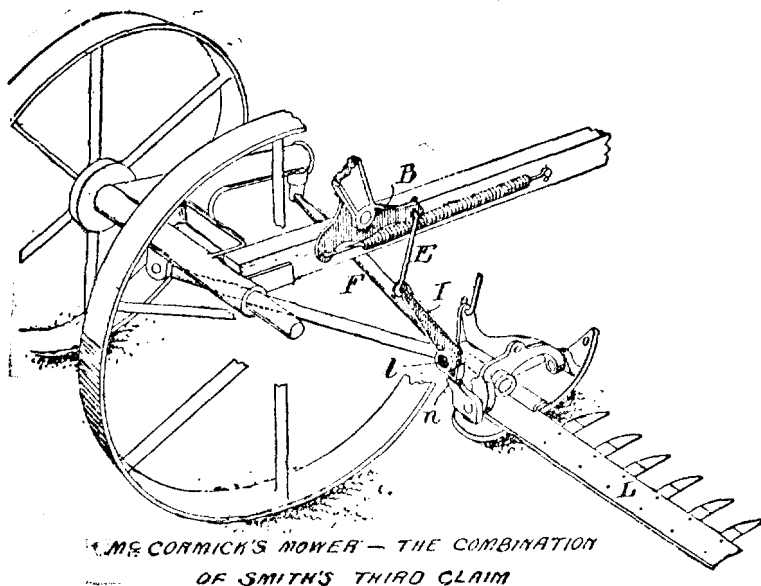
adjusted, or capable of being combined and adjusted, so as to operate substantially in the same way.

We are of opinion, further, that the reasoning by which it has been sought to show equivalency between the McCormick machine and that of the patent will establish a like equivalency for the parts and combination of the "Advance Mower"; and, that done, the patent falls by reason of anticipation. If the spring of the McCormick machine tends to support the finger-bar, there is a like tendency, perhaps not so strong, but of the same character, in the spring of the Advance machine. Neither of them, as adjusted, can be said to be "of sufficient strength to nearly counterbalance the weight of the finger-bar and its appendages." The idea of sustaining the finger-bar by means of a spring connected with the frame of a moving machine was not new or patentable in 1880. The support would necessarily be at the shoe, near the frame; and, in order at the same time to sustain the outer end of the bar, it was necessary to apply a force at the inner end or heel; but that, too, was a simple operation, and, in view of well-known devices, could not have involved invention unless in the means employed. Patentability need not be denied to Smith's mechanism, but in a field of invention so narrow a combination like that of the patent could be entitled to only a limited range of equivalents. If it be said that the Advance mower was not an anticipation because the reflex bearing of its spring on the heel of the finger-bar was trifling, and not thought of, or in contemplation by, the maker or the patentee, for the same reason the McCormick machine, if it had antedated the Smith patent, would not have been an anticipation. The spring of the Advance machine must always have had some bearing on the heel of the finger-bar (the evidence shows in one experimental instance 12 to 20 pounds); and though it is perhaps, but not certainly, true that the McCormick spring has a somewhat greater force of bearing, it is not otherwise essentially different; and if, for such reason, it would not have been an anticipation, for the same reason it is not an infringement. Excepting the spring-sheave, the entire conception of the Smith patent is embodied in the Advance machine, against which the most that can be said is that the spring there shown is weak; but plainly invention was not required to strengthen and so adjust it as to make it effective, like the McCormick spring, for instance, if that is in fact more effective.

Judge SHOWALTER sat at the hearing of this case, and, some months before his death, had prepared an opinion to the effect that the third claim of the patent is valid, and had been infringed. So much of the opinion as relates to that claim, omitting cuts which appear in the opinion of the court, is as follows:

The hinge-bar, F, is not expressly named as a factor in the third claim. A serious question arises whether, in view of cases such as *Tarrant v. Lumber Co.*, 30 Fed. 830, this claim ought not to be held void as being for an inoperative combination. But the piece marked "I" in Fig. 2 cannot be the "lever, I," without a fulcrum. That ful-

crum must be supported, and the hinge-bar, F, with its pivots at either end is the support. If the parts or factors expressed in the claim are to have the quality, as also stated in the claim, of "operating together \* \* \* as \* \* \* specified," and "for the purpose \* \* \* specified," then we must understand the hinge-bar, F, to be part of the combination. It is my opinion \* \* \* that this construction may, in view of the specification and of the language last quoted from claim 3, be given to that claim. This was substantially the understanding of Judge Acheson, of the Third circuit, as expressed in a former litigation concerning this patent. *Manufacturing Co. v. Deering*, 40 Fed. 87. We may add that this construction is not disputed by the learned counsel for appellee, or by its accomplished expert, Mr. See,—assuming that the opinion of an expert witness is competent upon such a question. The mechanism of the third claim is the spring fastened at one end to the frame of the machine, namely, the stationary spindle upon which the sheave turns, and at the other to the periphery of the sheave; and combined with this spring by means of the sheave is the chain, secured at one end on the sprocket projections of the sheave, and at the other to the extremity of the long arm of lever, I, which lever is fulcrumed on the hinge-bar, and has its short arm bearing on the inwardly projecting end of the finger-bar. By force of the spring, the sprocket projections pull, through the chain, upward on the long arm of the lever, and thus support a portion of the weight of the hinge-bar and lever and of the finger-bar throughout its length. If, instead of the flat, coiled spring in the sheave, a helical spring be fastened at one end to a point immediately above the center, and at or near the periphery of the sheave, and at the other to a forward portion of the frame of the machine, said helical spring, being tense between said points, would obviously have the same function in pulling upward on the chain, E, as the flat, coiled spring of the patent. The combination of the third claim appears to be faithfully shown in the following diagram [supra]. If to the sprocket projection horizontally in the rear of the spindle the chain be attached, and to the one vertically above the spindle the rear end of the helical spring be attached, then the coiled spring may be taken out from the sheave, and the forward half and the lower quadrant of the remaining half of the sheave may be cut away, as may also be the portion of the upper rear quadrant between the two named sprocket projections. There will remain, in effect, two spokes,—one horizontal, the other perpendicular,—forming a bent lever fulcrumed at the angle around the spindle. The chain, as said, will be attached at the end of the rearwardly projecting horizontal arm; the spring, at the end of the perpendicular arm. With what is thus left of the sheave, and with the helical spring fastened at one end to the frame, instead of the coiled, flat spring so fastened at one end, the action of the combination in sustaining the finger-bar will be substantially the same as before. The following diagram shows, in effect, those portions of the appellee's machine alleged to infringe the claim now in question:

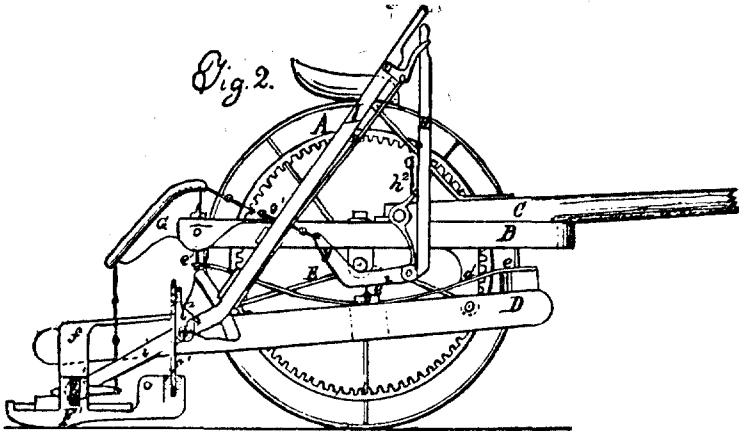


The finger-bar, L, hinge-bar, F, and lever, I, of the patent in suit are here duplicated. The link, E, replaces the chain, E, of the patent in suit, the bell-crank lever replaces the sheave, and the helical spring—very strong in appellee's machine, and stretched about to the limit—replaces the flat, coiled spring of the patent. The spring in appellee's machine, as here illustrated, pulls from a fixed point on the tongue; the flat, coiled spring in the machine of the patent from a point on the spindle of the sheave, which, as already noted, is also fixed as a part of the frame of that machine. The combination used by appellee seems to be substantially identical in result and mode of operation with the third claim of the patent in suit, as well illustrated by the following diagram. [This reference is to the diagram designed to show "equivalency of bell-crank lever and sheave," supra.]

It is insisted by counsel for appellee that, when the machine complained of is in operative adjustment,—as shown in the two diagrams,—the spring does not exert any substantial force to raise the forward arm of the bell crank whereby the link, E, is made to pull on the long arm of lever, I. The third or perpendicular arm of the bell crank in appellee's machine is extended upward in the form of a handle to be worked by the driver in raising the finger-bar and hinge-bar out of operative position,—a process analogous to one obvious use of the lever, G, in the machine of the patent. In the case of each machine it will be noticed that the spring strongly aids this lifting action of the hand-lever. Counsel for appellee insists that the helical spring merely sustains the handle, G, the link, E, and the lever, I, so that rattling is prevented, but without pressure on the heel of the finger-bar sufficient to affect its action to any degree; and that,

apart from this slight tension to prevent rattling, the function of the helical spring is to aid the driver in raising the finger-bar and hinge-bar from the ground, and entirely out of operative position. Touching the actual lifting effect of the helical spring, the record contains a mass of testimony more or less contradictory concerning weighing tests made when the spring was in place and when it was detached. Without analyzing this testimony and the varying conditions of these tests and of the machines subjected to the same, it would seem entirely certain, on the mechanical principles obviously involved, that the helical spring of appellee's machine is functional in sustaining to a very substantial degree the finger-bar when that machine is in operation. That spring, as already noted, is very strong, and, when the machine is working, very tense. Without going at large into the mechanical principles of the lever, the model of appellee's machine introduced in evidence shows that a straight line drawn from the center of the pivot of the bell crank at right angles to the direction of the forward arm and downward to the central longitudinal line of the stretched spring will be in length about one-third the distance from the bell-crank pivot to the point where the link is attached at the end of the forward arm. This is the position when the machine is working. The upward pull of the forward arm on link, E, ought, therefore, to be something like one-third of the force exerted horizontally by the stretched spring. In one form of machine used by appellee the forward end of the spring is held on the lower extremity of a lever bent to an angle, pivoted at the angle on the tongue, and with its upper arm bearing against an upright piece, which latter is again pivoted at its lower end on the tongue forward of the bent lever pivot, and connected at its upper end, by what is called a connecting link, with the lever, G, at a point above the pivot of said last-named lever. The continuous lifting force of the spring, since it is counter-balanced to some extent by what is called the connecting link, seems, on a casual inspection of the drawing, to be less in this machine than in those where the forward attachment of the helical spring is a fixed point on the tongue. Whether this be so or not is, however, immaterial. But we note on the machine which has the "connecting link" and "equalizing lever" a rod from the inner shoe extending diagonally upward and forward to the whiffletree attachment. This rod is pulled by its forward end to lift or ease from the ground the inner shoe as the horses draw the machine in mowing. Plainly, the helical spring is depended on to balance the outer shoe, and prevent its dragging in response to the continuous upward pull of the rod referred to on the inner shoe. Without dwelling on the matter, the better conclusion seems to be that the spring in appellee's machine operates in the same way, and substantially to the same result, as the spring in the combination of the third claim of the patent in suit.

It is insisted that the combination of the third claim is anticipated by a machine called in the record "The Advance," and made on the lines of a patent issued April 27, 1869, to McCormick, Erpelding, and Baker. Fig. 2, which accompanies the specification of that patent, is here shown:



The parts to be looked at are the lever, H, pivoted to the frame of the machine immediately below,  $h^2$ , the crooked link, g, pivoted at its forward end to the lower end of the lever, H, and the chain,  $g^1$ , which passes from the rear end of link, g, over the rocking segment, G, and down to the longer arm of a lever, which is not lettered, but which corresponds to the lever, I, of the patent in suit. If the lever, H, were not held approximately upright by a catch of some sort on the frame, then, when the machine is in operation, said lever would drop forward to the tongue, its lower end being pulled on by the weight of the chain and the rocking segment, G, which latter would drop down, swinging on its pivot, and be overbalanced by its own weight and that of the loosened chain. If the lever, H, were held upright by a fixed or rigid catch or notch, it would be continually rattling against its support by the varied impulses from the finger-bar—through the lever, chain, and segment—as the machine is drawn over the ground. The use of the lever, H, is to raise the finger-bar, as occasion may require, entirely out of operative position. In order to keep the handle upright, and within reach of the driver, and in order to keep the chain and segment in position, and to prevent rattling, a straight spring,  $h^2$ , is fastened at one end by a bolt to lever H. The other end extends downward, and is caught, when the machine is in operation, against a projection of some sort from the frame. As indicating the function of spring  $h^2$ , the specification of the patent says: “A spring,  $h^2$ , on the lever, serves to keep it in a position convenient to the hand. A link, g, and chain,  $h^1$  [this is a mistake; the letter is  $g^1$ ], connects this lever with the finger-beam, first passing over the rocking segment, G.” It will be seen that the idea of taking from the finger-bar its two shoes, lever, and hinge-bar a portion of the combined weight, so as to float the finger-bar throughout its length more lightly over the ground, is not contained in this patent. The spring  $h^2$  is not located in the right place, and has not to any degree the function of the spring in the sheave of the patent in suit, or of the powerful helical spring of appellee’s machine;

and the result of the combination is not the result of the combination specified in claim 3.

In the model of the Advance machine put in evidence the hand-lever, when the machine is in operation, inclines decidedly forward. The spring  $h^2$  is curved in its upper part like the letter S. Its lower end, coming down nearly straight, bears against a ledge on the frame, thus preventing the lever from dropping further forward, and holding it against the slight pull on its lower end, needed to keep the chain and segment in position. It is not contended by appellee that this spring has the function of claim 3 in lifting and floating the finger-bar and its appendages. The insistence is, as already stated, that the helical spring of the machine complained of has substantially no other function than that of the spring in the Advance machine, or of the spring  $n^2$  in the patent of April 27, 1868. It may be here added that the little spring of the Advance and of the patent last named is not secured at one end to the frame of the machine as in claim 3, or as in the machine complained of. This spring merely affords an elastic support for the hand-lever, it is carried by the hand-lever, and its lower end bears or thumps intermittently against the ledge or bearing place on the frame as the machine is drawn over the ground in mowing.

A patent to one Heston under date of February 6, 1872, is much dwelt on as going to the matter of anticipation. This patent shows a lever hinged to a drooping corner of the frame of a mowing machine, and with its shorter arm bearing on the heel of a finger-bar, also hinged at said corner. The specification contains the following statements:

"The long arm of this lever projects inwardly, or toward to rear of the machine, where its position may be controlled by any suitable device erected upon the machine for that purpose; or a weight may be attached to it, which shall counterbalance the outer end of the cutter-bar, and thus such bar be kept in its position by changing the position of this arm of the lever, the opposite or short arm of which bears upon the inner end of the cutter-bar."

The patentee goes on to say, with reference to the working of his device, that his lever "will be operated so as to cause its inner end to assume a higher or lower position with reference to the frame of the machine, which operation will cause the outer end of the finger-bar to be raised or lowered, and thus the grass may be cut of an even length, whether the machine be used upon even or uneven ground." The function of lifting on the inner shoe, and so changing its weight or bearing on the ground to correspond with the lift on the outer end of the finger-bar, is not suggested in this patent. If a weight be attached to the extremity of the long arm of the lever, the effect would be to pull up the short arm, and so drop the outer end of the finger bar, with its full weight, on the ground. If the longer arm of the lever be curved upward and backward over the shorter arm till it droops across and forward of the finger-bar or cutter-bar, a weight attached to it might "counterbalance the outer end of the cutter-bar," but the inner shoe, instead of being also eased from the ground, would be pressed down by the added weight so hung upon the forwardly bent and projecting long arm of the lever.