

OTIS BROS. MANUF'G CO. AND OTHERS V.
CRANE BROS. MANUF'G CO.¹

Circuit Court, N. D. Illinois. March 22, 1886.

1. PATENTS FOB INVENTIONS—PATENTEE BOUND BY HIS CLAIMS.

Letters patent No. 44,740, of October 18, 1864, to Charles R. Otis, must be limited to the peculiar arrangement which patentee describes; he having acquiesced in the rejection by the patent-office of broad claims.

2. SAME—NEW COMBINATIONS OF OLD MECHANISMS.

The fact that patentee produced an old result by a more effective combination of old elements is no reason why defendants should not be allowed to make new combinations of such elements to produce the same result, so long as they do not use the combination of parts claimed by complainants' patent.

3. SAME.

Patent No. 44,773, of May 18, 1865, is a mere improvement upon the principle shown in the English patent of Gidlow, 1858, and of Law, 1861; and as the defendant was also an improver upon old devices in this art, held, that the readier and more natural conclusion was that defendants' improvement was not the same combination of devices that was shown in and covered by complainants' patent.

4. SAME—CONDITIONAL ASSIGNMENT OF PATENTS—PARTIES.

Where owners of patents had granted the entire interest in them for certain territory, but upon certain conditions which grantees were to perform, and, upon failure to perform, the title was to revert to grantors, held, that grantor's title was never fully divested, or at least they had a possible reversionary interest, so that it was proper to join them as complainants in a suit for infringement of the patents within the territory covered by the grant.

In Equity.

Offield & Towle, (Mr. Phillips, of counsel,) for complainants.

West & Bond, for defendants.

BLODGETT, J. The bill in this case alleges infringement by defendants of patent No. 44,740, granted October 18, 1864, to Charles E. Otis, for "an improvement in brakes of hoisting apparatus," and patent No. 44,773, granted May 18, 1865, to said Charles E. Otis and Norton P. Otis, for an "improvement in steam-hoisting apparatus," and asks for an injunction and accounting.

The principal controversy centers about the patent No. 44,740, and this patent will be first considered. The patentee in his specifications says of this device:

"This invention consists in so combining the brake of a hoisting-machine with the stop-valve of the hoisting engine that, when the said valve is closed, and the steam or other motive fluid shut off from the engine, the brake is always in operation, and, when the valve is open to admit steam or other fluids to the engine, the hoisting engine is relieved of the friction of the brake."

The patent contains but one claim, which is: "The combination and arrangement of levers and connections substantially as herein described, whereby the brake is automatically applied while the valve is closed, and withdrawn when the valve is open to set the apparatus in motion."

The parts of this device operating together as contended by the complainant to produce the stated result, are: (1) A stop, start, and reverse valve to a steam-engine; (2) a lever by which said valve is worked; (3) a rod attached to the end of such lever, the upper end of which is toothed; (4) a small pinion, turning freely upon a fixed stud or axle so located, in relation to the toothed rod, that the teeth of the rod may be made to engage with the teeth of the pinion, and, by turning the pinion in the different directions, the valve lever is moved to open, shut off, or reverse the steam; (5) a pulley affixed to this pinion, around

which passes a belt by which the pinion can be turned; (6) a friction wheel attached to the winding drum of a hoisting apparatus, upon which is a band-brake; (7) a lever to work the brake, the end of which is weighted with a weight sufficiently heavy to set the brake, or a lever with toggle-joints to set the brakes; (8) a pulley which is fastened to the side of the pulley which works the valve lever, so that when the pulley that works the valve lever is revolved it will also revolve this side pulley; (9) a chain connecting the brake lever with this side pulley, so that when the pulley that works the valve lever is turned, it will wind or unwind the chain attached to the brake lever, and thereby release or set the brake. Simply stated, the valve lever and the brake lever are both attached to a pulley which is moved by a belt, and the parts are so arranged that when the valve is closed, the weight upon the end of the brake lever is acting to set the brake, and when the valve is open, by revolving this pulley, it releases the brake.

The defense is, in effect, prior use of the devices here claimed, and a denial of the alleged infringement, and the testimony and arguments of counsel have taken a wide range in regard to the state of the art 552 and mode of operation of many older devices for the same or analogous purposes. The defendants use a device whereby the brake is set when the valve is closed, and released when the valve is open. The combination of parts to produce this result in the defendant's machine is stated by the defendants' counsel to be: (1) A start, stop, and reverse valve; (2) a lever attached to the stem of this valve, by which the valve is moved into the required position for starting, stopping, and reversing; (3) a friction wheel attached to the winding shaft of a hoisting engine with a band brake; (4) a lever by which this brake is operated, one end of which lever is weighted, and rests in a notch in a two-way or heart-shaped cam; (5) a rod connected at the upper end with the valve lever, and at the lower end eccentrically with

the cam on which the end of the brake lever rests,—all so arranged that when the valve is closed, the brake is set, and the end of the lever rests in the notch of the cam; but when the valve is open, either to start or reverse, the brake is released by the turning of the cam so as to lift the weighted end of the brake lever.

Although the Otis claim speaks “of the arrangement of levers whereby the brake is automatically applied,” yet it is evident that neither of these devices of the complainant or defendant are automatic,—that is, they are not self-acting, and put in operation from within the machine itself, but must be put in action by the person in charge of the machinery,—and the operation of the parts in both machines is such that both the brake and valve levers act simultaneously, by one movement from the operator in charge. The chief use to which both complainants’ and defendants’ machines have so far been applied is in running elevators or lifts, in which, by means of a shipping rope or chain connected with the part which controls the brake and valve levers, the movement of the machinery is controlled from the cab or cage; and the advantages claimed for the device covered by complainants’ patent are that, in case of accidents to the brake, the cage can be stopped by stopping the engine, because the engine is connected directly with the drum, and this stopping can be performed by moving the valve into its intermediate position, or, if the weight is too heavy upon the cage, the valve can be reversed the same as a lever in a locomotive, when it is desired to suddenly stop. It also permits the operator to slow up, and to reduce the speed of the cage as he approaches the floor where he desires to stop, either in going up or coming down; also that the engine is not used, and steam not expended, unless work is done, and the cage moved up or down; that is, the engine is stationary, and steam is only used when the cage is moving.

The proof shows many old devices for hoisting apparatus applied to raising ores and coal from mines, and also one old passenger elevator, (see Knight, *Mechanical Diet.* tit. "Hoisting Engines;") and since the introduction of the steam-engine several arrangements by which the brake and valve can be operated simultaneously are shown by the proof. The English patent granted to Robert Cameron, in 553 1789, for hoisting apparatus, shows such an arrangement of valves and brake levers that the engineer in charge of the engine could release the brake and open the valve, or close the valve, and set the brake, simultaneously, the two levers not being actually connected, but being arranged so near together that both could be actuated at substantially the same time. The English patent of 1856 to Rossum shows a device for the purpose of applying a brake, and at the same time cutting off the steam; but it is urged that this was only a danger device, to be resorted to in an emergency or peril, and not for the purpose of controlling the ordinary operation of the machine. So, too, the English patent of 1857 to James Robertson showed a start, stop, and reverse valve, operated by a lever, to which was connected a brake mechanism so arranged that when the valve was closed the brake was set, and when the valve lever was moved into position to open the valve it released the brake. When the valve was closed it set the brake, and when the valve lever was moved to reverse, the brake was released. The mechanism shown in that patent is very complicated; yet, if not as simple and as effectual as the Otis device, it seems to have accomplished all that he did; that is, it opened the valve and released the brake, and closed the valve and set the brake, by the movement of one lever. It allowed the basket or cage to be stopped at any point in the ascent or descent, and enabled the operator to control the motion so as to run fast or slow, and the movement was stopped by shutting off the steam and

applying the brake, so that the steam was not used while the movement of the weight was arrested. So, too, in the English patent of 1861 to Walmsley & Rostrom, a device is shown for automatically stopping the ' hoisting apparatus in a warehouse or building at any floor or story of the building, without the aid of an attendant, so, as I understand its operation, the cage or platform could be loaded at the lower floor and sent up to any desired upper floor, to be unloaded, without an operator to accompany it; and in the specifications these patentees speak of "the ordinary stopping rope" as if that were then a well-known device for controlling the movement of a hoisting apparatus.

The testimony further shows that E. G. Otis, the father of C. E. Otis, the patentee, was for many years prior to his death, which was in April, 1861, engaged in and near the city of New York in constructing and putting in operation hoisting-machines or elevators, for transporting passengers and merchandise between the different floors of factories, warehouses, stores, etc.; that in January, 1861, he took a patent in this country for a device by which the brake could be applied and the operating power suspended simultaneously by means of a forked rope, one end of which operated the brake lever and the other operated a shipping shaft, so as to throw the hoisting belt onto a loose pulley, this forked rope extending to the cage, and by means of which the movement could be controlled from the cage. It also 554 appears that in the fall of 1860, and the winter of 1861, E. G. Otis constructed three elevators in the warehouse of H, B. Claflin & Co., in the city of New York, in two of Which, according to the testimony of Mr. C. R. Otis, the shipper rope was passed around a pulley working upon a shipper shaft, on which pulley was a pinion, which worked a toothed rod or rack connected with the valve lever, so that the valve was opened, shut, and reversed by the co-action

of the same parts that open, shut, and reverse the valve in the patent now under consideration.

There is also considerable testimony in the defendants' record tending to show that the valve and brake in each of these elevators were so connected that when the endless rope or chain in the cage was pulled down or up, it opened the valve and the brake at the same time, by one movement. But, without considering or attempting to decide the question as to where the weight or preponderance lies, between the conflicting testimony as to whether or not either of the Claflin elevators were controlled by one chain or rope, which opened the valve and brake together, it is sufficient for the present to say that all the advance C. R. Otis made in the art was to improve the device used by his father, by connecting the weighted end of the brake lever with the pinion which actuated the valve lever, so that when the pulley was revolved by the belt or shipping rope for the purpose of opening the valve either to start or reverse it also lifted the weighted end of the brake lever, and released the brake. In other words, he merely made the pulley, *f*, and fastened it to the side of the pulley, *c*, of the valve-operating device, and connected the end of the brake lever with this new pulley, *f*, by the chain, *e*. All the other operative parts which complainants' counsel insist are called for by the claim of the patent were in the Claflin elevators, and designed and constructed by Mr. E. G. Otis; and the proof also shows that when C. B. Otis applied for his patent he claimed particularly: "So combining the brake of a hoisting apparatus with the stop-valve of an engine by which it is worked that when the said valve is closed the brake is in operation, and when the said valve is open the hoisting-machine is relieved of the friction of the brake, substantially as herein stated." His application with this broad claim was rejected, and it was decided by the commissioner of patents that he could only have a patent for his

“peculiar arrangement.” He acquiesced, and took his patent for “the combination and arrangement of levers and connections, substantially as herein described.” His patent is not, broadly, for applying the brake automatically while the valve was closed, and releasing it when the valve was open; because he had applied for such a broad claim, and it had been denied, and he had been told that he could only have a claim on his “peculiar arrangement,” and his claim is limited to such arrangement.

“In patents for combination of mechanism, limitations and provisos I imposed upon the inventor, such as were introduced into an 555 application after it had been persistently rejected, must be strictly construed against the inventor, and in favor of the public, and looked upon as in the nature of disclaimers.” *Sargent v. Hall Safe & Lock Co.*, 114 U. S. 63; S. C. 5 Sup. Ct. Rep. 1021; *Dodds v. Stoddard*, 17 Fed. Rep. 645; *Manufacturing Co. v. Corbin*, 103 U. S. 791. “It is well known that the terms of the claims of letters patent are carefully scrutinized in the patent-office. Over this part of the specification the chief contest generally arises. It defines what the office, after a full examination of previous inventions and the state of the art, determines the applicant is entitled to. The courts, therefore, should be careful not to enlarge by construction the claim which the patent-office has admitted, and which the patentee has acquiesced in, beyond the fair interpretation of its terms.” *Burns v. Meyer*, 100 U. S. 672.

If this patentee had described the state of the art upon which he wished to engraft his improvement, he would have said, in substance: “I have connected the valve levers and the brake lever of the E. Gr. Otis machines, by means of the pulley, *f*, and the chain, *e*, so that the valve and the brake can be simultaneously worked by one movement of the shipper belt; the shipper belt having formerly worked the valve only.”

Read in the light of the proof in this case, it seems to me all that this inventor did which had not been done by his father, and immediate predecessor in business, was to connect the brake and valve attachments together by his peculiar mechanism; for he was not the first to connect the valve of a steam-engine with the brake of the hoisting apparatus, so that the brake would be open when the valve was opened, and closed when the valve was closed; as Robertson, in his patent of 1857, had shown how that could be done in two ways; and in the Claflin machines 2 and 3, according to the testimony of Mr. C. E. Otis, the steam could be shut off and the brake applied by pulling down the two ropes at the same time; and it would seem, also, from his testimony that the two ropes were placed near together, so as to enable them to be pulled and the brakes and valves closed at substantially the same time.

Looking upon this patent, then, as limited to the peculiar arrangement of parts shown, and not to the results produced,—for such results were not new,—the question is, do defendants use the combination or arrangement of parts shown in the patent, or known equivalents, for performing the same function? The defendants' valve-actuating mechanism consists of a valve lever, movable up and down from its central or closed position by an endless rope or chain. There is no rack or pinion movement, and no belt around a pulley. The endless rope attached to the lever is simply pulled up and down to start, stop, or reverse, without the intervention of the rack, pinion, or pulley, substantially as shown in complainants' model Claflin machine Nos. 2 and 3. Defendants' brake lever is operated by a cam, to which motion is communicated by means of a rod from the valve lever, combined with a peculiar safety device for setting the brake in 556 case of a break of the driving belt; and while it may be said that all these parts co-operate to produce

the same result produced by the Otis device, yet they are not the same elements, and do not operate together in the same manner. It does not seem to me that the defendants' heart-shaped cam can be held to be a mechanical equivalent for the complainants' pulley, *f*, and the chain, *c*, or the toggle joint. The whole arrangement of parts seems to be much more simple, and consequently more reliable in practical use, than that shown by the patent. Starting, stopping, and reversing valves of various forms, with levers to work them, being old, and there being old devices for connecting these valve levers with brake mechanisms of hoisting apparatus, whereby the brake was applied when the valve was closed, and released when the valve was opened, these defendants had the same right to improve this old mechanism as had the patentee. The fact that he produced an old result by a less complex, and consequently more effective, combination of old elements, is no reason why defendants should not be allowed to make new combinations of these old levers, rods, and cams to produce the same result, so long as they do not use the same combination of parts shown by the patent to effect the same result.

It seems to me that Mr. Otis, and those who preceded him, started with a lever to a start, stop, and reverse valve, and a brake lever working a hand-brake upon a hoisting-drum; and the problem they sought to work out was, first, to actuate the valve and the brake lever from the cage, so as to control the movement of the cage. This was accomplished in two ways by the elder Otis, and then Mr. C. R. Otis attempted the further problem of connecting the valve and brake levers together, so that they co-operated to produce the result of setting the brake when the steam was shut off, and opening it when the steam was let on. The defendant started with the same old parts,—the valve lever and brake lever,—and worked out the same result by different instrumentalities, dispensing with

chains, links, ratchets, pinions, and pulleys, which were used by the complainant; thereby, as it seems to me, fairly and meritoriously avoiding the complainant's patent by not using the complainant's combination to produce the same results. It therefore seems to me, the defendants do not infringe patent No. 44,740.

Patent No. 47,773 is for a stopping device used to stop the cage at the top and bottom of the shaft. It is what is known in mechanics as a "limit stop," and is arranged to work automatically, to shut off, steam at the top and bottom of the shaft if the operator becomes careless and neglects to do so. It consists chiefly of a shaft on one end of which is a screw thread, which is traversed by a nut with a tail or projection upon it. This tail or projection is carried or runs, for a portion of the distance, in a slot, so that as the shaft is revolved the nut travels in the slot, motion being given to the screw thread by a bevel-gear attached to the same shaft that carries the 557 hoisting drum. The parts are so arranged as that the nut shall traverse the screw to a certain point during the time the cage is passing from the bottom to the top, or from the top to the bottom, of the building. When this nut reaches the limit point, it locks the Shaft so as to revolve it, and engage with the bevel-gearing, which works in connection with the valve lever so as to close the valve of the engine. It does not effect the brake mechanism, and neither sets nor opens the brake. The claim is: "Combining the stop-valve of the engine with the valve of the steam hoisting apparatus in the shaft of the main drum; or with any other shaft or counter-shaft of the hoisting apparatus, by means of a stop motion, constructed, applied, and operating substantially as herein specified."

Defendants use two circular plates laid together, with a spiral channel cut on the inner face of one, in which a stop travels as the outer plate is rotating, and when the stop reaches the end of the spiral

groove it locks both plates, and moves a rod connected with the valve lever so as to cut off the steam. If the complainants' patent could be said, in any sense, to be a bottom or foundation patent, I should be much inclined to the conclusion that the spiral channel in defendants' plate, with the traveling Stop, is the equivalent for the screw shaft and traveling nut of the complainants' patent; but the complainants' patent seems to me a mere improvement upon the principle shown in the English patent of 1858, of Gidlow, and Law's English patent of 1861. In fact, it seems but little else than an adaptation of Law's device, as shown and described in his patent, to the peculiar mechanism of the complainants' elevator. Law says in his specifications:

“My invention is intended to prevent the overwinding of Pits' cages, and the sad accidents resulting therefrom. It consists of a screw-shaft, which may be a continuation of the driving or any other shaft, in connection with the engine employed in winding. The said screw-shaft is furnished with a suspension lever, through one end of which it works; but the other end being free, the said suspension lever hangs down vertically from the said screw-shaft, and is caused to traverse the same backwards and forwards from end to end, as the shaft is turned in either direction. The distance it is allowed to traverse the said screw-shaft is regulated by set-nuts, or otherwise, in accordance with the length of rope to be wound from the pit. It will readily be understood that when the engine is started the said suspension lever is caused to traverse the said screw-shaft by its turning until it arrives at one end of the same, when it is at once brought to a stop by coming in contact with a collar or set-nut, which lifts it, and causes it to strike simultaneously against catches or stops on the ends of two horizontal levers, one of which is connected with and puts on the engine brake,

and the other, being in connection with the slide-valve, shuts off the steam or reverses the engine.”

In the light of this description of the Law patent, there can scarcely be a serious doubt that its principle and mode of operation is substantially the same as that of the complainants' patent; but, inasmuch as both the complainant and the defendant in this case seem to me to occupy the position of improvers upon old devices in hoisting 558 machines, the readier and more natural conclusion is that defendant's improvement is not the same combination of devices as the complainant's, and does not show the same kind of stop devices that is shown and covered by complainant's patent.

Soon after this bill was filed, and before defendants had answered the same, a demurrer was interposed raising the question of misjoinder of the complainants. The suit is brought by the Otis Bros. Manufacturing Company of New York, and the Smith, Beggs & Co. Machine-works of St. Louis, as joint complainants. It was urged in this demurrer that there was no such showing in the bill as entitled these parties to join in this suit. I overruled this demurrer on the ground that I preferred to understand the entire facts in the case before passing definitely upon the question raised by it, allowing the defendants to reserve their demurrer by their answer. The defendants again insisted at the hearing upon this question, and it has been again considered. It appears, from the proof, that the Otis Bros. Manufacturing Company were the owners of the patents in question; that on the eighth day of March, 1877, said company assigned to the Smith & Beggs Co. Machine-works of St. Louis all their interest in these patents in certain states, including the state of Illinois, conditioned upon the performance by the Smith, Beggs & Co. Machine-works of the terms and conditions of an agreement made by the Otis Bros. Company with Anthony W. Smith and others in reference to said patents on

the same day; and in case the Smith, Beggs & Co. Machine-works did not so perform all the conditions of their contract, the title conveyed by said assignment was to revert to the Otis Bros. Company. It thus appears that the title of the Otis Bros. Company was never fully divested, or, at least, that they had a possible reversionary right in the patent. They were also the owners of the patent in other portions of the United States, and, being such owners, were conditionally interested, at least, in the patents within the territory of Illinois, and generally interested in having their patents upheld. It seems to me they had a right to join with the Smith, Beggs & Co. Machine-works in this suit, because they were interested in the proper prosecution and protection of the patent, as well as possibly interested in whatever might be recovered in this case. I think, therefore, the objections for misjoinders are not well taken. The finding of the court, therefore, is that defendants do not infringe either of the patents mentioned in the bill, and that the bill should be dismissed for want of equity.

¹ Edited by Charles C. Linthicum, Esq., of the Chicago bar.

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