

SICKELS ET AL. V. YOUNGS ET AL.

{3 Blatchf. 293.}<sup>1</sup>

Circuit Court, S. D. New York.            Sept. 25, 1855.

PATENTS—PRELIMINARY        INJUNCTION—WHEN  
GRANTED—STEAM CUT-OFF.

1. On a motion for a preliminary injunction, to restrain the infringement of letters patent, the court will not look further into the case than to ascertain whether or not, upon established principles of equity, to prevent an irreparable injury, the interference of the court is required, pending the litigation.

{Cited in *Earth Closet Co. v. Fenner*, Case No. 4,249.}

2. Such injunction will be withheld, unless the right is clear in favor of the plaintiff.

{Cited in *Earth Closet Co. v. Fenner*, Case No. 4,249.}

3. Although, on such a motion, it appears that, on the trial of an issue awarded in the cause, on the question of infringement, the jury found in favor of the plaintiff, still the court will not adopt the verdict of the jury, but will examine the whole case, including the evidence given before the jury, and will grant or withhold the injunction according to its own judgment thereon.
4. In this case the court decided, notwithstanding the verdict of the jury in favor of the plaintiff, that the defendant did not infringe, and refused the injunction.
5. The question of infringement discussed as between the claim of Sickels' patent, of May 20th, 1842, for regulating the closing of the valves of steam-engines and preventing them from slamming, "by means of a water reservoir," and the apparatus described in Corliss patent, of July 29th, 1851, in which the weights that close the valves are prevented from slamming by being cushioned on air, and the latter *held* not to infringe the former.

{This was a bill in equity by William B. Sickels and others against David L. Youngs and Stephen Cutter.}

Motion for a provisional injunction to restrain the infringement of letters patent [No. 2,631], granted to Frederick E. Sickels, May 20th, 1842, for "a new

and useful improvement in the manner of constructing the apparatus for lifting, tripping, and regulating the closing of valves of steam-engines." The plaintiffs were assignees of the patent. The bill was filed on the 18th of March, 1853.

Edward N. Dickerson and Charles M. Keller, for plaintiffs.

William H. Seward, Thomas A. Jenckes, and Samuel Blatchford, for defendants.

NELSON, Circuit Justice. The bill charges the defendants with using an engine and machinery constructed and arranged upon the same plan with that of Sickels, that is. "an engine in which the valves are opened by lifters having on them catches, which are detached from the valve-stems, at the desired 79 point, by a cam or stop, so as to permit the valves to close rapidly by the force of gravity or by springs," and with regulating the descent of such valves, and preventing them from slamming, "by using a cylindrical vessel containing air, and so constructed that a piston descends in it freely to a certain point, and there is arrested and protected from slamming by the fluid confined in a close chamber under it, substantially in the manner patented as aforesaid."

The defendants, in their answer, deny that they are using and operating an engine constructed substantially on the plan of the plaintiffs; and also deny that they "regulate the closing of the valves, and prevent them from slamming, by means of a water-reservoir, furnished with a piston or plunger attached at the lower end of the valve-stem, and operating within an adjustable cup, substantially, as described in Sickels' patent; or that they use any contrivance to regulate the closing of the valves, or to prevent them from slamming, or any water-reservoir whatever, or any adjustable cup, or any other contrivance for effecting the purpose intended and described" in that patent. The defendants further state, that they are using a

steam-engine constructed by G. H. Corliss and E. J. Nightingale, of Providence, R. I., and which contains improvements invented by Corliss, for which a patent was issued to him March 10th, 1849, and reissued May 13th, 1851, and for which another patent, for "improved cut-off gear," was issued to him July 29th, 1851; that said improvements are substantially different from those described in the plaintiffs' patent; that, in order to arrest the motion of the weight, after its office of closing the valve has been performed, the weight is dropped into a cylindrical socket, within which it compresses the air, which thus forms an elastic cushion, by which its descent is arrested; and that, in order that the fall and action of the weight may not be checked until after the valve is entirely closed, an opening is made in the side of the cylinder or socket, at a point which the weight will reach after the valve is closed, so that the weight will fall freely to that point, and then be arrested by confining and compressing the air, so as to cause it to form an elastic cushion, to prevent any jar of the machinery from the use of a detached weight after the port is closed.

A motion was heretofore made before me at chambers, on behalf of the plaintiffs, for a preliminary injunction, founded upon the pleadings, together with affidavits and models. After hearing the arguments of counsel, and duly deliberating thereon, I made an order, on the 7th of September, 1854, that the following questions be tried at law at the next term of the circuit court, namely: First, whether or not the construction, arrangement, or combination of the apparatus used by the defendants for the more readily cutting off steam in working the steam-engine, as charged by the plaintiffs in their bill, are substantially identical with the construction, arrangement, or combination of the apparatus described in and claimed by the plaintiffs under the patent granted to F. E. Sickels, May 20th, 1842, for the more readily cutting

off steam in working the steam-engine; and, second, whether or not the construction and arrangement of the apparatus for preventing the slamming of the valves in closing, used by the defendants, as charged in the bill, are substantially identical with the construction and arrangement of the apparatus described in and claimed by the plaintiffs under the aforesaid patent.

These issues came on for trial before his honor, Judge Betts, on the 20th of December, 1854, and, after a very elaborate examination of witnesses on both sides, and a submission of the questions to the jury, they returned a verdict in favor of the plaintiffs on both issues.

The motion for the preliminary injunction is now renewed founded upon the evidence taken at the trial at law, and the verdict; also, upon the affidavits before the court on the first motion, and upon further affidavits taken since the trial, and models of the different improvements and machinery, as claimed by the respective parties.

As this is a motion simply for a preliminary injunction, and not a case upon pleadings and: proofs for a final hearing, I shall not look further into the mass of papers before me, than to ascertain whether or not a case has been made which upon established principles of equity, to prevent an irreparable injury, requires the court to interfere, pending the litigation, and restrain the defendants from the further use of the apparatus or machinery charged with infringement, until the right is finally determined. And, upon these principles, it is well settled that, unless the right is clear, upon the papers and proofs presented, and upon which the motion is founded, in favor of the plaintiffs, the injunction will be withheld, and the rights of the parties be left unaffected and unchanged until the case is matured for the final hearing, and definitely disposed of.

Some of the questions that are presented, and which must be determined on the final hearing, and, of course, glanced at upon this preliminary motion, are exceedingly difficult and embarrassing, and, with the best lights that can be furnished by evidence or argument, of no easy solution. I speak not of questions of law, but of questions of fact arising out of the alleged identity of the apparatus and machinery used by the respective parties in tripping the valves of the steam-engine, and cutting off the steam at any given point, and in regulating the closing of the steam-valves, so as to prevent slamming or jarring of the machinery. Experts of the greatest skill and experience in this branch of the arts, and of the highest personal character, have been examined in the case on these questions, by counsel equally eminent in this department of the law, and their testimony is in irreconcilable 80 conflict—the one class maintaining that the apparatus and machinery used by the defendants for tripping the valves, and for regulating their closing, are substantially the same as those described in the plaintiffs' patent, and the other class maintaining that they are not. And, upon the record of the trial at law, we find the most elaborate, ingenious, and learned reasons given by each for the opinions entertained. Under this state of the case, and this pressure of conflicting opinions, I might, perhaps, relieve myself from the embarrassment, by adopting the verdict of the jury. But this would not be in accordance with the practice of the court, or consistent with the duty I owe to the parties litigant. My own judgment must be convinced, before I can either grant or withhold the injunction.

I am obliged, therefore, to look into the evidence and examine it, and into the apparatus and machinery used by the respective parties, for the purpose of forming an opinion on the questions at issue,

conceding, at the same time, that the verdict of the jury is entitled to great consideration and respect.

One of the material questions in the case involves the substantial identity of the apparatus used by the defendants for closing the steam-valves, and preventing the slamming and jarring of the machinery.

The apparatus in the plaintiffs' patent, as described by one of their experts, and which description is substantially correct, is as follows: The valve is regulated in its closing, by attaching a piston or plunger to the valve-stem, and by placing around the plunger a vessel containing water or other fluid. The inside of this vessel is bored out in such a manner that the plunger, in the first part of its descent, moves at some distance from the side of the vessel, so that the water can pass freely between the plunger and the inner side, and, at the lower part of the vessel, the bore is contracted, so that, when the plunger reaches it, there will be very little passage for the water between the plunger and the side of the vessel. It follows, that when a weight is attached to the plunger, and dropped by the tripping apparatus, so as to descend, the plunger will fall rapidly through that part of the vessel where the water can easily pass from one side of the plunger to the other, that is, between the outer side of the plunger and the inner side of the vessel; and, when it arrives at the small part of the vessel, the motion of the plunger will be checked, there being scarcely any escape for the water. The object is to permit the valve to cover the port as rapidly as possible, and to check it at the instant it covers the valve port.

The specification gives minute directions as to the construction of the apparatus, and, amongst other things, directs that the vessel is to contain "water, oil, or other fluid, say to two-thirds of its height, more or less."

The apparatus of the defendants is described in Corliss' patent of July 29th, 1851, as follows: In order

to effect the closing of the steam-valves after they are disconnected from the eccentric gear, the rock-shaft arm appertaining to each of them has a weight suspended from it by a rod. These weights are sufficiently heavy to effect the instantaneous closing of the valve, whenever its appropriate lifting-rod is disengaged from the toe of the rock-shaft arm. In order to prevent the slam and jar that would result from the sudden closing of the valves, these weights are fitted to move easily in appropriate sockets or cylinders of equal bore throughout their length. The weights moving in the sockets or cylinders act as pistons to compress the air therein, and thus retard their descent, and as air-cushions to prevent the slam or jar. To enable the weight or piston to close the valve with the requisite speed, an orifice is made in the cylinder, near its lower extremity, to permit the free entrance and exit of air. This orifice is in such a position that the piston, in descending, passes it, and thus cuts off the escape of the air remaining in the cylinder, just before the valve closes its port, when the air, thus caught or shut up in the cylinder, being compressed, will retard the further movement of the weight or piston, and act as an air-cushion to prevent the jar.

It is proper to remark, that apparatus for opening or closing the valves of steam-engines by the falling of weights or the descent of pistons, attached to the valve-stem, into a reservoir or cylinder filled with water, the water being used for the purpose of preventing the slam or jar, is an old contrivance. Watt used it. His weights or plungers were made of cast iron, and were cylindrical, each fitted into a hollow cylinder filled with water. The plunger was made smaller than the barrel to allow a small space, through which, when the plunger descended, the water might arise between it and the barrel. As the plunger descended, the valve closed, and the water displaced rose between the plunger and the barrel; and the

resistance thus occasioned to the descent of the weight prevented the slam which would have been produced by its uninterrupted fall. The apparatus of Sickels, and also that of Corliss, are but improvements, therefore, upon that which had long before been discovered. The difficulty with Watt's arrangement was, that the closing of the valve was gradual throughout, being regulated by the descent of the weight into a cylinder of uniform bore, which occasioned loss of steam by what is termed wire-drawing. This is remedied, in Sickels' apparatus, by constructing his dash-pot or reservoir, so that the plunger can move at some distance from the sides of the vessel at first, and the water thus pass freely up the sides, while, at the lower part, the reservoir is contracted, so that, when the plunger reaches it, the escape of the water will be diminished. In this way, the weight passes rapidly at first, till 81 it closes the valve, and is then checked by the increased resistance of the water, the great object being to permit the valve to cover its port as quickly as possible, and check it at the instant this result is attained.

The question is, whether or not the apparatus of the defendants embraces substantially the same improvement that is found in Sickels'.

In the first place, the mechanical construction of the defendants' dash-pot is different. It is the cylinder or barrel of Watt, without any contraction at the bottom. Its form or shape is, therefore, not only not similar to Sickels', but it is of the form and shape of those previously in use.

In the second place, the construction and form of it are such, that water or other liquids cannot be used in it practically, for the purpose of checking the descent of the weight, and preventing the slam or jar of the machinery. This is admitted. Some of the experts have expressed the opinion that alterations and additions could be made in its construction and arrangement, so that water might be practically used in it. If this



were admitted, the fact would not necessarily weaken the force of the argument. No such changes have been made and put into successful operation. The suggestion is but speculation and conjecture, and I am not at all satisfied that it is well founded.

In the third place, the apparatus of the plaintiffs, as constructed, could not be operated successfully by the element or means used by the defendants in the working of their apparatus. I am aware that it is said that the plaintiffs' apparatus might be so altered and arranged, in its proportions merely, as to use air in the place of water. But this, again, is mere matter of opinion. No such change has ever been made, and put into successful operation; and, indeed, it is quite difficult to believe, if the apparatus could be used successfully with air, thereby dispensing with the necessity of filling the dash-pot with water, that the change would not have taken place long ago, on the score both of convenience and of economy.

In the fourth place, the defendants, by a different construction and arrangement of their apparatus, are enabled to operate it without employing at all the element used by the plaintiffs—employing one that is procured without expense, and is always present—simply, the common atmosphere about them. The device that has enabled them to work out this beautiful and useful result, never, so far as appears, successfully produced before by any contrivance or combination, would certainly seem to furnish a claim to the idea of novelty and originality, and to deserve the most careful and searching consideration, before the originator or the public be deprived of it.

It is said that the use of air in the reservoir, as a means of preventing the slamming of the valves, is claimed in the patent of the plaintiffs. Admitting this to be so, if the thing is impracticable, the claim will not benefit them, or harm the defendants. The claim would be simply nugatory. But I am inclined to

think this a misapprehension of the true construction of the patent. The specification says: "The reservoir is to contain water, oil, or other fluid, say to two-thirds of its height, more or less. Through the plunger, K, holes, G G, are represented as being made for the passage of water; and H is a valve-like piece, which slides up and down on the lower end of the stem, B. This part of the apparatus, however, may be varied in its form in numerous ways, the intention being to cause the water to offer a determined degree of obstruction to the descent of the plunger, and to admit of this being regulated. This I have sometimes done by making the plunger, K, a flat disk, with a sufficient space between it and the cavity of the cup, L, for the passage of water sufficient to allow of the descent of the plunger, while it shall be so obstructed as to take off the force of the blow of the valve." And again, the claim is this: "I also claim the manner of regulating the closing of the valves, and of effectually preventing them from slamming, by means of a water-reservoir, furnished with a piston or plunger, attached at the lower end of the valve-stem, and operating within an adjustable cup or secondary reservoir, so as to effect the purpose intended, upon the principle, and substantially in the manner, herein described and made known." Now, it will be seen, that the apparatus described contemplates the use of water, or, at most, of some liquid incompressible in its operation and effect, and not the use of air. Indeed, it is manifest that air could not be used at all, according to the arrangement. And, in the claim, which is the summing up of what is deemed the thing discovered, and is required by the statute, a water-reservoir is alone specified. But what is, if possible, still more decisive, the patentee, in describing what the reservoir shall contain, also directs the manner. It is "to contain water, oil, or other fluid, say to two-thirds of its height, more or less." The experts called on the part of the plaintiffs, and their

counsel on the argument, maintained that, according to scientific classification, the term "fluid" included air, and hence that this element was embraced in the description. But neither of them undertook to explain how the reservoir could be filled with air to two-thirds of its height, agreeably to the direction prescribed. The thing is simply absurd. The whole description shows that that element was not in the contemplation of the patentee. The terms used necessarily exclude it, and so does the description of the several modes pointed out of using the dash-pot for the purposes intended. No doubt the term "fluid," in its generic and technically scientific sense, includes air and the gases; but, in the sense in which it is used by the patentee, and in the connection in which it is found, it <sup>82</sup> means a fluid that is tangible, that can be seen and handled, like water or oil, and with which a vessel can be filled wholly or in part, at the option of the patentee. These are the only description of fluids that can be used in his reservoir, in the way pointed out by him.

Without pursuing this branch of the case further, I am inclined to the conclusion, that the construction and arrangement of the apparatus for preventing the slamming of the valves in closing, used by the defendants, are substantially different from that of the plaintiffs; and, further, that the use of air, for which purpose the defendants' apparatus is constructed, is not only not embraced in the plaintiffs' patent, but is, impliedly at least, excluded by it in its description. This was the impression made upon me on the first motion for an injunction; but, as the question was new, and might, in a measure, be affected by the exposition and opinions of persons skilled in this branch of the arts, I sent it to a trial at law.

It had been strongly urged at that hearing, that, although air might not be embraced within the term "fluid," in the sense in which it was used by the patentee, still the use of air in connection with the

apparatus of the defendants, as constructed and arranged, was but an equivalent for water used in the apparatus of the plaintiffs, and, as such, was, in judgment of law, within the scope and meaning of the description in their patent. This, I was inclined to think from the first, was the only ground upon which the plaintiffs could maintain this branch of the case, consistently with a proper construction to be given to the patent. That point has not been distinctly put to the jury, and their verdict, therefore, is of no particular weight as it respects that aspect of the case.

It is not material now to determine whether or not it is necessary that the plaintiffs should maintain an infringement of this branch of their improvement—that is, of their water reservoir, to prevent the slamming in closing the valves—before they can entitle themselves to a decree against the defendants. This seems to have been the opinion of the late Mr. Justice Woodbury, when the case was before him. I think there may be some doubt whether that opinion is well founded.

But, without expressing any definite judgment upon that question, or as to whether the tripping apparatus of the defendants is or is not substantially identical with that of the plaintiffs, and, therefore, an infringement, it is sufficient to say, that upon the views I have expressed, the case is not one in which it is fit and proper to interfere with the defendants' works, on this motion for a preliminary injunction.

The motion is therefore denied.

{For other cases involving this patent, see *Sickels v. Gloucester Manuf'g Co.*, Case No. 12,841; *Blank v. Manufacturing Co.*, Id. 1,532; *Packet Co. v. Sickels*, 19 Wall. (86 U. S.) 611.]

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