HOLLY *v.* VERGENNES MACHINE CO.

Circuit Court, D. Vermont. October 5, 1880.

1. RE-ISSUE No. 5,132—FIRST CLAIM.—The first claim of re-issued letters patent No. 5,132, dated November 5, 1872, for a new system of water-works for supplying cities and towns with water, *held* valid.

   Holly v. *Union City,* 14 O. G. 5.

2. PATENT No. 94,747, dated September 14, 1869, for a new safety valve for street water pipes, *held* valid.

3. CLAIMS—CONSTRUCTION—SPECIFICATION.—The specification of a patent may be referred to for the purpose of ascertaining the meaning of the claims.

   Bates v. *Coe,* 15 O. G. 337.

   Brooks v. *Fiske* 15 How. 215.

4. MACHINES—SUBSTANTIAL IDENTITY.—Machines are substantially the same, in the sense of the law of patents, when they perform the same function in substantially the same way to accomplish the same result.

5. SAME—SAME—FORM.—In such case form should not be regarded except where it is of the essence of the invention.

6. INVENTION—COMBINATION—LESSER COMBINATION.—If a patented invention consists of a combination of numerous parts, including in it other new and useful combinations of less of those parts, it would seem that the patentee was entitled to the exclusive use of those lesser combinations, as well as to the exclusive use of the whole.

   Sharp v. *Tifft,* 12 O. G. 1282.

   Prouty v. *Ruggles,* 16 Pet. 336, distinguished.

7. PATENTABLE DEVICES—INFRINGEMENT.—Patentable devices cannot be used for the purpose of infringing an existing patent.

8. INFRINGEMENT—COMBINATION—VENDOR.—The sale of a machine to be used for the purpose of infringing a patented combination renders the vendor liable.

   Bowker v. *Dows,* 15 O. G. 510.

   In Equity.

   Hatch & Stein and *W. L. Burnap,* for orator.

Roberts & Roberts and *L. L. Laurence,* for defendants.

WHEELER, D. J. This suit is brought upon re-issued letters patent No. 5,132, dated November 5, 1872, for a new system of water-works for supplying cities and towns with water, and original letters patent No. 94,747, dated September 14, 1869, for a new safety-valve for street water-pipes, both granted to the plaintiff. The defences are that the plaintiff is not the original and first inventor of the inventions described in the patents, and that the defendants do not infringe. The cause was heard at last term on pleadings, proofs, and arguments of counsel.

Before the plaintiff's invention, water to supply cities and towns was, when the supply was located high enough, drawn into a reservoir and from thence into a main pipe, from which others ramified through all parts of the city or town, and into dwellings and other places, to spigots, from which it could be drawn as wanted for use. In level places, where there was still an elevation for a reservoir, it was forced by pumps into a reservoir; and when there was no such elevation it was forced into a stand-pipe of the necessary size and height, or into mains connecting with such a stand-pipe, and the pressure of the water in the reservoirs or standpipes 76 would regulate the flow to the spigots and hydrants. Where it had to be supplied by pumps the irregularity in the amount drawn at the spigots and hydrants would not admit of a uniform supply to the mains, and it pumps were employed furnishing such a supply the incompressibility of water is such that when the drawing ceased the pipes would burst, or the pumps or machinery be broken.

The plaintiff's inventions obviated these difficulties by providing pumping machinery which increasing pressure of water in the mains would slacken and decreasing pressure would hasten, and guarding against sudden shocks from the quick closing of

hydrants by the use of an air chamber connecting with the mains and preventing the danger of continued pressure from that source, while the machinery was slackening by a peculiarly-arranged relief valve, applied to the mains so that the water could be pumped directly into the mains, and drawn therefrom by the spigots and hydrants at pleasure, with safety to the works, without any stand-pipe or reservoir. None of the systems set up as anticipations had these contrivances combined in this manner. The London water-works, constructed by Peter Maurice in 1582, as described by Thomas Ewbank in Hydraulics and Mechanics; the system of water-works described in the English patent to Joseph Bramah, dated October 31, 1812; and the London bridge water-works, described by William Mathews in Hydraulia, 1835,—had pumps forcing water directly into mains to be carried to inhabitants, but neither of them had any contrivances for slackening the quantity forced as any pressure increased from diminishing the quantity drawn as described; neither does it appear from the descriptions given, but that the water flowed through by a constant flow, and was caught as wanted for use.

Birkinbine's system, at the state lunatic hospital at Harrisburg, Pennsylvania, had connection with a reservoir at the top of the building. Linsley's system, at Burlington, Vermont, had connection with a reservoir above the city. Birkinbine had no means for regulating the quantity pumped by the severity of the pressure in the mains, and Linsley had none for lessening the quantity as the pressure increased. His system was nearer like the plaintiff's than any other was; but his lacked some of the essential features of the plaintiff's. His had means for slacking the pumping machinery, when the pressure in the mains decreased, to prevent the machinery from running away if the pressure should be removed by bursting or other casualty; but this is quite different from

regulating the supply according to the pressure. He had pipes leading each way from the main, carrying the water up to the reservoir, and as to those pipes the water was pumped directly into them without going to the reservoir; but, as they were connected by the main with the reservoir, the pressure in them would be regulated by the pressure from the reservoir, and would not in any manner regulate the quantity pumped according to their requirements. Birkinbine had a safety-valve on the main for the same purposes as the plaintiff's relief valve, but his valve was held by dead-weights, while the plaintiff's is steadied by a dash pot.

None of these things show that the plaintiff was not the original and first inventor of the inventions described in both patents. This is in accordance with the decision of *Drummond* and *Gresham,* JJ., in *Holly* v. *Union City,* 14 O. G. 5, so far as that decision goes, which only involved the re-issued patent. This suit rests upon the first claim to that patent, which is for "the above-described method of supplying a city with water,—that is to say, by pumping directly into the water mains when the apparatus for that purpose is supplied with contrivances by which the pressure within those mains may be preserved in a great degree uniform, sufficiently so for practical purposes, or increased or diminished at pleasure,—substantially as and for the purpose above shown." It is objected that this claim does not specify any devices constituting the system mentioned, and that it is too indefinite to furnish a foundation for a claim for infringement; but this objection cannot prevail. The patent is to be read all together, for the purpose of ascertaining the meaning of the whole and of every part; consequently the specification may 78 be referred to for ascertaining the meaning of the claims. *Bates* v. *Coe,* 15 O. G. 337; *Brooks* v. *Fiske,* 15 How. 215.

The specification describes pumping apparatus which the increase of pressure in the mains will slacken, and decrease will hasten; it describes mains connected with an air-chamber, and a relief-valve for easing the shock of sudden and continued pressure, and mains from which the water is drawn as wanted, or closed mains, operating by pumping the water directly into the mains without a reservoir or stand-pipe. The claim of the system as and for the purposes above shown is a claim for this combination of these various contrivances, operating together in this manner, for this purpose. It is for these devices so combined and arranged, and not for any abstract principle or method apart from the devices themselves. The claim appears to be valid when so construed. *Holly* v. *Union City,* 14 O. G. 5. The plaintiff's pumping apparatus is arranged so that the increase of pressure in the mains will lessen the amount of water being pumped into them by forcing the water against a piston, the motion of which, operating through complicated devices, shuts off the motive power and slackens the pumps. This is the pumping apparatus supplied with contrivances by which the pressure within the mains may be preserved, in a great decree, uniform, which is mentioned in this first claim, and that part of the patended invention covered by this claim is the combination of this apparatus with the mains, the air-chamber, the relief-valve, the pipes, and the spigots.

The answer and the evidence show that the defendants have put in water-works for cities and towns, or participated in putting them in, which have the pumping apparatus described in letters patent No. 154,468, dated August 25, 1864, issued to John P. Flanders, one of the defendants, for an improvement in pumps, stated in the specification to relate more particularly to pumping engines adapted to the delivery of large volumes of water, as in town or city supply where no stand-pipe or reservoir is employed, and in

the description referring only to such engines as pump directly into the mains. In this pumping apparatus the increasing pressure [79] of the water in the mains decreases the amount of water pumped in by acting upon a valve which opens and closes a duct leading from one end of the pump cylinder to the other, around past the piston, so that when the pressure opens the valve the water is pumped from one side of the piston to the other, and not forced along; and when the pressure is diminished by the opening of the spigots and drawing water, the valve closes, and the water is forced along again to take the place of that drawn off. This is a pumping apparatus supplied with contrivances by which the pressure within the mains may be preserved, in a great degree, uniform, as mentioned in this claim of this original patent of the plaintiff. The combination and arrangement are the same in the defendant's works as in the plaintiff's, unless there is a substantial difference in these pumping engines, and the rest of the combination is the same whether there is a difference here or not.

Two questions arise here. One is whether these pumping engines are substantially the same in this arrangement; and the other is whether the rest of the arrangement is a part of the plaintiff's patented invention if they are not. If they are, the defendants have taken the whole of the invention covered by this claim. If they are not, and the rest of the combination without them is covered by the patent, then the defendants have taken so much of the patented invention. In this matter of regulating the flow of water in such pipes according to the wants of consumers, without the aid of the force of gravitation furnished by reservoirs and stand-pipes, the plaintiff precedes Flanders, and has produced something which underlies all that Flanders has produced, and, if it includes what Flanders has produced, he has a monopoly of

it. *Railway Co.* v. *Sayles,* 97 U. S. 554. And these pumping machines are substantially the same in the sense of the law of patents, when they perform the same function in substantially the same way to accomplish the same result; and, except where form is of the essence of the invention, it should not be regarded in questions of this kind, and it is not of the essence of this invention. Attention should be paid to such 80 portions as really do the work, so as not to give undue importance to parts used only as a convenient mode of construction. *Machine Co.* v. *Murphy,* 97 U. S. 120.

Here the pressure in the mains does the work of lessening the flow. In the plaintiff's machine it does it by pressing against a valve and slackening the machinery propelling the water; in the defendant's machine it does it by pressing against a valve and lessening the effect of the machinery upon the water. The means are the same, the result is the same, and the mode is different only in form. *Foster* v. *Moore,* 1 Curtis, 279. If this was not so the arrangement of the mains, air-chamber, relief-valve, and pipes was new, and a material part of the invention, which would be covered and included in this claim of the patent, and which the defendants would have no right to take and use in connection with Flanders' invention. *Sellers* v. *Dickinson,* 6 E. L. & Eq. 544, 5 Exch. 312; *Lister* v. *Leather,* 8 Ell. & Blackb. 1004. Flanders' pumping apparatus is the equivalent of the plaintiff's in making up a system of water-works with these other parts, although it may not be the same thing for other purposes. The question now is not whether they are the equivalents of each other for all purposes, but is whether they are for this purpose.

In *Sellers* v. *Dickinson* the patent was for machinery, consisting, among other things, of a clutch-box, operating automatically, to cut off the power from a loom whenever the shuttle became entangled,

combined with other mechanical contrivances through which the momentum of the sley was made to move a brake against the fly-wheel to take up the momentum of the parts and prevent sudden shock from the stoppage. The clutch-box was old, but its combination with the brake was new. The defendants' contrivance for accomplishing the same object, and for which he had obtained a patent, dispensed with the clutch-box, and had different contrivances from the plaintiff's for applying the momentum of the sley to the brake. It was argued that the patent was for a combination, and that there could be no infringement unless the whole combination of the same elements was used. This argument was overhead, *Pollock,* C. B., saying that if a portion 81 of a patent for a new arrangement of machinery is in itself new and useful, and another person, for the purpose of producing the same effect, uses that portion of the arrangement, and substitutes for the other matters combined with it another mechanical equivalent, that would be infringement, and the plaintiff there had judgment. The defendants here use the pressure in the mains for the same purpose that the plaintiff does, and thereby complete the arrangement of the plaintiff's patent, the same as the defendant there used the momentum of the sley for the same purpose that the plaintiff there did, thereby completing the combination of the patent.

These views do not differ from the decision in *Prouty* v. *Ruggles,* 16 Pet. 336, and like cases, where it is held that a patent for a combination of several parts to accomplish a result is not infringed by a combination of less of the same parts, alone, or with others substantially different, to produce the same result. That case was put expressly upon the ground that neither any of the parts, nor any portion of the combination less than the whole, was new. The patentee is entitled to the exclusive use of the whole of his patented invention; and if it is of a combination

of numerous parts, including in it other new and useful combinations of less of the parts, he seems to be entitled to the exclusive use of these lesser combinations, as well as to the exclusive use of the whole. *Sharp* v. *Tifft,* 12 O. G. 1282. The pumping apparatus of Flanders may be an improvement upon that of the plaintiff, and properly patentable as such, so as to entitle him to the exclusive use of those particular devices; but that would give him no right to use his devices to infringe the plaintiff's patent with, although this fact may be of importance in determining the amount of profits or damages due to such infringement.

The other patent is for a dash-pot combined with a safety-valve upon water pipes subjected to great pressure, to steady the motions of the valve in opening and closing. The dashpot is an old and well-known contrivance for steadying motion, but it had never been combined with such valves before. The defendants use a dash-pot in the same combination, but they 82 claim they do not infringe because their dash-pot is different from the plaintiff's. The plaintiff's is closed at the top and receives water, in which the loose piston works, at the bottom from the main on which it is placed. The defendants' is open at the top and receives water there, and is closed at the bottom. Their operation in steadying motion is alike. The pressure of water in the mains may communicate some motion to the piston in the plaintiff's dash-pot which it cannot do to that of the defendant', but that is not noticed in the patent. The dash-pots each accomplish the same result, by the same means, in substantially the same way. The combination is the same, and the use of theirs by the defendants infringes the patent of the plaintiff. *Machine Co.* v. *Murphy,* 97 U. S. 120.

It has been urged in argument that the defendants only make and sell the Flanders pump, and that they do not infringe the plaintiff' patents, although their

purchasers may have infringed by putting them into systems of water-works. If all they did was to make and sell these pumps merely, probably they would not infringe by that alone. But the answer and proofs go beyond this. Flanders, in his testimony as to what works they have put up, does not limit what they did to making and selling the pumps merely. The effect of the whole clearly is that they participated and concurred in putting in the whole by furnishing the pumps for that purpose, and this is sufficient to make them liable as infringers. *Bowker* v. *Dows*, 15 O. G. 510.

Let a decree be entered that the first claim of the reissued patent and the other patent are valid; that the defendants have infringed both; and for an injunction and an account, with costs.