NORTHWESTERN FIRE EXTINGUISHER CO. ET AL. V. PHILADELPHIA FIRE EXTINGUISHER CO.

{1 Ban. & A. 177; 6 O. G. 34; 10 Phila. 227; 31 Leg. Int. 148; Merw. Pat. Inv. 346; 6 Leg. Gaz. 132.}[1]

Circuit Court, E. D. Pennsylvania. April 6, 1874.

PATENTS—EFFECT OF ERROR IN NAME OF PATENTEE—PATENT TO ADMINISTRATOR OF INVENTOR TRUST—FOR HEIRS—IMPEACHMENT OF ADMINISTRATOR'S APPOINTMENT—WHAT CONSTITUTES INVENTION—PUBLIC TRIAL—ANTICIPATION—PATENTABILITY.

1. A patent will not be void, because of an error in the Christian name of one of the patentees, provided it contains a description of him, by which he can he identified.

{Cited in Bignall v. Harvey, 4 Fed. 337.}

2. Where the Christian name of one of the patentees was erroneously stated in the patent, but he was described in it, as a joint inventor with another, and was identified as such, the patent was *held* to be valid, notwithstanding such error.

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3. The decree of a court of probate, appointing an administrator, cannot be impeached in a suit upon a patent granted to him as the representative of the inventor; such a decree must be treated as valid, until it is reversed or annulled by some direct proceeding to that end. It cannot be attacked in a collateral proceeding.

4. A patent, granted to an administrator of a deceased inventor, is a grant in trust for the heirs of the inventor, but it is not essential to the validity of the patent, or the efficacy of the trust, that the beneficiaries should be named upon the face of the patent. Citing Stimpson v. Rogers {Case No. 13,457}.

5. In a suit upon a patent, granted to the administrator of a deceased inventor, the heir of the inventor, being the beneficiary of the trust raised by the grant of the patent to

the administrator, is a necessary party to the suit, unless the inventor, prior to his death, had parted with all of his inchoate or equitable title to the invention: in which case, the administrator would take and hold the patent for the use of those upon whom the beneficial ownership of it was devolved by the inventor's own act before it was granted, and the heir, having no beneficial interest, would not be a necessary party to the suit.

6. A description of an invention, contained in an application for a patent which was rejected, cannot be given the effect which the act of congress gives to a publication, because it lacks the essential quality of a publication, in that it was not designed for general circulation, nor made accessible to the public generally.

[Cited in Locomotive Engine Safety Truck Co. v. Pennsylvania R. Co., Case No. 8,453; Lyman Ventilating & Refrigerator Co. v. Lalor, Case No. 8,632; Westinghouse v. Chartiers Val. Gas Co., 43 Fed. 588.]

7. Although a written description of a machine, illustrated by drawings, which has not been given to the public, does not constitute an invention, still, rejected specifications and drawings may be received in evidence, after the invention is perfected, to ascrtain the date of the invention, the design of the inventor, and the principle, intended functions, and the mode of operation of the mechanism.

[Cited in Westinghouse v. Chartiers Val. Gas Co., 43 Fed. 588.]

8. A trial of a machine in public, which proves the capacity of the machine to effect what its inventor proposed, entitles him to the merit of having produced a complete invention, and cannot be regarded as a mere experiment, entitling a subsequent inventor to a patent for the same invention. Gayler v. Wilder, 10 How. [51 U. S.] 477, and Parkhurst v. Kinsman [Case No. 10,757], distinguished.

[Cited in The Fire-Extinguisher Case, 21 Fed. 41.]

9. A patent for an apparatus, in which the alkaline solutions for forming carbonic acid gas were kept separate until required to extinguish a fire, when they could be readily mingled, *held* void, on it appearing that similar apparatus had been employed in soda fountains for the supply of beverages.

10. Where an effect or result has been before produced, the mechanical agencies by which it is reproduced, if they are not in themselves new, are not the subject of a patent.

11. The reissued patent, for an improvement in extinguishing fires, granted July 16th, 1872. to Dawson Miles, as administrator of P. F. earlier, and to Alphonse A. C. Vignon, adjudged void for want of novelty in all the devices claimed.

[Cited in Platt v. Fire-Extinguisher Manuf'g Co., 8 C. C. A. 357, 59 Fed. 898.]

In equity.

Edmund Burke and Keller & Blake, for complainant.

Chas. B. Collier and D. L. Collier, for defendant.

McKENNAN, Circuit Judge. Suit brought on letters patent, reissued to Dawson Miles, administrator of P. F. Carlier, deceased, and Alphonse A. C. Vignon, No. 4,994 dated July 16, 1872 (original patent No. 88,844, dated April 13, 1869), for improvement in extinguishing fires.

The claims of the reissued patent are as follows: "1. The improvement in the art of extinguishing fires, here in before described, by throwing upon the fire or conflagration, a properly directed stream of mingled carbonic-acid gas and water, by means of the pressure or expansive force exerted by the mass of mingled gas and water from which the stream is derived. 2. We claim a strong vessel, provided with proper plug or lid, by which an orifice in it can be closed, and a stop-cock, through which its contents can be ejected, and a flexible tubing or hose for directing the stream as ejected at the will of the operator, these parts being substantially as described, and capable of operating as specified. 3. We claim a strong vessel provided with a proper plug or lid for closing an orifice in it, and also with a stop-cock, in combination with another vessel or tube, the combination being substantially such as specified, and the construction being substantially such as described, so that the vessels may keep separately the ingredients for making carbonic-acid gas, and that when their contents are mingled, they may be discharged in a stream of carbonic-acid gas and water.

4. We claim, in combination with the vessel's lid or plug and stop-cock combined, and capable of operating as in the above third claim, a hose and nozzle, so applied, as described, that the mingled stream of carbonic-acid gas and water may be suitably directed, as here in before set forth. 5. As the preferred arrangement of our apparatus, we claim a strong vessel, provided with a lid or plug and a stop-cock near the bottom thereof, in combination with a vessel or tube arranged in the interior thereof, the arrangement being substantially as described. 6. We claim a strong vessel provided with a lid or plug and a stop-cock, in combination with a vessel or tube arranged in the interior thereof, and a rod passing through the wall of the outer vessel, and capable of operating substantially as described. 7. We claim a strong vessel provided with a lid or plug and a stop-cock, in combination with a vessel or tube arranged in the interior thereof, and a rod and cock or valve, the whole being and operating substantially as described. 8. We claim the, elements of parts of a whole apparatus specified in the fifth claim, and arranged as therein specified, in combination with a flexible hose and nozzle, and with handles or 396 loops, whereby the apparatus may be supported and the stream directed, substantially as specified. 9. We claim, in combination, a strong vessel, a lid or plug for closing the same, a stop-cock near the bottom of the vessel, a hose and nozzle, and handles or loops, whereby a volume of water charged with carbonic-acid gas may be confined and transported, and a stream thereof directed, in the manner and for the purposes described. 10. The keeping of the acid and alkali or alkaline solution in separate and distinct vessels, but in such proximity to each other that they may be immediately brought into contact when the apparatus is required for use, one mode of accomplishing which we have above set forth. 11. A closed receptacle, made of suitable material, containing

one of the gas-generating ingredients, placed within the main reservoir, containing the other gas-generating ingredient, to be discharged of its contents in the manner herein set forth, or by other equivalent means."

This bill is founded upon a reissued patent to Dawson Miles, administrator of the estate of Phillip F. Carlier, deceased, and Alphonse A. C. Vignon, as joint inventors of an "improvement in extinguishing fires." They are described as residents of the city of Paris and subjects of the emperor of France at the time of the invention. The answer denies that there was any person named Phillipe F. Carlier, and avers that Francois Phillip Carlier was the name of Vignon's associate in the alleged invention; and for this misnomer it is urged that the patent is void.

It was the opinion of the judges in Humble v. Glover, Cro. Eliz. 328, that an omission or mistake of the Christian name of a grantee rendered the grant void; and so the rule is stated by Lord Bacon. Maxims, 107. But even then a different rule prevailed with regard to wills; for extrinsic evidence was admitted to ascertain the person, when two were of the same name, or when there had been a mistake in the Christian name of the devisee. Cheyney's Case, 5 Coke, 68; Ulrich v. Litchfield, 2 Atk. 372. Lord Coke, however, held—2 Co. Litt. (Thomas' Ed.) p. 255—that a misnomer of a grantee would not avoid the grant, where he was so otherwise described as to individuate him; and he says: "So it is, if lands be given to Robert, earl of Pembrook, where his name is Henry; to George, bishop of Norwick, where his name is John; and so of an abbott, etc., for in these and the like cases there can be but one of that dignity or name."

Chief Justice Kent refers approvingly, in Jackson v. Stanley, 10 Johns. 137, to this statement of Lord Coke, and says: "In all the cases which I have seen, where there was a misnomer, there was some description connected with the name, and there was no other

person who set up a title in competition, under the erroneous name." But he does not hold the admission of parol evidence to identify the grantee to be erroneous. Indeed it is the obvious sequence of his argument, that such evidence would have been held admissible, to show the person intended by the patent in question, if any description had been connected with his name. So, therefore, in the subsequent case of Jackson v. Goes, 13 Johns. 524, Chief Justice Thompson says: "The identity of the grantee, as well as of the thing granted, must, generally speaking, partake, more or less, of a latent ambiguity, explainable by testimony dehors the grant. It cannot be that this inquiry is restricted to the single case of ambiguity occasioned by there appearing to be two persons bearing the name of the patentee."

It may, therefore, be stated, as the result of these and numerous other judicial decisions, that a grant is not necessarily void by reason of an error in the Christian name of the grantee, and that where it contains any other matter descriptive of the person for whom it was intended, extrinsic proof of such matter is admissible to identify the grantee, and, if he is thus indentified, effect will be given to the grant accordingly.

Whatever may have been Carlier's proper Christian name—Phillipe Francois or Francois Phillipe, or only Francois—the patent contains a further designation of the patentee, by which his identity can be certainly determined; and so it is not necessarily void. It describes him as a joint inventor with Alphonse A. C. Vignon of the specific invention set forth in it, and thus it is clear upon the face of the patent, that a person named Carlier, who sustained that relation to Vignon, was the intended patentee. Now, there is no evidence, that there ever was but one person named Phillipe Francois or Francois Phillipe Carlier, and there is no controversy, that a person bearing one

or the other of these Christian names was associated with Vignon in the invention claimed. Indeed the answer concedes this, for it admits that Francois P. Carlier, either conjointly with Vignon, or separately, did discover and invent improvements, in connection with apparatus, for extinguishing fires. Assuming, then, that the Christian name of Carlier, was Francois P., he is demonstrated to be the same with Phillipe F., by conclusive proof of his connection with the subject of the patent, and of the impossible applicability of the additional description to any other than Vignon's associate. There is, therefore, no doubt of the personal identity of the patentee, and the most that can be said is that, by a transposition of his double Christian name, he is not thereby accurately designated. But this, according to the rule before stated, will not void the patent, where it supplies upon its face an added description, by which the patentee may be certainly identified. The patent must, therefore, be treated as valid.

It is a familiar rule of law, that the validity of a judgment of a court of competent jurisdiction, is not open to inquiry in a collateral 397 proceeding. A judgment without authority to render it is certainly a nullity, but an erroneous judgment is to he treated as valid, until it is reversed or annulled by some direct proceeding to that end. If the court which pronounced it has jurisdiction over the subject matter, a proper case for its exercise must be presumed to have been sufficiently presented, and the adjudication to have been right. Accordingly, the judgment of the probate court of Massachusetts, awarding to Dawson Miles letters of administration upon the estate of Carlier, must be taken as conclusive of his legal right to the grant of them. That court has undoubted general jurisdiction over the subject, and we must assume that all the facts which the laws of the state prescribed as essential to its judgment, were sufficiently shown

to exist. We certainly have no authority to revise or disregard its decision.

And the same principle applies to the granting of letters patent by the commissioner of patents. It must, therefore, be taken for granted that the person in whose name the patent was issued, established his legal right to it before that officer, and we cannot go behind it to ascertain whether this was so or not.

But it is urged that the commissioner could only grant the patent to the administrator of Carlier in trust for his heirs, and that, therefore, his surviving daughter is a necessary party to the suit.

There is no doubt that the act of congress {5 Stat. 117}—Brightley, Dig. p. 729, § 39—imposes upon a patent, issued to the administrator of a deceased inventor, a trust in favor of his heirs. But it is not essential to the validity of the patent, or to the efficacy of the trust, that the persons to whose benefit the patent will inure should be named upon the face of it Stimpson v. Rogers {Case No. 13,457}. Primarily, therefore, the patent must be considered as a grant to the heir-at-law of Carlier, Miles holding it simply as her trustee. "Under these circumstances, Carlier's heir would undoubtedly be a necessary party to this suit, because a decree in favor of the present complainants would adjudge the profits claimed from the defendant to them, irrespective of the beneficial right of Carlier's heir, and would leave the defendant exposed to another suit for the same profits at her instance.

But the act of congress further provides that the administrator of the deceased inventor shall hold the patent granted to him, "under the same conditions, limitations, and restrictions, as the same was held, or might have been claimed or enjoyed," by the inventor in his lifetime. The import of this provision is that while the legal title to the invention is devolved upon the administrator, he must take and hold it subject to any equities existing as against the inventor in his

lifetime. Now, the documentary proofs exhibited show that Carlier in his lifetime parted with his inchoate or equitable title to the invention, and that this title is vested in the American Fire Extinguisher Co. If he had lived, and obtained the patent, he would unquestionably have held it for the use of those upon whom the beneficial ownership of it was devolved by his own act before it was granted. And his administrator holds it under exactly the same conditions and subject to the same limitations of his interest in it Carlier's heir, therefore, thus forestalled by his assignment, has no actual interest in the controversy, and to make her a party would be only a superfluous form. The main inquiry in the cause relates to the novelty of the invention claimed by Carlier and Vignon. I have no doubt they were original inventors; but were-they the first?

The earliest date to which their invention is carried back is June, 1862. Although there is no evidence in the cause fixing this date, yet, from what incidentally appears and for the purpose of determining the priority of the invention, it may fairly be taken as the time when their invention was completed.

What then, did they claim to have invented? This is very clearly described in the reissued patent in controversy. "It consists," says the specification, "first, in the process or method of extinguishing fires by means of a jet or stream of mingled water and carbonic acid ejected from a closed vessel in a suitable direction by means of the pressure or expansive force of the mixture contained in the vessel; and, secondly, in the construction of apparatus for containing and delivering this extinguishing medium, which apparatus may be made of an exceedingly portable nature, and kept always charged and ready for use at a moment's notice, at the particular locality which it is desired to protect" The patent, then, seeks to appropriate two things, first, a method of extinguishing fire, by throwing upon it

a stream of mingled carbonie-acid gas and water, by means of the pressure or expansive force excited by the mass of mingled gas and water from which the stream is derived; and, second, the specific mechanical devices described in the specification, by which this method is made practically effective.

To show that the invention thus claimed is not novel, the defendants have exhibited in evidence, a rejected application of Dr. William A. Graham. It appears on the 23d of November, 1837, Dr. Graham applied for a patent for a method of extinguishing fire, by projecting upon it a stream of mingled carbonic-acid gas and water, and filed a specification, in which he fully described the mechanical devices to be used in effectuating this method, and the process of operating them. On the 25th of November, 1837, his application was rejected, for reasons stated by the examiner, which now seem strange enough. This decision was reaffirmed on the 16th of December following. On the 29th of 398 December, 1837, an amended specification was filed, and thus the case stood until December, 1851, when a model and drawing and a third specification were filed, and the application was renewed and finally rejected. These several specifications and the drawings are all in evidence in the cause; and it is urged that they of themselves are effective proof of prior invention by Graham.

The argument claims too broad an effect for them. It puts them upon the footing of a publication, and ascribes to them the effect which the act of congress gives to that. But they cannot be so treated, because they lack the essential quality of a publication, in that they were not designed for general circulation, nor were they made accessible to the public generally. They were placed in the custody of the commissioner of patents, not that they might thereby become known to the public, but for the special purpose of being examined and passed upon by him.

Although they might incidentally become known to any one whose researches in the patent office might disclose their existence, they are not, therefore, published within the meaning of the act of congress. But, it is said, they established the fact of invention, and so disprove the novelty of an invention subsequent in date. It is needless to refer to authorities to show what is so well settled, that a written description of a machine, although illustrated by drawings, which has not been given to the public, does not constitute an invention, within the meaning of the patent laws. It may be so full and precise as to enable any one skilled in the art to which it appertains, to construct the machine described, but, until it has been embodied in a form capable of useful operation, it has not attained the proportions or the character of a complete invention. However suggestive and valuable it may be as an untried theory, it is ineffective against the practical and useful product of inventive skill.

But it does not follow that rejected specifications and drawings, are, under all circumstances, inadmissible as evidence. By themselves they are inconsequential, but when the inventor's idea is perfected by a practical adaptation of it, in the form of mechanism, they are valuable guides in ascertaining the date of the invention, the design of the inventor, and the principle, intended functions, and mode of operation of his mechanism, and they must, therefore, necessarily be considered in connection with it.

So in the present ease, Dr. Graham embodied what he supposed he had discovered in a practical form; for, the proofs establish, beyond question, that as early at least as 1853, he constructed apparatus, which he then exhibited. We may then consult his several specifications to ascertain the nature and object of his invention, and how he proposed to effectuate it.

While it was well known that carbonic-acid gas was heavier that atmospheric air, that it had great

compressibility, and was incombustible, yet, no method had been devised of making it available for extinguishing fires. Dr. Graham seems to have been the first—as he certainly was prior to earlier and Vignon—to conceive the practicability of this application of it, and his specifications show that he had an intelligent comprehension of the subject In one of these he says:

"What I claim as my invention or discovery, and desire to secure by letters patent, is the invention or discovery how carbonic gas, condensed in water (in the proportion of more than two of the former to one of the latter), in movable or portable fountains, or fixed reservoirs, can be usefully applied to extinguish fire, the gaseous water passing along the hose-tube to the discharge-pipe, from whence it issues at a number of termini, through small tubes, holes, or apertures; the distance to which a stream of gaseous water can be projected depending upon the size and form of the holes or apertures from which it issues. In other words, I claim, and specify to have invented or discovered, how carbonic gas incorporated and condensed in water, and connected with machinery, can be projected the necessary distance by its own elasticity, issuing through and from syringe-formed tubes, with small holes or apertures, and with the necessary uniformity of efflux to produce a useful effect, a new result—that of arresting, at small expense, and quickly, the conflagration of houses, ships, boats, railroad cars, and all combustibles on fire."

Now, it is very clear that this extract is identical in import with that portion of the specification of Carlier and Vignon, which describes and claims as part of their invention, "the process or method of extinguishing fires by means of a jet or stream of mingled water and carbonic acid, ejected from a closed vessel in a suitable direction, by means of the pressure or expansive force of the mixture contained in the

vessel." So Dr. Graham proposed the condensation of carbonic acid in water contained in a closed vessel, either portable or stationary, and the application of it to the extinguishment of fires, by ejecting the mixture from the vessel in a suitably-directed stream, by means of its expansive force.

But did he devise mechanical appliances to practise his method? The answer to this is to be found also in his specifications. He says: "The machinery or apparatus consists of a generator, gasometer, forcing-pump, fountain or fire-extinguisher, and a hose-tube." He then directs the manner of generating the carbonic-acid gas and of charging the fountain, and proceeds: "The fountain or fire extinguisher may be of any capacity, commensurate with the wants of the place or situation where it is intended to be used. It may be made of wood, or it may 399 be a very strong cylindrical copper vessel, with hemispherical extremities, and tinned on the inside, similar to the mineral fountains above alluded to. The mouth of the fountain should be accommodated with a screw, B and B; to fit it to the screw is a stop-cock D D, connected with a tube, B and E, one end of which passes nearly to the bottom of the fountain. The hose-tube is connected to the fountain in the ordinary way, F; it may be of any required length, and should be strong, and made of some flexible material, with a screw at one end, and this end should have nearly the same diameter with that of the fountain-tube, to which it is to be connected. The hose-tube, from the end to be attached to the fountain-tube, should approach gradually to a very small orifice at the farther or outer end. For an eighteen or twenty gallon fountain, the outer orifice or aperture should not be more than the twentieth of an inch in diameter. When the carbonic acid is to be applied to extinguish fire, the hose-tube must be attached to the fountain tube O. The condensed contents of the fountain, you command by

a stop-cock. By turning the stopcock the carbonic acid, from its elasticity, will pass rapidly along the hose; and the gas combined with the water, issuing from an extremely contracted orifice, as indicated above, is projected to a great distance, and, striking the fire or flame with a gaseous energy and elasticity, it is instantly extinguished. The water serves the double purpose of enveloping the gas and of reducing the temperature, so as to prevent rekindling."

As early, at least, as 1851, a model and drawings of the apparatus described in the specification, were filed by Dr. Graham in the patent office. With the aid of all these, there certainly could be no difficulty in constructing the necessary apparatus for the practical application of the invention. Indeed, such apparatus was constructed by Dr. Graham as early, at least, as 1853, and it was produced at the hearing, with the immaterial substitution of a piece of new hose for the old piece originally attached to it-its identity having been incontestably established.

Having thus fully and intelligently expounded the theory of his invention, and described the constituent parts and functions of the mechanism by which it was to be reduced to practice, it remains to inquire whether the apparatus constructed by him was capable of practical operation and use.

Upon this point I think the proof is plenary. It appears that, in 1852 or 1853, Dr. Graham made a trial of his apparatus near Lexington, Virginia, in the presence of a large number of witnesses, by setting fire to a large pile of straw, and then throwing upon it a stream of mingled water and carbonic-acid gas projected from his extinguisher by the expansive force of the gas; that this trial was successful is apparent from the fact that the progress of combustion was promptly arrested, and the failure to extinguish the fire entirely, was manifestly due solely to the insufficient capacity of the extinguisher, as compared with the

magnitude of the ignited material. The incompatibility of carbonic-acid gas with fire needed no proof, because it was an indisputable fact; the problem to be demonstrated was the practicability of the proposed method of discharging and directing carbonic-acid gas in combination with water upon an ignited mass, whereby the well-known properties of both these substances could be made usefully available. So far as this result was concerned, the trial made must be considered as having proved the utility, and efficiency of the invention.

But, equally, if not more, satisfactory proof on this point was furnished at the hearing of this case. The same appliances, used by Dr. Graham on the occasion referred to, had been made exhibits in the case, were produced in court, and were subjected again to the test of trial. They consisted of a metallic fountain, or closed vessel, charged with carbonic-acid, gas and water, to which was attached leather hose ending in a bunch of nozzles, and alternately a single nozzle. When the stop-cock opening into the hose was turned, a stream of mingled gas and water at once issued from the nozzle, and, by means of the expansive force of the contents of the vessel, was projected to a distance exceeding that stated by Dr. Graham in his specification, until the vessel was emptied.

Against the pressure of all these proofs, I cannot resist the conclusion, that Dr. Graham devised an original method of extinguishing fires, by the combined agency of carbonic-acid gas and water, and that he "perfected and adapted" his invention by embodying it in the form of mechanical appliances capable of operative and successful use.

It was urged, however, that the efforts of Dr. Graham are to be treated as abandoned experiments. An experiment may be a trial, either of an incomplete mechanical structure, to ascertain what changes or additions may be necessary to make it accomplish the

design of its projector, or of a completed machine to illustrate or test its practical efficiency. Obviously, in the first case, the incompleteness of the inventor's efforts, if they were then abandoned, would have no effect upon the rights of a subsequent inventor.

But if the experiment proves the capacity of the machine to effect what its inventor proposed, the law assigns to him the merit of having produced a complete invention. It is hereinbefore shown that the theory of Dr. Graham attained this practical condition; and there, apparently, his efforts ceased. But why? Repulsed from the patent office by the arbitrary assumption that his 400 enterprise was impracticable with the employment of any mechanical auxiliaries whatever, without pecuniary resources, his "poverty, not his will, consented" to an abandonment of further efforts to secure the full benefit of his invention to himself and to the public. But this will not help the complainants. The most that can be predicated of his inaction, is, that he abandoned his invention to the public, although I do not affirm this hypothesis. But, if he did, it will not reduce his matured invention to the grade of a mere experiment, and open the way to the complainants to appropriate the title of first inventor.

Nor do the facts in this case bring it within the principle of Gayler v. Wilder, 10 How. [51 U. S.] 477; or of Parkhurst v. Kinsman [Case No. 10,757], or of Roberts v. Reed Torpedo Co. [Id. 11,910]. In the first of these cases, the alleged prior invention had not been subjected to any trial to test its essential utility—it had disappeared; and the fact was found that, "there was no existing and living knowledge of the improvement or of its former use," at the time the subsequent inventor made his discovery. It was thereupon held that, "a prior construction and use of the thing patented, in one instance only, which had been finally forgotten or abandoned, and never made public, so that, at the time of the invention by the

patentee, the invention did not exist, will not render a patent invalid;" and at least one passage of the opinion of the court is of marked significance in its application to the facts proved in this case. The court says: "We do not understand the circuit court to have said that the omission of Conner to try the value of his safe by proper tests, would deprive it of its priority; nor his omission to bring it into public use. He might have omitted both, and also abandoned its use and been ignorant of the extent of its value; yet, if it was the same with Fitzgerald's, the latter would not upon such grounds be entitled to a patent, provided Conner's safe and its mode of construction were still in the memory of Conner, before they were recalled by Fitzgerald's patent"

In Parkhurst v. Kinsman, the alleged prior invention was rejected, upon the ground "that it was neither so far perfected by experiment, or by a reduction to practical operation, as to entitle it, in judgment of law, to the character or attribute of an invention," and that, the "evidence of the abandonment of the thing as a failure," was decisive.

So far as to Roberts v. Reed Torpedo Co. [supra], the experiments of Reed had failed entirely of producing any useful result, and were abandoned; and for this reason they were treated as insufficient to establish priority over Roberts, whose patented invention had been "perfected and adapted" to successful use.

There is, therefore, in my judgment, no sufficient reason why the merit of having invented a complete and practical method of extinguishing fires by the combined agency of carbonic-acid gas and water should not be awarded to Graham. This necessarily limits the scope of the complainant's patent to the devices and combination of devices described in it, which are not substantially embraced in Graham's extinguisher.

At the hearing of this case, the discussion was confined, to the first, second, third, fourth, ninth, and tenth claims of the complainant's patent, because it was these claims only which the defendant was alleged to have infringed. The present inquiry, therefore, need not be extended beyond them.

From what has been already said, the first claim of the patent cannot be sustained. Graham was prior to Carlier and Vignon in devising the "improvement in the art of extinguishing fires," embraced in this claim, and the merit of novelty cannot, therefore, be accorded to the latter. The other claims are for mechanical combinations.

Considering the second and third claims together, the intended meaning of the proper construction of the second seems to be, that it is to be limited to a combination of a strong vessel, a plug or lid, by which an orifice in it can be closed, a stop-cock, through which its contents can be ejected, and a flexible tubing or hose for directing the stream as ejected at the will of the operator, without reference to any other functions of which any of these elements are capable, than those indicated by the terms of the claim. In other words, the claim is for a strong vessel to contain carbonic acid and water in intermixture, with an orifice in it, a suitable plug to stop this orifice, a stopcock to regulate the discharge of the contents of the vessel, and a flexible hose to direct the ejected contents of the vessel at the will of the operator. Thus construed, all the elements of the combination co-exist in Graham's apparatus, and are employed to perform the same functions. The claim must, therefore, be rejected for want of novelty.

The third claim, however, stands upon a different footing. It is for a combination of a strong vessel, "provided with a proper plug or lid for closing an orifice in it, and also with a stop-cock," with another vessel or tube; "the construction being substantially such as described, so that the vessels may keep

separately the ingredients for making carbonic-acid gas, and that, when their contents are mingled, they may be discharged in a stream of carbonic-acid gas and water." The precise import of this claim will be better understood by a reference to the detailed description in the specification. The complainant's apparatus, so far as it is embraced by this claim, consists of a metallic vessel of suitable size and strength, in the top of which is an aperture and a plug to be screwed in 401 to this aperture, to which is attached a cylinder extending into the metallic vessel, and at the bottom of which also is an orifice closed by a cock; this plug has an opening for the insertion of another perforated plug, which extends to the bottom of the cylinder and above the top of the metallic vessel, so as to permit the attachment of a perforated stem leading to a pressure-gauge, with a stop-cock in it to control the operation of the pressure-gauge. The combination, then, consists of these elements constructed as described and adapted to perform the several functions stated in the specification, viz., 1, a vessel to hold an alkaline solution, with an orifice in its top; 2, a plug, with its complex appendages, to confine the contents of the vessel, to cause the intermixture of the ingredients for making carbonic-acid gas by removing the obstruction to their contact; 3, a stop-cock to control the discharge of the mingled contents of the vessel, and, 4, a tube encased by the vessel containing the alkaline solution, and extending down into it, to retain separately a quantity of acid, until it is desired to mingle it with the contents of the inclosing vessel by opening the orifice in the bottom. This construction of the claim necessarily results from the distinct reference in it to the peculiar construction, relations, functions, and arrangements of the elements of the combination, as described in the specification.

The fourth claim, if it is at all susceptible of an intelligible construction, merely adds to the

combination set forth in the third, the element of a hose and nozzle.

The ninth is for a combination of a strong vessel, a lid or plug, a stop-cock near the bottom of the vessel, a hose and nozzle, and handles or loops; "whereby a volume of water charged with carbonic-acid gas may be confined and transported and a stream thereby directed, in the manner and for the purposes described."

The tenth is for "the keeping of the acid and alkali or alkaline solution in separate and distinct vessels, but in such proximity to each other that they may be immediately brought into contact when the apparatus is required for use."

All these claims, except the last, are for combinations of devices, none of which devices are alleged to be new, and while the co-efficiency of all of them is necessary to effectuate the ulterior design of the patentees, they are subdivided into groups and claimed as several inventions. Indeed the specification is a notable example of ingenious multiplication of claims, so as, it must be presumed, to embrace and protect the invention in every possible aspect of it.

It is not to be doubted, however, that a valid combination may consist of old elements, which have not been before similarly arranged, or, if they have, that a novel result is produced by their conjunction. Either the instrumentalities employed or the effect caused by their operation must be new to constitute a patentable combination. If substantially the same devices have been used before for a like purpose, or if they are applied merely to effectuate a method known and practised before, such employment of them will not be protected by a patent.

Now, applying these principles to the patent in question, I am constrained to the conclusion that the invention claimed in it, is not a novel one. As before stated, its object is to render available for the

extinguishment of fires, carbonic-acid gas and water in mechanical union with each other, and propelled by the elasticity of the gas. This is accomplished by means of a mechanical structure, consisting of a strong metallic vessel containing a solution of an alkali in water; a plug or lid fitting into an opening in the top of this vessel, with which is combined a tube extending into the alkaline solution and containing an acid suitable for evolving carbonic-acid gas, and provided with a smaller tube or rod, extending above the top and down to the bottom of the acid chamber, by lowering which an orifice in the bottom of the acid chamber may be opened and the acid and alkali be brought immediately into contact; a stop-cock to control the discharge of the contents of the strong vessel; a hose and nozzle to give direction to them; and handles or loops to facilitate the transportation of the apparatus.

Now, the complainants cannot rest the validity of their claims, for the various combinations of their elements, upon the novelty of their use, and of the result produced by them, because Graham was before them in devising a method of applying the same natural agencies to the same end.

Were these elements, then, similarly combined before, and used for an analogous purpose? I am convinced that an inspection and analysis of some of the defendant's exhibits, and especially of Nichols' "portable soda water fountain," patented in 1854, must result in an affirmative answer to this question. The devises which compose the combinations claimed in the complainant's patent are substantially embodied in Nichols' apparatus, and in it they are arranged and operated in substantially the same way as in the complainant's.

The object of Nichols was to construct apparatus in which acid and an alkali could be kept in separate vessels, but in such proximity to each other that

they could, at the will of the operator, be brought into immediate contact; carbonic-acid gas thereby generated, and a body of water contained in an inclosing vessel impregnated with it; and that the acidulous water could be discharged through a suitable opening by the elastic pressure of the gas and used as a beverage. The essential elements of his apparatus are a strong metallic vessel of portable dimensions, to be filled with water, with an opening in its top; a plug to be screwed into this opening; another 402 vessel inclosed within the strong one to contain diluted acid, and connected with it by an exterior pipe which extends into and to the bottom of it; a tube or smaller vessel, for holding an alkali within the acid-chamber, with an open bottom, which is provided with a tight fitting lid attached to a rod extending up through the top of the vessel, by which the bottom can be opened and closed at pleasure; and a stop-cock to permit and direct the discharge of the contents of the strong vessel in a mingled stream of carbonic-acid gas and water. To operate this apparatus, the strong metallic vessel is nearly filled with water through the opening in its top, the alkali chamber is taken out of its place within the acid chamber, into which latter is poured a quantity of diluted acid, an alkaline substance is put into the alkali chamber, against the bottom of which its metal covering is tightly drawn by means of the rod attached to it, and it is then replaced and tightly screwed into the acid chamber. By a revolution and slight pressure of the rod, the bottom of the alkali chamber is opened, and the alkali is brought into contact with the acid in the chamber below. Carbonic-acid gas is at once generated and is conducted through the pipe, provided for that purpose, to the bottom of the water-vessel, where it is intermixed with the water and from which it is driven, as desired, through the discharge-pipe by the expansive force of the gas.

The primary purpose of both structures is the prompt generation of carbonic-acid gas and the impregnation of a small body of water with it. This is obviously effected in both cases by keeping the acid and alkali, in the words of the tenth claim of the complainant's patent, "in separate and distinct vessels, but in such proximity to each other that they may be immediately brought into contact, when the apparatus is required for use," and by the employment of mechanical devices which are notably similar in their construction, functions, and mode of operation. And when the water is acidulated, the elastic pressure of the carbonic-acid gas is employed by both, to expel it through a stop-cock, so that the structures can be interchangeably used either to supply it as a beverage or to extinguish fire. It is plain to my mind that it is only necessary to add a hose and nozzle to the discharging stop-cock in the Nichols fountain, to make it as effective a fire-extinguisher as the complainant's. It may be more cumbrous by reason of its purifying attachment; but in so far as the projection from it of a mingled stream of carbonic-acid gas and water by the elasticity of the gas is concerned, which is the ultimate function of the complainant's machine, it would, undeniably, operate just as effectively as the complainant's. Nor can they be distinguished by the fact that a hose and nozzle constitute part of the devices originally employed in the one and not in the other. The obvious addition of so simple an element to the devices which co-existed in the old machine and perform all the fundamental functions of the subsequent one, cannot constitute the combination of a new and patentable one.

But it is urged, that the prior construction of structures of this class cannot affect the question of novelty here, because they were not applied to the extinguishment of fires, and their use and that of a fire-extinguisher are entirely diverse. It must be observed

that there is a marked analogy in the means employed and the result produced by both machines up to the point of divergent application. The function of both is the prompt generation of carbonic-acid gas and the impregnation of water with it, and the same projectile force is employed to expel the acidulous water from the vessel containing it. In the one case, a stream of this water is directed into a vessel where it may be used as a beverage, and, in the other, upon a mass of ignited matter. This difference, then, in the ultimate application of the same agencies, marks the line of distinction between them.

Now, the art of extinguishing fires by means of carbonic-acid gas and water intermingled, was not new, for it had previously been practised by Graham; and the real question, therefore, is: Does the application of old mechanical devices, without material change, to a use in which they were not employed before, but which was known and had been practised, constitute a patentable invention? A decisive answer to this question is furnished by Mr. Justice Story in Bean v. Small-wood {Case No. 1,173}, where he thus states the law: "Now, I take it to be clear that a machine, or apparatus, or other mechanical contrivance, in order to give the party a claim to a patent therefor, must in itself be substantially new. If it is old and well-known and applied only to a new purpose, that does not make it patentable."

And in Curtis on Patents (3d Ed. § 56) the result of the authorities is thus accurately stated: "Of course, if any new contrivances, combinations, or arrangements are made use of, although the principal agents employed are well known, those contrivances, combinations, or arrangements may constitute a new principle, and then the application or practice will necessarily be new also. But where there is no novelty in the preparation or arrangement of the agent employed and the novelty professedly consists in the

application of that agent, being a well-known thing, or, in other terms where it consists in the practice only, the novelty of that practice is to be determined, according to the circumstances, by applying the test of whether the result or effect produced is a new result or effect never before produced."

It is apparent, therefore, that where an effect or result has been before produced, the mechanical agencies by which it is reproduced, if they are not in themselves new, are not the subject of a patent. This rule is decisively 403 applicable to the present case, both as to the result achieved and the means employed to effectuate it, and the claims for both being thus invalid for want of novelty, the bill must be dismissed with costs.

[1] {Reported by Hubert A. Banning, Esq., and Henry Arden, Esq., and here reprinted by permission. 10 Phila. 227, and Merw. Pat. Inv. 346, contain only partial reports.}