in the patent by the consolidation to the new company, or whether some instrument in writing must still be executed to make such transfer complete, (the life of the old company continuing sufficiently to consummate the devolution which the consolidation act provided for,—see *Edison Electric Light Co.* v. *New Haven Electric Co.*, 35 Fed. Rep. 236,) the new company would have the right to continue, under the name of the old one, pending litigation to enforce rights which are in fact its own, with the same force and effect as if it were itself complainant. We do not find in the various contracts introduced in evidence sufficient warrant for holding that the complainant was "without such interest in the subject of the controversy as to enable it to maintain the bill in its own name without joining other parties," nor do the facts make out such a case that injunction should be refused on any theory of laches or equitable estoppel by reason of undue delay in bringing suit, or acquiescence in known infringements.

The decree of the circuit court is therefore affirmed, with costs.

ASHTON VALVE CO. *v.* COALE MUFFLER & SAFETY VALVE CO. *et al.*

(*Circuit Court of Appeals, Fourth Circuit.* October 11, 1892.)

No. 18.

1. PATENTS FOR INVENTIONS—ANTICIPATION—SAFETY VALVES.
   Claim 1 of letters patent No. 200,119, issued February 12, 1878, to Henry G. Ashton, for an improvement in safety valves, consisting substantially of an ordinary spring valve with a pop-valve chamber added, in combination with a valve seat, an inclosed spring chamber, and an inclosed discharge chamber, is void because of anticipation by the English patent of 1872, No. 891, to Giles. 50 Fed. Rep. 100, affirmed.
2. SAME—EXTENT OF CLAIM.
   In his specifications Ashton states that his combination is very important "in all cases where the steam is prevented in any way from escaping freely from the hood or casing, as is often the case." In another place he states that he provides holes or vents in the spring chamber for the escape of such steam as may enter it, but these vents are not mentioned in the claims, which cover merely the above combination, "arranged to operate as described." *Held*, that the patent did not cover the use of the vent holes. 50 Fed. Rep. 100, affirmed.
3. SAME—ANTICIPATION—SENIOR AND JUNIOR PATENTS—EVIDENCE.
   Letters patent No. 299,503, issued June 3, 1884, to Ashton, for a combination of a muffling chamber, surrounding a safety valve, with a pipe communicating from the spring chamber to the outside air, was anticipated by patent 297,066, issued April 15, 1884, to Coale, which covers practically the same features, complainant having failed to show by a preponderance of the evidence that Ashton was in fact the first inventor. 50 Fed. Rep. 100, affirmed.

Appeal from the Circuit Court of the United States for the District of Maryland.

In Equity. Suit by the Ashton Valve Company against the Coale Muffler & Safety Valve Company and others for infringement of patents. In the circuit court the bill was dismissed. 50 Fed. Rep. 100. Complainant appeals. Affirmed.

J. E. Maynadier, for appellant.

W. J. O'Brien and *H. T. Fenton*, for appellees.

Before GOFF, Circuit Judge, and HUGHES and SIMONTON, District Judges.

HUGHES, District Judge. This suit relates to safety valves applied to steam boilers, particularly to those used on the locomotive engines of railroads. It presents two questions for adjudication. One is whether the first claim in complainant's patent, No. 200,119, was patentable, and has been infringed by defendant in the safety valves which it manufactures and sells, one of which is exhibited with the evidence in this cause. The other question is whether the defendant, in making and using his combined safety valve and muffler described in patent 297,066, one of which is exhibited, infringes complainant's combination of safety valve and muffler, described in patent 299,503. The court below decreed for the defendant on each of these questions. To this decree the complainant has filed 20 assignments of error. It is hardly conceivable that the court below could have fallen into as many as 20 distinct, different errors in passing upon the two questions at issue; and this court will not enter *seriatim* into an examination of these several assignments, but will treat the subject in a more compendious manner.

Between 40 and 50 exhibits have been filed in the evidence in this case, consisting, for the most part, of patents granted to various persons by the United States and Great Britain, illustrated by copies of the original drawings, and several of them also by models of machines in actual use. They show the evolution through which the steam safety valve has passed in the last quarter of a century. They show that neither one of the patents, 200,119, 297,066, or 299,503, with which we are immediately concerned, embraces any novel principle, and that these patents embody only some change of mechanical form, arrangement, or combination more or less variant from safety valves and muffler attachments previously in use. The utmost claim of their authors (with an exception that will appear in the sequel) is for novelty in the combination of known devices, and not novelty in any principle discovered. It is true that the combination of known devices in such manner as to produce results new in kind or character is patentable; yet, when patents for the combination of known devices in such manner as to produce results new and better only in degree than others previously produced are brought before the courts, they are held to be nonpatentable.

In further introduction to the subject before the court, a few things may be premised about safety valves and mufflers. The original safety valve was used in connection with a spring,—usually a spiral spring,—by which the amount of pressure to be allowed in the boiler before escape could be regulated. This spring safety valve was at first not inclosed from the outer air. Afterwards a metallic cylindrical chamber or box was placed over it, with more or less vent in the top for the outlet of any steam that might find its way into this box, as a safeguard

against back pressure. Experience with this simple form of safety valve taught that, while it was easy enough to contrive a valve which would relieve the boiler, yet it was difficult to devise one which, while it opened against the increasing resistance of the spring, would close quickly under the pressure of the same spring against the steam. It was found in practice that these valves were liable either to open too long, allowing too great an escape and a waste of steam, or not long enough to permit the escape of the amount of steam necessary to safety.

Then came the valve called the "pop valve," invented by Richardson, patented in 1866 and 1869, which consisted of an addition to the ordinary safety valve. Its inventor, describing it, says in substance: It consists in forming the valve with an additional surface outside of the ground joint for the escaping steam to act against; this additional surface being surrounded with an overlapping lip, rim, or flange, which projects downwards sufficiently to leave but a narrow escape for the steam when the valve is open, but which, although of greater diameter than the valve seat, yet, by means of the lap, presents a less area of opening for the escape of steam than is produced at the valve seat; so that the steam which escapes through the area between the valve and seat shall exert pressure against the additional surrounding surface, and thereby not only open the valve completely, but hold it up until the pressure of steam in the boiler falls below the pressure by which the valve was opened. This huddling of the steam after its passage through the valve by means of an additional chamber having a restricted outlet, formed by its lap or flange, which reaches down nearly to the surface surrounding the valve seat, accomplished the *desideratum* which the simple safety valve failed to do; the additional chamber, its flange, and its restricted outlet for the steam, constituting what has become known as the "pop valve." The discharge of steam from the simple valve and the pop valve was either into the open air or into a chamber called the "discharge chamber." If it is made to pass into such a chamber, the outlet from it is generally unrestricted; and it is to this discharge chamber or its outlet that apparatus for preventing the noise attending the escape of steam, called the "muffler," is attached. It is with this discharge chamber and the muffler attached to it that we have to do in the case under consideration.

Henry G. Ashton, the inventor of the apparatus patented by No. 200,119, described it in two claims, with the first of which only have we any concern. His language in this first claim was:

"What I claim as my invention is: (1) In a safety valve, the valve, *h*, having the chamber, *s*, in combination with the seat, *j*, cylinder, *d*, and casing, *f*, *n*, arranged to operate substantially as described."

His chamber, *s*, is the pop chamber. His cylinder, *d*, is the chamber inclosing the spring of the valve. His *j* is the valve seat, and his casing, *f*, *n*, is the cylinder constituting the discharge chamber, covered by a hood. So that his first claim, written in words instead of letters, is of a combination made up of a safety valve consisting of the ordinary spring valve, having the pop-valve chamber added, in combination with

a valve seat, an inclosed spring chamber, and an inclosed discharge chamber, arranged to operate substantially as described. In the descriptive clauses of his specification he says that the main feature of his invention consists in combining a pop valve with a hood or casing to receive the escaping steam, and a cylinder into which the valve rises, making an under-discharge pop valve, that is to say, a pop valve in which the escaping steam is prevented access to the outer surface of the valve by means of a cylinder into which the valve rises, and in which it fits closely enough to prevent the entrance of any considerable portion of the escaping steam. More briefly, his claim consists in combining the spring valve and pop valve with the spring chamber and discharge chamber. He asserts that he is the first to combine the two features in one valve, and remarks that he "has discovered that this combination is very important in all cases where the escaping steam is prevented in any way from escaping freely from the hood or casing, as is often the case."

It is this claim, thus stated and described, which the complainant insists has been infringed by the defendant in this suit. The patent is not for an original discovery, but only for the combination which has been described. But the patents of Ashfield, granted in 1869, No. 97,472, and of Prescott, granted in 1871, No. 121,659, show the combination of an under-discharge safety valve with a cylindrical chamber inclosing the spring and protecting it from back pressure of the escaping steam. Ashton's patent merely substitutes the improved pop valve in the place of the simple spring valve. In this substitution there is certainly no invention; the result obtained being better only in degree, and not in character. Even if this were not so, the English patent granted to Giles in 1872, numbered 891, shows a pop valve with under-discharge, —that is to say, with the spring inclosed from the steam by an inner casing,—in combination with an outer casing to confine the steam, so that the steam, passing the valve, ascends between these inner and outer casings, and then escapes through perforations or other outlet in the hood or top of the machine. This patent of Giles anticipates patent 200,119 as to its first claim, and has reduced the complainant to the necessity of relying for novelty upon what it claims now to be a strictured outlet for steam in the discharge chamber,—a device not claimed nor described in the application for patent 200,119. It is a settled principle of law enacted by statute and announced by the courts that a patentee and his assignees have no right to the exclusive use of anything patented which the inventor has not distinctly claimed in his application for the patent.

It seems perfectly clear that the patentee did not claim a strictured outlet from his discharge chamber in his application for patent 200,119; yet the complainant, in its twelfth assignment of errors, insists that the court erred in not holding that no safety valve was known prior to patent No. 200,119 in which steam could be prevented from escaping freely from the outer casing (discharge chamber) without crippling the action of the safety valve; that the first claim in patent 200,119 covered

all safety valves with that vital feature; and that the safety valves made and sold by the defendant contained that vital feature, and would be worthless without it. In its thirteenth assignment it says that the court erred in disregarding the fact that no structure was known prior to patent 200,119, and claimed in the first claim, in which there was a strictured chamber to increase the lifting force of the valve, (meaning the pop chamber) a second strictured chamber in which the escaping steam was confined, (meaning the discharge chamber,) and an unstrictured chamber, (meaning the spring-valve chamber,) which shielded the valve from the pressure in the second strictured chamber or discharge chamber. And in its fourteenth assignment it repeats the asseveration that no structure was known prior to patent 200,119 in which the steam which escaped past the valve was compelled to pass into a hood or casing, from which it was prevented from escaping freely.

Nothing can be more obvious in this patent 200,119 than that no claim is made in its specifications for a restricted outlet from the discharge chamber, now asserted to be a vital feature of the patent. The drawing filed with the application shows quite a large outlet from the discharge chamber, which is not lettered or described in the specification, and is apparently so large as to fail even to suggest a restriction of the steam passing out of it. There is a sentence in the specification already quoted in which the patentee says: "I have discovered that this combination is very important in all cases where the steam is prevented in any way from escaping freely from the hood or casing, as is often the case,"—a sentence which merely suggests that the steam may, from some cause not defined, fail to escape freely from the discharge chamber. But the patentee does not describe or even mention any specific means of preventing the free escape; much less does he claim a strictured escape of steam from the discharge chamber as a vital feature of his combination. In insisting now that the defendant has incorporated this vital feature in its safety valve, the complainant seems to place itself precisely within the animadversion of the supreme court in the case of *Western Electric Manuf'g Co.* v. *Ansonia Brass & Copper Co.*, 114 U. S. 447, 5 Sup. Ct. Rep. 941, where it says:

"It has been held by this court that the scope of letters patent should be limited to the invention covered by the claim; and, though the claim may be illustrated, it cannot be enlarged, by the language of other parts of the specification. The elements of the process under consideration cannot, therefore, be held to be covered by the patent. The contention that the patentee intended to include it in his process is evidently an afterthought."

So the claim here of a device for restricting the outlet of steam from the discharge chamber of the Ashton valve is evidently an afterthought. It was not specified in the claim accompanying the specification of patent 200,119, nor described, and, even if hinted at at all, it was in terms so vague as to avail nothing as a claim of the vital feature of a patent. The patentee claimed nothing new in his specification of patent 200,119 but the combination of previously known devices, which combination he there precisely described. Yet the complainant now insists that that

patent does contain something new; the novel feature being a strictured escape of steam from the discharge chamber, now ranked as the vital feature of No. 200,119. We have said enough to show that such contention is inadmissible, and that the use of a strictured outlet from the discharge chamber by the defendant, in combination with an inclosed spring and pop valve, constitutes no infringement of patent 200,119.

It may be well to advert, before concluding this branch of the subject, to what is said in the brief and evidence of complainant concerning vents or outlets from the spring chamber of the Ashton valve for such steam as may enter it in escaping from the valve. In the application for this patent it is merely stated that holes are provided to give free outlet to steam entering the spring chamber; but this feature is not spoken of as an invention or discovery, and is not distinctly mentioned in either claim of the application. If it is claimed at all, it is done merely in combination with the patentee's peculiar form of pop valve; and, as defendant does not use this latter, there is no infringement in that respect.

The second question in this suit relates to patents for mufflers in combination with safety valves,—one of them, belonging to the defendant, issued to Coale in April, 1884, numbered 297,066; the other, belonging to complainant, issued to Ashton in June, 1884, numbered 299,503. Each of the two patents is for a combination of a muffling chamber, surrounding a safety valve, with a pipe communicating from the spring chamber through its top or hood with the outer air. They are substantially the same machine; and, although much evidence was taken upon, and much space given in the briefs to a discussion of, the relative merits and constituent parts of the two implements, it is quite unnecessary for the court to go into these matters. This branch of the case turns upon a simple question of law, into which no question of mechanical invention enters. The defendant's patent having been issued before that of the complainant, upon an application filed in advance of the latter's application, the burden of proof is upon the complainant to establish a prior use of the machine by a preponderance of testimony over that of defendant to the contrary. This the complainant has failed to do. The defendant proves the use of a combined muffler and safety valve equivalent to that described in patent 297,066 as early as 1882. The complainant attempts the same thing in regard to patent 299,503, but fails in the effort. Its witnesses speak chiefly from memory, in terms far from positive or conclusive; and, when referring to written memoranda, fail to antedate the year 1884. On this branch of the case the priority of its patent establishes the right of the defendant to the exclusive use of its implement as against the complainant. What its rights are as against the rest of the world is not in issue in this cause. On the whole case, this court is of opinion that there was no error in the decree of the court below dismissing the complainant's bill, which is therefore affirmed.

THE RAPID TRANSIT.

DEMING *et al.* *v.* THE RAPID TRANSIT.

(*District Court, D. Washington, N. D.* October 3, 1892.)

No. 414.

1. ADMIRALTY PLEADING—DEPARTURE.
Under a libel *in rem* on a contract of affreightment to recover for cargo destroyed in extinguishing a fire, libelant may be allowed to shift his claim to a demand for a general average, when the facts alleged in the libel and answer are sufficient, taken together, to sustain the same. *Dupont de Nemours* v. *Vance*, 19 How. 178, followed.

2. SHIPPING—DAMAGE TO FREIGHT—FIRE.
A steamer with a cargo, chiefly of lime, took fire, and was scuttled by the city fire department, that being the only method of preventing a total loss of the vessel and cargo, whereby the lime was destroyed. *Held*, that under Rev. St. § 4282, which provides that no owner of a vessel shall be liable for any loss happening to the cargo by fire unless caused by his design or neglect, the purchaser has a complete defense against an action *in rem* against the vessel.

3. GENERAL AVERAGE—CARGO INJURED IN SUPPRESSING FIRE.
The owner of cargo which is damaged by water in suppressing fire is entitled to compensation in general average. *The Roanoke*, 46 Fed. Rep. 297, followed.

4. SAME—BASIS OF SHIPOWNER'S CONTRIBUTION—INSURANCE.
Insurance is not a part of an owner's interest in a ship, and in cases of general average the amount of insurance received by him should not be added to the value of what was saved, for the purpose of increasing the fund to be distributed. *The City of Norwich*, 6 Sup. Ct. Rep. 1150, 118 U. S. 468; *The Scotland*, 6 Sup. Ct. Rep. 1174, 118 U. S. 507; and *The Great Western*, 6 Sup. Ct. Rep. 1172, 118 U. S. 520,—followed.

5. ADMIRALTY—COSTS.
A libelant *in rem*, suing on the contract of affreightment to recover damages for loss of cargo, failed to sustain the allegations of his pleadings, and increased the expense of the case by introducing immaterial evidence. He was allowed, however, to recover in general average, but had not attempted an adjustment on that basis before commencing the suit. *Held*, that he was not entitled to full costs.

In Admiralty. Libel *in rem* by Deming, Burntrager, and others against the steamer Rapid Transit, Elmer E. Caine, claimant. Decree for general average.

Applegate & Titlow, for libelants.

John H. Elder, for claimant.

HANFORD, District Judge. On the 14th day of August, 1891, the steamer Rapid Transit, with a cargo consisting principally of lime on board, suffered damage by fire in the harbor of Seattle, and was, by the fire department of the city, beached and scuttled for the purpose of extinguishing the flames. The sinking of the steamer caused a total destruction of the lime, but that was the only method by which a total loss of the vessel, as well as the cargo, could have been prevented; and it was effective. The libelants owned the lime which was destroyed, and this suit was instituted by them to recover the full value thereof upon their contracts of affreightment.

Section 4282, Rev. St. U. S., provides that—