Mr. Thomas Marshall presented the petition and affidavit of the appellant, stating in substance that new and material evidence, previously unknown to him, had been discovered since the appeal herein. The affidavits of sundry persons, setting forth as well the nature of the evidence as the matters thereby established, were attached to the petition. He thereupon moved that leave be granted the appellant to give to the appellees the requisite notice of a further motion for a rule requiring them to show cause why this court should not remit the record to the court below for a rehearing of the cause.

MR. CHIEF JUSTICE WAITE delivered the opinion of the court.

It is clear, that, after an appeal in equity to this court, we cannot, upon motion, set aside a decree of the court below, and grant a rehearing. We can only affirm, reverse, or modify the decree appealed from, and that upon the hearing of the cause. No new evidence can be received here. Rev. Stat. sect. 698. The court below cannot grant a rehearing after the term at which the final decree was rendered. Equity Rule, 88. It would be useless to remand this cause, therefore, as the term at which the decree was rendered has passed. If the term still continued, the proper practice would be to make application to the court below for a rehearing, and have that court send to us a request for a return of the record, in order that it might proceed further with the cause. Should such a request be made, we might, in a proper case and under proper restrictions, make the necessary order; but we cannot make such an order on the application of the parties. The court below alone can make the request of us. The application of the parties must be addressed to that court, and not to us.

Motion denied.

ROBERTS v. RYER.

1. The doctrine announced in *Smith* v. *Nichols*, 21 Wall. 112, — that "a mere carrying forward or new or more extended application of the original thought, a change only in form, proportions, or degree, doing substantially the same thing in the same way, by substantially the same means, with better results," is not such an invention as will sustain a patent, — reaffirmed.

2. It is no new invention to use an old machine for a new purpose. The inventor of a machine is entitled to the benefit of all the uses to which it can be put, no matter whether he had conceived the idea of the use or not.

APPEAL from the Circuit Court of the United States for the Southern District of New York.

The bill in this case was filed by the assignee of D. W. C. Sanford, alleging an infringement of a patent to Sanford for an improvement in refrigerators.

The principal defence relied upon was the prior invention of Lyman. The Circuit Court sustained this defence, and dismissed the bill. From this decree the complainant appealed.

Mr. Thomas A. Jenckes and *Mr. George F. Seymour* for the appellant.

Mr. F. H. Betts for the appellee.

MR. CHIEF JUSTICE WAITE delivered the opinion of the court.

In order that we may proceed intelligently in our inquiries as to the validity of the patent presented for our consideration in this case, it is important to ascertain at the outset what it is that has been patented.

Looking to the original patent, issued Nov. 13, 1855, we find the invention is there described as consisting "of an improvement in refrigerators, whereby the whole of the contained air is kept in continual rotation, purification, desiccation, and refrigeration, and with economy of ice;" and that the inventor claimed and obtained a patent for "the arrangement set forth for causing the perpetual rotation of the whole of the air contained within the refrigerating apartments, said arrangement consisting, when the refrigerator is closed, of an endless passage or chamber, the walls, shelves, and ice receptacle of which are so placed and constructed that the air is compelled to circulate through the entire apartment or apartments, and from which the water of the melting ice is discharged immediately from the refrigerator, instead of flowing between its walls." Mention is nowhere made in the specifications attached to this patent of any advantage which the descending current of air has over the ascending. The whole apparent object of the inventor was

to produce a circulation of the confined air without the introduction of external air. The drawings exhibit shelves perforated so as to permit the passage of the air in its downward and upward progress; but the shelves seem only to be alluded to in the specifications, for the purpose of indicating the necessity of their perforation, or of some equivalent arrangement, so as to allow the free transit of the air. They appear as part of the refrigerator to be improved, and are in no respect necessary for the accomplishment of the object the inventor had in view. Being in the refrigerator, they are perforated, or otherwise so arranged as to permit the circulation which the inventor is attempting by his device to create. But for this, they would prevent, or at least interfere with, the accomplishment of his object. The shelves themselves form no part of his improvement; but their perforation or its equivalent, when they are used, does.

In the reissued patent, the invention is described precisely the same as in the old; and then the following is added: "It is well known that mould will not generate in a current of air; and it is known, that, when once formed, it propagates itself, and spreads with rapidity: therefore, if any one part of the refrigerator be out of the direct course of the circulation, the air will stagnate there, and will develop mould, which will contaminate the whole apartment. The apartment D may vary in width, and it may be . . . so narrow as to serve merely as a passage for the ascending current of air, the greatest benefit being always derived from the downward current in apartment C." This last paragraph certainly has much the appearance of an expansion of the original invention.

The claim, however, as made in the reissue, is materially changed from that in the old. It is capable of division into three parts, and may be stated as follows: —

1. The employment of an open-bottom ice-box, or its equivalent, in combination with a dividing partition, open above and below, so placed that by means of self-operating internal circulation the whole of the contained air shall be kept in motion, and caused to revolve around the partition in currents, moving downward only on one side of this partition, and upward only on the other side, when the same is combined

with a chamber for the refrigeration of food, &c., placed directly under the ice-box.

2. Placing shelves or fixtures for holding articles to be refrigerated, or the articles themselves, in the descending current, directly under an open-bottom ice-box, in combination with a dividing partition open above and below.

3. The construction of the open-bottom ice-box in combination with the shelves or fixtures in such manner that the air may pass freely down through the same, and fall directly from the ice upon the articles to be refrigerated, while at the same time the drip of the water is prevented.

The patent is, therefore, for a combination of three elements; to wit: 1. An open-bottom ice-box, or its equivalent, so constructed that the air may pass freely down through it, while, at the same time, the drip of the water from the melting ice is prevented by collecting the water, and taking it in an escape-pipe outside of the refrigerator; 2. A dividing partition, open above and below, separating the refrigerator into two apartments; and, 3. A chamber directly under the open-bottom ice-box, in which articles to be refrigerated may be placed in such manner as to receive the descending current of air from the ice-box directly upon them.

There is no doubt of the utility of this combination. If the patentee was its original and first inventor, the device was patentable to him.

It will be observed that no particular form of the opening in the bottom of the ice-box is essential. In fact, an equivalent may be used. It is so expressly stated. Any device which will allow of the passage of the cooled air out from among the ice, or cooling surfaces, into the chamber below, will come within the specifications. Hence the bottom may be in the form of a grate, or it may be constructed of bars running only longitudinally, or it may have one or many open spaces of any form. In this respect, all is left to the judgment of the builder. He may adopt any arrangement which he considers the best suited to the accomplishment of the object to be attained; which is the cooling of the air by the ice, and its discharge into the chamber below. Neither is there any special requirement as to the manner in which the water from the

melted ice is to be collected and conducted outside the refrigerator. It is said in the specifications, that the bottom of the ice-box was made funnel-shaped; but this was so that the water might be conducted to the central discharge, and from thence fall into the escape-pipe. This particular shape, however, is not made an essential ingredient. Any device that will collect the water in the discharge-pipe and prevent the drip will meet this requirement of the invention. So, too, of the escape-pipe: it may be of any desirable form. As little space as possible should be occupied, so that it may not obstruct the downward passage of the air; but even this is left as a matter of judgment alone.

Neither is any particular form of partition made essential. It need not even be vertical. All that is required is, that it shall be open at the top and bottom, and divide the refrigerator into two apartments. There are no specifications as to the size of the openings or their form, or as to the comparative size or form of the two apartments. It is said that the apartment for the ascending current may be so narrow, that it will serve only as a passage for the air; but there is nothing to prevent that for the descending current being narrow also, if the purposes of the refrigerator are such as to make that desirable. As the greatest benefit is generally to be derived from the use of the descending current, it is probable that this chamber will ordinarily be made as large as is consistent with a steady and continuous flow of the air; but, if a rapid descent is considered essential for any of the purposes of refrigeration, there is nothing to prevent a suitable contrivance for that purpose. If that can be accomplished by a larger chamber above leading into a smaller one below, for the purpose of concentrating the cold-air current as it descends, a proper structure may be employed. If, in any place, the air descending from the ice-box can strike directly upon the articles to be refrigerated, the structure will be within the limits of the patent. It may be desirable to preserve the temperature at a lower degree until it strikes the article than it would be if permitted to remain in a chamber extending the whole size of the ice-box to the bottom of the refrigerator. In such case, a proper contrivance for that purpose may be employed. Shelves or other fixtures for holding the articles to be refrigerated are not necessary, as the articles themselves may

be placed in the descending current without the aid of any fixtures. But, if they were, their particular form is not specified. A nail driven into the wall of the chamber would be a fixture within the meaning of this call of the specifications. All the specifications do require is, that, if shelves or fixtures are used, they shall be so constructed or placed as to interfere as little as possible with the free passage of the air.

Such being the patent, we now proceed to consider the defence; which is, that the invention patented had been anticipated by Asel S. Lyman and others. Sanford, the patentee, does not carry his invention back of the summer of 1855, when, it perhaps sufficiently appears, his application was filed.

On the 21st September, 1854, Lyman filed his application for a patent for "a new and improved mode of cooling, drying, and disinfecting air for ventilators and refrigerators." His improvement in refrigerators consisted "in so arranging them, that, as fast as the air became warm and moist and impure by contact with the meat, it is drawn off and passed through the material, where it is cooled, dried, and disinfected, and then returned to use again in the refrigerator, collecting moisture and impurities, which it deposits in the receptacle intended for that purpose; thus keeping up a full circulation, and thoroughly ventilating the refrigerator with dry, pure, cold air."

His device consisted of a receptacle for ice, with a grate for its bottom, on which the ice rested. This receptacle was placed in the upper part of the refrigerator, and on one side. Below it was a cold-air chamber, into which the air flowed from the ice through the grate. The water from the melting ice was collected in this chamber, and conducted by a pipe to the outside of the refrigerator. From the cold-air chamber was a conduit leading downwards, but which did not extend to the bottom of the refrigerator. At the top of the ice receptacle, and on its side, was an opening into the refrigerator. The operation Lyman described to be as follows: —

"The receptacle being filled with fragments of ice, the air among this ice will be cooled, and, becoming more dense, will settle down through the grate into the cold-air chamber; thence down the conduit; and, so long as the air in the ice is colder and heavier than that in the refrigerator, it will continue to fall down the conduit,

mingling with the lower strata, and forcing the upper strata or warmest air through the opening into the ice receptacle. When the air comes in contact with the cold surfaces of the ice, its capacity for moisture is lessened, and the moisture is deposited on the ice. By this arrangement of the ice receptacle in the upper part of the refrigerator, with an opening for receiving air in its upper part, and a grate in the lower part on which the ice rests, a cold-air chamber below the grate and a descending conduit from this cold-air chamber, or with an arrangement of parts substantially the same, so that the air shall be caused to circulate rapidly from bottom to top in the refrigerating chamber, and from top to bottom in the separate combinations as described, the air is not only cooled, but it is, by being frequently passed through the interstices of the ice, thoroughly dried, and it is washed as by a hail-storm; a decided improvement in its smell is effected; and the apparatus becomes not only cooling and drying, but, to some extent, a disinfecting apparatus."

He then claimed as his invention "the combination of the reservoir of cooling, drying, and disinfecting material with the descending tube or conduit, so that the cold and condensed air in this conduit shall, on account of its increased weight, cause the warmer air to pass more rapidly through the material, where it is cooled, dried, and disinfected, and in its turn fall down the conduit, being by its sides kept separate from the other air until it mingles with the lower strata, substantially as described for the purposes aforesaid."

There was, therefore, in this invention of Lyman, the open-bottom ice-box, and the partition open above and below, dividing the refrigerator into two apartments, in one of which the air passed downward only, and in the other upward only. This constituted all there was of the "endless passage or chamber" in the original Sanford patent, "so constructed that the air is compelled to circulate through the entire apartment or apartments." True, the partition was not vertical; and the apartments need not be of equal or of any particular proportionate size. Neither was this necessary, as has been seen in the Sanford patent. Each, however, called for the circulation of air, and each obtained it substantially by the same device. They each passed the air cooled in the ice-box through convenient openings downwards in one apartment, and upwards

through the other. In each device the cooled air passed through the opening in the bottom of the partition, and the warmed air through that in the top. All this was done in both cases for the purpose of cooling, desiccating, and purifying the confined air, and to prepare it for the purposes of refrigeration. There was, therefore, one common object to be accomplished by both the inventors; and they each devised substantially the same plan for that purpose.

Undoubtedly Lyman expected to use the ascending air principally for the purposes of refrigeration, and he therefore supposed the greatest benefit would be derived from that current; but there was nothing in his specifications to prevent the use of the descending air, or from so constructing his refrigerator as to make that available. If it should be thought advisable to extend the size of the chamber for the descending air, there was nothing to prevent it. It would still operate as a conduit in which the cold air would fall down and be kept separate by the sides from the other air until it mingled with the lower strata.

It being, then, certain that Lyman contrived a machine which would produce the desired circulation, and could be used for refrigeration in the ascending current, it remains only to consider, whether, if one desired to make use of the descending current for the same purpose, he could claim such use as a new invention.

It is no new invention to use an old machine for a new purpose. The inventor of a machine is entitled to the benefit of all the uses to which it can be put, no matter whether he had conceived the idea of the use or not.

Lyman had the descending current. True, he concentrated the air as it fell, and sent it downwards through a space smaller than that which would be contained in a chamber extending the full size of the bottom of the ice-box to the bottom of the refrigerator; but he did have a space large enough to expose in it some articles to the effect of that current. If it should be found desirable to utilize that current to a greater extent than was at first contemplated, all that need be done is to enlarge the conduit. If the circulation is kept up, the device will be within the specifications. In fact, the proof is abundant, that

in his experiments, while perfecting his invention, Lyman did, in more cases than one, utilize the descending current. With both the inventors, the circulation by means of an ascending and descending current was the principal object to be obtained. One considered the greatest benefit for the purposes of refrigeration was to be derived from the use of the descending current, while the other had his attention directed more particularly to the advantages of the ascending. They each had both, and could utilize both. It is no invention, therefore, to make use of one rather than the other.

Lyman had conceived the idea of his invention as early as Aug. 19, 1852; for he then filed his *caveat* in the Patent Office. His ideas were, at that time, undoubtedly crude; but it is clear that he kept steadily at his work. He built many refrigerators upon his general plan; and, in some at least, the descending current was made use of. A part had shelves arranged in such a manner as to expose the articles in that current; and in some the articles were placed on the bottom of the refrigerator, immediately under the outlet of the conduit. In some the conduit was large, and in others it was small. The size was made in all cases to depend upon the judgment of the builder, and the purposes to which the machine, when completed, was to be applied.

As has been seen, Lyman, after having, as he thought, perfected his invention, applied for his patent, Sept. 21, 1854. Technical objections were made; and on the 19th April, 1855, he withdrew the application. He, however, still kept up his correspondence with the department, vigorously pushing his claim. On the 28th November, 1855, only thirteen days after the grant of the patent to Sanford, he filed a new application, and, in doing so, distinctly connected it with the first. There certainly is no material difference between the old and the new. On the 25th March, 1856, a patent was in due form issued to him.

Down to this time, it is impossible to discover any material difference between the two patented inventions. Clearly Lyman was the oldest inventor, and his patent was consequently the best, although that of Sanford antedated his. His last application was rejected Dec. 5, because it had been antici-

pated by Sanford; but afterwards the subject was reconsidered, and a patent issued to him.

After this grant of a patent to Lyman, Sanford surrendered his original patent, and obtained his reissue upon the amended specifications and claim. These have already been stated. All that can possibly be claimed for this amendment is a combination of the use of the descending current with the device for the circulation. There was no change in the machine: it was only put to a new use. If there was any change of construction suggested, it was only to increase its capacity for usefulness. It was "a mere carrying forward or new or more extended application of the original thought, a change only in form, proportions, or degree, doing substantially the same thing in the same way, by substantially the same means, with better results." This is not such an invention as will sustain a patent. We so decided no longer ago than the last term, in *Smith* v. *Nichols*, 21 Wall. 112. Clearly, we think, therefore, the invention of Sanford was anticipated by Lyman; and his patent is, on that account, void.

We have been cited to the case of *Roberts* v. *Harnden*, 2 Cliff. 500, decided by Mr. Justice Clifford, upon the circuit, as an authority against the view we have taken. In that case, the same construction substantially was given to the patent that we give to it here. We place our decision upon the facts shown to us. We think the evidence establishes, beyond all question, that Lyman, and not Sanford, was the original and first inventor of all there is of this improvement. In that case the court said "that the respondent had not introduced any satisfactory evidence tending to show that the patentee (Sanford) is not the original and first inventor of the improvement." What was submitted to that court we do not know. The report of the case does not contain the evidence, or any intimation of what it was.

Upon the evidence submitted to us, we think a clear case is made in favor of the defendants, and that the bill was properly dismissed. *The decree of the Circuit Court is affirmed.*

NOTE. — In *Roberts* v. *Buck*, on appeal from the Circuit Court for the District of Massachusetts, the decree of the Circuit Court was affirmed, for the reasons stated in *Roberts* v. *Ryer*, *supra*; the questions presented in both cases being substantially the same.