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terminated. For their past services they are entitled to recover from the settlers who employed them, but the admitted facts clearly show that the United States are under no express or implied obligation to answer for a breach of contract between the appellants and their clients.

It is unnecessary to pursue the subject further. The court below committed no error in dismissing the claimants' petition, and the decree is

Affirmed.

BELDING MANUFACTURING COMPANY *v.* CHALLENGE CORN PLANTER COMPANY.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE WESTERN DISTRICT OF MICHIGAN.

No. 235. Argued January 31, February 1, 1894. — Decided March 5, 1894.

Letters patent No. 204,216, granted May 28, 1878, to Richard T. Hambrook, for an improvement in refrigerators, are, in view of the prior state of the art, void for want of patentable novelty.

THE case is stated in the opinion.

Mr. Taylor Everett Brown, (with whom was *Mr. Charles Clarence Poole* on the brief,) for appellant.

Mr. Edward Taggart and *Mr. Arthur Stem* for appellee.

MR. JUSTICE SHIRAS delivered the opinion of the court.

Letters patent of the United States, No. 204,216, were granted, on May 28, 1878, to Richard T. Hambrook, for an improvement in refrigerators, and by various assignments the ownership thereof became vested, in 1885, in the Belding Manufacturing Company.

In March, 1889, in the Circuit Court of the United States for the Western District of Michigan, a bill in equity was filed

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by the Belding Manufacturing Company against the Challenge Corn Planter Company, alleging infringement by the defendant of the complainant's rights, as owner of the Hambrook patent, and praying for relief. The Challenge Corn Planter Company appeared and answered. The cause was put at issue, a large amount of evidence was put in by the respective parties, and, after argument, on June 25, 1890, a final decree was entered dismissing the bill of complaint, from which decree this appeal was taken.

We have been aided in our consideration and decision of this case by very full and able arguments, oral and printed, on behalf of both the parties.

Hambrook's invention was described by himself as follows :

"The nature of my invention consists in the construction of a refrigerator having the ice chamber constructed in such a manner that the air will impinge upon the top, bottom, and sides of the ice, and that the continuous volume of cold air generated by the melting of the ice will descend, in a dry state, to the provision chamber without material hindrance, causing the displaced and less frigid air to ascend to the ice chamber through open spaces at each side thereof without meeting the descending current of cold air."

The specification describes the refrigerator as consisting of a cabinet or outer box, within which is an inner box, lined with metal throughout, and fastened and retained in its relative position to the outer case by any proper means used by makers of refrigerators. The inner box is divided into several compartments — one, occupying the upper part, being the ice chamber, and a lower one, consisting of two apartments, separated from each other by a partition, which is called the provision chamber.

We accept, as a satisfactory description of the Hambrook refrigerator, that given by Melville E. Dayton, an expert examined on behalf of the complainant :

"The patent illustrates and describes a domestic or household refrigerator, containing an ice-box at the top, a lid over the ice-box, a provision chamber or chambers below the ice-box, a partition separating the ice-box from the provision

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chamber or chambers, a central passage through this passage for the downflow of cold air from the ice-box to the provision chamber, side passages rising from the provision chamber outside of the ice chamber to near the top of the latter, overhanging cleats or shields covering these side passages, gutters at the margins of the central opening in the partition to prevent the passage of water from the ice chamber into the provision chamber, a deflecting plate over said central opening, to carry the water, which would drip directly through said central opening to the top of the partition at the sides of said opening, so that the gutters shall carry away all water or moisture falling from the ice or its supporting rack, and a pipe for draining off the water delivered by the gutters. The patent shows a vertical partition dividing the provision chamber into two compartments, said partition being extended up through the central opening in the horizontal partition and into the ice chamber."

The court below did not deem it necessary to consider and pass upon the question of infringement, but, being of opinion that, in view of former inventions and of the state of the art in reference to the construction of refrigerators, there was no patentable invention in the Hambrook patent, dismissed complainant's bill; and if we are satisfied to adopt that conclusion of the court, no other question in the case need be considered.

Quite a number of prior patents were put in evidence by the defendant, beginning with a patent to Sanford in 1855, followed by one to Lyman in 1856, to Banta in 1867, to Chase in 1869, to Hunt in 1870, to Rohrer in 1871, to Butler in 1875, and to Smith in 1877.

Without going into a minute comparison of the features of these respective patents, it may be safely said that they closely resemble each other in the main particulars of their construction and in the objects sought to be effected. Certain disadvantages were overcome and improvements added from time to time.

Litigation took place in which the courts were called upon to consider conflicting claims under some of these patents. The most important case, and the only one which we need to

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notice, involved a contest between the Lyman and Sanford patents, and came to this court on appeal from the Circuit Court of the United States for the Southern District of New York. *Roberts v. Ryer*, 91 U. S. 150.

The bill was filed by Roberts, assignee of Sanford, alleging an infringement of the patent to Sanford for an improvement in refrigerators. The principal defence relied upon was the prior invention of Lyman, and this defence was sustained in the court below, whose decree, dismissing the bill, was affirmed by this court in an opinion by Chief Justice Waite.

In that opinion the Sanford patent is described to be 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.

The court proceeded to compare these devices with those found in the Lyman patent, in which were found an open-bottom ice-box, and a 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. Each 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 warm 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 inventors; and they each devised substantially the same plan for that

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purpose. With both of 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 saw more particularly the advantage of the ascending current, but they each had both, and could utilize both. The court, therefore, concluded that the effort to distinguish the two devices was futile; that if there was any change of construction suggested, it was only to increase its capacity for usefulness; that it was a carrying forward of new or more extended application of the original thought — a change only in form, proportions, or degree, doing the same thing in the same way, by substantially the same means, with better results.

Bearing in mind the reasoning and conclusion of the court in that case, we shall pass by the patents subsequently granted till we reach that granted to Smith in 1877, reissued in 1878, and in which the court below found all the essential features of the Hambrook invention.

Smith described his theory and devices in the following language:

“My invention relates to that class of refrigerators wherein a constant circulation of air is maintained through the ice-box and provision chambers; and its object is to increase the circulation, reduce the air to a lower temperature than heretofore, and to deliver such air into the provision chambers deprived of all odor and free from sweating, preventing the sides of said provision chambers from sweating, and better preserving the articles placed therein.

“My invention therein consists in the combination of an ice-box of the entire width of the refrigerator, except the air passages at its end, said ice-box having a central air discharge opening in its bottom, the provision chambers and the air passages leading out of the same; also, in the combination of the same elements and an air discharge opening above the centre of the ice-box; also, in the combination of the ice-box with the central air discharge opening and a false bottom, raised above the bottom of the ice-box, having openings near

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its ends and an air passage under it; also, in the combination of the various principal operative parts, all constructed and arranged as more fully hereinafter described.”

In this description we recognize the principal features of those contained in the prior patents to Lyman and Sanford, and, without pausing to consider whether the art was thereby advanced within the meaning of the patent law, it is obvious that the territory for further invention, in this kind of refrigerator, was still further restricted.

The appellant's expert, Dayton, on rebuttal limited the Hambrook patent as follows:

“The Hambrook patent is not broadly for the idea or discovery that cold air is heavier than warm air, and will fall by its greater specific gravity, and thus cause the warm air which it displaces to rise; nor is it for the general location of an ice chamber above a provision chamber, by which the difference in specific gravity between the cold and warm air may induce a circulation; nor is it for a particular form of grate or support on which the ice may rest while allowing air to move downward in contact with the ice; nor is it for the idea of inclining a watershed in order to permit water to flow therefrom; nor is it for the provision of an air passage broadly, by which air may descend from the ice chamber, or ascend from the provision chamber. All these things, broadly considered, were well known in various forms at the date of the Hambrook invention.”

These admissions were plainly constrained by the claims and descriptions contained in the prior patents.

So, too, the learned counsel for the appellant in his supplemental brief concedes that the Smith patent shows the provision chambers, the ice chamber, an ice-table or rack equivalent to the rack of Hambrook, the equivalent of the double-inclined bottom pieces of Hambrook provided with a central opening—that it has also the equivalents of the gutters, and that it has the waste-water pipe.

But it is claimed that the Smith patent does not contain the side passages of Hambrook or their equivalents, and that it does not have the deflector plate or any equivalent, and that these

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missing elements are material to the combination; and hence it is argued that the Smith patent, omitting these two elements of the Hambrook combination, did not anticipate the latter.

Yet appellant's expert witness, Dayton, in his analysis of the Smith patent admits — as of course he had to do — that it contained an uptake flue or passage at each end of the ice-box, though he endeavors to distinguish them from the end passage ways of Hambrook, in that the former do not discharge into the sides of the ice chamber at the top thereof, but are continued or prolonged through spaces in the cover, which meet and open at the middle of the lid, which results, as he contends, in a retardation of the air currents.

So, too, the same witness admits that the imperforate ice-rack in the Smith patent operates to prevent the water from dripping, and thus performs the function of the Hambrook deflector, though less advantageously, and he argues that an imperforate ice-rest is an entirely different thing from a separate deflector interposed between such ice-rest and a subjacent opening.

Whether the device in the Smith patent, to prevent the water from dripping into the provision chamber, by the use of an imperforate ice-rack can be deemed an equivalent for the Hambrook deflector, we need not decide, because the evidence is clear that the refrigerators made by the defendant company do not have the Hambrook deflector, but the ice is carried on an imperforate plate of corrugated metal, through which no water can drip. Either, then, this imperforate ice-rest *is* an equivalent of the Hambrook deflector, in which case the Smith patent was an anticipation, or it is *not* an equivalent, in which case the defendant's refrigerator does not infringe in that particular.

Nor do we think the distinction pointed out between the uptake flues or side passages in the Smith and Hambrook patents amounts to a patentable difference. The purpose of the flues is the same and their mode of operation is the same. The fact that Hambrook did not prolong these air passages along the lid or cover might perhaps be a better way of intro-

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ducing the air into the ice chamber, but it does not amount to a patentable improvement.

As was said in *Roberts v. Ryer, supra*, "it was a mere carrying forward, a change only in form, proportions, or degree, doing the same thing, in the same way, by substantially the same means, with better results."

In view, then, of the state of the art as manifested by numerous prior patents, and particularly by that of Smith, we conclude that the Hambrook patent is void for want of patentable novelty; and the decree of the court below, dismissing the bill for that reason, is

Affirmed.

MR. JUSTICE GRAY was not present at the argument, and took no part in the decision of the case.

NORTHERN PACIFIC RAILROAD COMPANY v.
EVERETT.

ERROR TO THE CIRCUIT COURT OF THE UNITED STATES FOR THE
DISTRICT OF NORTH DAKOTA.

No. 188. Submitted December 21, 1893. — Decided March 5, 1894.

A switchman in the employ of a railroad company was directed, in the line of his regular duty, to connect together two cars, one of which was loaded with bridge timbers. The timbers were unusually and dangerously loaded, extending so far over the end of the car as to make the coupling dangerous. The switchman had no notice or knowledge of this fact, and in making the coupling was very severely injured. To an action brought to recover damages for the injury, the railroad company pleaded that the injuries were the result of the switchman's negligence, and not of the negligence of the company, and on the trial asked to have the jury instructed to return a verdict for defendant. The court declined, and instructed the jury on this point, in effect, that they were to find whether the car was or was not properly loaded, and whether the plaintiff, by the exercise of proper diligence, could or could not have discovered the projecting timber before the cars came together and in time