
Statement of the case.

clusively as restrictions upon Federal power," was declared in *Fox v. Ohio*, to be "the only rational and intelligible interpretation which these amendments can have."* And language equally decisive, if less emphatic, may be found in *Smith v. The State of Maryland*,† and *Withers v. Buckley and others*.‡

In the views thus stated and supported we entirely concur. They apply to the sixth as fully as to any other of the amendments. It is certain that we can acquire no jurisdiction of the case of the petitioner by writ of error, and we are obliged, therefore to

REFUSE THE WRIT.

TYLER v. BOSTON.

1. When a patent is claimed for a discovery of a new substance by means of chemical combinations of known materials, it should state the component parts of the new manufacture claimed, with clearness and precision, and not leave the person attempting to use the discovery to find it out by "experiment."
2. The doctrine of equivalents as applied to chemical inventions explained, and the distinction between mechanical inventions and chemical discoveries, where experiment is required to ascertain the effect of chemical substances, pointed out.
3. Whether one compound of given proportions is substantially the same as another compound varying the proportions, is a question for the jury.

TYLER brought suit, in the Circuit Court for Massachusetts, against the city of Boston, for infringement of a patent; the case being this:

The plaintiff professed to have discovered a new compound substance, being a combination of fusel oil with the mineral and earthy oils, which compound constitutes a burning fluid, "by which term," he says, "I mean a liquid which will burn for the purpose of illumination, without material smoke, in a lamp with a small solid wick, and without a chimney."

The claim of his patent which the defendant was charged

* 5 Howard, 434.

† 18 Id. 76.

‡ 20 Id. 90.

Argument for the plaintiff in error.

with infringing, was "the compound produced by the combination of the mineral or earthy oils with fusel oil, in the manner and for the purpose substantially as herein set forth; said compound constituting a new manufacture."

The component parts of this new manufacture were described as "by *measure* crude fusel oil *one part*, kerosene *one part*." This combination, the patent stated, might be varied by the substitution of naphtha or crude petroleum in place of kerosene, or a part of the kerosene by an *equal quantity* of naphtha or crude petroleum; "the exact quantity of fusel oil which is necessary to produce the most desirable compound must be determined *by experiment*."

The defendants used a burning fluid composed of naphtha seventy-two and fusel oil twenty-eight parts; and *experts*, chemists, proved that seventy-two parts *in bulk* of naphtha was the *substantial equivalent* of twenty-eight parts of kerosene.

The court below charged the jury, "that the patentee, in suggesting that naphtha might be substituted for kerosene, intended to describe the same proportion in the combination," and "that the jury should understand the construction of the suggested substitution, to wit, naphtha for kerosene, as contemplating the same proportion of the two ingredients—that is, one and one, or fifty per cent. of one, and fifty per cent. of the other."

It charged further, that "whether one compound of given proportions is substantially the same as another compound varying in the proportions—whether they are substantially the same or substantially different—is a question of fact, and for the jury."

Under this charge the jury found for the defendant; and the case was now here on error.

Mr. Maynadier, for the plaintiff in error, contended, that the construction given by the court to the patent was erroneous, and that in view of the evidence as to the true relations and characters of the various oils, the claim should be construed to cover not only a compound composed of the particular in-

gredients in the proportionate bulks especially named in the specification (that is to say, *crude fusel oil*, one part by *measure*, and kerosene of the grade there described, one part by measure), and all other compounds composed of these ingredients in substantially the same proportionate bulks; but, in addition, all other compounds whose ingredients are *any* of the earthy or mineral oils, and *any* of the fusel oils, provided the quantity by measure of the mineral oil or oils used were ascertained to be substantially *equal in character*, or equivalent to the prescribed proportion of the prescribed grade of kerosene; and the quantity by measure of the fusel oil used were in like measure ascertained to be equal to the prescribed proportion of the prescribed *crude fusel oil*.

The whole spirit of the patent, in view of the perfectly well-known relations of naphtha and kerosene, and of refined and crude fusel oil, warrants the construction contended for, and there is nothing in the letter which militates against it, unless the statement that "a part of the kerosene may be replaced by an *equal quantity* of naphtha or crude petroleum" be construed to mean an *equal quantity in bulk*, which would make the statement false, and one that all persons skilled in the art would know to be false; while if "equal" be construed to mean "equal in character," or "equivalent," the statement is true, and in harmony with the rest of the specification, and with the chemical facts of the case.

Mr. Robb, contra:

The instruction given was correct. The language used by the patentee in describing his invention and the manner of compounding the same, is "full, clear and exact," in view of that construction adopted by the court below. To give it the construction contended for by the plaintiff, the obvious import of the terms used must be disregarded, and the same word must be taken in different senses, in the same sentence; that is, the word "quantity," when used in reference to fusel oil, alcohol, or kerosene, means measure; but when used in reference to naphtha or petroleum, it must be taken to mean weight.

Opinion of the court.

Mr. Justice GRIER delivered the opinion of the court.

The patent states that "the exact quantity of fusel oil which is necessary to produce the most desirable compound must be determined *by experiment*."

Now a machine which consists of a combination of devices is the subject of invention, and its effects may be calculated *a priori*, while a discovery of a new substance by means of chemical combinations of known materials is empirical and discovered by experiment. Where a patent is claimed for such a discovery, it should state the component parts of the new manufacture claimed with clearness and precision, and not leave the person attempting to use the discovery to find it out "by experiment." The law requires the applicant for a patent-right to deliver a written description of the manner and process of making and compounding his new-discovered compound. The art is new; and therefore persons cannot be presumed to be skilled in it, or to anticipate the result of chemical combinations of elements not in daily use.

The defendants used a burning-fluid composed of naphtha seventy-two and fusel oil twenty-eight parts; and expert chemists proved that seventy-two parts *in bulk* of naphtha was the *substantial equivalent* of twenty-eight parts of kerosene.

This term "*equivalent*," when speaking of machines, has a certain definite meaning; but when used with regard to the chemical action of such fluids as can be discovered only by experiment, it only means *equally good*. But while the specification of the patent suggests the substitution of naphtha for crude petroleum, it prescribes no other proportion than that of equal parts by measure. The explanation that the "kerosene must be replaced by an *equal quantity* of naphtha" does not alter the case.

The charge which the court gave is a clear and intelligible statement of the principles of law which should govern the jury in making up their verdict. It said properly, that "whether one compound of given proportions is substantially the same as another compound varying in the pro-

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portions—whether they are substantially the same or substantially different—is a question of fact and for the jury.”

If the jury in finding for the defendants have erred, the remedy is not in this court.

JUDGMENT AFFIRMED.

GRANT v. UNITED STATES.

1. An “inspection” at the place of shipping instead of at the place of delivery, by the officers of the United States, of supplies which a contractor has agreed to deliver at a distant point, does not pass the property to the United States so as to relieve the contractor from his obligation to deliver at such distant point.
2. Where a contract with the government to furnish to it supplies does not stipulate for an inspection at a place earlier than the place of delivery, it is optional with the contractor whether he will have the goods inspected at such earlier place.
3. Where a delay by the government in making an inspection of supplies, agreed to be made at the place of shipping instead of at the place of delivery, is not the proximate cause of a loss of the supplies afterwards suffered, the loss must be borne by the party in whom the title to the supplies is vested; and, if still in the contractor, by him.
4. This rule applies even where supplies have been seized by the public enemy without any default of the owner.
5. Where the government makes a contract with an individual that he shall furnish *all supplies needed* at a certain post, and afterwards rescinds the contract, the individual cannot recover from the government for a breach of the contract unless he prove that supplies were needed at the post designated.
6. The Court of Claims was not instituted to try cases of mere nominal damages.

APPEAL from the Court of Claims; in which court Grant, for himself, and as assignee of one Taliafero, a former partner, had filed a petition claiming reimbursement and damages from the United States. The case was this:

On the 9th of March, 1860, the Secretary of War, at that time Mr. Floyd, addressed an order to the Quartermaster-General and Commissary-General of Subsistence, granting to the said Taliafero and Grant the privilege of furnishing