

Case No. 3,557. DANE ET AL. V. CHICAGO MANUF'G CO.
[3 Biss. 380; 2 O. G. 677; 6 Fish. Pat. Cas. 130; Merw Pat. Inv. 219; 2 Bench & Bar,
321.]¹

Circuit Court, N. D. Illinois.

Nov. Term, 1872.

PATENTS—DATE OF INVENTION—WHAT CONSTITUTES
INVENTION—“GERSTEN” LANTERN DEFLECTOR.

1. The date of an invention must be taken to be when the application was filed, if it does not appear when the model and drawings were made which show it to have been perfected, although the patentee had previously commenced experiments upon it.

[Cited in American Roll-Paper Co. v. Knopp, 44 Fed. 610.]

2. Lamps have been well known with chimneys surrounding the flame and thus promoting combustion, and with deflectors which closed the base of the chimney, and directed the air admitted through apertures upon the flame; and there can be no valid monopoly for enlarging the chimney, so as to form a globe and the deflector so as to close the increased aperture at its base, although the glass is thereby removed further from the flame and protected from the heat.

3. How far the globe shall be enlarged, and the chimney removed from the flame, is a question of judgment, and involves no invention.

In equity. Bill for an accounting and to restrain alleged infringement of the Gersten patent for “lantern deflector.”

The bill of complainant sets forth that on the 25th of January, 1859, a patent [No. 22,723] was duly issued from the United States patent office to Conrad Gersten for an improvement in lanterns; that said Gersten afterwards duly assigned the said patent to the complainants, Dane & Westlake; that after receiving said assignment, said Dane & Westlake surrendered said letters patent, and made application for two new patents to be issued for the same invention, with corrected descriptions and specifications; and that on the 17th day of September, 1867, new letters patent, each for a distinct and separate part of the thing patented as aforesaid, and each for some material part of the original invention, were duly issued to said Dane & Westlake, as assignees of said Gersten, one part of which re-issued letters patent was numbered 2,765, and that a legal, corrected description of that part of the original improvement contained in said re-issued patent 2,765, was given in the words of said Dane & Westlake, annexed to the said part of the said re-issued patent; that afterwards an equal undivided interest in said re-issued letters patent was duly assigned by the said Dane & Westlake to the complainant, John P. Covert; that the defendant was making and vending lanterns containing substantially the improvement and invention described in, and secured to, the said complainant, by the said re-issued letters patent 2,765. Defendant denied the validity of the said re-issued letters patent, and also any infringement thereof [and evidence upon both these points has been taken and fully discussed by counsel on both sides].²

West & Bond, for complainants.

L. L. Coburn, for defendant.

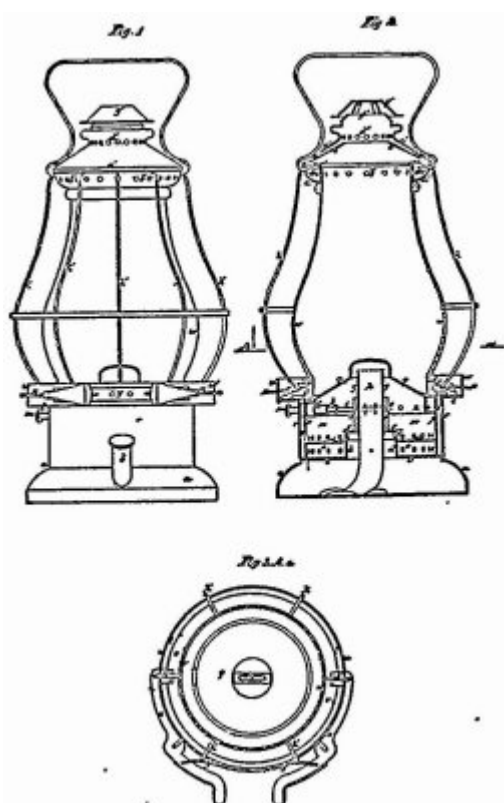
BLODGETT, District Judge. The main point in regard to the validity of the patent is made upon the question of novelty; and on that question, the state of the art at the time, and before the time of Gersten's alleged invention, has been very fully discussed and examined by counsel.

The feature in the Gersten patent, of which the infringement is alleged, is the plate or deflector, q.

It appears from Gersten's specifications that the general scope and purpose of his invention was a lantern in which kerosene or carbon oils could be used for illuminating purposes.

To accomplish this he constructed a burner, the main features of which were, first, a cylindrical metallic ring or band, setting upon the top of the oil-cup, and divided into two compartments by a horizontal plate m, filling the entire ring. The lower apartment was termed a "cooling chamber," and was intended to prevent the heating of the oil in the oil cup. Into this cooling chamber air was admitted by holes in the band and near the lower edge. Above the plate forming the top of the cooling chamber, the band was perforated with holes sufficient to admit air for the supply of the flame. In the top of the ring is set the deflector q, which, extending to the periphery of the ring forms what Gersten calls the flame chamber. The deflector, q, is swelled up in a conical form, and in the center is a boss, which has a slot cut in it a little wider than the thickness of the wick to be used. A wick tube passes up from the oil cup in the center of the ring, through the cooling chamber into the flame chamber, and near enough through the boss in the deflector to secure a clear flame above the boss or apex of the deflector. The ring is perforated with holes for the admission of a small quantity of air above the deflector. Into the top of this ring immediately above the deflector, is set the glass shade or globe of the lantern, and to the top of the globe a suitable dome is affixed, of a form and mode of construction particularly described; but as that part cuts no figure in this controversy, I will not take time to describe it.

The cylindrical ring p, is surrounded by an outer case or jacket, leaving a space between the two, which is closed at the bottom and open at the top, and down the annular space between the outer jacket and the ring p, the air passes and is admitted into the cooling chamber, the flame chamber, and the globe, through the holes before described in the inner ring for that purpose. This outer



ring or jacket was intended to protect the air in the flame chamber from disturbing outside currents, and secure a steady flame, while the function of the deflector, q, was to deflect or concentrate all the air that entered the flame chamber to the base of the flame within the boss. In this combination, the globe of the lantern acts as a chimney to the burner, and at the same time protects the flame from external air.

The defendant's lantern, which complainants claim infringes their patent, is what is known to the public as the tubular lantern, the chief characteristics of which are a dome above the top of the globe, into which the air, which is heated by the flame of the burner in the globe, rises, and from which it passes by tubes into a tight chamber above the oil cup, the top plate of which chamber extends to the base of the cone of the burner.

In some cases, perhaps, the cone has been made by swelling a portion of the cone in the top plate of the defendant's air chamber, in the same manner as Gersten's cone was made by the boss and slot.

There can be no doubt but what there is a striking external similarity—almost identity—between Gersten's deflector, q, and the top plate of defendant's flame or air chamber.

The deflector was a tight plate continued closely around and filling the band or flame chamber, and concentrating all the air which came within the plate into the cone.

If this case was to be determined by a comparison of the mere external appearance, the court would have little difficulty in finding a manifest infringement, but the defendant denies that Gersten was the inventor of the deflector q, as used in his, defendant's lantern, and also denies that the top plate to the air chamber of the tubular lantern performs the

same functions as the deflector *q* in Gersten's does, and the evidence on one or both of these issues determines the case.

It appears from the proofs that Gersten commenced his experiments in May, 1858, but just when he made the model and drawings showing the perfected arrangement, does not appear, save that, as appears from the testimony, he filed his petition for a patent with the model, drawings, and specifications in the patent office on the 5th of November, 1858, which, for the purpose of this case, must be presumed, under the proof, as the date of his invention.

For several years prior to the date of Gersten's experiment, carbon or petroleum oils had been brought into use for illuminating purposes, and many devices had been tried, some of which had been generally adopted, for the construction of burners for this class of oils.

The most important difference between these oils and the animal oils or fatty matters previously used for illuminating purposes, was the fact that the carbon oils contained no oxygen in their composition, while the animal oils contained eight or ten per cent. of oxygen.

For this or some other reason, the carbon oils required a much higher degree of heat to secure combustion than the animal oils, and this could only be obtained by an increased supply of air to the flame at or near its base, where the combustion must take place. This supply of air was generally obtained by the employment of a glass or metallic cone setting over the top of the wick tube, with a slot through which the flame could pass freely, and a glass chimney fitted closely around the base of the cone, so as to secure a strong draught of air under the cone and in contact with the flame, as it passed into or through the slot.

It was, however, found necessary that some air should be admitted also to the chimney above the cone, and provision was usually made for that purpose by perforation of the band or burner above the cone.

The burner invented by M. A. Dietz, and referred to in the proof as "Exhibit Dietz," is perhaps the best illustration of the state of the art of constructing burners at the time Gersten began his experiments, although several other inventors, both English and American, had used cones a long time prior to Dietz.

Indeed the cone seems to have originated in a much earlier class of experiments having for their object a lamp or lantern for the burning of camphene, resin oil, oleic acid,

etc., all which, like the coal oils, were highly carbonaceous, and required a copious supply of air to secure perfect combustion.

It is an indisputable fact that nearly all of the inventors who preceded Gersten whose devices are put in evidence in this case, called their cone or cap by which the supply of air is concentrated upon the base of the flame, a "deflector," so that it seems Gersten did not invent the name.

We have not time, however, to settle who invented the cone or deflector. It is sufficient to say that when Gersten entered the field, experience had demonstrated the necessity of the cone, the periphery of which must extend far enough to fill the chimney so as to induce a strong current of air through the cone and impinge it upon the flame in the slot; a small supply of air being also admitted into the chimney above the cone, to feed the flame after it passed into the chimney, and secure the combustion of the particles of soot which were drawn along with the flame into the chimney.

These burners secured a strong white light without smoking, and lamps with this device for burning kerosene or coal oil, had come into general use before Gersten's attempted invention, and Gersten's effort was to make a lantern in which kerosene could be used as it then was in lamps.

He prefaces his specifications by the statement that "the lanterns which have heretofore been made for burning coal oil will not admit of being moved through the atmosphere with any degree of velocity, or of being exposed to the wind without being extinguished, and that currents of air affect the flame so as to cause them to smoke to a very considerable extent." "The object of my invention," he says, "is to avoid the effects above enumerated, and others not necessary to enumerate."

He then proceeds to describe the mechanism by which he claims to accomplish the result aimed at, the substance of which I have already quoted.

It will be observed that Gersten does not claim to be the first inventor of kerosene lanterns, but says, in substance, that those in use could not be carried in the wind, and that they smoked.

It is manifest, on an inspection of Gersten's model, (which must be taken as illustrating his idea of the best method of applying his invention,) that Gersten took as the initial or starting point of his device, the Dietz burner then in common use, the inventor and manufacturer of which resided and carried on business in his immediate vicinity.

This (indicating) is the Dietz burner, and it will be seen by those who have followed the specifications, that it contains everything of the Gersten burner or Gersten flame chamber, with the exception that it is not as much extended. Here is the cooling chamber, provided for the same as Gersten has; here is a cone, and here is the perforated ring for allowing the admission of air into the flame chamber. When this ring is placed upon the cooling chamber it makes a flame chamber precisely as Gersten did, except that it is not

extended out as broadly. Here is also a provision for admitting air above the flame into the chimney.

We find in the Dietz burner all the elements of the Gersten cylindrical ring, or the band p, which surrounds and forms the external walls of the cooling chamber and a flame chamber as Gersten's is, and it is also perforated as Gersten's is, to admit air in the proper proportion into the cooling chamber, the flame chamber, and to the flame above the cone.

He wished to dispense with the chimney, or rather to make the globe perform the functions of a chimney, and to do so he had no alternative but to extend the cone outward to the base of the globe.

No experimenter or inventor had determined just how far outwardly the base of the cone should extend, but all had recognized the inexorable necessity of making the cone form a substantially tight bottom to the chimney, by which alone a draught through the cone could be obtained.

Gersten did this and nothing more, so far as the cone is concerned. His deflector performs the same function in the same way as the Dietz cone does. It required a mere mechanical alteration and not an invention to expand the base of the cone until it met and filled the walls of the globe at the base of the globe. Thus expanded, it was nothing but Dietz's cone, because it did nothing more. I say Dietz's cone, because Dietz used it in his combination—for he was not and did not pretend to be the inventor of the cone—it was old when Dietz took it up.

I said just now that no one had fixed the size of the cone, and so it is true no one had determined any fixed size for the base of the chimney; but it was settled that to secure a good draught the chimney must be contracted at the top, and this Gersten accepted.

It was urged by counsel in the argument that the chimney would get heated and be liable to break on being exposed to cold currents of air or drops of rain, but this would depend upon how far the sides of the chimney were removed from the flame, and Gersten gives no rule for that, and other inventors had fixed no limit.

Indeed, I can but think that the counsel have shown more inventive genius in constructing this part of their argument than Gersten did in the combination of his deflectors [and globe].³

A lantern is but a lamp so arranged as to be carried and protected from currents of air. The distinction is not a broad one. Lanterns and lamps both perform substantially the same functions in the same way.

One is so arranged that it may be carried in the open air, and be protected against currents of air; the other is not thus protected, The distance at which a chimney should be removed from the flame in order that it may not be broken by currents of cold air in case of use as a lantern, must be determined by experience, and that alone—and it will be remarked that Gersten gives us no rules by which we are to determine that.

I find, then, in the deflector of Gersten, nothing more than the cone of the common hand lamp then in use.

Of the remainder of his device I have nothing to say, but it seems palpable to my mind that if he is to receive credit for inventing anything, it must be the device of screening the flame from external currents of air by the outer jacket, in combination with the other parts. His globe is but an enlarged chimney, the walls of which were far enough removed from the flame to be kept cool, and his deflector only an enlarged cone, which he was obliged to use in order to make this chimney draw.

It might be enough to stop here in the discussion of the testimony, on the question of novelty, but the record shows that some months prior to his invention, one Max Miller, a resident of Brooklyn, had attempted the construction of a coal oil lantern in which he used the cone or deflector precisely like Gersten except that he perforated with small holes his cone near the base of the boss, so that some of the air which came into the flame chamber escaped into the space above the cone, without going through the slot. He placed a deflector over the old cone of Dietz's, extending out to the wail of the lantern, making provision for the passage of a small portion of air between his deflector and the cone—this arrangement being necessary as he made no provision for admitting air into the globe in any other manner. Miller also used his globe as a chimney and removed it so far away from the flame that it would not get heated; and he also accepted the condition that he must, from the necessity of the case, put a substantially tight bottom into his chimney.

So that when Gersten claimed broadly a deflector extending to the walls of the lantern, he claimed too much, for Max Miller, his neighbor, had done that before him. If he could show that his cone was better than Miller's, by reason of leaving out the holes through which the air escaped into the chimney at the base of the cone, he might have had a patent on his improvement on the Miller deflector, but he did not ask for or obtain that. He claimed broadly in the reissued patent the deflector as such, and it seems clear to me the testimony proves that Miller had, in all essential particulars, anticipated Gersten in the application of the cone to a lantern.

Arriving at this conclusion in regard to the question of novelty raised against the patent, I have not taken the time necessary to analyze and carefully consider the question of infringement, but will say that from some illustrations and experiments given at the trial, I think there may have been some force in the suggestion of defendant's counsel that the deflector, q, of Gersten's lantern performs a different function from what the top plate of

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the air chamber does in defendant's lantern. It forms the bottom of the globe or chimney in the Gersten patent, and that at least, does not seem to be the function of the plate in defendant's lantern.

Bill dismissed with costs.

¹ [Reported by Josiah H. Bissell, Esq., and here reprinted by permission. Merw. Pat. Inv. 219, contains only a partial report.]

² [From 2 O. G. 677.]

³ [From 2 O. G. 677.]