

KNOX & OSBORN V. QUICKSILVER MINING
CO.

Circuit Court, D. California. October 12, 1880.

1. PATENT—INFRINGEMENT—QUICKSILVER
FURNACES.—A patent issued to the complainants, June,
1870, for improvements in furnaces for roasting ores, and
more particularly for extracting the volatile portions of
ores, from which it is only desired to save the fumes,
such as cinnabar or quicksilver-yielding ores, and also
for improvements in the condensers, whereby the metallic
or other sulphurous vapors are rapidly and effectually
refrigerated without actual contact with water, *held not
infringed.*
2. SAME—SAME—A patent issued to the complainants, July,
1871, for an improvement in such furnaces, by substituting
for the pigeonhole partitions a series of vertical arches,
each lower arch receding from the one above, so that the
angle would be greater than the slope at which the ore
would lie, thus preventing the filling up of the passages,
held not infringed.
3. SAME—CLAIM—SPECIFICATIONS.—A claim for an
automatically-feeding furnace for roasting ores *will not be
sustained* where the furnace described in the specifications
is fed by hand at the top of the ore chamber. and no
contrivance is shown for feeding it in any other way.
4. SAME—CONTINUOUSLY—WORKING
QUICKSILVER FURNACES.—The application to
quicksilver furnaces of a mode of operation well known
and used in other furnaces, by which ore is constantly
subjected to heat, is not the proper subject of a patent.

Wheaton & Scrivner, for complainants.

McAllister & Bergin, for defendant.

FIELD, C. J. This is a suit in equity for an alleged
infringement of three patents for improvements in
quicksilver furnaces, held by the complainants, with a
prayer that the defendant may be compelled to account
for and pay over to them the gains and profits derived
from the use of the improvements, and be restrained
from further infringement.

One of the patents was issued to Blodgett Britton and assigned to the complainants. It is admitted that no furnace was ever built in accordance with its specifications, and all claim for damages under it is waived. The other two patents were issued to the complainants—the first in June, 1870, the second in July 1871. The first patent is for improvements 810 in furnaces for roasting ores, and more particularly for extracting the volatile portions of ores, from which it is only desired to save the fumes, such as cinnabar or quicksilver-yielding ores, and also for improvements in the condensers, whereby the metallic or other sulphurous vapors are rapidly and effectually refrigerated without actual contact with water. The specifications describe minutely the improvements, and are accompanied with drawings illustrating the construction of a furnace with them. The principal feature of the improvements consists in placing the fire-place on the side of the body of the furnace several feet from its bottom, separated from the chamber in which the ores are deposited by grate bars called a pigeon-hole partition, and having on the opposite side of the chamber, a little higher up than the fire-place, a discharge or draft opening faced with a similar pigeonhole partition, though of greater capacity than the grantings of the fire-place. A cross draft is thus produced, subjecting the ores, as is said, to a greater heat than if the draft were vertical, and the fumes passed out at or near the top of the furnace. Another feature of the improvements consists in the gradual contraction in width of the furnace towards the bottom, with an incline which conveys the refuse ore to a floor, from which it can be readily removed by hand or machinery. A third feature of the improvements consists in having a small door at the upper end of the furnace, through which the ore is passed into the chamber; and, if the chamber is kept filled, the ore will constantly settle towards the bottom,

and as it passes between the fire-place and draft opening be thoroughly roasted, and the vapors carried off through the draft opening and down a vertical pipe into the condenser. The specifications also describe an alleged improvement in the condenser; but, as this improvement was not pressed on the argument, it need not be further noticed.

The claims made upon these improvements, omitting the one in relation to the condenser, are: (1) Placing the fire-place and draft opening on opposite sides of the body of the furnace, so as to draw the heat through the passing ore, substantially as described. (2) Contracting the chamber at the 811 bottom of the furnace in combination with one or more inclined planes, substantially as described. (3) An automatically feeding furnace, in which the ore is carried by the superincumbent weight in position to be acted upon by the heat, substantially as described.

The second patent of the complainants is for an improvement in the furnace, by substituting for the pigeon-hole partitions a series of vertical arches, each lower arch receding from the one above, so that the angle would be greater than the slope at which the ore would lie, thus preventing the filling up of the passages. With the pigeon-hole partitions, the finer portions of the ore would gradually work into the holes and fill them up. The receding arches obviate this difficulty. This second patent also embraces a new device for feeding the fire with the brush used for fuel; but as no infringement of this invention is alleged, it need not be further referred to.

The second claim mentioned, relating to the contraction of the furnace at the bottom in combination with inclined planes, was not pressed on the argument. It was substantially conceded that it could not be sustained. The case of the complainants must rest, therefore, upon the claim for the cross draft with the pigeon-hole partitions, or the receding arches, and the

claim for an automatically-feeding furnace in which the ore is constantly carried by the superincumbent weight into a position to be acted upon by the heat.

This last claim cannot be sustained. There is no automatically-feeding furnace in the case. The furnace described is fed by hand at the top of the ore chamber, and no contrivance is shown for feeding it in any other way. The claim does not correspond with or cover the specifications, and in such cases the patentees are confined to what is expressed in their claim. *Merrill v. Yeomans*, 94 U. S. 568.

But, assuming that the claim could be extended so as to cover a continuously-working furnace, the position of the patentees with reference to it would not be improved. The mode of operation by which ore is constantly subjected to heat was not discovered or invented by them. It had been 812 used in limekilns for many years before their patent was issued, and before their attention had been directed to furnaces for quicksilver-bearing ores. They only applied what was well known and used in other furnaces to a quicksilver furnace.

There is also evidence in this case—not presented, as I am informed, in the *Great Western Mining Case*—of the existence and use at various places in Europe of continuously-working quicksilver furnaces anterior to the complainants' invention. Professor Church, a gentleman shown to be extensively acquainted with furnaces for roasting and smelting ores, testifies to having seen several of them in operation there. It may be and probably is true that the complainants were the first persons in this country to put into operation a continuously-working quicksilver furnace; but they are not the originators of the idea of a furnace of that kind.

As to the first claim—for the cross draft with the pigeon-hole partitions, or receding arches—it is sufficient to say that the defendants are not using

those devices, and have not used them, or what can be regarded as an equivalent for them. They are not, therefore, infringers. The fire-place in their furnace has no pigeon-hole partition, and is near the bottom of the furnace. They have no cross draft, but use a vertical draft, such as is employed in all other furnaces where an outlet is desired for the fumes of the subject consumed or heated.

This case has been heard upon evidence more extended than that presented in the case of the *Great Western Mining Co.*, and much new information as to quicksilver and other furnaces previously used has been furnished. The case has been prepared and presented by counsel on both sides with a fullness and learning worthy of all admiration. It will not probably rest here, but find its way to the supreme court of the United States, where all errors of mine will be corrected.

The improvements of the complainants, in my judgment, have not been infringed by the defendant. A decree must therefore be entered dismissing the bill, with costs; and it is so ordered.

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