

29FED.CAS.—53

Case No. 17,463. WETHERILL ET AL. V. NEW JERSEY ZINC CO.

{1 Ban. & A. 105;¹ 5 O. G. 460.}

Circuit Court, D. New Jersey.

March, 1874.

CONTEMPT OF COURT—VIOLATION OF INJUNCTION—EVIDENCE—PATENTS—INFRINGEMENT—PROCESS FOR MAKING OXIDE OF ZINC.

1. This was a motion for an attachment against the defendants for contempt, by reason of their alleged violation of the perpetual injunction decreed in this suit, enjoining the defendants from constructing, using or selling the complainants' patent for a process for making white oxide of zinc. The affidavits of the complainants used upon the motion, fully sustained the alleged violation of the injunction, which was denied by the affidavits read by defendants, who urged, that, as the proofs were conflicting, the motion should be denied, and the question of infringement involved, be determined upon a new bill. *Held*, that where application is made to the court for summary correction for violation of an injunction, if the violation has been wilful, the summary method of correction is imperative; but if the violation, either as to its character, or the fact of its commission, is doubtful upon the proofs, such mode of interposition ought not to be applied. The court must weigh the conflicting evidence, and as it establishes clearly, or falls short of establishing, a substantial transgression, it must act or forbear to act accordingly. The summary exercise of the power of the court will not be arrested by the mere fact that the proofs of violation are conflicting, or that the thing used by the defendants is in some respects different from the thing whose use is interdicted.
2. A patent for a process for making white oxide of zinc, by spreading mingled ore and coal, in a comminuted form, upon a thin layer of chestnut coal, placed upon perforated grate bars, and forcing air through the grate and the mass above it to keep up combustion, and also supply the vaporized zinc with sufficient oxygen in the furnace chamber to convert it into white oxide; and, when the metallic zinc is expelled from the ore, removing the scoria or slag, ready for a repetition of the process, is infringed by spreading upon a bed of coarsely broken slag, without grate bars, a layer of charcoal, upon which is placed pea coal, finely crushed ore, dust coal and marble, and forcing a blast of air through the broken slag and the mass above it; and, when the metallic-zinc is ejected, withdrawing a sufficient amount of the slag from the bottom to allow a fresh charge of ore, coal and marble, to be placed on the top of the remaining slag, while still in a heated condition and broken into fragments.
3. It is not less an infringement, because air is introduced above the charge, after the zinc vapor appears, in order to supply any deficiency in the blast through the slag, for oxidizing the zinc.
4. The defendants, who had been enjoined, by the decree, from infringing the complainants' patent, adjudged guilty of contempt.
5. An attachment awarded against the president of the defendant corporation, he having been served with the injunction, and having devised and practised the transgressing process.

{These were two suits in equity by Samuel Wetherill and others against the New Jersey Zinc Company for alleged infringement of letters-patent No. 13,806, for a process of making white oxide of zinc. Complainants now move for an attachment for contempt, for alleged violation of an injunction heretofore granted.}

WETHERILL et al. v. NEW JERSEY ZINC CO.

George Harding, for complainants.

Benjamin Williamson, for defendants.

MCKENNAN, Circuit Judge. At a final hearing of this cause, it was adjudged, that the defendants had infringed letters patent [No. 13,806] granted to Samuel Wetherill, on the 13th of November, 1855, and extended for seven years, for a process for making white oxide of zinc, and they were perpetually enjoined "from the further constructing, using, or selling in any way or manner, directly or indirectly, the said patented improvements or any part or parts thereof." They are now alleged to have violated this injunction, in the use of a process substantially the same as Wetherill's, or at least embracing its essential features, and a motion has been made for an attachment against them for contempt.

The affidavits presented in support of this motion, fully sustain the alleged violation of the injunction. This is controverted by counter affidavits, and hence it is urged that the motion should be denied, and the question of infringement involved, investigated and determined upon a new bill.

It is certainly desirable that any adjudication by the court, touching interests of such magnitude as are involved in this proceeding, should be in such form that it may be susceptible of revision by a superior tribunal. But that is no sufficient reason for withholding from a litigant the benefit of a remedy to which he is entitled, if he establishes a meritorious claim to it, nor would it justify the court in abdicating the discharge of a duty which the law imposes upon it. Not only has a party, in whose favor judicial process has been awarded, a right to demand the full measure of protection it was intended to afford him, but, in a more general sense, it is essential to the due administration of justice, that obedience to it should be enforced. If its requirements are wilfully-unheeded, a summary method of correction is

imperative; on the other hand, if the delinquency, either as to its character or the fact of its commission, is doubtful upon the proofs, such mode of interposition ought not to be applied. This is the import of all the authorities. It is not enough, therefore, to arrest a summary exercise of the power of the court, that the proofs of the violation, of its decree are conflicting, or that the thing used by the respondent is, in some of its features, different from the thing whose use is interdicted. The evidence must be carefully weighed, and as it establishes clearly or falls short of establishing a substantial transgression, it is the duty of the court to act or forbear to act accordingly.

The decisive inquiry here, then, is whether a violation of the injunction is satisfactorily proved. Before Wetherill's invention metallic ores were reduced by means of blast and muffled furnaces; and at the final hearing of this cause, the methods of operation in both of these were fully described to illustrate the state of the art, and to establish the novelty of Wetherill's method. To contradistinguish these processes, as well as to indicate the points of resemblance between the process used by the defendants and claimed to be an infringement, and Wetherill's, the characteristic features of Wetherill's process were stated to consist in the employment of a thin bed-fire of chestnut coal and of a superincumbent layer of pulverized ore and pea coal of the approximate thickness of three inches; the enforced passage of atmospheric air in numerous jets through the mass, by which its combustion is maintained; the vaporization of the zinc and its oxidation in the furnace above the charge; when the zinc in the ore is expelled, and the repetition of the process. In the blast-furnace—to which alone, as a prior device, it is necessary to refer—the fuel and ore are not comminuted, nor is the charge spread in a thin layer, and when its working is begun it must necessarily be continued without interruption until the furnace is blown out in all these particulars the Wetherill process is different. The bed-fire consists of fuel in a comminuted form; so also does the charge of mingled ore and carbon. This charge is spread in a layer of the maximum depth of eight or nine inches, and through it, is diffused a blast of air, not only to keep up combustion, but to supply the vaporized zinc with sufficient oxygen in the furnace-chamber to convert it into white oxide, and, when the metallic zinc is expelled from the ore, the scoria or slag is removed, and the process repeated. It is thus an alternating process, inasmuch as it is susceptible of temporary suspension and repetition, whereby it is distinguishable from the operation of the blast-furnace, which is continuous and incapable of interruption.

The process used by the defendants, is claimed to differ essentially from Wetherill's, first, in the character of the charges employed, and, second, in the continuity of their treatment; and upon the determination of these facts the result of the present application depends.

The bottom of the furnace-chamber described in Wetherill's patent is composed of perforated iron grate-bars. The double function of these bars is to support the burden of

the bed-fire and the charge, and to diffuse through it a blast of air forced into the closed ash-pit below. When the furnace is to be put in operation, a thin bed of comminuted coal is placed upon the grate-bars, and when this is ignited, the charge of mixed ore and coal is superimposed, and is spread out evenly through a wide door provided for that purpose, so as to cause an equable diffusion of the air through it. As soon as the vapors of zinc are observed to come off, the connection with the collecting-chamber is opened, into which the oxide passes and is gathered in bags. When the charge is brought to the condition of clinker, or is "slagged up," the process of reduction is at an end, and the clinker is then removed and the furnace recharged as before.

The furnace used by the defendants has a like large superficial area, into which a wide door opens, and is provided with a blast underneath the charge, but it is without grate-bars. When it is to be put in operation, the bottom is filled to the depth of about two and a half feet with scoria or slag, coarsely broken, "upon this is put a bed of charcoal, then pea coal upon the burning charcoal, and then, when the pea coal is all on fire, is put finely-crushed ore, dust coal, and marble," of the depth of about six inches. Through the wide or charging door, the blow holes in the charge are filled, and it is thus made of uniform thickness. The first products of combustion are discharged into the air, until the green flames of burning zinc are observed, when a supplemental blast is introduced above the charge, and the oxide is conducted to the collecting-chamber. When the charge is slagged, the scoria is thoroughly broken through the opened charging door, a portion of the lower stratum of scoria, equal to that produced by the worked-off charge, is drawn off from below, and a new charge similar to the previous one is introduced directly upon the red-hot scoria.

In starting the operation of the furnace, the defendant's method is, in the main, indistinguishable from Wetherill's. The preliminary bed-fire is the same in both, and so also is the charge in every essential particular. In the one case, however, the charge is supported upon a bed of perforated iron grate-bars, and in the other upon a bed of coarsely broken clinkers. But are not the functions performed by both these beds exactly the same, and are not the clinkers, therefore, only the equivalent of the grate-bars? The office of the bars is to support the burden of the charge, and, at the same time, not only to permit the passage of air from the blast into the charge, but also to diffuse it throughout the charge so

as to insure the equable combustion of it, and supply the resulting zinc vapor with oxygen to convert it into white oxide. Now, it is manifest that the charge rests upon, and is sustained by the clinker-bed, and that the air, forced into the latter by the blast, passes up through it and into the charge. But does it diffuse it throughout the charge? The air does not permeate the body of the clinker, because it is a hard, incombustible substance, composed chiefly of iron. It can only escape through the crevices in the disintegrated clinker, and as the fragments of scoria are reduced in size, so the number of air-passages is increased. The result, then, is that these crevices, distributed through the mass of broken clinkers, are filled with air, which is conveyed diffusively, by means of them, into and through the superincumbent charge. As a physical fact, this is self-evidently plain. And so the effect must be to promote diffusive and equable combustion and oxidation of the vapor evolved by it.

But, after the first charge is worked off, the residual scoria is not taken out of the furnace, but is broken up into smaller fragments, and a quantity of the cinder below, equal to it, is withdrawn from the bottom of the furnace, so that a uniform depth of bed-cinder is maintained. Now, suppose the grate-bars employed in the Wetherill process were so arranged that they could be drawn out of their place, and so permit the residuum of the charge to fall into the ash-pit below, to be thence taken out as occasion might require, would it not be as effectually removed from the furnace, as if it were withdrawn through the charging-door. All that Wetherill's patents require is the removal of the residuum, so as to give place for a new charge, and the use of his process, with only such a modification, would be a palpable infringement. Is not this just what is done in the defendants' method? The slag of the reduced charge is not actually taken out of the furnace, but an equal portion below it is taken out, and it is removed from the place occupied by it before, to afford space for another charge. Without this displacement, the new charge could not be introduced and worked, and it is only that this may be done, that the slag is withdrawn in the Wetherill process. The defendants, however, introduce a supplemental blast into the furnace-chamber above the charge. No such blast is used in the Wetherill process, and the proof, at the final hearing of the cause, demonstrated that the results were perfect without it. Now, if the means employed by the defendants to supply the charge with air beneath it operate less efficiently than Wetherill's, although they are identical in function and mode of operation, does it follow that a necessary supplement of air in one case and not in the other, renders the processes different? We think clearly not. But, in point of fact, the oxidation of the zinc fumes is effected by the lower blast in the defendants' method, as in Wetherill's. This is the import of Mr. Renwick's testimony, in which he says that vapors fit to go to the collecting-chamber were coming off the charge before the supplemental blast was turned on. But, in view of the preponderating weight of the proofs taken before the final hearing, if the product is not perfect without this additional supply

of oxygen, it must be ascribed to the defective application of the lower blast, and not to any essential difference in the character of the method of introducing it.

We are, therefore, drawn to the conclusion, that a preliminary bed-fire, or thin charge of comminuted ore and carbonaceous matter, and the enforced passage of the air in numerous jets through the mass, by which its combustion is maintained and vaporization and oxidation of the zinc above the charge, when it is expelled from the ore, are effected, are features common to both Wetherill's and the defendants' methods.

It remains, then, to consider, whether the defendants' process is a continuous, such as is practised in blast-furnaces, or an alternating one. In the treatment of the metallic ores in blast-furnaces the operation, when it is once begun, must go on uninterruptedly. There is no suspension during the process of recharging, nor can there be. "Slagging up" would occur, and as an unavoidable consequence, stoppage of the draft and of combustion. Not so, however, with regard to the process in question. Mr. Renwick's testimony clearly establishes that it may be interrupted or suspended, and resumed, without the injurious consequences which follow in the blast-furnace. And it shows also that the very result, the slagging up of the charge, which must be avoided in the blast-furnace, is necessarily produced. It proves more than this. As an intelligent expert, he was taken to the defendants' works, that he might witness a practical exhibition of the contested method, and describe it as it really is.

The inference, therefore, is unavoidable that it was shown to him as the defendants usually practised it, and as they intended it should be practised. He thus describes the consecutive steps of the process: After a charge was worked off, the blast was shut off, and the operation of the furnace stopped; a portion of the clinker, equal to the slag of the last charge, was withdrawn through the lower doors provided for that purpose; the slag of the worked-off charge was thoroughly broken up, and, by reason of the withdrawal of a portion of the lower contents of the furnace, its top level was seven or eight inches below the level of the bottom of the charging door; a new charge about six inches in depth was introduced; the upper and lower doors were closed, and the blast was turned on; the upper or charging door was opened, and the blow-holes covered with fresh charge; all the doors being closed and the blast on, the products were permitted to go to waste until the vapors of zinc, fit to go to the collecting-chamber, were observed to come off, when the supplemental

blast was turned on, and the connection with the bag-room opened.

Now, the process thus described is not an uninterrupted one. From the time when the blast is shut off, until it is turned on again, the operation of the furnace is suspended. Its operation is continued only until the condition of the charge indicates the exhaustion of its metallic ingredients, as far as this can be accomplished. When slagging occurs, and while it lasts, the production of the oxide ceases. To restore it, the exhausted charge must be displaced, its form changed, and new material introduced in its place. The condition, which it is necessary in the blast-furnace to avoid, simply indicates, in the defendants' method, the termination of the operation and the time for its renewal. In the one, it is abnormal, and disastrous; in the other, it is a necessary and desired result. Obviously, the breaking up of the exhausted charge, and the depression of its top level, are only a preparation for the reception and working of a new charge; and whatever time may be thus occupied is the measure of the interval between the complete treatment of one charge, and the renewed treatment of another.

This is not the method pursued in the blastfurnace, nor is it capable of such treatment, but in the necessary suspension and renewal of its operation, it is notably different from the continuous process.

We are, then, satisfied that the method complained of is, in substance and character, the same with the method pursued by the defendants before the injunction, for the use of which they were adjudged to be infringers.

Aailable attachment must, therefore, be awarded against the president of the defendant company, upon whom the injunction was served, and who is shown to have devised and practised the transgressing process.

{For other cases involving this patent, see *Wetherill v. New Jersey Zinc Co.*, Case No. 17,464; *Wetherill v. Passaic Zinc Co.*, Id. 17,465; *Jones v. Wetherill*, Id. 7,508.}

¹ [Reported by Hubert A. Banning, Esq., and Henry Arden, Esq., and here reprinted by permission.]