Case No. 6,576.

HOFFMAN v. ARONSON et al.

{8 Blatchf. 324; 4 Fish. Pat. Cas. 456; 4 Am. Law T. Rep. U. S. Cts. 110.}[1]

Circuit Court, S. D. New York. April 24, 1871.

PATENTS—TURN-DOWN ENAMELED PAPER COLLARS—REISSUE—SPECIFICATION—INFRINGEMENT.

1. The reissued letters patent granted to James H. Hoffman, July 25th, 1865, on the surrender of original letters patent granted to him January 24th, 1865, for an "improvement in turn-down enameled paper collars," are valid.

2. The claim of such reissued patent, namely: "The new article of manufacture consisting of a turn-down or folded enameled paper collar, substantially as described," is not a claim covering any and every turned down or folded collar made of enameled paper, without reference to the structure of such paper as enameled paper. It is a claim to the collar made of paper enameled by the use substantially of such composition, composed of such ingredients and applied in such way, as the specification of the patent describes.

3. The patentee having been the first who succeeded in making the proper enameled paper out of which to make a folded collar having the qualities which such a collar must have if made of enameled paper, he made a patentable invention which was not the mere substitution of one material for another, in the manufacture of an old article, although folded collars had before been made of linen, muslin and non-enameled paper.

4. Circumstances stated which characterize as an abortive experiment a prior attempt to make a successful folded enameled paper collar.

5. The specification stated that the coating of enamel must be very thin, and the paper of long fibre and uniformly flexible, and the pores of the paper open to the degree required to receive the enameling composition, the result being that the composition was absorbed by the paper, and the coating of enamel was so thin, and the union between it and the paper was so complete, that the fold could be made without breaking or crumbling the enamel. The specification stated the preferred ingredients of the composition to be blanc fix and white wax, with a trace of ultramarine, for tint. The defendant used one enamel made of blanc fix, glue, wax and soap, and another made of satin white, glue, stearine and alum. The satin white produced the same effect, in the same way, as the blanc fix, and the stearine produced the same effect, in the same way, as the wax. The defendant's paper was of sufficient length of fibre and flexibility to answer the purpose and admit of the fold in the collar, and, in the defendant's collars, the coating of enamel was very thin, and was incorporated with the fibres of the paper. The defendant's paper was made with its pores sufficiently open, so as not to require to be steamed, to open the pores, while the specification of the patent directed the paper to be steamed, so as to open its pores to the degree required. The specification did not speak of using glue in the composition, but it was shown that the use of glue was a matter of judgment in the skilled workman, depending on the quantity of sizing in the paper as made at the milk *Held,* that the defendant had infringed the patent.

{This was a bill in equity, filed {by James H. Hoffman} to restrain the defendants {Albert Aronson and Joseph N. Aronson} from infringing letters patent {No. 45,998}, for an "improvement in turn-down enameled paper collars," granted to complainant January 24, 1865, and reissued {No. 2,034} July 25, 1865, and more particularly referred to in the

report of the case of Hoffman v. Stiefel [Case No. 6,578]. The nature of the invention and claim is sufficiently stated in the opinion of the court.][2]

E. Wetmore and Kesller & Blake, for complainant.

Anthon & Leeas and Geo. T. Curtis, for defendants.

BLATCHFORD, District Judge. This suit is founded on reissued letters patent of the United States, granted to the plaintiff, July 25, 1865, on the surrender of original letters patent granted to him January 24, 1865, for an "improvement in turn-down enameled paper collars." The specification of the patent says: "Ever since the first introduction of turned-down paper collars as an article of usual wear, it has been attempted by many persons to make them with an enameled surface, but until my invention such attempts have failed. All such prior attempts, like my own early efforts, failed, for the reason that they attempted to make collars from paper which was enameled for, or prepared as if intended for, the uses for which enameled paper was usually employed; and from this it always resulted that the enamel, and sometimes both the enamel and paper, was cracked or broken in making the fold. The error which led to all such failures was in attempting to use for a new purpose, a material suitably prepared for an entirely different purpose. In the course of my experiments, I discovered that it was in vain to attempt to make the required fold for a turned-down collar, in paper enameled for other purposes which do not require the making of folds. No amount of care in folding, and no appliances could be devised, that could prevent the enameled surface from breaking at the fold. After making many unsuccessful efforts, and the trial of

various compositions for producing the enameled surface, none of which would stretch sufficiently to admit of making the required fold, I finally discovered that the desired result would be obtained by making the coating of enamel very thin, and much thinner than had ever before been applied in making enameled paper, and making or selecting for the purpose paper made made of pulp having a very long fibre, and by preference, obtained from linen rags. In the manufacture of the paper from which I make my improved collars, I am careful not to reduce the linen stock to a finer pulp than is absolutely necessary for paper of the thickness required, that the fibres may remain long and the body of the paper be uniformly flexible; or, I am careful to purchase, for my manufacture, linen paper having these characteristics—a long fibre and uniform flexibility. Taking paper so made, I moisten and steam it until all its pores or spaces between its fibres are opened to the degree required to receive the composition which constitutes the enamel of the collar when finished. The composition I prefer for this purpose consists of about four parts of blanc fix, one part of white wax, and a trace of ultramarine, to give the required tint. The blanc fix being digested (like the ultramarine) in hot water, and the white wax being melted, are mixed in about these proportions, and stirred thoroughly together, until the wax is intimately incorporated with the other materials, and the whole reduced to a thin homogeneous paste, which is now applied warm to the surface of the steamed paper by a brush, or by coating a warm metal plate, and then laying the paper, sheet by sheet, upon the plate, and then letting the composition be taken up by absorption from the surface of the plate. Great care must be observed to put on the coating of composition so thin that it will simply cover the surface of the paper, and, for that reason, I prefer to apply the thin coat of composition with a brush to the surface of the metal plate, from which it is then absorbed by the paper, although it may be applied directly to the paper with a brush. After the paper has been thus coated, it is passed between polished heated rollers, under considerable pressure, by which the composition is caused to adhere firmly to the paper and the outer surface highly polished. From paper thus prepared, the collars are cut to the required form, for ladies or gentlemen, and then folded or turned down. The union of the composition and the paper is so complete, and the coating of composition so thin, that the fold can be made without breaking or crumbling the enamel—a result never obtained before my said invention. The collars can be embossed, or punched, or printed, as desired, as the surface so enameled will receive without injury any desired style of ornament or finish. The claim is: "The new article of manufacture, consisting of a turn-down or folded enameled paper collar, substantially as desired."

The bill charges, as an infringement, that the defendants have made and sold collars made and manufactured upon the plan described and claimed in the patent. The answer denies that the patent is valid, or that it secures to the plaintiff any right to prevent the defendants from making or selling the particular kind of paper collars made and sold by

them, for these reasons: 1. That, as matter of fact, a turn-down collar, made of linen, muslin, or paper, was an old article before the date of the plaintiff's invention; and that, if the plaintiff was the first person who ever made turn-down or folded collars of enameled paper, such substitution of one material for another, in the manufacture of an old article, will not support a patent for a new article of manufacture, as claimed in the plaintiff's patent. 2. That the patent contains a false suggestion in a matter of fact, namely, that the state of the art of making enameled paper prior to the plaintiff's invention was such, that none of the previously known processes of preparing enameled paper would admit of making an enameled surface that would not break in folding, whereas, prior to the plaintiff's invention, the art of making enameled paper embraced many known processes of manufacture, whereby, without an invention, in fact or in law, and by methods well-known and practiced by those skilled in the art, an enameled paper could be prepared fit to be used in the manufacture of turn-down or folded paper collars, and capable of folding without breaking the enameled surface at the fold. The answer avers, therefore, as matter of law, that the patent can not be supported as covering a new article of manufacture, because the material of which such new article is, in the patent, described to be made, namely, an enameled paper capable of folding without breaking the enameled surface at the fold, could be made without invention, by the application of processes well known in the previous art of enameling papers.

The answer also sets up, that one Lindley M. Crane, in 1863, at Ballston Spa, New York, and at Troy, New York, practiced the same process of manufacturing turn-down enameled collars that is described and claimed in the plaintiff's patent, and made and exhibited to others turn-down enameled paper collars of enameled paper, that did not break at the fold, when folded in the process of forming the collar.

The answer avers, that the defendants are manufacturers and venders of turn-down paper collars by a process of manufacture known as the linen finish, and essentially unlike the plan of manufacture described and claimed in the plaintiff's patent, and that they have not infringed that patent.

The specification sets forth, as the essence of the plaintiff's invention, that he has discovered the method of producing a properly enameled paper out of which to make a turn-down paper collar wholly of enameled

paper, by putting the proper enamel on the proper paper, in the proper way, so as to enable the fold to be made without cracking or breaking the enamel or the paper. The specification speaks of paper collars as old, and of turn-down paper collars as old, but the new thing is a turn-down paper collar practically and successfully made of enameled paper. The reason why the prior attempts to make such a collar failed is pointed out. The enameled paper used was not proper enameled paper for the purpose, and, therefore, the enamel always cracked or broke in making the fold, and sometimes the paper also did so. The enameled paper used was not suitable for the new purpose, but was suitable only for the purpose had in view when such enameled paper was used, which was not the purpose of making therefrom turn-down collars which required to be folded in the manner in which such collars are folded. The specification then states, that the plaintiff made many unsuccessful experiments to produce the enameled surface required, and at length discovered that the coating of enamel must be very thin and much thinner than had ever before been applied in making enameled paper; that the paper must be paper of long fibre, and, therefore, uniformly flexible in its body; and that the pores of the paper must be open to the degree required to receive the composition constituting the enamel. The composition is absorbed by the paper, and the union between it and the paper is so complete, and the coating of composition is so thin, that the fold can be made without breaking or crumbling the enamel. This result, the specification avers, was not obtained before the plaintiff's invention. The constitution of the enameling composition which the patentee says he prefers is given. It consists of about four parts of blanc fix and one part of white wax, and a trace of ultramarine, to give the required tint. They are to be mixed into a paste, which is to be applied to the surface of the paper and made to adhere firmly to it.

The defendant's enameled paper, out of which their collars have been made, was at first made by using a composition of blanc fix, glue, wax, and soap. More recently the composition has been made of satin white, glue, stearine, and alum.

Much discussion was had, on the argument, as to the proper construction of the claim of the plaintiff's patent. This patent came before me for consideration in the case of Hoffman v. Stiefel [Case No. 6,578]. I then said: "The evidence shows that the plaintiff was the first person who successfully made a turn-down or folded collar wholly of paper with an enameled surface. The enameled paper known prior to the making by him of the invention covered by his reissued patent was unsuitable for the making of a turned-down or folded collar wholly of paper. The fact that such a collar was not known as a practical thing before the plaintiff made it, would naturally lead to the conclusion that the proper enameled paper was not made until the plaintiff made it, because, if the paper had been known, the use of it for the collar was sufficiently obvious. Finding no proper enameled paper ready to his hand, the plaintiff experimented for sometime to produce it,

and at length succeeded, and the making of the collar followed. As the plaintiff invented the proper mode of enameling the proper quality of paper to enable a turned-down or folded collar to be made wholly of paper, without any danger of crumbling or breaking the enamel by the operation of folding, the collar made from such enameled paper was a new article of manufacture, and the claim to the new article of manufacture consisting of a turned-down or folded enameled paper collar, substantially as described, is valid." In that case, the infringement of the patent was not disputed. The views I then expressed have only been confirmed by the evidence developed in this case. But there is nothing in those views which countenances the idea that the patent is to be construed as claiming any and every turned-down or folded collar made of enameled paper, without reference to the structure of such paper as enameled paper. The claim is to the collar made of such enameled paper—that is, such paper and so enameled, enameled by the use substantially of such a composition, composed of such ingredients and applied in such way, as the plaintiff describes. On this construction of the claim, the patent must be tested as to its novelty and validity, and the question of its infringement must be decided.

In this view, there is no force in the objection taken in the answer, that the patent cannot be sustained because the plaintiff has done nothing except to substitute, in making a turn-down or folded collar, enameled paper, as a material, in place of linen, muslin, or non-enameled paper. The evidence is very full and clear, that the plaintiff was the first person who succeeded in making the proper enameled paper out of which to make a folded collar having the qualities which such a collar must have if made of enameled paper. He experimented for some time to produce such a paper. Other persons experimented to produce it and failed. It did not before exist. He created what is, in the eye of the patent law, a new material. It is shown to be the only material suitable for making a folded collar of enameled paper. It is true that paper existed before, and enamel existed before, and enameled paper existed before, and every ingredient the plaintiff used in his composition existed before, and a composition composed of the ingredients he used in his composition existed before, and paper had before been enameled by coating its surface with an enameling adhesive composition. Yet the plaintiff made an invention, and a highly useful one, and he

clearly describes it in his specification. That invention was not the mere substitution of one material for another, in the manufacture of an old article. In view of the evidence as to the state of the art, it required invention, and involved the exercise of invention, to make an enameled paper suitable for a folded collar.

The evidence as to what Crane did shows, at most, an abortive experiment. The collars he made and had made have disappeared, the enameled paper used to make them has disappeared, the name of its enameler is unknown, the process by which it was made is not stated, its structure is not described, and the circumstances attending the making of the collars, according to the evidence of Crane and Frisbie, were such that, in view of the recognized importance at the time, as shown, of the production by paper collar manufacturers of a successful folded enameled paper collar, if Crane had produced one, the persons to whom he refers as having seen the collars he made, and the enameled paper he had, would never have suffered so valuable an invention to be lost. It was not followed up and the world was no wiser because of it. Crane himself afterward became a licensee under the plaintiff's patent.

It is claimed that the defendants have not infringed the patent of the plaintiff. But the defense on this point fails. The enameled paper they have used to make their collars is substantially the same article as that described in the patent, whether made with a composition of blanc fix, glue, wax, and soap, or with a composition of satin white, glue, stearine, and alum. It is shown that the satin white was substituted for the blanc fix; that blanc fix and satin white are both used for the same purpose and produce the same effect, in the same way, in the composition, namely, to give color and body to the coating, and are equivalents for each other in the composition; and that wax and stearine are both used for the same purpose and produce the same effect, in the same way, in the composition, namely, to give a gloss to the coating, and are equivalents for each other in the composition.

The paper used by the defendants is of sufficient length of fibre, and consequent flexibility, to answer the purpose and admit of the fold in the collar. Johnston, one of the witnesses for the defendants, says that, in order to prevent the paper or enamel from breaking at the fold, it is the most desirable point of all, as a requisite, to have the paper of a sufficient length of fibre, and to have the mixture applied in a sufficiently dilute condition.

The testimony shows, in accordance with the language of the specification, that, in order to enable a suitable paper to be enameled with any composition, so as to make a successful turned-down enameled paper collar, the enamel must be applied thin, and must be so applied as to be incorporated with the fibres of the paper. These features are made prominent in the specification. The thinness of the coat is spoken of at four places. The incorporation of the enamel with the fibres of the paper is insisted on, in the direction

that the spaces between the fibres shall be open to the degree required to receive the composition, and in the statement that there is a complete union of the composition and the paper, and that the composition is absorbed by the paper. It is shown by the evidence, that the paper used to make turned-down enameled paper collars is much heavier and thicker, than the enameled paper used for other purposes before the plaintiff's invention; that an enamel of a given thickness on a light paper will not break in folding the paper, when an enamel of the same thickness on a heavier and thicker paper will break in folding the paper, unless the enamel be incorporated, according to the plaintiff's invention, with the fibres of the paper, and the external coating of it left very thin; and that, by such mode of enameling, there is no more liability to have the enamel crack with a thick paper, such as is required for a folded collar, than with a thin paper, whereas, in the former mode of enameling, of simply coating the surface of the paper, the enamel would break the more easily in folding as the paper used was the thicker. The proof shows that, in the defendants' collars, the coating of enamel is very thin, and is incorporated with the fibres of the paper. Such fibres were, before the enamel was applied, open, in the language of the specification, to the degree required to receive the composition.

Much stress is laid by the defendants on the suggestion, that they do not steam their paper; that the plaintiff, in his specification, states that he moistens and steams his paper "until all its pores, or spaces between its fibres, are opened to the degree required to receive the composition;" and that, therefore, there is no infringement of the patent. It would naturally occur to any one, that if, in the defendants' collar paper, the composition is incorporated with the fibres of the paper, such composition must have reached the spaces between the fibres because such spaces were open to receive it; that, in making paper for collar paper, where the pores are required to be open to receive such composition, it would be easier and more economical to leave the pores open in manufacturing the paper, than to fill them up only to have them opened again by steaming the paper; that, if the patent directs steaming to be done to open the pores, setting forth the opening of the pores to be necessary, and setting forth why it is necessary, it is because it assumes the paper to be paper with its pores closed; that it is probable that all the paper "of the thickness required," as the specification says, for folded collars, known at the time the patentee made his specification, was made with its pores closed; that it

is also probable, that, since his invention, paper of the thickness required is made with its pores open; and that, therefore, the question of steaming the paper has relation, properly, only to the question of whether the pores of the paper are sufficiently open without going through the process of steaming the paper. And such is the result of the evidence.

It is also urged, for the defendants, that they do not infringe because they use glue in their composition, and the patent does not speak of glue. Much testimony was taken, on the part of the defendants, to show that enameled paper for folded collars could not be successfully and practically made according to the description in the plaintiff's specification, without the use of glue. But this testimony was met and overthrown, and the counsel for the defendants admitted, on the bearing, that the plaintiff had proved with very great precision and beyond a peradventure, that his method of preparing enameled paper, as laid down in his specification, could be and was carried on successfully without the use of glue in the enameling composition. This subject of the use of glue in the composition has a connection with the question of the openness of the pores of the paper, and with the question of the sizing put into the paper at the paper mill in making it. Broadbent, one of the witnesses for the defendants, says, that, in enameling the paper for folded collars, the enameling composition must be exactly prepared to meet the condition of the paper; that paper may be slacksized at the mill and may not have any sizing in it at all; and that, in that case, it will require glue, or some such substance, in the enameling composition, to supply the want of sizing, and in proper proportions to meet the condition. Walther, a witness for the plaintiff, says, that where the collar paper has in it the proper quantity of sizing, it is steamed to open the pores, and no glue is used in the composition; that, if the paper is deficient in sizing, it is either sized by the enameler or sizing is put into the enameling composition; that, if the paper is well sized, as all collar paper, if properly made, should be, the use of glue is not necessary to incorporate the composition with the open pores of the paper; that, prior to the plaintiff's invention, it was part of the state of the art, to put glue or some other glutinous substance into the enameling composition, when the paper was deficient in sizing, and that, when the enameled paper for the folded collars was first made, it used to be made with sufficient sizing. The use of the glue or sizing is to insure the firm adhesion of the coating of composition to the paper. The plaintiff testifies, that, at the time be made his invention, in the latter part of 1864, the collar paper, as furnished by the paper mills, was generally much better sized and more highly calendered than it has been more recently and is mow; that, as a general thing, it is not now as well made in either of those respects; that any enameler would know how to correct the absence of sufficient sizing in the paper, by adding it to the composition; and that that was part of the knowledge of the enameler when the plaintiff's invention was made. This testimony is not contradicted. It disposes of the objection that the plaintiff's specification does not prescribe the use of glue, and of the further objection that it does not direct that

the paper shall have any particular degree of sizing. Those are matters of judgment in the skilled workman, to whom the specification is addressed. It speaks as of its date, the end of 1864, or January, 1865, and in reference to the collar paper as then in the market, in regard to sizing. When such collar paper is used, it has sufficient sizing, without the use of glue in the composition, to make the composition adhere firmly. But, because it is so sized, its pores are closed by the sizing and require to be artificially opened. If the paper is made with deficient sizing, so as to leave its pores open, and make steaming unnecessary, glue must be added to the composition. The plaintiff, using the sized paper which, on the evidence, must be held to be the paper to which his specification refers, found that, if be opened the pores, the composition would do its work without glue. He, therefore, said nothing about glue. But every enameler knew that a deficiency of sizing in the paper was to be supplied by putting glue into the enameling composition. The defendants create such deficiency of sizing, so as to get open pores in the paper without steaming it, and then supply the want of sizing by adding glue to the composition. This is an invasion of the patent under a guise of evading it.

That the plaintiff applies his composition warm, and presses the coated paper between heated rollers, as stated in his specification, are minor matters, not shown to be of the essence of the invention. They do not affect the question of infringement.

The fact that the defendants emboss their paper collars with what is called the linen finish, is outside of the subject involved in the controversy. The plaintiff's specification says, that the surface enameled by his process will receive, without injury, any desired style of ornament or finish, and that the collars can be embossed as desired.

It results, that there must be a decree for the plaintiff, for a perpetual injunction and an account of profits, in the usual form, with costs.

{For another case involving this patent, see Hoffman v. Stiefel, Case No. 6,578.}

[1] {Reported by Hon. Samuel Blatchford, District Judge, and by Samuel S. Fisher, Esq., and here compiled and reprinted by permission. The syllabus and opinion are from 8 Blatchf. 324, and the statement is from 4 Fish. Pat. Cas. 456.}

[2] {From 4 Fish. Pat. Cas. 456.}