Syllabus.

COLLAR COMPANY *v.* VAN DUSEN.

1. The purpose of a reissue is to render effectual the actual invention for which the original patent should have been granted, not to introduce new features.

   Therefore, in an application for reissue parol testimony is not admissible to enlarge the scope of the invention beyond what was described, suggested, or substantially indicated in the original specification, drawings, or Patent Office model.

2. Whether a reissued patent is for the same invention as the original, depends upon whether the specification and drawings of the reissued patent are substantially the same as those of the original; and, if not, whether the omissions or additions are or are not greater than the law allows to cure the defect of the original.

3. Where the original patent for improvement in paper shirt-collars, granted to Andrew Evans, May 26th, 1863, stated the invention to consist, first, in making the collars of parchment-paper, or paper prepared with animal-sizing; and second, in coating one or both sides of the collar with a thin varnish of bleached shellac, to give smoothness, strength, and stiffness, and to repel moisture; the claim being for "a shirt-collar made of parchment-paper, and coated with varnish of bleached shellac, substantially as described, and for the objects specified:" *Held*, that a reissue thereof which describes a paper other than parchment-paper, or one prepared with animal sizing, and which does not require either side of the collars to be coated with a varnish of bleached shellac for any purpose, the claim being for "a collar made of long-fibre paper, substantially such as is above described," is for a different invention from that embodied in the original patent.

4. Articles of manufacture may be new in the commercial sense when they are not new in the sense of the patent law.

5. New articles of commerce are not patentable as new manufactures unless it appears in the given case that the production of the new article involved the exercise of invention or discovery beyond what was necessary to construct the apparatus for its manufacture.

6. It appearing that the collars made by Evans, apart from the paper composing them, were identical in form, structure, and arrangement with collars previously made of linen paper of different quality, and of other fabrics, and that Evans did not invent the special paper used by him, nor the process by which it was obtained: *Held*, that he was not entitled to a patent for the collars as a new manufacture.

7. The relations of an employer and a party employed by him, in regard to the origin of inventions, stated.

8 The object in turning down a collar on a curved line instead of a straight line is precisely the same, whether the collar be all paper, paper and linen, or all linen. Hence, where it appeared that linen collars had

been turned over on a curved line, to prevent wrinkling, and to afford space for the cravat: *Held*, that it was not patentable to apply the same mode of turning down to collars of paper or paper and linen.

Reissued patent of Andrew Evans, for "improvement in paper shirt-collars," July 10th, 1866 (original May 26th, 1863), and of Solomon Gray, "for improvement in turnover shirt collars," March 29th, 1864 (original June 23d, 1863), pronounced invalid.

APPEAL from the Circuit Court for the Southern District of New York, in which court the Union Paper-collar Company filed a bill against Van Dusen, to enjoin him from making shirt-collars out of a certain sort of paper which he was using and to which they claimed an exclusive right, and also from turning over the collars so made, by a particular contrivance which he was also using, and of which, as of the fabric of the collar, the company claimed a monopoly.

The claim by the company of exclusive right as to the fabric of the collars—that is to say, the sort of paper out of which they were made—was founded on a grant to them of a patent, reissued to one Andrew Evans; the claim of similar right as to the device by which the collar was turned over, was founded on the grant to them of a patent reissued to a certain Solomon Gray.

Van Dusen, admitting the use both of the special sort of paper and of the device for turning the collars over, set up:

I. AS TO THE EVANS PATENT, THE ONE, NAMELY, FOR THE FABRIC—

1. That the reissue to Evans was void, as not being for the same invention as the original patent.

2. That, whether or not, both original and reissue were void for want of novelty.

II. AS TO THE GRAY PATENT, THE ONE, NAMELY, FOR THE DEVICE—

1. That it too was void for want of novelty.

The reader will, of course, remember that the Patent Act authorizes the issue of a patent only when a person has invented or discovered some "*new manufacture*, or some new and useful improvement thereof, not known or used by others;" and also that while authorizing in certain cases the reissue with an amended specification of an original

patent, where the specification has been defective, the act contemplates that the reissued patent shall secure no other than "the same invention" meant to have been secured by the original.*

The case was thus:

I. *As to the Evans patent and reissue, the fabric for making shirt-collars.* Paper being made out of linen, among other things, and some sorts of paper being more stiff or more tough than others, it had been observed long prior to the grant of any patent on the subject, that shirt-collars could be made out of the stiffer or more tough sort of papers, and that the collars, if used but for a short time and not closely looked at, might pass for linen collars. A man named Olmstead, the "property-man" of a band of negro minstrels, who used to costume themselves in fantastic style, had used them so far back as 1851 to dress his minstrels when performing at a place called "White's Varieties," in the Bowery, New York. He said:

"In the year mentioned, and afterwards, we made wooden blocks or patterns from linen collars, and laid the blocks on paper. We would then mark the paper with a lead-pencil, and afterwards cut out the collar from the paper by the marks, with a pair of scissors. For stiff or 'stand-up' collars of large size and fantastic shape—such as we used when we wanted collars with long points and to come up nearly to the men's eyes—we used Bristol boards, such as artists use. The outside of that board is glossy. The other side, which is not glossy, the performer put next his face. The gloss prevented the burnt cork, with which the so-called negro minstrels (who are all white men) are blackened, from sticking to the paper. Turned-down collars we made out of paper. We did this by simply pinning the paper to a cravat and then laying it on a board and turning it over the cravat. Sometimes these collars were cut in two at the back; that is to say were made out of two pieces of paper. When we wanted fancy collars we would prick the Bristol board or paper. The holes looked like stitches. Sometimes we would paint them pink or blue, or in stripes, so as to be like

* Revised Statutes of the United States, §§ 4885, 4916.

Statement of the case.—Evans's patent; that for the fabric.

colored linen or linen, with blue or pink stripes. The fancy collars were worn, of course, only on the stage. But the white ones, our men—who as a class are lazy fellows—would sometimes wear in the street. On the stage we could, with care, wear the collars several times. In the street, only once or twice. We got the Bristol boards and paper out of which we made these collars at Rayner's, a stationer, in the Bowery. I sold these collars for eight or nine years, and from two to five cents. I did not go regularly into the business because I had no capital."

Subsequently a person named Hunt made a business of selling paper-collars, and got a patent for the particular sort which he made. This sort was made out of paper applied to some woven fabric, the paper, which was worn on the outside, giving to the loose and limber fabric of the woven fabric rigidity, and the general appearance of a starched linen collar, while the woven fabric, worn next the skin, sustained and gave strength to the paper. Nevertheless, these collars were expensive and had a harsh and inelegant look. In addition, they wanted pliability, and when turned over were apt to crack and form a roughened edge.

However, as already said, paper had long been made having different degrees of toughness. Some paper—"short-fibre paper," as it is called, the sort commonly used for the inferior class of newspapers—paper made from wood, or from poor cotton rags ("soft stock," as it is called) or from old paper itself, or by imperfect processes—is brittle, and tears easily. But another sort, "long-fibre paper," that made from linen rags, or linen canvas, manila rope, Kentucky bagging, &c. ("hard stock," as it is called), and from which, by some variation in the machinery producing it, and with more time, are produced the papers known as bank-note paper, cartridge-paper, silk-paper, and tissue-paper, among the thin papers, and parchment-paper, drawing-paper, and Bristol boards, among the thick, is highly tenacious and some of it quite pliable.

A reference to the general features of the process of paper-making by mechanical means will assist comprehension of subsequent parts of the case.

Statement of the case.—Evans's patent; that for the fabric.

After the "stock"—best rags or what else—is sorted and cut, it is generally cleaned by boiling, and finally put, with the requisite quantity of water, into the "beating engine," where it is beaten or ground into pulp. The beating engine is simply a vat divided into two compartments by a longitudinal partition, which, however, leaves an opening at either end. In one compartment a cylinder revolves, called the "roll," its longitudinal axis being at right angles to the length of the vat. In this cylinder, and parallel with its axis, are inserted a number of blades or knives which project from its circumference. Directly beneath the roll, upon the bottom of the vat, is a horizontal plate, called the bed-plate, which consists of several bars or knives, similar and parallel to those of the roll, bolted together. The roll is so arranged that it can be raised or lowered, and also the speed of its revolutions regulated at pleasure. The vat being filled with rags and water, in due proportion, the mass is carried beneath the roll, and between that and the bed-plate, and passing round through the other compartment of the vat, again passes between the bed-plate and roll, and so continues to revolve until the whole is beaten into pulp of the requisite fineness and character for the paper for which it is intended. When the beating first begins, the roll is left at some distance from the bed-plate, and is gradually lowered as the rags become more disintegrated and ground up. The management of the beating engine is left to the skill and judgment of the foreman in charge. The knives may be sharp or dull, the roll may be closely pressed upon the bed-plate or slightly elevated, the bars and knives may have the angles which they make with each other altered, so that they either cut off sharply, like the blades of scissors, or tear the rags more slowly as they pass between them. The duration of the beating also varies according to the nature of the pulp, the length of fibre required, the condition of the knives, &c.; and the speed of the revolutions given to the roll is varied in like manner.

After the pulp has been beaten until the foreman judges

that it is of the right length of fibre and quality for the paper desired, it is drawn off from the engine and first passes through the "screens," a kind of sieve, which removes lumps and impurities. The pulp is then poured out upon the wire-cloth, the water draining through the meshes of the wires, an operation which is aided by "suction-boxes" that exhaust the air and suck the water out of the pulp. The thickness of the paper is mainly regulated by the amount of pulp poured out upon the wire, it being kept from flowing over the edge by raised guards. The pulp is carried by the motion of the wire beneath a succession of rollers, the first light and the last heavier, until a heavy roller covered with felt carries it off the wire by its adhering to the felt, and it then passes through heated rollers until it comes out pressed into paper. It is finished by passing under calender rolls, and given more or less gloss as may be required. It is usually sized and colored in the vat before the pulp is beaten. A white color is obtained by bleaching the rags, selecting white rags if possible for the original stock, taking pains to use clear water, and adding blue coloring matter if a yellowish-white is not desired.

There seemed to be no essential difference in the principles on which the two sorts of paper—short fibre and hard fibre—were made. The "stocks," as already said, were different. The machines using them, however, had no mechanical principles different for the two sorts of paper. For long-fibre paper the knives used in the process of pulping must be dull, and the process of beating must be long—forty-four hours being commonly given. For the short-fibre paper, the knives may be dull and the process of beating may be short—four hours suffices. To produce a thick paper, the device of doubling the sheet, where the machine is a cylinder machine, has long been resorted to. And, of course, where the paper is thick and of long fibre, it yields the water in it less readily than when it is thin and of short fibre, and more power must be brought on the pulp in order to expel the water. In the Fourdrinier machine—where the principle of suction is used—stronger

suction, it need hardly be said, is required to extract the water in the case of the thick paper than of the other.

The matter of coloring is, of course, a matter of taste.

In all parts of the subject, however, there is great room for skill; the thicker, more tenacious, and more sightly paper being produced in different degrees of excellence according as the proper "stock" is used, as the paper-making machines are good, and as they are scientifically used. And as the demand for the thicker and more tenacious and pliable papers is comparatively limited, and the manufacture of each of its branches, to some degree a special business, there are much fewer machines for making it, and much fewer makers of it than there are machines for making ordinary paper and makers of *it*.

Without any effort, therefore, to obtain or to produce a paper other than that already known and in use, Evans, who was not a paper-maker at all, on the 15th of May, 1863, got an original patent for an "Improvement in Shirt-collars." His specification said:

"The nature of my invention consists—

"*First.* In making shirt-collars of a fabric known to the trade as 'parchment-paper,' or paper prepared with animal sizing, which may be manufactured cheaper than a fabric composed of paper and cloth, is sufficiently tough and strong to form tenacious button-holes, is susceptible of a smoother surface and polish than cloth-paper, and can be turned over without cracking and forming a roughened edge, &c.

"*Second.* In coating one side or both sides of paper shirt-collars with a thin varnish of 'bleached shellac,' which not only adds smoothness, strength, and stiffness to the fabric, but also being a repellent of water, prevents perspiration or other moisture from entering the collar. The shellac, moreover, renders the surface of the paper so hard and smooth that it wears much longer without being soiled by exposure to dust or damp. I make my collars of any of the patterns or shapes in general use, either 'stand-up,' or 'turn-over,' and provided with button-holes, by means of which they are attached to shirts in the usual manner.

"I first take the 'parchment-paper,' or paper prepared with

animal sizing, and cover one side or both sides of it with thin varnish of 'bleached shellac,' and allow it to dry. The paper is then passed between polishing rollers, such as are in general use for polishing paper or cloth. And this operation finishes the fabric ready to be made into collars. The collars are cut out and the button-holes punched by dies with great rapidity.

"My invention constitutes, I think, a great improvement in the art of making shirt-collars, producing a cheaper and better article of its kind than any known or used before.

"Having thus described the nature and operation of my improvement, what I claim as new, and desire to secure by letters-patent, is—

"A shirt-collar *made of parchment-paper and coated with varnish of bleached shellac*, substantially as described and for the objects specified."

These collars made of parchment-paper coated with varnish of bleached shellac, were however open to objections. They did not look at any time very much like starched linen, became discolored after a little time, and showed plainly that they were not linen. The moisture of the skin coming against the sizing caused them to emit an odor not pleasant. Moreover the "Byron" or turned-down collar was now coming into vogue, and the parchment-paper with its coating of shellac answered even less well for it than it did for the stiff or stand-up collar.

Evans now put himself into communication with different paper-makers, to get a sort of paper better suited for *his* purposes than any of the different sorts previously made; something which while it was paper and could be produced cheaply should yet have such a thickness, tenacity, pliability united with strength, and have moreover that polish of surface, and that exact bluish tint which is found in the best starched linen—as distinguished from yellowness and from dead white—which would deceive even critical observers who had no opportunity of judging otherwise than by the eye. No such exact variety of paper had yet been made, nor, so far as appeared, had been attempted to be made. He went to numerous paper mills. He conferred with numerous paper-makers. He spent much money. He made

many suggestions. The manufacturers studied the matter carefully; got the exact sort of "hard stock" that they thought would produce the special sort of paper that he wanted—and to which, in advance of its coming forth, they gave the name of "collar-paper"—made certain alterations in the machinery of their mills, and went to work; some producing their "failures," and some their approximations in close degree to what he wanted. Evans would sometimes come to the mills, "and had a great deal to say."

The following extract from one or two of his letters illustrates what sort of instruction he was constantly giving. To one manufacturer, in acknowledging the receipt of some paper, he says:

"The paper as regards color is all right. It is not, however, *thick* enough to make the stand-up collar. It will answer for the turn-over collar. I have now on hand stock enough that you have sent me to make 40,000 collars; but it is only suitable for the turn-over collar. I am very much in want of some thicker stock to make a stand-up collar. You don't seem to understand by my letters just what I want; and yet I try to explain explicitly for your information. What I wish you would do is for you to come to Boston and see my place of business, *and let us have a good substantial talk over the matter. It will take only one day, and then I can explain to you just what I want.* I want to show you what I have on hand, and show you *by comparison* what I want for an alteration. If you cannot come, or do not think it advisable to do so, please write me by return mail; and then I will send another order, and take the chance of its being right. I have not, however, had any stock right to cut one style of collar which is very much wanted—the stand-up collar."

In another letter he says:

"I want the paper of the style marked A.S., the hard finish, so that it may be strong. The color of the last two lots was just right. You need not make any variation as to color. It was perfect. Only give the paper to me thicker. Do not make the quantities of each lot too large, for fear they will not be just right. I was sorry not to see you in Boston. I could explain to you much better by seeing you than by writing. Just please

see if you understand me this time. It is so difficult for me to explain by letter. I wish I could see you."

In a third he says:

"I am not positive that what you make will be *just* what I want when finished. Instead of seven hundred pounds of each size, I wish that you would not make more than two hundred pounds of each, that I may see if it is just right. This is still an experiment, and I have already lost considerable money in experimenting in my paper. Could I but see you one half-hour at my place, to explain to you, and show you by comparison, there would be no doubt in the mind of either of us whats i wanted. Don't be discouraged. They like my collar as it is; but I am going to have it more perfect. I want some stock heavy enough, thick enough, strong enough, handsome enough, to make my stand-up collar; but I want it just right, before you make me up too large a quantity."

At last Evans got just the paper that he wanted.

In this state of facts, he assigned his patent to the Union Paper Collar Company, and they applied for and got a reissue.

The reissue like the original patent was for an "improvement in paper shirt-collars," and ran thus:

"Be it known that Andrew Evans, of Boston, &c., did invent a new and useful improvement in shirt-collars, and that the following is a full, clear, and exact description of the same.

"Previous to the invention of the said Evans, collars were made of paper applied to some woven fabric, the paper serving the purpose of giving to the loose and limber fabric the body, rigidity, or stiffness, and general appearance of a starched linen collar, while the backing of cloth or fabric gave it the necessary strength or resistance. The increasing cost of the backing and the difficulty attending the manufacture, render the collars intended to be worn, as a general thing but once, too expensive to answer the purpose they were designed for. The object of the said Evans was, therefore, to make a paper-collar in which the cloth-backing may be dispensed with, and which he did, as follows:

"Said Evans discovered, as the result of many experiments, that in order to produce a really good collar, the paper must pos-

sess the following qualities, viz., strength to withstand the usual wear and tear, particularly where button-holes are used, without excessive thickness, such as to destroy the resemblance to a starched linen collar, and tenacity or toughness, with pliability sufficient to allow the collar to be folded upon itself without cracking at the fold, and the pureness of color and necessary polish to make it resemble starched linen.

"He made his collars out of a paper which he produced, or caused to be produced, in which he combined these qualities; which paper was made of a long fibre, substantially, in this respect, like banknote-paper, but of about the same thickness as that of an ordinary collar, and of a pure shade or color, such as to resemble starched linen.

"By means of the length of fibre in the material, he was enabled to obtain, from the degree of thickness above specified, a sufficient degree of strength, tenacity, and pliability to make a collar practically useful for wear, without interfering with the resemblance in appearance to a linen collar. *A sample of the paper which he thus found suitable and used, is shown, filed with the original application of the said Evans for his patent, above referred to.*

"To produce a paper having the above-mentioned qualities, what is known as 'hard stock' should be used in larger proportion than is required for other descriptions of paper, except for that which is known as banknote-paper, and in the process of pulping the stock dull knives should be used, and the distance of the knives or beaters, and their mode of striking the knife-bar, should be so arranged as to draw out the pulp instead of chopping it short, constituting what is known as the 'long-beating' process; and this long beating should be continued for a great length of time, so that the fibre shall be not only long but fine, and thereby the paper not only be more strong, but more smooth and even, and the fibre become bedded in the thickness of the paper so as not to mar the surface.

"After the stock is thus pulped, the paper, if made upon a cylinder machine, may be run off in two or more sheets of pulp, which may be united, as they run from several cylinders—and pass together, one over the other, under the press or rolls—into one sheet of the required thickness; or one sheet may be first run off upon a reel, and then united in the same manner with another sheet running from the cylinder, and both passing under

the rolls together; but the former mode is found preferable in practice, as the several sheets are in that case of equal degrees of moisture, and therefore form in that state a more perfect union. In case a single sheet is used, made upon a cylinder machine, as its thickness and length of fibre tend to retain the moisture, great care must be taken to expel the water from the pulp.

"In case a Fourdrinier machine is used, the paper may be made of the required thickness from a single sheet of pulp; but the 'wire' on which the pulp is formed should be supplied with extra suction-boxes to remove the water, and its forward motion should be much slower than in the manufacture of ordinary paper, whilst the lateral or vibratory motion of the wire should be as rapid or more rapid than usual, in order to afford greater time and motion for extracting the moisture from the pulp.

"Care should also be used to give to the paper in the pulp the slight bluish tinge which is found in starched linen, and to prevent its having a dead or yellowish-white color.

"The invention of said Evans is not confined to the use of any specific proportion of 'hard stock,' nor to any specific time or mode of 'long beating' of the pulp, nor any specific method of running off or uniting the sheets of pulp, or of exhausting the moisture, or of giving the required tint; but it is believed that the quality of stock to be used, the process by which the length of fibre and the required shade of color are produced, will be readily understood by paper manufacturers, having regard to the above description and the purposes for which the paper is designed.

"This paper *may* be prepared with animal sizing, and when so prepared it is known in the trade as parchment-paper, or such sizing may be dispensed with.

"The paper *may* also be covered on one or both sides with a thin varnish of bleached shellac, and allowed to dry; or such varnishing may be dispensed with. The paper, having been passed between polishing rollers such as are in general use for polishing paper or cloth, is ready to be made into collars.

"The collars are cut out, and the button-holes, if any, are punched by dies; and the collar may be indented along a line running parallel with the exposed edges, so as to imitate the stitching of sewed collars, and of such various patterns or shape as are in use, either 'stand-up' or 'turn-over;' and provided, if

required, with button-holes, by means of which they might be attached to shirts in the usual manner.

"What is claimed under this patent is the invention of the said Evans, and desired to be secured by letters-patent, as a new article of manufacture, is—

"A collar made of *long-fibre paper*, substantially such as is above described."

As to whether the manufacture of collar-paper was a novelty, the evidence was contradictory. Mr. Crane, the manufacturer of it and a person long established in the business of paper-making, said:

"It was at that time a new manufacture. We never heard of it before. We had heard of the paper and cloth collar, but never of collar-paper made expressly for collars before. I can't recall any paper it resembles, except Bristol board; and this is an entirely different thing, when you come to examine it. I have often thought it over. If I have found paper as thick as that, it lacked either the color, the strength, or the flexibility. I have found paper that separately possessed the various qualities which are combined in that; thus a sheet of banknote-paper would possess its strength and flexibility; a sheet of writing-paper would possess its whiteness and smoothness; a sheet of pasteboard its thickness. It was from six to twelve months from the time we began our experiments before we succeeded in making collar-paper such as was satisfactory."

Other witnesses supported this view, one of them stating that "a collar-paper, when first shown, was looked on by him as a marvel in paper-making;" and others stating that the use of collar-paper had been followed by the application of paper to uses radically different from those previously known; paper stronger, thicker, and more flexible than any before made.

But this view of novelty was contradicted by numerous experts of the defendant. The testimony, for example, of one Derrickson, a paper manufacturer of New York, who became an apprentice to the paper-making business in 1823, and had made it his business more or less ever since, will

serve for an example of nearly what they all swore. He said:

"I have seen paper like this paper, called collar-paper, made twenty-five years ago. There is no difference in it from other papers, more than it is made in a double cylinder and is double; the same as any other heavy paper is. It is strong; and, generally speaking, the heavier the paper is the stronger it is also. I have seen better paper than the complainant's collar-paper made at Pennypack, Pennsylvania, when I was an apprentice. It was called thick writing-paper, and was used for ledgers. There is no quality of toughness, capacity of being turned without cracking, or thickness, which makes the collar-paper *substantially* different, so far as I see, from the qualities of other papers long in use in this country. Long-fibre paper has been a common article of manufacture in the United States longer than I can remember. It has been known in the market as bank-note, bond-paper, cartridge-paper, drawing-paper, silk-paper, tissue, manillas, and tissue-paper.

"There is no essential difference in the process and means used to produce collar-paper, that I know of, and the process and means employed to produce other thick, strong, pliable long-fibre papers which I have enumerated. The same machinery answers for one as the other. No difference in stock or in the essential manner of treating it. The specification in the reissue of Evans's patent gives me no new information as to paper-making."

Numerous witnesses supported and amplified this view.

So much for the Evans part of the case; the part relating to the fabric. Now, as to the Gray part of it; the reissue for turning the collar over. This reissue was granted June 23d, 1863, and was thus:

"Be it known that I, Solomon Gray, of Boston, &c., have invented certain new and useful improvements in turn-over shirt collars; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings making a part of this specification, in which—

"Figure 1 (on page 545) represents the outline of the collar

before it is turned over, with lines dotted thereon to illustrate the mode of folding it over, and the effect produced thereby.

"Figure 2 (on page 546) represents a perspective view of the same, turned over and brought into a circular form, as it would be on a person's neck. The same letters indicate like parts in both drawings.

"In the making of turn-over shirt collars of paper or of cloth and paper combined, it is exceedingly difficult to fold the material so that, when turned over on the arc of a circle it will present a regular line; this cannot be done by the eye, but must be done by a gauged line made in the material, or by a former of suitable shape laid on the material as a guide to turn it over by.

"The first part of my invention consists in turning over the collar by a line pressed into the material by a die or by drawing a pointed instrument over it beside a pattern, and then following the indented line, or by turning it over the edge of the pattern or block of the proper curve or line.

"Another defect or difficulty in turn-over collars made of paper, or of paper and cloth combined, consists in the wrinkling or puckering of the inner part when brought into a circular form, as it is when on the neck of the wearer, and which is occasioned by the inner part, of necessity, occupying a smaller circle than the outer part.

"The second part of my invention consists in turning the collar over in a curved line, or in a series of straight lines and straight angles, by which means the wrinkling or puckering is entirely obviated. In a paper, or a cloth and paper combined, collar, if turned over on a straight line, in addition to the wrinkling and puckering, there is another objection, viz., the difficulty of inserting a neck-tie underneath the turned down portion and the band, and when inserted it increases the tendency of the inside to wrinkle and pucker. But, by turning over the collar on a curved line, or on a series of straight lines that elongate the line by which it is turned over, there is a space formed between the turned down portion and the band portion in which the neck-tie can be laid without the least tendency to wrinkle or pucker.

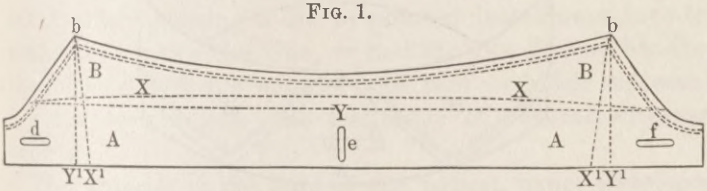
"The third part of my invention consists in so turning over a collar made of paper, or of paper and cloth combined, on a curved or arched line, as that a space shall be left between the

turned over portion and the band portion, which space may be occupied by a neck-tie of any ordinary description.

"To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

"My invention is not confined to any particular style of turn-over collars, but I regard it as more particularly applicable to collars made of paper or of paper and cloth combined.

FIG. 1.

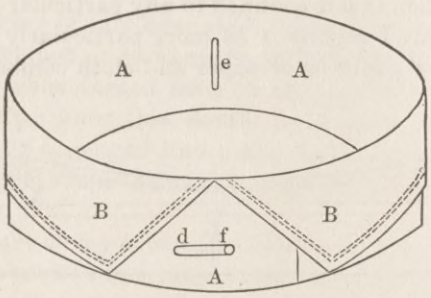


"Hitherto collars have been turned over in a straight line, as represented by the dotted lines, *Y*, in Fig. 1; and the practical objection to all such collars has been mentioned above. The line *X*, however, as will be seen in said Fig. 1, is an arc of a circle; and on this line the part *B* is turned over on to the part *A*. The best mode of doing this is to make in the collar an impression of the curve or line on which it is to be turned over, either by means of a die pressed upon it or by drawing a pointed instrument over it beside or along a pattern. When this is done, the collar can be readily turned over on or following the indented line. Or the collar may be turned over the edge of a pattern or block of the proper curve or line. The line *X*, instead of being in a curve or arc of a circle, might be composed of a series of straight lines, with an angle at the centre of the collar, and accomplish the desired object about as well.

"I prefer, however, to make the folding-line on the arc of a circle. In turning the collar over on a curved line, as at *X*, instead of a straight line, as at *Y*, the corners *b b* of the turn-over part *B* will be over the points X^1 X^1, instead of the points Y^1 Y^1, where a straight line would bring them; by which it is evident that the longer space, from Y^1 to Y^1 (*i. e.*, from *b* to *b*), has only to cover the shorter space from X^1 to X^1 on the part *A*, forming the inner circle, and thus the inner circle will not be wrinkled or puckered by the tension of the outer one. Besides, by turning the collar on a curved line, so far from the outer portion crowding upon the inner portion and thus wrinkling it, the por-

tion *B* will actually stand off from the portion *A*, a distance corresponding somewhat to the space shown between the lines *b* Y^1 and *b* X^1, and varying only with the extent of curvature of said folding or turn-over line.

FIG. 2.



"This space between the two portions, *A B*, when the folding over is done, is available for a neck-tie, if one be worn; but the space itself prevents the two parts from pressing against each other, which pressing tends to wrinkle one or the other. *d*, *e*, and *f*, represent the button-holes, which are punched in the material in the usual way.

"The drawings are about the size of a medium collar, and the greatest distance from the straight line *Y* to the curved line *X* is about one-fourth of an inch; it may, however, be more or less, and still accomplish the object required. Collars thus constructed never wrinkle nor pucker, and may even be rolled up into a circle of not more than an inch or so in diameter (as is often convenient for transportation) without the slightest injury; as the difference in length of the outer and inner portions, and the fact that the outer portion stands off from the inner portion so as to leave clear space between them, admits of such rolling.

"Having thus fully described my invention, what I claim therein as new and desire to secure by letters-patent is—

"First. The turning over of a paper or a paper and cloth collar by a defined line, whether pressed into the material by a die or pointed instrument, or by bending it over the edge of a pattern or block of the proper curve or line, substantially as described.

"I also claim turning the part *B*, of a paper or a paper and cloth collar, over on to or towards the part *A*, in a curved or

angular line instead of a straight line, substantially as and for the purpose described.

"I also claim so turning over the part *B*, on to or towards the part *A*, in the manner above described, as that a space shall be left between the two parts, for the purpose and substantially in the manner herein described."

As to the first of these claims—which covers a defined line, whether straight or curved, made by the means indicated, either pressing a die or pointed instrument into the material to make the line, or making the line by bending the material over the edge of a pattern or block representing the desired line—the testimony of several witnesses showed,

That anterior to the date of the patent, paper envelopes, the tops and bottoms of paper boxes, and similar articles requiring folds, were shaped or folded by placing the material upon a lead or other soft platten, and making the impression of the required shape or fold, by bringing down upon it a steel "knife" and applying pressure, thus producing an indented or defined line, which the fold must follow.

That the same method was also employed in paper-folding machinery, and the folding and cutting of writing-papers.

That the method so employed for marking the folds of envelopes was the same as that subsequently employed by an Italian named Karcheski, to make the folds of paper collars.

That linen collars, cut with band and top all in one, without seam where the band joins the top, were folded by means of an indented line, anterior to the patent.

That these collars were turned down or folded in the process of ironing: "ironed on blocks with a groove in the block, and the iron passing in this groove, the collar would receive the indenture to turn down on."

It was also proved that before the patent, paper collars and paper and cloth collars had been turned over by such defined line pressed into the material, or by bending over the edge of a block or former.

As to the second claim which covered the turning over of the collar in a curved or angular line, whether by a defined line or not, and by whatever means, it was proved, and indeed was not denied, that *linen* collars had, from a date long anterior to Gray's alleged invention, been turned over, on a curved instead of a straight line, and that they had been so turned over "substantially for the purpose described" in the patent, viz., to avoid wrinkling or puckering, and to afford a space for the cravat.

It was shown that a common way of turning down linen collars on such curved line, and a way familiar to all who wear those collars, is to follow the line of the seam where the band joins the top. The band being commonly cut upon an arch or curve upon the upper side, the seam consequently makes a curved line, which is followed as a gauge in making the fold.

It is also proved by the witnesses, that paper collars had, before Gray's application, been turned or folded upon a curve by methods the same as that described by Gray.

The third claim was considered by the witnesses the same as the second; and their testimony applied to it accordingly.

The court below found,

I. That Evans's reissue was void as not being for the same invention as the original. It also considered that Evans was not the inventor of the product patented by him.

II. That Gray's reissue was also void; his invention having been anticipated.

From a decree accordingly this appeal was taken.

Mr. C. A. Seward (with whom was Mr. C. C. Morgan), for the appellant:

I. As to the EVANS patent.

We assume,—for the reason that it was the identical paper in the form of a collar that was embraced in both the original and in the reissued patents—that there was no such plain repugnancy between the original and the reissue as to make it necessary to be held, as matter of legal construction, that

the new patent was not for the same invention as that embraced and secured in the original invention. With this assumption, one rightly made we submit—we safely argue—

1*st.* That the collar-paper was a new and patentable invention.

2*d.* That Evans was the person who in truth invented it.

1st. *No such paper as collar-paper had ever been thought of before the time when it was now thought of.*

That paper resembled no paper ever previously made. It was not like bank-note or cartridge-paper, bond-paper, or parchment-paper, or Bristol boards, or any other long-fibre paper. It was a union of the known elements of paper, a treatment of them by a new combination of old processes, and a giving to them when united a new application, resulting in the production for the first time of a paper—as we call it, though it might have been called by any new name—which could be practically and successfully used in the manufacture of collars, and which was not applicable to any other use to which paper is applied. It was "a new combination of old materials constituting a new result or production," and so within the Lord Chief Justice Abbot's definition,* a new and useful "composition of matter, having qualities possessed by no other known material," and so within the definition of Grier, J.,† and of other judges.‡

Indeed it is proved by the evidence that so much was this "collar-paper" an invention—such "a marvel" was it in paper-making—that it opened at once a new field for inventive effort, by directing attention to the practicability of making papers of such strength, thickness, and pliability as would render them suitable for uses radically different from any to which paper had been formerly applied. The invention of collar-paper, we may here mention, in illustration of this statement and as a fact which will hardly be disputed by the candid counsel opposing, was followed by the inven-

* Quoted in Curtis on Patents, § 27, note 2.

† Goodyear *v.* The Rubber Company, 2 Wallace, Jr., 356.

‡ See Many *v.* Jagger, 1 Blatchford, 372; Muntz *v.* Foster, 2 Webster's Patent Cases, 96.

tion, in 1864, of paper hats—greatly superior to the old Navarino hats, and now extensively worn—in 1867, of paper belting for machinery—as tough as sole-leather—in 1868, of paper boats—especially prized for their lightness and consequent fitness for hunting skiffs and for use in rowing matches; also of paper vessels for petroleum and other volatile liquids, impermeable to gases and stronger and less liable to corrode than those of tin; in 1869, of paper horse-collars, largely used in work-harnesses, especially in the warmer parts of the South; inventions, indeed, which are but the pioneers of a whole class of inventions in paper now widely used and highly esteemed.

2d. *It was to Evans that the credit of this invention was due.*

Although Crane & Co. were skilful paper-makers, and especially versed in the manufacture of long-fibre papers, it is evident that until Evans began to give his directions, neither they nor any one else had conceived of such a paper as that now known as "collar-paper," and *a fortiori* had not conceived of the right modes of making it. Crane & Co. went through a long process of instruction from Evans, and from those instructions the art was obtained. It is thus evident that the conception of the result to be attained originated with Evans alone. *He* was led by investigation and by trials of numerous papers to conceive of such a practicable combination of qualities in paper as would render it suitable for a collar. *He* it was who gave all the directions which were needful to enable Crane & Co., without the exercise of any invention of their own, to effect the desired combination.

Evans's conception therefore was not a mere vague and unintelligent notion that it was possible to make a paper which would answer the purpose, followed by a request to his paper-makers to do it if they could. It was a conception which was the result of a thorough familiarity, acquired by diligent study and research, with the qualities and properties of numerous kinds of paper as respected their fitness in certain particulars for a paper collar; ending in the conviction that it was practicable to combine this quality found in one

with that quality found in another, and so on, until such a combination was effected as would embrace all the essential requisites.

This novel and useful result was anticipated by his foresight, and was confidently assumed by him as practicable, at a time when no one could say, from any knowledge then existing, that it could be attained. To reach it, he called for a new combination of various methods which had been employed before for the production, in other relationships, of the several qualities he wished to unite. The details of this combination, so far as the essential features which went to make up the invention were concerned, were directly specified by him when he gave Crane & Co. the instructions which he did give.

Evans required of Crane & Co. that they should use their judgment and skill—in obedience to his suggestions or instructions as to what was needful—to effect this combination of qualities. As the inventor, and as a practical collar manufacturer, he took the samples of paper produced and tested them, to see whether the combination presented gave the desired result.

If invention implies a knowledge of defects and the means of remedying them, then all that there is of this invention belongs to Evans. He discovered the defects in all kinds of existing paper. First, as to the color; second, as to thickness, weight, and strength. He suggested the remedy as to both, first as to the color, and second, as to the strength.

As between himself and Crane & Co., Evans was the inventor, and being so had a right to claim the manufacture of paper collars as his invention. If he was not, who was? Was it Crane & Co.? Would any chancellor have enjoined Evans on their bill from making the new product? Surely not. If, as between Crane & Co. and himself, Evans was the inventor, he was the inventor as against the world, for no one but Crane & Co. and Evans were concerned in the efforts to get this paper.

The case is not affected by the fact that the claim of the patent is limited to the use of such paper in the manufacture

of collars, collars being the only article for which it is suitable. The claim is not for making collars, but for making collars out of *collar-paper*.

That Evans was not a paper-maker is quite unimportant. Many inventors have not been skilled in the art with which their inventions were connected. Evans rightly employed (as other inventors might have done) those who were acquainted with the construction and adjustment of the machinery and working of the materials which were necessary to be used in the production of the invention, and who were skilled in that branch of art to which the invention related. He had a right to use the skill of all kinds of trained operatives to effect his purpose; and just so long as those operatives were employed in contributing to that end, by a modification of material, or a change of process, or a change of treatment, just so long were they endeavoring to produce what Evans had directed them to make, and they were his instruments; the hands with which he worked.*

What Evans was striving to produce, and as he states endeavoring to secure by a patent, was the product, not the process. The product is new, and could not have been made without the original conception and plan of manufacture which Evans originated.

If this product had not required invention, it is incredible to suppose that so many years would have elapsed, and so many other experiments have failed, before it was produced. Some one produced the product. No one ever produced it until Evans gave instructions therefor. No one other than Evans ever pretended to have produced it. The natural conclusion therefore is that Evans was the inventor of the product.

II. As to GRAY'S patent.

The principle of Gray's invention consists in the process of folding a collar of paper or of cloth and paper by making a defined curved line, exactly located or fixed, at or near the

* Pennock *v.* Dialogue, 4 Washington's Circuit Court, 538; Sparkman *v.* Higgins, 1 Blatchford's Circuit Court, 205; Blandy *v.* Griffith, 3 Fisher, 616.

outset, by being indented into the material with a suitable instrument or broken into it over the edge of a pattern, and turning the collar over on or following this line; whereby certain important advantages in the collar itself may be easily and conveniently secured.

The invention is not described as relating to collars of any and every kind of material. The remark of the patentee, that "my invention is not confined to any particular *style* of turn-over collars," must be understood as relating to the fashion of the collars, and not to the materials of which they are made. Style is contradistinguished from fabric or material.

The *claims* of the patent, moreover, are limited to the application of the invention to collars *of paper or of cloth and paper combined*, the three claims corresponding respectively to the three parts of the invention, as set forth in the foregoing specification. The patent, therefore, has reference solely to collars of these materials.

The utility of the invention, as applied to collars of the given fabric, is stated to be that it permits so folding collars of paper or of cloth and paper on a curve as to avoid the wrinkling or puckering of the bands when the collars are put around the neck, and so folding them on a curve as to leave room enough for a cravat between the turn-over portions and the bands.

The folding, therefore, on a defined indented curved line, is to be regarded as an invention by which it is rendered practicable to secure the advantages just set forth, *in connection with collars of paper, or of cloth and paper combined*, as they had been secured before, in connection with linen collars, by modes of treatment radically different from Gray's and entirely unsuitable for the folding of paper collars.

That the attainment of these advantages in connection with such collars would be impracticable, without the aid of Gray's process of folding, is made obvious by the fact that although these advantages of not crimping and of space for a cravat doubtless had been appreciated for many years in linen collars, none of the collars of paper or of cloth and

paper made and sold preceding Gray's invention, were folded otherwise than on a straight line.

The second and third parts of the invention are both described as relating to collars *of paper, or of cloth and paper combined.* In the seventh paragraph of the specification, the patentee says: "The second *part* of my invention consists in turning the collar" [that is, the kind of collar previously described—one of paper or of cloth and paper] "over in a curved line, . . . by which means the wrinkling or puckering is entirely obviated." Also, in the same paragraph, he remarks: "The third *part* of my invention consists in so turning over a collar made of paper or of paper and cloth combined, on a curved or arched line, as that a space shall be left . . . which space may be occupied by a neck-tie."

The desirable results thus secured were new and important improvements in collars of these materials.

It will be observed, however, that the second and third parts of the invention are not described as consisting merely in these results, but in *so turning* collars of paper or of cloth and paper combined, on such a curve as to secure these results; the manner of turning or defining the fold having been previously described as a *part* of the invention. But this manner of folding may be practiced without making the curve large enough to afford either of these results. The invention, therefore, does not consist solely in the specified manner of folding; but it consists also in so making the fold, by this process, as to secure in collars of paper, or of cloth and paper combined, the before-mentioned beneficial results previously unknown in such collars.

The second claim of the patent is for "turning the part B of a paper or a paper and cloth collar over on to or towards the part A, in a curved or angular line, substantially as" (that is, in the way before specified, to wit, by Gray's process), "and for the purpose" (*i. e.*, the prevention of wrinkling, previously set forth as the *second part* of the invention) "described."

The third claim is for "so turning over the part B" (of the paper or paper and cloth collar before specified) "on to

Argument for the appellee.—The Evans patent.

or towards the part A, *in the manner above described*" (*i. e.*, by Gray's process), "as that a space shall be left between the two parts for the purpose and substantially in the manner . . . described."

The patent, therefore, in respect to each and all its claims, must be regarded: (1) with reference to the mode of producing the curved fold; (2) with reference to the character of the fold itself; (3) with reference to the peculiar fabrics (paper or cloth and paper combined) of which the collars are made, and to which the patent is expressly limited.

[The counsel then went on to comment on the policy of the Patent Laws, with regard to disclosure of prior inventions, and to enforce the observations of the court in *Gaylor* v. *Wilder*,* that the prior knowledge and use which would defeat a patent must be "knowledge and use existing in a manner accessible to the public," arguing further on the evidence (as interpreted by the counsel) that there was no public knowledge of any experiment before Gray's patent.]

Mr. J. J. Coombs and Edward Wetmore, contra:

I. *As respects the Evans patent.*

The argument of the other side sets out with an assumption essential to any argument on that side, that the original patent and the reissue are for the same invention. But the assumption is wholly false in fact and law. Whether or not this is so is a matter to be judged of by inspection and comparison, which every one can make of the two instruments. The invention meant to be patented by the original patent was the making of collars of paper prepared with animal sizing. The reissue is for making collars of any kind of paper that is suitable for the purpose, and suitable principally because not prepared with animal sizing. The reissue is thus plainly, palpably, undeniably for an invention radically different from any described or even alluded to in the patent. If this is so the Gray patent falls dead. To stab it further is worse than useless. Nevertheless, it is equally

* 10 Howard, 477.

void if the assumption of the other side were wholly true instead of being as it is, wholly untrue.

1st. *No "new manufacture" was invented by any one.* Long-fibre paper, which, and which alone, collar paper is, had been long invented. Long-fibre paper in itself was not patentable, and giving to it any particular thickness, polish, or tint by the same means that had been before tried to give to such paper thickness, polish, or tint, could not impart a patentable character to it. Collar paper did at most but combine in a higher degree than they were before combined in paper, certain well-known characteristics of paper. But the combination was produced by old and well-known processes. The production by old and well-known processes of old and well-known characteristics, though in a higher degree than previously known, does not make "a new manufacture," but only a variety of an old one.

2d. *Had any new manufacture been invented, Evans did not invent it.*

Evans simply told Crane & Co. what he wanted; and told them as they brought to him from time to time what they made, that was not what he wanted; telling them this till *they* went on and, by their own processes, made what he did want. Evans suggested no improvements in machinery or in processes. All improvement, if any there was made in either, was made by Crane & Co.

Both these last two positions are capable of being largely unfolded and strongly reasoned. But in view of the first position taken by us, the position, namely, that the reissue is for an invention radically different from that secured by the patent (a position which it is plain *must* be sustained by the court), we forbear. Any further enforcement of them is but "thrice to slay the slain." In a legal argument about a patent, when one plain and absolutely conclusive reason is given why the patent is void, it is unnecessary to assign further reasons. Indeed worse than unnecessary; being in truth but "wasteful and ridiculous excess."

II. As to the GRAY patent, it presents nothing more than

the double use of a familiar process of folding, and on the case as shown by the evidence is plainly void.

Mr. Justice CLIFFORD delivered the opinion of the court to the following effect.

The case presents two principal questions for decision:

1st. Whether the reissued patent granted to Evans for improvement in paper shirt collars is a valid patent.

2d. Whether the reissued patent originally granted to Gray for improvements in turn-over shirt collars is a valid patent.

Infringement is admitted.

The defendants allege that the reissued patent of Evans is not for the same invention as the original. This, if true, is sufficient to show that the patent is invalid even if the patentee was the original and first inventor of the improvement described in the original patent.

Power to surrender patents for the purpose suggested in the act of Congress implies that the specification may be corrected to the extent necessary to cure the defects and to supply the deficiencies to render the patent operative and valid, but the interpolation of new features, ingredients, or devices which were neither described, suggested, nor substantially indicated in the specification, drawings, or patent-office model were never allowed, and by a recent act of Congress it is provided that no new matter shall be introduced into the specification, nor, in the case of a machine patent, shall the model or drawings be amended except each by the other.*

Repeated decisions also have established the rule that parol testimony is not admissible, in an application for a reissued patent, to enlarge the scope and effect of the invention beyond what was described, suggested, or substantially indicated in the original specification, drawings, or patent-office model, as the purpose of a surrender and reissue is not to introduce new features, ingredients, or devices, but

* 16 Stat. at Large, 206.

to render effectual the actual invention for which the original patent should have been granted.

Unless, however, it is apparent upon the face of the new patent that the commissioner has exceeded his authority, his decision is final and conclusive, as the jurisdiction to reissue patents is vested in him subject to a single exception, that if there is such repugnancy between the old and the new patent that it must be held, as matter of legal construction, that the reissued patent is not for the same invention as that embraced and secured in the original patent, then the reissued patent is invalid.

Whether a reissued patent is for the same invention as the surrendered original or for a different one, must very largely be determined by a comparison of the two instruments, as the decision must necessarily depend upon the question whether the specifications and drawings of the reissued patent are not substantially the same as those of the original; and if not, whether the omissions or additions are or are not greater than the law allows to cure the defects of the original specification.

Instruments so widely different as are the original patent to Evans and the reissue of it* can hardly be compared within the usual meaning and ordinary application of that word, as they really have substantially nothing in common, so far as respects the description of the invention which they respectively profess to secure. Examples where the difference between the original and reissued patents is as manifest as in this case may perhaps arise, but none such were referred to in the argument of such a striking character, nor are any such within the recollection of the court where the difference between the reissued and original patents is so pervading as in the case in decision.

Wide differences in that regard were exhibited in the case of *Gill* v. *Wells*, recently decided by this court,† but they were by no means as striking and unmistakable as those disclosed in this record. Here the dissimilarity extends to

* See the two instruments set out, *supra*, pp. 536–539.—REP.

† 22 Wallace, 1.

every part of the description of the invention. There it had respect only to one of the elements of the patented combination.

Attempt was made in that case to emasculate the combination described in the original patent by leaving out one of the material elements in order to give the exclusive right a more comprehensive effect in prosecuting suits for infringement, but in the case before the court the reissued patent is different throughout from the invention embodied in the original patent.

Proof of that proposition is found also in the respective claims of the patents as well as in the respective specifications. What I claim as new and desire to secure by letters-patent, says the original patentee, is a shirt collar made of parchment-paper and coated with varnish of bleached shellac; but the patentee of the reissued patent claims as an article of new manufacture a collar made of long-fibre paper without referring to a coating of any kind; nor is the question affected in the least by the fact that the claim of the respective patents concludes with the phrase, "substantially as described," because the description of what is claimed, as given in the respective specifications, is even more widely different than the claims of the respective patents.

Instead of the phrase employed in the claim of the original patent, the specification to which it refers states that the nature of the invention consists first in making shirt collars of a fabric known to the trade as parchment-paper, or paper prepared with animal sizing, and second, in coating one or both sides of paper shirt collars with a thin varnish of bleached shellac, which, as there represented, not only adds smoothness, strength, and stiffness to the fabric, but also, being a repellent of water, prevents perspiration or other moisture from entering the collar.

Nor will any attempt to construe the claim of the reissued patent by the specification have any tendency to remove the difficulty in the way of the complainants, as the specification is to the same effect as the claim, and shows conclusively that the manufacture there described is a collar made of

long-fibre paper manufactured in the manner and by the means therein minutely described; that the paper there described is not the parchment-paper described in the specification of the original patent, nor is it paper prepared with animal sizing, nor does the specification or claim of the reissued patent contemplate or require that either side of the collars shall be coated with varnish of bleached shellac for any purpose. Animal sizing, according to that patent, may be *used* or it may be *omitted*, and one or both sides of the paper may be covered with a thin varnish of bleached shellac or such a coating may be *omitted* altogether, which shows that those two requirements of the original patent are not a material part of the invention embodied in the reissued patent.

Authorities to support the proposition that a reissued patent is invalid if not for the same invention as the surrendered original are scarcely necessary, as the rule is universally acknowledged.*

2. Suppose, however, the two may be so construed as to obviate that objection to the reissued patent, still the second defence of the respondents remains to be considered, that the patentee in the original patent is not the original and first inventor of the alleged improvement.

Usually the patent when introduced is *primâ facie* evidence to support the affirmative of that issue, but the representations of the specification may be such as to afford satisfactory proof that the alleged invention is neither new nor useful. Equivalent views were expressed by the Circuit Court in disposing of the question involved in the present issue, and in those views the court here entirely concurs.†

Nothing was known to the supposed inventor respecting paper made of long fibre when he obtained his original patent, except that he previously found, as he states in his reissued patent, a sample of it ready made, suitable for such a purpose, and that he used it and filed it with his original application for a patent. Where he found it does not appear,

* Gill *v.* Wells, 22 Wallace, 1.

† Paper-collar Company *v.* Van Deusen, 10 Blatchford, 119.

nor does it appear for what purpose he used it, except that he filed it in the patent office. He does not even state that the original patentee knew who made it, nor that he had any knowledge of the process by which it was made. Viewed in any reasonable light the narration shows that the sample was made by another and not by the supposed inventor, and it affords a strong ground of presumption that he knew nothing respecting the process of manufacturing such paper, or of the constituents of the manufacture, except what is matter of common knowledge.

Hard stock, it is now said, must be used in larger proportions than is required for other descriptions of paper, and that the pulp must be subjected for a greater length of time to the long-beating process, so that the fibre shall be not only long but fine, in order that the paper may be strong, smooth, and even, and that the fibre shall become bedded in the thickness of the paper so as not to mar the surface Neither of such requirements or conditions was contained in the original specification, from which it may be inferred that the original invention did not include the discovery of the constituents of the paper to be used for the purpose, nor the process by which the paper was to be manufactured. Conclusive support to that proposition is found in the specification of the original patent, in which the patentee states that he takes the parchment-paper known to the trade, or paper prepared with animal sizing, and covers one or both sides of it with thin varnish of bleached shellac, and having allowed it to dry, the paper is then passed between polishing rollers, such as are in general use for polishing paper or cloth, which operation finishes the fabric ready to be made into collars.

Enough appears in these suggestions to show that the specification of the original patent does not describe the process of making paper possessing the qualities of long-fibre paper, but the making of collars out of parchment-paper, showing that the discovery that for a good paper collar the manufacturer must have paper which possesses the qualities of long-fibre paper is a subsequent discovery.

Nor does the statement in the reissued specification, that he produced such a paper or caused it to be produced, strengthen the case for the complainants, because the same specification states in effect that he found a sample of such paper suitable for the purpose and that he used it and filed it with his original application, showing conclusively that the paper existed prior to his supposed invention.

Improvements in the manufacture of paper have often been made, and it may be that the discovery at that period of the constituents for making such paper or of the process by which paper possessing the described properties could be produced would have been the proper subject of a patent. Sufficient appears to show that the patentee learned from his experiments that he wanted paper of the qualities described in the reissued patent, and the evidence proves that he said so to the paper manufacturer, but it is clear that he did not communicate any information to the manufacturer respecting the process by which such paper could be produced, nor did he give the manufacturer any directions upon the subject. Information of the kind he could not communicate for the best possible reason, which is that he was utterly destitute of any knowledge as to the constituents of such paper or the process by which it could be manufactured. Such paper was eventually produced by the manufacturer to whom the patentee applied to make the attempt, after many experiments as to the character of the materials suited to the end, and as to the mode of operation best adapted to effect the desired result, without any assistance whatever from the patentee.

Good paper collars may unquestionably be manufactured from that product, but it is nevertheless true that the patentee is not entitled to a patent for the collars as a new manufacture, for several reasons: (1.) Because he did not invent either the product or the process by which the product is obtained. (2.) Because the collars, apart from the paper of which they are made, are identical in form, structure, and arrangement with collars previously made of linen, paper of different quality, and other fabrics. (3.) Because

it appears that the patentee is not the original and first inventor either of the paper or of the process by which the paper is made, or of the collar which is denominated a new manufacture.

Articles of manufacture may be new in the commercial sense when they are not new in the sense of the patent law. New articles of commerce are not patentable as new manufactures, unless it appears in the given case that the production of the new article involved the exercise of invention or discovery beyond what was necessary to construct the apparatus for its manufacture or production.*

Nothing short of invention or discovery will support a patent for a manufacture any more than for an art, machine, or composition of matter, for which proposition there is abundant authority in the decisions of this court.†

Suffice it to say that it is not pretended that the original patentee invented either the paper or the process, but the claim in argument is that he was the first person to conceive the idea that paper possessing the described qualities was desirable for the purpose of making such collars, and that inasmuch as he was not a paper manufacturer he had a right to employ trained skill to produce the desired product, and that he, under the circumstances, should be regarded as the actual inventor because he made known to the manufacturer that paper of such qualities would be useful, and because he employed the manufacturer to engage in the effort to produce the desired article; but the patentee communicated no information to the manufacturer as to the constituents or ingredients to be used, or as to the mode of operation by which they were to be compounded in order to produce the desired result.

Where a person has discovered a new and useful principle in a machine, manufacture, or composition of matter, he may employ other persons to assist in carrying out that principle, and if they, in the course of experiments arising from

* Glue Company *v.* Upton, 6 Official Gazette, 840.

† Hotchkiss *v.* Greenwood, 11 Howard, 265; Phillips *v.* Page, 24 Id. 167; Jones *v.* Morehead, 1 Wallace, 162; Stimpson *v.* Woodman, 10 Id. 121.

that employment, make discoveries ancillary to the plan and preconceived design of the employer, such suggested improvements are in general to be regarded as the property of the party who discovered the original principle, and they may be embodied in his patent as part of his invention.

Doubt upon that subject cannot be entertained, but persons employed, as much as employers, are entitled to their own independent inventions, and if the suggestions communicated constitute the whole substance of the improvement the rule is otherwise, and the patent, if granted to the employer, is invalid, because the real invention or discovery belongs to the person who made the suggestions.*

Apply that rule to the present case and it is clear that the original patentee was not entitled to a patent either for the paper or the process, as he never made any invention or discovery upon the subject.

II. We come now to consider the reissued patent of Gray; one defence to which is that the patentee is not the original and first inventor of the improvement.

Three claims are contained in the reissued patent, substantially as follows: (1.) The turning over of a paper or a paper and cloth collar by a defined line, whether pressed into the material by a die or pointed instrument, or by bending it over the edge of a pattern or block of the proper curve or line, substantially as described. (2.) So turning the part B of a paper or paper and cloth collar over towards the part A, in a curved or angular line, instead of a straight line, substantially as and for the purpose described. (3.) So turning the part B on to or towards the part A, in the manner described, as that a space shall be left between the two parts.

This third claim it is admitted is substantially the same as the second claim, in consequence of which those two claims will be considered together.

1. Collars of paper or paper and cloth, if turned over on

* Agawam Company v. Jordan, 7 Wallace, 602.

a defined line, are covered by the first claim, whether the line is curved, angular, or straight, and whether the line is made or pressed into the fabric by a die or any pointed instrument, or marked or effected by bending the material over the edge of a pattern or block of the proper or preferred line or curve. Evidently, therefore, it is intended to cover collars turned over on a defined line effected in any possible manner or by any practicable means, if made of paper or paper and cloth. Shirt collars are turned over or down on a curved line in order to prevent the collars from puckering or wrinkling when bent in a circle, and in order to cause the part turned over or down to set out a little from the band portion of the same, so as to admit a necktie between the band and the part of the collar which is turned over.

Manifestly these objects are precisely the same whether the collar be all paper, paper and cloth, or all linen. Hence it is difficult to perceive upon what ground it can be held that any change in the manner of turning down a collar on a curved line, if made of any one of these fabrics, is patentable, if collars of either of the other fabrics have been turned down before in the same manner and precisely for the same purpose.

Evidence is exhibited which shows that many years before the patent was granted in this case paper envelopes and the tops and bottoms of paper boxes were produced by shapers of steel pressed on the material so as to produce defined lines by which the material could be folded. Satisfactory proof is also exhibited that collars made of paper and cloth were, several years earlier than the date of this invention, folded over a piece of metal in a straight line, which is the same process as that described in the specification of this patent, as it appears that the material was bent over a pattern or block to give the proposed curve or line.

Plenary evidence is also exhibited showing that linen collars were ironed on blocks with a groove in the block by which the collar received a defined line for the folding, which accomplished the same purpose as the pattern or block.

Proofs were also exhibited showing that paper collars,

long before the alleged invention under consideration, were folded by laying upon the unfinished side of the same a piece of tin having at one edge the required curve, which enabled the manipulator to accomplish the same object by pressing upward over such curve a part of the collar so as to mark the line of the curve and crease the paper preparatory to turning the collar over, which enabled the laundress to accomplish the same object as the means described in the specification of the patent.

Support to the answer is also derived from the proofs that linen collars had for years been turned over in a curved line and for the very purpose described, which is to prevent wrinkling and to afford space for the cravat.

Taken as a whole, the proofs in this regard are conclusive, that the patentee is not the original and first inventor of the patented improvement described in either of the claims of his patent.

DECREE AFFIRMED.

THE WOOD-PAPER PATENT.*

THE AMERICAN WOOD-PAPER CO. *v.* THE FIBRE DISINTEGRATING CO.
THE FIBRE DISINTEGRATING CO. *v.* THE AMERICAN WOOD-PAPER CO.

1. A manufacture or a product of a process may be no novelty, and, therefore, unpatentable; while the process or agency by which it is produced may be both new and useful.
2. In cases of chemical inventions, when the manufacture claimed as novel is not a new composition of matter, but an extract obtained by the decomposition or disintegration of material substances, it is of no importance, in considering its patentability, to inquire from what it has been extracted.
3. When the substance of two articles produced by different processes is the same, and their uses are the same, they cannot be considered different manufactures.
4. Paper pulp extracted from wood by chemical agencies alone, is not a different manufacture from paper pulp obtained from vegetable substances by chemical and mechanical processes.

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* This case was adjudged October Term, 1873.