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Weatherhead Vs. Coupe

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Respondent : Coupe

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Weatherhead v. Coupe

No. 104

Argued January 4-5, 1893

Decided January 18, 1893

147 U.S. 322

APPEAL FROM THE CIRCUIT COURT OF THE UNITED

STATES FOR THE DISTRICT OF RHODE ISLAND

SYLLABUS

Claims 1 and 3 of letters patent No. 213,323 granted to William Coupe, March 18, 1879, for an improvement in hide-stretching machines, construed.

The principal feature of the Coupe machine, covered by claim 1, and of his method of stretching hides, covered by claim 3, is, that the hide is stretched longitudinally and transversely at the same time, and a single passage of the hide through the machine is supposed to give it sufficient stretching transversely as well as longitudinally.

The defendant's machine has no stretcher bar, substantially such as that of the patent, giving a transverse stretch to the hide simultaneously with the giving of the longitudinal stretch, and therefore does not infringe the patent.

The case is stated in the opinion.

MR. JUSTICE BLATCHFORD delivered the opinion of the court.

This is a suit in equity, brought January 11, 1881, in the Circuit Court of the United States for the District of Rhode Island, by William Coupe and Edwin A. Burgess against George

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Weatherhead, John E. Thompson, and William G. Evans, co-partners as Weatherhead, Thompson & Co., for the alleged infringement of letters patent of the United States No. 213,323, granted March 18, 1879, on an application filed January 24, 1879, to the said William Coupe, for an improvement in hide-stretching machines. The bill of complaint alleges that the defendants, from July 17, 1879, have made, used, and sold hide-stretching machines containing the invention described in the patent. The answer sets up in defense want of novelty and noninfringement. A replication was filed, proofs were taken, and the case was brought to a hearing before the court, held by Judge Lowell, then circuit judge, and Judge Colt, then district judge, and on the 20th of April, 1883, the opinion of the

court (16 F. 673) was delivered by Judge Lowell, sustaining the patent and holding that the first and third claims of it had been infringed.

On the 1st of May, 1883, an interlocutory decree for an injunction and account was entered. The master filed his report on January 7, 1888, exceptions were filed to it by the defendants, and they made a motion to dismiss the bill. The master found that the amount of gains and profits to be accounted for by the defendants was $15,412.82. The court, held by Judge Colt, filed its opinion on the motion and the exceptions November 15, 1888. 37 F. 16. It overruled the motion and the exceptions, and on May 6, 1889, entered a decree in favor of the plaintiffs for $15,412.82, with interest from February 1, 1888, and the costs of the suit. The defendants have appealed to this Court. The only question contested here is that of infringement.

The specification of the patent is as follows:

"The invention hereinafter described relates generally to an improved method of stretching and reducing to a uniform thickness the hides of animals previous to said hides being manufactured into dressed leather, or what is known as 'rawhide,' and it particularly relates to a combination of mechanism which, accompanied by certain hand manipulation, will accomplish the desired result of stretching and reducing the hides as above mentioned. "

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"As is well known, all hides vary considerably in thickness at different points, and when taken from the liquor vats in which they have been immersed to remove the hair, etc., they are found to be soft, flabby, wrinkled, and fulled. Owing, therefore, to this condition of the hides, it is necessary, before they are dressed and finished for the market, that they be stretched throughout to remove the wrinkles and fullness, and also to reduce those parts which are thicker that other portions so that, as far as possible, the hides shall he uniform in thickness."

"My invention consists in a combination of mechanical devices which are capable of producing, in connection with hand manipulation, the desirable results of

thoroughly stretching the hides and rendering them of even thickness in all parts, the said devices comprising, in the main, a friction table or beam over which the hides are dragged, a stretcher bar of suitable form for stretching the hides transversely, and a slowly revolving roller to which the edge of each hide is secured and around which it is wound after being drawn over the table or beam and the stretcher bar."

"Referring to the drawings, Figure 1 represents a front elevation of my improved machine. Fig. 2 shows the same in central vertical transverse section, and Fig. 3 represents the stretcher bar in perspective."

"As particularly shown in Fig. 1 of the drawing, my improved machine consists of the following devices: a pair of standards, as at A, A', in which is mounted a shaft, as at B, to which power is applied. Upon one end of this shift is a pinion, as at C, arranged to mesh with a gear, as at D, loosely mounted on one end of a roller, as at E. The inner side of this gear, D, is provided with a clutch face or pin, as at *d* , for engagement with a clutch, as at F, splined [spliced?] to the roller, E, and furnished with a shipping handle, as at G, so arranged as to be convenient of access to the operating attendant. The remaining parts of the machine consist of a narrow table or breastbeam, as at H, which is mounted in mortises, as at *a* , in the standards, A, A', and a stretcher bar, as at K, likewise mounted in mortises, as at *a'* , and having its two

working faces doubly inclined, as at k, k', Fig. 3. Both the breastbeam, H, and stretcher bar, K, are so arranged as to be easily inserted in their respective mortises, where they are confined in proper longitudinal position by the standard, A', at one end, and a button, as at L at the other end. The said beam and bar are capable also of lateral movement to enable them to be moved backward to give room for a larger hide being wound upon the rollers, and also to facilitate their entire removal from the machine after the hide has been stretched, and is to be removed to give place for another."

Image a:

"The methods of treating the hides and the operation of the mechanism above described are substantially as follows: a hide as it comes from the vat, wrinkled and fulled, and with its various parts of unequal thickness, is placed over the table or breastbeam, H, and one of its ends carried under the stretcher bar, K, and secured to the roller, E, by the clamp, *e* ,

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the other end hanging free in front of the machine, as shown in Fig. 2. The operator now connects the roller, E, to the continuously revolving gear, D, by means of the handle, G, and clutch, F, and the roller, E, slowly revolves, winding the hide around its surface, and drawing the said hide over the friction table or beam, H, and around the stretcher bar, K. When any part of the hide whose thickness should be reduced or whose wrinkled or fulled-up portion is to be smoothed out passes over the table or beam, H, the operator, who stands in front of said beam, applies pressure by hand to the proper portions, thereby increasing the friction between the under surface of the hide and the surface of the bar, H, and causing the onward movement of such portions of the hide to be retarded. The portions thus pressed upon therefore are more severely stretched than other parts of the hide, and by proper manipulation by the attendant its thickness is rendered uniform, and it passes to the stretching bar, K, in a smooth condition, having been longitudinally stretched upon the beam, H."

"In passing over the bar, K, the hide is transversely stretched by the doubly inclined sides, *k, k',* from which it passes onward to the roller, E, winding about the said roller uniformly and smoothly. The machine is now stopped, the hide removed, another secured to the roller, E, and the operations above described are repeated."

"From the foregoing descriptio my improved machine will be readily understood, and it will be seen that my improvement in the method of stretching hides results from the combination of the mechanical agencies mentioned, coupled with the

manipulation of the hide as it passes over the friction table or beam at which time it is smoothed from wrinkles and reduced to a uniform thickness."

The patent has three claims, in these words:

"1. The combination of a friction table or beam, over which the hide is drawn, a stretcher, substantially as described, and a revolving roller, to which the hide is secured and around which it is wound as the hide is drawn over the friction beam and stretcher, substantially as set forth."

"2. The combination of a revolving roller, to which the hide is secured and around

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which it is wound, a laterally yielding stretcher and a laterally yielding friction table or beam, substantially as described."

"3. The improvement in the method of stretching hides, which consists in dragging the hide over a stretcher, and also over a friction table or beam, by means of a revolving roller to which the hide is secured as described, whereby, as the hide is passed over the table or beam, the thicker portions of the hide are detained or made to lag by pressure applied to such thicker portions, to increase at such points the friction between the hide and the table, substantially as specified."

The master states correctly in his report that Coupe, being engaged in the manufacture of rawhide leather, was experimenting on methods of stretching it, and finally perfected the method and invented the machine for which he obtained the patent; that the defendant Weatherhead, contemplating for the first time the manufacture of rawhide leather in the fall of 1879, desiring to have a stretching machine, and hearing that Coupe had invented one, and having seen Coupe's patent, applied to him, on January 5, 1880, for a license to use it, or for the sale of one of the machines; that Weatherhead, not being able to effect that object, got up a machine of his own, which Coupe notified him was an infringement on the patent, and that, the defendants persisting in using their machine notwithstanding such notice, the present suit was begun.

Judge Lowell, in his opinion, says that rawhide leather is a hide which has been stripped of its hair and softened and brought to a state in which it is very soft, flabby, and much wrinkled, but has not been tanned. He then proceeds:

"The specification describes a table or beam over which the hide is to pass, and which is breast high, in order that the workmen may conveniently use it. Then the hide passes over a bar or stretcher, which is somewhat arched or crowned, in order to stretch the hide transversely. It then goes to a roller to which it is clamped and over which it is slowly wound."

"The workman accelerates or retards the passage of the hide by lifting it up or pressing it down, and in this way the thicker parts secure a greater longitudinal pull from the roller than do the thinner parts, and the bar, by its shape, tends to

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stretch the hide laterally as it passes from the table to the roller. The table and the bar have a lateral yield or adjustment to accommodate hides of different sizes."

"The first claim is for the combination of the table, the stretcher, and the roller; the second for the lateral yield in the table and stretcher; the third for"

"the improvement in the method of stretching hides, which consists in dragging the hide over a stretcher, and also over a friction table or beam, by means of a revolving roller, to which the hide is secured, as described, whereby, as the hide is passed over the table or beam, the thicker portions of the hide are detained or made to lag by pressure applied to such thicker portions, to increase at such points the friction between the hide and the table, substantially as specified."

"There was a machine for stretching leather for belts well known to the patentee and to some others in the trade, which was made by modifying a splitting machine. Mr. Coupe did not in fact make his improvement upon this stretcher, but it is much more like his machine than anything else which preceded it."

"This old machine was used upon hard-tanned leather to adapt it to be made into belts for machinery, for which purpose it must be stretched with great power,

eighteen or twenty thousand pounds to the square inch, in order to take out of it all possibility of further stretching. This was done by passing the leather through a trough which was brought up against the stretcher bar with the force we have mentioned. Since the plaintiffs' method and machine have become known, Mr. Davis, an accomplished worker in leather, has tried with some success an enlarged copy of the old belt-leather stretcher, to do the work of the plaintiffs' machine. He is obliged to use a greater number of men or boys to tend the machine and prevent the pressure from ruining the hide, which, of itself, tends to prove that the machines are not alike, and we have no doubt that if the plaintiffs' devices are considered an improvement upon this old machine, they embody a patentable improvement. They omit the means for producing the pressure, and add a table not useful in the old machine, but which,

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in the new machine, enables the workmen to exert sufficient pressure."

"The defendants at one time used a machine which closely resembles that of the plaintiffs. At present, they have one which works with a trough and bar, like the old belt stretcher, with the addition of a table over which the leather passes, and which enables the workmen to spread out and manipulate the hide. Upon the edge of this table is a piece of metal with grooves spreading outward, and these grooves have a tendency to stretch the hide laterally, or at least to prevent it from wrinkling -- that is, to keep it to its lateral stretch, which seems to be much the same thing. The slot and bar are so placed in relation to each other that a hide is not squeezed between them, as in the old belt stretcher; but, in the legitimate attempt to avoid infringement of the plaintiffs' invention, which the defendants intended to copy as far as they lawfully might, because they had failed to come to terms with the plaintiffs for a license, they now put into the trough a piece of board, supported at either end upon blocks, about one third the width of the trough. The operation of the machine as thus modified is known only to the defendants themselves, and Mr. Weatherhead testifies that it exerts a pressure upon the hide, how great in pounds we do not know. We understand him to say that, by passing the hide through the machine several times, all parts come sooner or later under the board, and thus

substantially all the stretching is done by its aid."

"Infringement of the plaintiffs' first claim is not escaped by the use of this piece of board, for, although it causes the defendants' machine to approach more nearly the old belt stretcher, still the operation must remain to some extent at least like that of the patent. The manipulation with the table and grooves ments of the first claim upon two thirds of the width of the hide each time it passes through the machine, and it depends altogether on the thickness and stability of the board whether the whole operation is or is not copied. The very presence of this removable board is evidence that the old machine is not satisfactory for the new use. "

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"The argument that a machine must be automatic in order to be patentable is not sound. A piano is not automatic, nor is any tool or implement intended for use by hand, but improvements in any such tool used in an art or industry are patentable."

"In the second claim, the combination is limited to a laterally yielding stretcher and a laterally yielding friction table or beam. As one bar, however, in the defendants' machine is fixed and the other has a motion up and down, we find no infringement of this claim."

"The third claim appears to be for the exclusive right of using the machine referred to in the first claim, and, as the defendants have used such a machine, they have infringed the third claim, and we do not at present see how it could be infringed otherwise than by infringing the first claim."

In the testimony and the proceedings before the master, the consideration of the case seems to have gone solely upon the machine which Judge Lowell in his opinion states was used by the defendants "at present," and that machine is the only one considered by the defendants in their brief and their oral argument. The report of the master is based upon the use by the defendants of "their machine" for stretching hides, from January, 1880, to April, 1883, and he speaks in his report of but a single machine, and calls it "their infringing machine." The $15,412.82,

reported by the master as gains and profits, is made up of three items, *viz.,* $3,669.72 as the saving in the cost of stretching and manipulating the hides; $4,403.66 for the increased area of hide secured, and $7,339.44 as the increased value of the hides by reason of their improved condition. But the master makes no distinction as to how much of each of those items was due to the machine used at one time by the defendants, which, Judge Lowell states in his opinion, closely resembled that of the plaintiffs, and how much to the machine which the defendants used subsequently.

The plaintiff's contend that the defendants at first built and used a machine as near like a Coupe machine as possible, constructing it with two bars, one of which was bent or curved; that that machine was commenced in December,

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1879, and completed in January, 1880; that in the latter month, on application by the defendants, Coupe declined to sell them one of his machines, and they then proceeded to complete their machine; that after August, 1880, the defendants informed Coupe that they had reconstructed their machine so as to take it outside of his patent; that Coupe, on examining it, notified the defendants that it was still an infringement; that they again reconstructed it, and that, as so reconstructed, it is the machine which they continue to use. It is claimed that that machine is an infringement of claim 1; that the use of it is an infringement of claim 3, and that it is the machine of which Judge Lowell speaks in his opinion as the machine used "at present" by the defendants.

On the whole case, we think the inquiry must be confined to that machine, and we are of opinion that claims 1 and 3, rightly construed, do not appear to have been infringed, and that the decree of the circuit court must be reversed.

The machine spoken of by Judge Lowell in his opinion as one well known to Coupe, and to some others in the trade, prior to the making of the invention by Coupe, was known in the art as the "dog machine." In that machine there were two dogs or clamps, corrugated on their inner side so as to hold the leather against

slipping. The hide being grasped at two opposite parts of its edge by the two dogs, the latter were then pulled apart, and the hide was stretched in the line between the two parts to which the dogs were clamped. The machine was then thrown out of gear, the dogs were taken off from the hide and applied to it in another place, and the process was so continued until the hide was considered to be sufficiently stretched.

The difficulty with that apparatus was that by it the stretch which it gave to one place it took out of another, and consequently the hide was not thoroughly stretched, being stretched always lengthwise, but not cross-wise, and contracting toward the center line of pull between the dogs. Thus, when the hide was grasped at two other extreme points and pulled, the stretch first given was taken out again.

In the operation of the machine of the Coupe patent, the

hide is stretched longitudinally and transversely at the same time, instead of, as in the dog machine, stretching it first in one direction, across the hide, and then, by a subsequent operation, stretching it in another direction, transversely to the first direction. This transverse stretching in the Coupe machine is produced by the doubly inclined working faces, *k, k'* of the stretcher bar, K. The stretcher bar, K, being highest in the center, because its sides or working faces are doubly inclined, causes that part of the hide which passes over its highest point to make a longer circuit in passing from the table or breastbeam, H, to the roller, E, than do the other parts, and thereby that part is stretched somewhat more than the other parts, and the hide has a tendency to spread laterally toward the ends of the stretcher bar where there is a shorther line of passage, and thereby it is stretched transversely to the longitudinal line of movement of the hide toward the roller, E. This tendency is assisted by the use of the hands of the operator in pressing downward upon the hide. Thus, the hide has a lateral stretch given to it simultaneously with its longitudinal stretch, while it is drawn through the machine by the roller, E. The pull of that roller against the resisting pressure of the hands of the operator gives the longitudinal stretching, and the same pull gives the

transverse stretching, owing to the joint action of the pressure of the operator's hands and the form of the stretcher bar, K, with its doubly inclined working faces.

According to the specification of the patent, a single passage of a hide through the machine is supposed to give it sufficient stretching transversely as well as longitudinally; for the specification, after describing both stretches, says: "The machine is now stopped, the hide removed, another secured to the roller, E, and the operations above described are repeated."

In the old "dog" machine, the hide was stretched first in one direction, and then taken out and grasped at another place, and stretched in a direction transverse to the first. The transverse stretching in the Coupe machine has the effect to preserve the result of the longitudinal stretching, and to stretch the hide completely in a single passage of it through the machine.

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The first claim of the patent is for the combination of a friction table or beam, over which the hide is drawn, a stretcher, substantially as described, and a revolving roller, to which the hide is secured, and around which it is wound as it is drawn over the friction beam and stretcher. This is a claim to mechanism.

The third claim is a claim to an improvement in the method of stretching hides, which consists in dragging the hide over a stretcher and also over a friction table or beam, by means of a revolving roller to which the hide is secured, as described, whereby, as the hide is passed over the table or beam, the thicker portions of the hide are detained or made to lag, by pressure applied to such thicker portions to increase at such points the friction between the hide and the table. The "pressure" mentioned in the third claim is the pressure applied by the hands of the operator to the hide as it passes over the friction table or beam.

It was correctly held by the circuit court that the third claim is for the exclusive right of using the machine referred to in the first claim, and that it cannot be infringed otherwise than by infringing the first claim. If the defendants have used the

combination of the mechanism covered by the first claim they have infringed it, and have also thereby used the method covered by the third claim.

Although the third claim is not confined to a passage of the hide through the machine only once, where such single passage does not produce a perfect result, it is manifest from the specification that the use of the combination covered by the first claim is intended and expected to produce complete longitudinal and transverse stretching simultaneously, by a single passage through the machine. Such stretching action, transverse as well as longitudinal, may not be, in a given instance, sufficiently severe, and a second application of the machine to the same hide may be required; but in both cases the transverse stretching will take place simultaneously with the longitudinal stretching. The defendants do not so use their machine.

In the first claim of the patent the stretcher bar, K, is interposed

between the friction table or beam, H, and the revolving roller E. Therefore, to infringe the first or the third claim, there must be used a stretcher bar substantially such as described in the specification, of such form as will give a transverse stretch to the hide simultaneously with the giving of the longitudinal stretch.

In the defendants' machine there is no stretcher bar, K, or its equivalent, for transverse stretching, and the transverse stretching is not done simultaneously with the longitudinal stretching. On the contrary, in the defendants' method the hide is grasped at two opposite portions of its edge, and stretched on that line. It is then taken out, grasped between two other opposite portions of its edge, and stretched on that line transversely to the first line. It is thus stretched by the consecutive method operated by the old dog machine. That method is excluded by the Coupe specification.

In the defendants' machine, the line of tension runs in different directions at different times. Strains in it are imparted successively, and not simultaneously. The theory of the Coupe specification is that unless the hide is stretched

transversely while it is stretched longitudinally, the stretch put into it when it is stretched in one direction will be wholly or partially taken out when it is stretched in another direction.

It is contended, however, that in the use of the defendants' machine, a transverse stretching is produced simultaneously, and by a device substantially like the doubly inclined stretcher bar, K, of the patent. It is for the plaintiffs to establish that the defendants use substantially the doubly inclined stretcher bar, K. The mere smoothing out of wrinkles, and the stretching of the body of the leather so as to reduce it permanently to an equal thickness throughout, are two separate and distinct things. The operation of the doubly inclined stretcher bar, K, is not that of merely smoothing out wrinkles in the hide. The circuit court seemed to be of the opinion that the outward spreading grooves on the edge of the table in the defendants' machine had a tendency "to stretch the hide laterally, or at least to prevent it from wrinkling, that is, to keep it to its lateral stretch, which seems to be much the same thing." The

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machine of the defendants has divergent grooves or serrations formed on the surface of the friction table. We are of opinion that it is not a sound conclusion that the corrugations on the friction beam in the defendants' machine perform the office of Coupe's stretheer bar, K, interposed between the friction beam and the roller, H. While it is true that the corrugations prevent the hide from wrinking, yet, as there is not in the defendants' machine any lateral stretch, it is not true that such corrugations keep the hide to its lateral stretch. There is no lateral stretch which is kept from going back by such corrugations. Any office of the corrugations to keep a lateral stretch from going back would be unnecessary in the defendants' machine, because the hide is to be taken out and reattached at new points, and stretched longitudinally in the very direction in which the previous transverse stretching, if it existed, would have been performed.

It is shown by the evidence that the hide does not, in the defendants' machine, enter the grooves or serrations to any appreciable extent; that they are not deep

enough to have any such effect; that there is no indication on the upper surface of the hide that its lower surface enters into the serrations; that there is no indication that the under surface of the hide is not supported by a smooth bar or table, and that this is shown by the fact that the upper surface of the hide appears smooth where it lies over the grooves or serrations. It is not shown by the evidence for the plaintiffs that the grooves are not too shallow to have any effect in giving lateral movement to the hide or that the hide would not show on the upper surface whether the under surface was engaged in the grooves, or that there was any appearance on the upper surface indicating any such engagement.

Irrespectively of this, the combination of the first claim of the patent is one in which the stretcher bar is interposed between the friction table or beam and the roller. In the defendants' machine, the organization is different.

We are of opinion that the first claim is not infringed, because the defendants do not have the stretcher bar, K, or any substitute for it, performing the same operation. They

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get their transverse stretch by taking out the hide and grasping it at new points, and stretching it between those points. The corrugations only keep the hide from wrinkling, an operation which the patent says is performed before the stretcher bar acts upon the hide. It does not appear that, as the defendants' machine is used, there is any lateral stretching of the hide simultaneously with its longitudinal stretching. The corrugations are not combined with the friction beam and the roller, as the convex stretcher bar of the patent is, for that is interposed between the friction beam and the roller, and the description in the specification is that the hide, after being longitudinally stretched on the friction beam passes to and is stretched transversely by the stretcher bar, whereas in the defendants' machine the corrugations are integral with the friction beam. It would not be practicable to make the convex stretcher bar of the patent integral with the friction beam. The specification describes the stretcher bar as having a lateral movement relatively to the friction beam, and this excludes the idea of the stretcher bar being integral with

the friction beam.

The defendants do not stretch the hide longitudinally and transversely at the same time, but only stretch it longitudinally in different successive directions across the hide.

The third claim is not infringed, because the described method of operation of the combination of the first claim is not performed by the defendants.

The decree of the circuit court is reversed, and the case is remanded to that court with a direction to dismiss the bill, with costs.

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