Singer Mfg. Co. Vs. Cramer

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SooperKanoon Citation : sooperkanoon.com/89790

Court : US Supreme Court

Decided On : Feb-01-1904

Appeal No. : 192 U.S. 265

Appellant : Singer Mfg. Co.

Respondent : Cramer

Judgement :

Singer Mfg. Co. v. Cramer - 192 U.S. 265 (1904)
U.S. Supreme Court Singer Mfg. Co. v. Cramer, 192 U.S. 265 (1904)

Singer Manufacturing Company v. Cramer

No. 18

Argued March 18-19, 1903

Decided February 1, 1904

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CERTIORARI TO THE CIRCUIT COURT

OF APPEALS FOR THE NINTH CIRCUIT

SYLLABUS

Where it appears from the face of the patents that extrinsic evidence is not needed to explain the terms of art therein, or to apply the descriptions to the subject matter, and the court is able from mere comparison to comprehend what are the inventions described in each patent, and from such comparison whether one device infringes upon the other, the question of infringement or no infringement is one of law, and susceptible of determination on a writ of error.

Where the principal elements of a combination are old, and the devising of means for utilizing them does not involve such an exercise of inventive faculties as entitles the inventor to claim a patent broadly for their combination, the patent therefor is not a primary one, and is not entitled to the broad construction given to a pioneer patent.

To prevent a broadening of the scope of an invention beyond its fair import, the words of limitation contained in the claim must be given due effect, and the statement in the first claim of the elements entering into the combination must be construed to refer to elements in combination having substantially the form and constructed substantially as described in the specifications and drawings.

Where the patent is not a primary patent and there is no substantial identity in the character of two devices except as the combination produces the same effect, and there are substantial, and not merely colorable, differences between them, there is no infringement of the earlier patent.

This controversy relates to an alleged infringement by the petitioner, a New Jersey corporation, of United States letters patent No. 271,426, issued to the respondent on January 30, 1883, for "a new and improved sewing machine treadle." For convenience, the petitioner will be hereafter referred to as the Singer Company, and the respondent as Cramer.

The treadle device used by the Singer Company on its sewing machines, which it was charged infringed the Cramer patent, was covered by letters patent No. 306,469, dated October 14, 1884, issued to the Singer Company as the assignee

of one Diehl.

The file wrapper and contents exhibit the following proceedings in the Patent Office respecting the Cramer patent: the

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original application was filed on May 25, 1882, and was for the grant of letters patent to Cramer "as the inventor for the invention set forth in the annexed specification." The specification and oath thereto read as follows:

"I, Herman Cramer, of the City of Sonora, in Tuolumne County, in the State of California, have invented certain improvements in a treadle, to be used in sewing machines, or other machinery where a noiseless treadle may be required, of which the following is a specification:"

"My invention consists of the usual platform marked 'A' in Fig. 1 of diagram on treadle bar. The ends of said treadle bar, marked 'B,' are shaped like the letter V, and rest in socket in lower end of a brace 'C,' the socket being [image of inverted playing card 'spade'] shaped, the brace 'C' cast in one piece, and the treadle bar and platform on the bar is also cast in one piece."

"The treadle bar rests in socket in brace 'C,' which is immediately above a cross-brace usually in machines to keep them from spreading apart, the nut on end of cross-brace is marked 'D.' Letter 'M' immediately beneath cross-brace and treadle bar is an oil receiver to retain any drippings of oil from the bearings of treadle bar."

"My invention consists in having the ends of the treadle bar V-shaped to fit in hole in brace 'C,' also ['spade' image] shaped to receive the ends of the treadle bar."

"This V-shaped treadle bar in brace 'C' entirely prevents noise from the treadle, is self-adjusting, and does away with the necessity of cones and set screws now in use. This I claim as my invention. Fig. 1 represents platform 'A' and treadle bar, the ends of which are V-shaped and marked 'B.'"

"Fig. 2 represents the lower end of brace 'C' with hole ['spade' image] shaped to receive the ends of treadle bar 'B.' 'D' represents nut on end of cross-brace immediately below treadle bar."

"State of California"

"County of Tuolumne"

"Herman Cramer, the above-named petitioner, being duly

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sworn, deposes and says that he verily believes himself to be the original and first inventor of the improvement in a noiseless self-adjusting treadle described in the foregoing specification, that he does not know and does not believe that the same was ever before known or used, and that he is a citizen of the United States."

The application was referred to the examiner, who, on May 29, 1882, wrote to Cramer, in care of his attorneys, as follows:

"The application is not prepared in conformity with the rules of the office. The specification is written on both sides of the pages, while the rules direct that it should be written on one side of each page only."

"No claim is appended to the specification. The oath is incomplete, as section 39 of the rules requires applicants to state under the oath if the invention has been patented to them, or with their knowledge and consent to others in any foreign country, and, if so, the number, date, and place of such patent or patents. Reference is made to the patent to G. W. Gregory, No. 256,563, April 18, 1882, which exhibits the alleged invention."

On August 3, 1882, the following substitute specification, concluding with an oath similar to that appended to the prior specification, was sent to the Patent Office:

"I, Herman Cramer, of the City of Sonora, in Tuolumne County, in the State of California, have invented certain improvements in a treadle and brace to be used

in sewing machines or other machinery where a noiseless treadle may be required, of which the following is a specification:"

"My invention consists in a combination of the usual platform marked 'A,' in Fig. 1 of diagram on treadle bar. The ends of said treadle bar marked 'B' are to bear against mufflers."

"The treadle bar bearings are in and on brace 'C.' The treadle bar rests in socket in brace 'C,' which is immediately above a cross bar usually in machines to keep them from spreading apart. "

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"The nut on end of cross-bar is marked 'D.' Letter 'M,' immediately beneath cross-bar, and treadle bar, is an oil receiver to retain any drippings of oil from the bearings of treadle bar."

"The treadle bar, mufflers, and brace 'C' are held between the right and left legs of the machine by means of a brace bar underneath the treadle bar."

"This brace and socket or bearing in or on brace is in one piece."

"The treadle bar with mufflers on the ends, working or bearing in or on brace, entirely prevents noise from the treadle, is self-adjusting, and does away with the necessity for cones and set screws now in use."

"Fig. 1 represents platform 'A' and treadle bar, the ends of which may be V-shaped, or any shape to suit, marked 'B.'"

"Fig. 2 represents the lower end of brace 'C.'"

"D' represents nut on end of cross-bar immediately below the treadle bar."

"What I claim is a combination of brace 'C' with socket or bearing in it or on it, to receive the treadle bar with the mufflers at the ends of treadle bar or in or on brace 'C' in connection with said brace 'C,' and the treadle bar in connection with brace 'C,' and mufflers to work in or on brace 'C,' substantially as set forth."

On August 14, 1882, the examiner wrote Cramer, in care of his attorneys, as follows:

"Applicant's amended claims are met by the patent to J. E. Donovan, June 28, 1881, No. 243,529, in view of which a patent is again refused."

Following this rejection, there was filed a revocation of the power of attorney which had been executed by Cramer in favor of the attorneys who had theretofore conducted the proceedings, and an appointment of other attorneys for the further prosecution of the application. On October 17, 1882, the substituted attorneys sent to the Patent Office a new drawing and an amendment of the specification on file, which amendment consisted in cancelling all the specification except the

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signature and substituting for the matter so stricken out the following:

"Be it known that I, Herman Cramer, of Sonora, in the County of Tuolumne and State of California, have invented a new and improved sewing machine treadle, and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification."

"My invention relates to improvements in the bearings of sewing machine treadles, and it has for its object to provide means, first, to keep the treadle bearings rigidly in line and at a fixed distance apart to avoid friction, and second, to make its movement in use noiseless. To this end, my invention consists in the construction and combination of parts hereinafter fully described and claimed, reference being had to the accompanying drawings in which --"

"Fig. 1 is a perspective view of a portion of a sewing machine showing my invention."

"Fig. 2 is a transverse vertical section through one bearing of the treadle."

"A represents the treadle provided with the usual pitman connection by which to run the sewing machine wheel. B represents the two trunnions cast as a portion of the treadle and extending from its sides into loopholes in the common cast-iron cross-brace C. These trunnions are sharpened to an edge or corner along their lower sides, and the lower end of the loophole is hollowed to an angle more obtuse than the edge of the trunnion, to serve as a bearing for the same and permit the rocking motion common to treadles."

"C represents the usual cast-iron double brace connecting the two end legs diagonally in a plane generally vertical. The lower ends of this brace are secured directly to the web of the legs by bolts *d*, and for convenience and strength I make the two ends of the common cross-bar D serve as these bolts. The upper ends of the brace are secured as usual, either to the web of the legs or to the table of the machine near the legs. "

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"The treadle and its trunnion bearings are wholly independent of the cross-bar D, except its service as stated, to hold the brace to the legs. The bearing holes in the brace are formed into long vertical loops to permit the entrance of the treadle."

"Pieces of leather F, or other soft material, cover the top and end of each trunnion to serve as cushions to keep the same close in its bearing, to prevent the noise which would result were the trunnions permitted to bounce and thump end-ways when the treadle is in motion. The leather F is fitted to the curve of the upper side of the trunnion, which is an arc of a cylinder whose center of oscillation is the lower edge of the trunnion; the same leather also interposes between the end of the trunnion and the adjacent iron. *f* is a block serving as a mere backer to which the cushion F is attached. This block conforms to the back and top side of the cushion, and fills the loophole in the brace above the trunnion. It also has tangs or projections *e*, resting in suitable recesses in the brace C, which are held between the brace and the web of the leg E, by which means the block and cushion are held in place. Below the bearings of the trunnions B, I provide cups, M, attached to the ends of brace C, to catch the oil that usually drips from such

bearings."

"By this construction, my treadle bearings are rigidly fixed and in no way liable to get out of line or to require adjustment; the usual noise is prevented, and overflowing of oil is caught before it can do damage."

"I am aware that sewing machine treadles have before been provided with V-shaped bearings, and I do not claim the same as my invention, but --"

"What I claim and wish to secure by letters patent is --"

"1. The vertical double brace joining the legs of the two ends of a sewing machine, provided with holes through its lower extremities to serve as bearings, in combination with a treadle provided with trunnions fitted to oscillate in said bearings substantially as specified. "

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"2. The sewing machine legs E, the vertical double brace C secured thereto and provided with holes to serve as bearings for the treadle A, and the treadle provided with trunnions B to oscillate in said bearings, in combination with the cushion F and the block *f* , as and for the purpose specified."

Accompanying the new specification was the following communication, signed by the attorney:

"A new oath is herewith filed. Gregory, referred to, pivots the grooved trunnions of his treadle upon knife edges secured within the upper loops of two collars, which are secured to the cross-bar by means of set screws to keep them from turning. Donovan pivots his treadle upon its trunnions having sharpened edges, in grooves in the cross-bar, where it is held by collars provided with flanges projecting over the trunnions. Applicant pivots his treadle upon the sharpened edges of its trunnions in loop holes in the two ends of the brace which is bolted to the legs of the machine by the two ends of the cross-bar. This service of the cross-bar might be as well performed by two short bolts, but, the bar being a usual cross-tie to stiffen the legs, applicant uses its ends as bolts to hold his brace ends to the legs.

We have rewritten the specification to elucidate the inventor's claim. Should the case meet with favorable consideration, a new drawing will be furnished. For the purpose of examination, see pencil sketch on sheet of drawing filed."

On October 19, 1882, the examiner wrote Cramer, in care of his attorney, as follows:

"The case has been reconsidered in connection with the substituted specification filed the 17th inst., and the examiner holds that the references previously cited -- that of Gregory in particular -- meets the alleged invention. The case is accordingly rejected."

To this letter the following reply was made by the attorneys for Cramer:

"The examiner will please notice that applicant's invention places both bearings of the treadle in the cross-brace."

"By this means, they may be made perfectly true in line,

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either by casting or drilling, and they cannot be thrown out of line, either by use, or by the most awkward setting up."

"Therefore, one source of friction is avoided. All the references have shown bearings made of two separate pieces which could readily be set up out of line, or even be worked loose. The advantage is obvious."

"A reconsideration is respectfully asked."

This closed the correspondence. Soon afterwards, notification was given that the patent had been allowed, and letters patent embodying the specification last above set forth, headed "Treadle for sewing machines," etc., were issued, bearing date January 30, 1883. The following is a facsimile of the drawing referred to in the specification:

image:a

The alleged infringing device is delineated on the following fac simile of the first sheet of the drawing attached to the Diehl patent:

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image:b

In this specification, Diehl declared his invention to consist in "certain new and useful improvements in sewing machine stands and treadles," and the object to be

"to secure a permanent and reliable support and adjustment for both the band wheel and treadle, and to preserve their respective relative positions, so that they will always cooperate to produce the best results with the least danger of friction or binding."

The claims were five in number, as follows:

"1. In a sewing machine stand, a cross-brace having supports for both the band wheel and the treadle integral with said brace."

"2. In a sewing machine stand, a cross-brace having supports for both the band wheel and the treadle integral with

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said brace, and provided also with means for adjusting and taking up the wear of such band wheel and treadle."

"3. In a sewing machine stand, a cross-brace adapted to connect the legs or side pieces thereof, provided at one side with bearings for the flywheel crankshaft, and having a support at its base for the treadle, substantially as set forth."

"4. The combination, with the cross-brace of a sewing machine stand, of a crankshaft and a treadle, both mounted in the said brace, substantially as set forth."

"5. A cross-brace for sewing machine stands, having at its base a cross-bar, combined with a treadle mounted in said cross-bar, substantially as set forth."

To recover damages for alleged infringement of the first claim of the Cramer patent in the use by the Singer Company of the Diehl device just referred to, Cramer brought this action at law against the Singer Company on October 8, 1896, in the Circuit Court of the United States for the Northern District of California. By amendment of the declaration, the recovery was limited to damages sustained by infringements committed within the Northern District of California. In the answer filed on behalf of the Singer Company -- in addition to excepting to the jurisdiction of the court and pleading as *res judicata* a former judgment rendered in favor of the defendant in an action brought by Cramer against one Fry, an employee of the Singer Company, 68 F. 201 -- defenses were interposed of want of novelty and utility and lack of invention, and infringement was denied.

A trial was had which resulted (by direction of the court, sustaining the plea of *res judicata*) in a verdict and judgment for the defendant. This judgment was reversed by the Circuit Court of Appeals for the Ninth Circuit. 93 F. 636. On a second trial, a verdict was rendered for Cramer and judgment was entered thereon for the sum of $12,456. On appeal, this judgment was affirmed by the Circuit Court of Appeals for the Ninth Circuit. 109 F. 652. A writ of certiorari was thereafter allowed by this Court.

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MR. JUSTICE WHITE, after making the foregoing statement, delivered the opinion of the Court.

Sixty-eight exceptions were taken by the Singer Company during the trial of the action in the circuit court, and were pressed upon the attention of the circuit court of appeals in sixty-nine assignments of error. These exceptions were all in effect relied upon in the argument at bar, but, from the view we take of the case, it is unnecessary to consider and decide any other assignment than that based upon the exception to the refusal of the court at the close of all the evidence, to instruct

a verdict for the defendant on the ground that "no infringement whatever had been shown." As in each of the patents in question it is apparent from the face of the instrument that extrinsic evidence is not needed to explain terms of art therein, or to apply the descriptions to the subject matter, and as we are able, from mere comparison, to comprehend what are the inventions described in each patent, and, from such comparison to determine whether or not the Diehl device is an infringement upon that of Cramer, the question of infringement or no infringement is one of law, and susceptible cf determination on this writ of error. *Heald v. Rice,* 104 U. S. 737 ; *Market Street Cable Ry. Co. v. Rowley,* 155 U. S. 621 , 155 U. S. 625 .

Whether error was committed in refusing to direct a verdict is, then, the question to be decided. The claims of the Cramer patent are two in number, and read as follows:

"1. The vertical double brace joining the legs of the two ends of a sewing machine, provided with holes through its lower extremities to serve as bearings, in combination with a treadle provided with trunnions fitted to oscillate in said bearings, substantially as specified. "

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"2. The sewing machine legs E, the vertical double brace C secured thereto and provided with holes to serve as bearings for the treadle A, and the treadle provided with trunnions B to oscillate in said bearings, in combination with the cushion F and the block *f* , as and for the purpose specified."

Infringement is charged only in respect to the first claim. In substance, the contention for Cramer is that the conception or idea of the practicability and desirability of utilizing a vertical double brace as a support for a sewing machine treadle was new with Cramer, and the combination devised by him produced such new and useful results, and exhibited such an exercise of the inventive faculty, as to cause the patent to be a pioneer, and therefore entitle the patentee to demand that the claim of the patent should be broadly and liberally construed. For the

Singer Company, it is contended that the availability of use of a vertical cross-brace as a support for a sewing machine treadle was apparent to any person possessing ordinary mechanical skill, that the invention in question if patentable was in no just sense one of a primary nature, and that the combination described by Cramer is to be restricted narrowly to the mere details of the mechanism described as constituting the combination. We must first determine which of these contentions is correct.

Discussing the significance of the term "pioneer" as applied to a patented invention, this Court, in *Westinghouse v. Boyden Power Brake Co.,* 170 U. S. 537 , said (p. 170 U. S. 561):

"To what liberality of construction these claims are entitled depends to a certain extent upon the character of the invention, and whether it is what is termed in ordinary parlance a 'pioneer.' This word, although used somewhat loosely, is commonly understood to denote a patent covering a function never before performed, a wholly novel device, or one of such novelty and importance as to mark a distinct step in the progress of the art, as distinguished from a mere improvement or perfection of what had gone before. Most conspicuous examples of such patents are the one to Howe of the sewing

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machine, to Morse of the electrical telegraph, and to Bell of the telephone. The record in this case would indicate that the same honorable appellation might be safely bestowed upon the original air brake of Westinghouse, and perhaps also upon his automatic brake. In view of the fact that the invention in this case was never put into successful operation, and was to a limited extent anticipated by the Boyden patent of 1883, it is perhaps an unwarrantable extension of the term to speak of it as a 'pioneer,' although the principle involved subsequently and through improvements upon this invention became one of great value to the public."

To ascertain whether the patented invention of Cramer is entitled to be embraced within the term "pioneer" as just defined, we will consider it in connection with the

state of the art.

In the history of the art, it is unquestioned that, long prior to the application by Cramer for the grant of the patent in question, devices similar to the vertical cross-brace C and the lower cross-bar or tie rod D, shown in the drawing of the Cramer patent, were commonly employed in sewing machines. This is conceded by Cramer in statements made in the progress of his application through the Patent Office. Thus, in the specification which forms a part of the patent, the vertical brace C is referred to (italics not in original) as "the *common* cast-iron brace C," and "the *usual* cast-iron double brace;" while in the first of the proposed specifications, as well as in that which was finally adopted, the lower bar or tie rod D is referred to (italics not in original) as "the *common* cross-brace or cross-bar." And in both the first and second specifications, the usual purpose subserved in sewing machines by this cross-bar was "to keep them (the machines) from spreading apart." It is, of course, obvious that such was also the purpose of the employment of the vertical double or cross-brace.

The vertical double cross-brace C, as shown in the Cramer drawing, is a solid piece of casting. But it is also an undisputed fact that, long prior to the alleged invention of Cramer, it was a well known method of construction when revolving

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or oscillating shafts were to be placed in bearings or supports, to have both bearings or supports of such shafts attached to a solid metal casting. Instances of such practices, testified to by witnesses, may be referred to. One was a device to hold a saw mandrel or saw arbor, the former being cast in one piece for the purpose of connecting both journals of the arbor to keep it in absolute line. Another device is the head stock of an ordinary engine lathe or machine lathe, where, in order to have a proper working machine, it is absolutely necessary that the shaft bearings shall be in exact alignment with each other, and firmly in one place. Still another illustrative device employed for a great many years is embodied in a high speed engine. So also in the sewing machine art, as evidenced by the Willcox patent No. 106,242 of date August 9, 1870, to be hereafter noticed, the legs of

sewing machines had long before Cramer's application been used as bearings for treadle bars, the bearings being cored out of the leg castings.

A vertical cross-brace and a lower cross-brace or tie rod being common adjuncts of sewing machines at the time of Cramer's alleged invention, and it being also customary to support the lower cross rod or brace in the web of the legs of sewing machines and to utilize the legs as bearings, and it being old in machinery to employ solid castings as bearings or supports for oscillating shafts to support the lower cross-rod or brace in where a fixed alignment was essential, we readily conclude that there was no merit in the mere conception or idea that a vertical double brace was capable of being advantageously utilized as bearings for sewing machine treadles, and that the devising of means for so utilizing such a brace did not involve such an exercise of the inventive faculty as entitled Cramer to assert in himself a right to claim a patent broadly for the use in combination of a vertical double brace and a sewing machine treadle. In view of this, and of the fact that the principal elements of the Cramer combination were old, we hold that the Cramer patent was not a primary one, and that it is not therefore entitled to receive the broad construction which has been claimed for it. Let us therefore

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examine the first claim of the patent in connection with the proceedings in the Patent Office anterior to the allowance of the patent in order to fix its precise import, as a preliminary to considering whether, as correctly construed, it is infringed by the Singer appliance. The claim reads as follows:

"The vertical double brace joining the legs of the two ends of a sewing machine, provided with holes through its lower extremities to serve as bearings, in combination with a treadle provided with trunnions fitted to oscillate in said bearings, substantially as specified."

In the first specification sent to the Patent Office, the object sought to be attained is declared to be the elimination of the noise caused by the operation of a loose treadle, whether used in sewing machines or other machinery. The applicant

evidently had in mind treadles which oscillated upon rigid bars and rested on cone bearings or analogous supports, attached to the rigid bars by set screws -- such bearings needing adjustment from time to time as the friction of the parts from the operation of the treadle caused wear and looseness of the parts. It was recited that the treadle bar and the platform on such bar (*i.e.,* the footrest) was to be cast as one piece. The invention was declared to consist "in having the ends of the treadle bar V-shaped to fit in hole in brace C, also heart shaped to receive the ends of the treadle bar."

The application based upon this first specification was rejected, as mentioned in the statement of facts, upon a reference to the patent to G. W. Gregory, No. 256,563, April 18, 1882, which the examiner stated exhibited "the alleged invention." Gregory termed his invention "an improvement in treadle supports for sewing machines." It is illustrated in the following facsimile of one of the figures of the drawing of the patent:

image:c

The invention consisted in attaching to the lower cross-bar or rod of a sewing machine two devices styled collars, each collar having two circular openings, one above the other. The upper opening contained a V-shaped bearing. The cross-bar was fitted into the lower opening. The treadle or footrest was provided on each side with short projections termed ears, which fitted on the V-shaped bearings in the upper portion of each collar. The specification contained the following statement:

"I am aware that V-shaped or scale bearings are old in connection with the sewing machine treadles -- as, for instance, a long rod to which the treadle is secured has been provided at its ends in the set frames of the machine stand with V-shaped bearings."

At the close of the descriptive portion of the specification, it was further stated:

"I am aware that sewing machine treadles have had V-shaped bearings, as in United States patent Nos. 148,759 and 106,242; but neither of said patents shows a bearing constructed in accordance with my invention."

No. 106,242 was a patent granted to C. H. Willcox on August 9, 1870. It covers the following device:

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image:d

The device shows the character of treadle support now employed in the Willcox & Gibbs sewing machine. The stand is devoid of a vertical cross-brace, the legs of the machine being braced near the bottom by the ordinary cross-bar or tie rod. Just above this rod is exhibited the invention, being a

"rockshaft B, beveled at the ends, and provided with V-shaped bearings *b*, extending to the center of motion of the rockshaft B, and supported in a V-shaped bearing seat *a*, in combination with a treadle movement."

Elsewhere in the specification the bearings or supports in legs of the machine to receive the ends of the rockshaft B are referred to as "V-shaped bearings." The statement is also made that

"The bar is prevented from having any undue lateral movement by the washers upon the ends of the tie rod *c*, which holds the lower part of the frame together."

An alternate mode of construction of the bearings to support the rockshaft was thus described (italics not in original):

"The V-shaped seat of the bearings a may be formed of a separate piece of hard metal let into a groove in the frame, or otherwise applied to it, and the ends b may be formed also of

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a piece of hard metal, so that the wear of the parts in contact will be very slight, *and all rattling or loose jarring motions entirely prevented.* "

Although the first refusal to allow a patent was made on May 29, 1882, it was not until August 3 following that the attorneys for Cramer transmitted an amended application to the Patent Office. In the substituted specification, the object to be attained is stated as in the previous specification. An addition to the combination was made, however, in the use of what were styled "mufflers," against which it was said the ends of the treadle bars were to bear. A patent was again refused, however, the examiner noting that "applicant's amended claims are met by the patent to J. E. Donovan, June 28, 1881, No. 243,529."

The drawing of the Donovan patent exhibits a sewing machine stand containing a vertical double brace. One form of treadle bar constituting a part of the invention was represented as situated just below the vertical cross-brace, and as having a rounded edge, supported in V-shaped bearings, in the legs or sides of the frame. A shoulder was indicated on each end of the bar, and a substitute device was also shown called a button fastener, which was to be attached from the outside of the frame to meet the end of the bar. It was said in the specification that the treadle bar might be made of cast iron and cast on and with the treadle. It was further stated (italics not in original):

"The bearing supports are preferably made by *coring out the frame* in the manner shown in the drawings. It is obvious that other forms of supporting these bearings may be provided."

Several modified forms of ordinary knife-edge bearings and inclined fastening and adjusted devices were also shown. In such modified forms, the treadle was represented as designed to oscillate on a rigid bar, in oblong grooves therein; lugs, having knife-edge bearings underneath, being cast on each side of the treadle. Adjustable collars were shown, fastened to the shaft or bar, with inclined lugs on the side of the collars,

projecting laterally over and resting against shoulders on the lugs upon each side of the treadle. The object of the invention was declared to be (italics not in original):

"to secure a more substantial table frame to the driving mechanism, and to provide adequate means for the employment of V-shaped treadle bearings, *so as to obviate the difficulty heretofore occasioned by lost motion, consisting in vertical and endwise play of the treadle bar or shaft.* "

It was further observed by the applicant just preceding his statement of claims as follows (italics not in original):

"Frequent attempts have been made to use knife-edge bearings for the treadle in sewing machines, but *it has been found to be difficult to prevent lateral lost motion and to adjust the parts so as to compensate for their wear and to prevent rattling of the treadle, which has been a serious objection in their employment.* My herein-described improvements have overcome all the serious objections hitherto attending their use."

Following the second rejection of his application, Cramer changed his attorneys as mentioned in the statement of facts. In the specification drafted by the new attorneys, and which became the basis of the allowed patent, the asserted invention was limited to its use in sewing machines, eliminating the statement of its adaptability "in other machinery." Concerning the "mufflers," which in the previous specifications were simply referred to as bearing against the end of the treadle bars or as being on the ends of such bars, the following statement was made (italics not in original):

"Pieces of leather F, or other soft material, cover the top and end of each trunnion to serve as cushions *to keep the same close in its bearing, to prevent the noise which would result were the trunnions permitted to bounce and thump endways when the treadle is in motion.* The leather F is fitted to the curve of the upper side of the trunnion, which is an arc of a cylinder whose center of oscillation is the lower edge of the trunnion; the same leather also interposes between the end of the

trunnion and the adjacent iron. *f* is a block serving as a mere backer to which

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the cushion F is attached. This block conforms to the back and top side of the cushion and fills the loophole in the brace above the trunnion. It also has tangs or projections *e* , resting in suitable recesses in the brace C, which are held between the brace and the web of the leg E, by which means the block and cushion are held in place. Below the bearings of the trunnions B, I provide cups, M, attached to the ends of brace C, to catch the oil that usually drips from such bearings."

It is not a strained deduction that the elaborate provision just referred to respecting the mode of use of and the purpose to be subserved by the mufflers was, in part at least, induced by the statement in the Willcox and Donovan patents above quoted concerning the difficulties which existed in connection with the use of knife-edge or V-shaped bearings. Be this as it may, however, we are of opinion that the Patent Office, after twice refusing to allow the patent because of the prior patents referred to, was led to take favorable action, owing to the peculiar form of the described bearing, when situated in a vertical cross-brace such as was shown in the drawing, with the described accessories, and that it was the purpose of the Patent Office to limit the patent to the particular device of treadle bar and bearing described and shown when employed in combination with a particular form of vertical cross-brace. And this view is supported by the claim in question. It contains words of limitation. It is recited therein that the combination is to be "substantially as specified" -- that is, as described in the specifications and shown in the drawings. *Westinghouse v. Boyden Power Brake Co.,* 170 U. S. 537 , 170 U. S. 558 . On referring to the specification, we find it there expressly declared that the invention consisted "in the construction and combination of parts hereinafter fully described and claimed, reference being had to the accompanying drawing." Nowhere, either expressly or by reasonable inference, is it asserted that simply the best or a preferable construction of the whole or any part of the combination is what is described. On the contrary, starting with the well known vertical cross-brace, a

usual accessory to sewing machines, a specific mode of construction of the treadle bar and of the bearings or supports in the vertical cross-brace is set forth, and the specification is concluded with the following declaration (italics mine):

" *By this construction,* my treadle bearings are rigidly fixed and in no way liable to get out of line or to require adjustment; the usual noise is prevented, and overflowing of oil is caught before it can do damage."

To prevent a broadening of the scope of the invention beyond its fair import, in the light of the circumstances surrounding the issuance of the patent, the words of limitation contained in the claim must be given due effect, and, giving them such effect, the statement in the first claim of the elements entering into the combination must be construed to refer to elements in combination having substantially the form and constructed substantially as described in the specification and shown in the drawing.

Having determined the proper construction of the claim of the Cramer patent, which is relied upon, it remains only to consider whether, as correctly construed, infringement resulted from the employment by the Singer Company of the device covered by the Diehl patent. We find no difficulty in reaching a conclusion on this branch of the case. The treadle supports devised by Diehl, though they serve the same purpose as the device described and shown in the Cramer patent, are substantially different in construction. Irrespective of the question whether the treadle in the Diehl device is hung in the vertical cross-brace proper or in an addition thereto properly to be regarded as the lower cross-rod or cross-tie of the machine, it is manifest that the bearing is essentially different in construction from that of Cramer, and is not adapted to receive an oscillating bar, while the treadle is not supplied with long projections fitted to oscillate in the vertical cross-bar on bearings therein, but is constructed to turn on point center screws which fit tightly in circular openings in projections from the vertical cross-bar. There is

no substantial identity in the character of the two devices unless by substantial identity is meant every combination which produces the same effect. The differences between the Diehl device and the Cramer construction are substantial, and not merely colorable.

The trial court should have granted the motion to direct a verdict for the defendant. In affirming the action of the trial court in overruling the motion, the circuit court of appeals erred, and its judgment must therefore be reversed. The judgment of the circuit court is also reversed, and the cause is remanded to that court with directions to grant a new trial, and for further proceedings not inconsistent with this opinion.

Reversed and remanded.

MR. JUSTICE Mc KENNA took no part in the decision of this cause.