

GRAY V. BANGS, EX'X, AND OTHERS.

Circuit Court, D. Massachusetts.

June 10, 1887.

PATENTS FOB INVENTIONS—IMPROVEMENTS IN SEWING-
MACHINES—INFRINGEMENT.

Letters patent No. 24,022 were granted May 17, 1859, and extended seven years from May 17, 1878, to Joshua Gray, for improvements in sewing-machines. The first claim of the patent related to an improvement in the details of construction of the feeding mechanism, in which four movements are required,—upwards when engaging the cloth, forwards when feeding, downwards when disengaging, and backwards to the point of beginning. The patent described a long reciprocating bar, actuated by a rock-shaft, and engaging the feed-bar, which transversed it. The longitudinal motions were given by two inclines on the sides of the reciprocating bar, acting in connection with two stops on the feed-bar, one adjustable and the other fixed. The upward movement of the feed was caused by an incline on the face of the reciprocating bar, acting with the feed-bar. The feed-bar was moved upwards, against the pressure of a Spring, which forced the feed downwards after the upward movement ceased. The defendant made sewing-machines in which the feeding mechanism had two cams, arranged one above the other, on a vertical rotating shaft. The cams were so arranged that one moved a bar or rod back and forth, and the other from side to side. At the end of the rod was the feed-bar, which closely embraced the rod between two fixed jaws. The rod had an adjustable fulcrum about midway between the driving end of the machine and the feed-bar. *Held*, that the motion and operation of the defendant's device were not sufficiently similar to that described in the Gray patent to constitute an infringement.

2. SAME—EQUIVALENTS—DIFFERENT MODE OF OPERATION.

While a cam and a wedge are regarded as plain equivalents, yet the use of two cams in the defendants' device, in place of the two inclines or wedges in the plaintiff's patent, are not to be regarded as the substitution of equivalents, considering their different modes of operation in connection with the rods as arranged in the defendants' machine

In Equity.

T. W. Clarke and Geo. C. Hodges, for complainant.

Browne & Browne, for defendants.

COLT, J. The defendants are charged with infringement of the first claim of letters patent No. 24,022, granted May 17, 1859, and extended seven years from May 17, 1873, to Joshua Gray, for improvements in sewing-machines. The specification says:

“My invention is upon that class of sewing-machines which form a double looped stitch, with two threads, and is designed to attain precision and certainty of action with the greatest simplicity of mechanism, and consists in certain details of construction, which will be now fully set forth and described.”

These details of construction covered by the first claim relate to an improved feeding mechanism. The feed of a sewing-machine should have four movements, upwards when engaging the cloth, forwards when feeding, downwards when disengaging, and backwards to the point of beginning. The patent describes a long reciprocating bar actuated by a rock-

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shaft. The bar extends from the driving end of the machine, and engages the feed-bar, which is transverse to it. The reciprocating bar

has three inclines, two on the opposite edges of the bar, and one on its upper face. The feed-bar has two stops, one adjustable, and the other fixed. The adjustable stop regulates the length of the stitches by regulating the movement of the feed-bar. The longitudinal motions of the feed-bar are given by the two inclines on the sides of the reciprocating bar, acting in connection with the stops on the feed-bar. The upward movement of the feed is caused by the incline on the face of the reciprocating bar acting with the feed-bar. The feed-bar is moved upwards, against the pressure of a spring, which forces the feed downwards after the upward movement has ceased. The claim is as follows:

“The combination of the reciprocating bar, 6, with its side inclines, 10 and 11, and upper incline, *w*, with feed-bar, *N*, stop, *v*. and adjustable stop, *t*, arranged and operating as herein described for the purpose set forth.”

The elements of this combination are (1) the reciprocating bar, *G*, constructed with two side inclines and an upper incline; (2) the feed-bar, *N*, arranged crosswise of one end of the reciprocating bar; (3) the fixed stop, *v*. on the feed-bar; and (4) the adjustable stop, *t*, on the feed-bar,—the whole “arranged and operating as herein described.”

In view of the previous state of the art, it is clear that Gray's invention was not a broad one; but, as he states in his specifications, it was for improvements in details of construction. In defendants' machine two cams are arranged, one above the other, on a vertical rotating shaft. The cams are so arranged that one moves a bar or rod back and forth, and the other from side to side. At the end of the rod is the feed-bar, which closely embraces the rod between two fixed jaws. The rod has an adjustable fulcrum about midway between the driving end of the machine and the feed-bar. Bearing in mind the scope of the Gray invention, in view of the prior state of the art, I am satisfied, upon a comparison of the two machines, that the defendants' machine does not contain either the reciprocating bar or the adjustable stop of the Gray patent. The bars do not have the same motions or operation. Both bars may be said to have a reciprocating motion in the direction of their length, but the lateral motion of the two is quite different. The defendants' bar is really a lever, which is vibrated about a center; its vibrating or rocking movement being compelled by one cam, and its reciprocating movement by another. Owing to the action of the inclines on the plaintiff's bar, the lateral movement of the feed takes place with the reciprocating movement of the bar. This is not true in defendants' machine, whose vibratory motion is distinct and separate from the reciprocating. It seems to me that to put the Gray inclines on the defendants' bar would render the machine practically useless.

It is said that in defendants' machine two cams are merely substituted for two inclines or wedges, and that a wedge and a cam are plainly equivalents, and have been so called by the supreme court in *Burr v. Duryee*, 1 Wall. 531, 573. Whatever may be true, where a cam is merely substituted for a wedge in a machine, in this case, considering their dif-

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ferent mode of operation, I cannot regard the two cams, in connection with the rod as arranged in defendants' machine, the mere equivalent

of the rod and two inclines of the Gray patent. Again, the adjustable stop, t , is made an element of the second claim of the Gray patent. In defendants' machine there is an adjustable fulcrum upon which the rod oscillates, and by this means the lateral movement of the end of the rod, which is engaged with the feed-bar, is regulated without permitting any play or lost motion between any part of the rod and the feed-bar. The two jaws of the feed-bar in defendants' machine fit the vibrating rod closely, and neither of them is adjustable. I do not think the adjustable stop, or the stops of the Gray machine, or what fairly may be considered their equivalent, are to be found in the defendants' device.

In my opinion, no infringement has been shown, and the bill should be dismissed.