ROBBINS *ET AL. V.* AURORA WATCH CO.

Circuit Court, N. D. Illinois. July 31, 1890.

1. INFRINGEMENT OF PATENTS—EXTENT OF CLAIM.

The first, third, fourth, fifth, and sixth claims of reissued letters patent No. 10,631 for a "stem-winding watch," are for a device the distinctive characteristic of which is that the winding and hand-setting engagements are not effected by the direct force of the push and pull upon the stem-arbor, but are brought about by longitudinal movement of the stem-arbor, which brings into action certain light springs arranged to swing the yoke which carries the winding and setting train that has no positive connection with the stem-arbor. *Held,* that these claims were infringed by a device accomplishing the same result by means of an oscillating yoke carrying a winding and hands-setting train, adapted to be placed in winding and setting engagement by the endwise movement of the stem-arbor acting on springs in such a manner that the engagement is not forced by the direct push or pull upon the stem-arbor.

2. SAME—WHAT CONSTITUTES INFRINGEMENT.

Patent No. 287,001 for a "watch pendant" covers a device in the stem to lock the arbor in either the winding or setting position. *Held,* that the manufacturer of watch movements only did not infringe this patent, though his movements were adapted to be used in any case fitted with the device covered by the patent.

3. SAME—NOVELTY.

The claim in reissued letters patent No. 10,631 for a "stem-winding watch," for a device whereby the shifts from the winding and hands-setting engagements to each other are not effected by the direct force of the push and pull upon the stem-arbor, but are brought about by longitudinal movements of the stem-arbor, which bring into action light springs arranged to swing the yoke which carries the winding and setting trains, is novel, though there are several prior patents which effect these shifts by means of the direct force of the push and pull upon the stem-arbor.

4. SAME—CONSTRUCTION OF CLAIMS.

The claims of a patent must be so construed, if possible, as to uphold the patent, and though they may be broad enough to include results as well as devices, yet, where the specific devices are set out in the drawings and specifications, the claims should be construed as for the devices there shown.

In Equity.

Prindle & Russel and *L. Hill,* for complainants.

Bond, Adams & Jones, for defendant.

BLODGETT, J. The bill in this case charges the defendant with the infringement of reissued letters patent No. 10,631, granted to complainants, as assignees of Duane H. Church, on the 4th day of August, 1885, for a "stem-winding watch,"—the original patent having been granted to Church, assignor, to the American Watch Company, July 3, 1883, and patent No. 287,001, granted October 23, 1883, to Caleb K. Colby for a "watch pendant." The improvement covered by the Church patent is applicable to the class of watches where the watch is wound and the hands set by means of the stem, and consists of an oscillating yoke, carrying upon its under side, pivoted at or near its longitudinal center,

a pinion, which is so set as to engage with smaller pinions carried at each end of the yoke. This central wheel, or pinion, having beveled cogs on the under side thereof, which engage with the beveled pinion, which is set in the line of the stem, and into which the inner end of the stem-arbor enters a Short distance, by a square or octagonal opening, so that this beveled pinion cap be rotated by the stem-arbor. By rotating the stem-arbor, motion is imparted to the central pinion of the yoke, whereby

such motion is communicated to the two pinions at the ends of the yoke. Passing through the small beveled pinion with which the stem-arbor engages is a loose sliding block or bar, which meets the inner end of the stem-arbor, for the purpose of a thrust or push motion of the stem-arbor, and acts as an extension or prolongation of the stem-arbor. By pressing, the stem-arbor inward this sliding bar acts upon a spring, which throws the stem winding and setting train into engagement with the winding wheel, which is done by swinging the yoke so as to bring the pinion on one end of it into contact with the winding wheel, when, by rotating the stem-arbor, the watch can be wound up,—there being a latch in the sheath, or case, of the stem, which is arranged to hold the stem-arbor at the extreme of its inward movement, whereby the winding wheels are kept in winding engagement,—while, when it is desired to set the hands, the stem is drawn outwardly, which allows a spring arranged for that purpose to swing the yoke out of winding and into setting engagement. It will be seen that a latch pr catch in the stem, which shall hold the stem-arbor safely at the points of its extreme inward and outward movement, is necessary to the working of this stem-winding and stem hands-setting device, and the patent shows a latch, or retaining device in the stem to lock the arbor in either the winding or setting position, of which Church claimed to be the inventor, and for which claims were allowed him in his original patent; but, on the application for a reissue, an interference was declared between himself and Colby as to these claims, on the hearing of which Colby Was decided to be the prior inventor of the locking device in the stem, and Church's claims for that part of his device were disallowed, and the patent for that feature awarded to Colby. The Church patent, therefore, while it contains a description of the latch or retaining device in the stem-sheath has no claims covering it, but the stem-winding and stem-setting devices of his patent are adapted to be used only with some device for locking the stem-arbor in its inward and outward positions, and, perhaps, this comment will hold true as to all practical stem-winding and stem-setting watches. Infringement is charged in this case of the first, third, fourth, fifth, and sixth claims of the reissued patent, which are:

"(1) As an improvement in stem winding and setting watches, a winding and hands-setting train which is adapted to be placed in engagement with the winding wheel or the dial-wheels by the longitudinal movement of a stem-arbor that has no positive connection with said train, substantially as and for the purpose specified. * * * (3) As an improvement in stem winding and setting watches, a winding and hands-setting train which is adapted to be placed in engagement with the winding wheel or the dial-wheels, by the longitudinal movement of a stem-arbor, and is normally in engagement with said dial-wheels, substantially as and for the purpose set forth. (4) As an improvement in stem winding and setting watches, a winding and hands-setting train which is normally in engagement with the dial-wheels, in combination with a rotatable stem-arbor that has no positive connection with said train, and is adapted to be moved longitudinally within the case stem to

cause said winding and hands-setting train to engage With the Winding Wheel, and to be simultaneously disengaged from said dial-wheels, substantially as and for the purpose shown and described. (5) As an improvement in stem winding and

setting watches, a winding and hands-setting train which is normally in engagement with the dial-wheels, in combination with a rotatable longitudinally movable stem-arbor that has no positive connection with the watch movement, and when moved longitudinally to the inner limit of its motion will cause said Winding and setting train to be disengaged from said dial-wheels, and engaged with the winding wheel, and When moved longitudinally to the outer limit of its motion will permit said train to do disengaged from said winding wheel, and engaged with said dial-wheels, substantially as and for the purpose specified. (6) As an improvement in stem winding and setting watches the combination of a winding and hands-setting train which is normally in engagement with the dial-wheels, a stem-arbor having no positive connection with said train, and an intermediate device which is adapted to communicate the longitudinal inward movement of said stem-arbor to said winding train, and cause the same to engage with the winding wheel, substantially as and for the purpose shown and described."

The defenses insisted upon are (1) that the patent is void for want of novelty; (2) that the claims sued upon are too general, and do not describe with sufficient certainty the device by which the results are effected; (3) that defendant does not infringe.

The distinctive characteristic of the Church device is that the winding and hands-setting engagements are not effected by the direct force of the push and pull upon the stem-arbor, which is objectionable, because the force of the hand Of the operator directly applied is liable to injure the delicate cog-wheel mechanisms which are thus forced into contact with each other. These winding and hands-setting engagements are brought about by longitudinal movements of the stem-arbor, which bring into action certain light springs arranged to swing the yoke which carries the winding and setting trains. For instance, the watch, as ordinarily carried in the pocket, is always in the winding engagement, and this is effected by pushing the stem-arbor inwardly, to the limit of its movement in that direction, when it is caught and held by the latch in the sheath of the stem. This inward movement of the stem-arbor carries inward the loose sliding bar or block, N, as it is called in the specification which by Such inward movement comes in contact with and swings inwardly an arm, Which by such inward movement causes a spring to bear upon the end of the yoke which carries the winding train, and thereby brings the winding pinion in contact with the winding wheel of the mainspring. This spring being light, if the cogs of these wheels meet end on, or do not mesh, they rest in contact until the winding pinion has revolved, when its cogs come at once into engagement with the cogs of the winding wheel, where they are kept in winding engagement so long as the stem-arbor is held at its inward limit. When the stem-arbor is released from its inward movements and drawn outwardly, it releases the arm upon which the bar, N, has been pressing, and another spring is brought into action, which swings the yoke out of the winding engagement, and brings the end carrying the hands-setting pinion into contact with the dial-wheels, and the

cogs of the respective wheels mesh, if they happen to meet in the proper relations, and, if not, they are retained in contact until the rotation of the pinions brings the cogs into engagement.

It will be seen from this description, if I have made it clear, that the engagements of the pinions of this yoke with the winding and dial wheels are effected by the operation of springs, which are brought into operation by the inward and outward movements of the stem-arbor. It is because these springs are in their natural position, and not constrained when the parts are in the hands-setting engagements, that the inventor says "that the hands-setting engagement is the normal condition of the mechanism." It is not claimed that Church was the first to make a stem-winding and stem hands-setting device for a watch. The English patent shown in this case, granted in 1844 to Adolph Nicole, shows a device for winding a watch and setting its hands by the stem-arbor, the winding and hands-setting train consisting of a V-shaped metal plate, with a pinion pivoted near its center, having cogs, or teeth, on its outer periphery, and beveled cogs on the Under side of its rim. The beveled cogs engage with the beveled pinion attached to the inner end of the stem-arbor, which has an endwise movement. This V-shaped metal plate carries upon its point a small pinion, which gears with the large central pinion, so that, by rotating the stem-arbor, motion is transmitted to this small pinion on the end of the plate. This V-shaped metal plate is pivoted to the rim which holds the movement at its right-hand corner in such a position that the small pinion on its point rests between the winding wheel and dial-wheels of the watch, and by pressing on the stem-arbor this small pinion is swung into contact with the winding wheel, while, when the stem-arbor is drawn outwardly, it brings the pinion into engagement with the dial-wheels. Here, then, is shown a device for winding and setting the hands of the watch by a longitudinal movement of the stem-arbor, and the V-shaped plate shown operates substantially in the same manner as the oscillating yoke in the Church patent. But the stem-arbor was positively connected with the winding and setting train, and these two engagements for winding and setting were brought about by the direct pull and push of the operator upon the stem-arbor, which was liable to injure the delicate structure of the small wheels, if they happened to come in contact in such a way as not to directly engage or mesh into each other. In the Lehman American patent of July, 1866, a stem-winding and stem hands-setting device is shown, in which a rotating and longitudinally moving stem-arbor is made to work the winding and hands-setting mechanism without the oscillating yoke or plate. The winding and hands-setting engagements being brought about by clutches arranged upon the stem-arbor within a movement, so that this stem-arbor has a positive connection with the movement or works of the watch, and with the hands-setting and winding train. The engagements of the winding and hands-setting train are also effected by the pull and push of the stem-arbor, which makes the mechanism liable to be injured in bringing about these engagements, as I have already described. These two patents seem to me to be fair representative types of the different classes of stem-setting and stem-winding watches, which

are shown in the art, from the proofs in the case. The Carnahan patent of October, 1881, shows an oscillating yoke carrying the wheels at each end, which are

respectively brought into engagement with the winding and setting wheels by longitudinal movements of the stem-arbor. The patent granted to Charles V. Woerd, February 9, 1883, also shows an oscillating yoke carrying a winding-pinion at one end, and the hands-setting pinion at the other end, by means of which the winding and hands-setting engagements are obtained through the instrumentality of a longitudinally moving stem-arbor; but in both the latter devices, as in the Nicole patent, the force of the pull or push to effect these engagements is expended upon the wheels, and is therefore liable to injure the wheels in the manner which has been described. So that Church seems to have been the first in the art to obtain the winding and setting engagements by means of springs, which were brought into action by the inward and outward movements of the stem-arbor, thereby avoiding the liability to injure the wheels.

It is true there is but little difference, mechanically speaking, between the operation of the Carnahan and Woerd devices, and the device of Church. Both Carnahan and Woerd show the winding engagement as the normal condition of their watch, and the hands-setting engagement to be the exceptional or constrained condition. But, as I have already said, their mechanism and arrangement of operative parts is such that the pull and push upon the stem-arbor is transmitted directly to the wheels which are to be brought into engagement, and therein they differ from the Church device. The advantages claimed for the Church device are (1) that the movement can be removed from the case of the watch without taking the movement apart so as to remove the stem-arbor; (2) that there is no liability to injure the wheels in effecting either the setting or winding engagements.

As to the first advantage insisted upon, it appears clearly from the proof that Church was by no means the first to show a device whereby the movement could be taken from the watch without removing the stem-arbor, or disturbing the same. It is shown in the Brez patent of July, 1875, in the Fitch patent of April, 1879, in the Eisen patent of December, 1880, and in the Woerd patent, which I have already cited, besides in several other patents which appear in evidence in the case, and which it is unnecessary to refer to. But I find in none of the patents cited any mechanism which effects the winding and setting engagements by means of springs which are brought into action in such a manner as to relieve the wheels from the direct force of the pull and push upon the stem-arbor. As I have already said, Church did not invent the short stem-arbor which allowed of the removal of the movement from the case of the watch, nor did he invent the latch or lock, in the sheath of the stem-arbor, by means of which the stem-arbor is retained at the limit of its inward or outward movement, but he has adjusted and attached what he did invent to be used with such a stem-arbor, and I therefore think he has the right to claim that his winding and hands-setting train has no positive connection with the stem-arbor, as he has, by means of his sliding block, N, within the movement, secured all the results which would be accomplished by a longer stem-arbor. This sliding

block or bar, while it has no positive connection with the stem-arbor, being so arranged in connection, with the stem-arbor that it is pushed inwardly by the inward movement of the stem, and follows the stem-arbor outwardly, when the stem is withdrawn to its inward limit, by reason of the action of the springs belonging to the winding and hands-setting trains.

As to the criticism that the claims of the complainants' patent are too broad, and include results rather than devices, I will merely say, it is one of the settled canons for the construction of the claims of a patent that they must be so construed, if possible, as to uphold the patent, and, in the light of this rule, when the first claim is, in terms, for a winding and hands-setting train that is adapted to be placed in engagement with the winding and dial wheels of the watch by a longitudinal movement of the stem-arbor that has no positive connection with the train, the claim cannot be held to mean any kind of a winding or hands-setting train, but such an one as is shown in the specifications and drawings of the patent. If the claim is held to mean any winding and setting train adapted to be put into winding and setting engagement by a longitudinal movement, of the stem-arbor, which has no positive connection with the train, then, it would manifestly be anticipated by the Woerd and Carnahan patents, and perhaps other inventors who show winding and setting trains adapted to be placed in winding and setting engagements by endwise movements of stem-arbors that have no positive connection with such trains. And this explanation applies to all the claims; if they are to be read in the broadest, sense of which their language is capable, of being understood, then they are obnoxious to the criticism that they are claims for results and not for devices. But the words, "substantially as and for the purpose shown," take us back to the specifications and drawings, and bring the devices there shown into the claims, and I construe the claim as for the devices there shown. Therefore, while, these, claims are broad, I think they can be sustained as for the devices which are described. *Corn-Planter Patent,* 23 Wall. 218.

Upon the question of infringement, I think it only needs a comparison, of the complainants' patent with the defendant's watch to see that there is no substantial difference between them. Defendant's watches, three of winch are in evidence, show an oscillating yoke carrying a winding and hands-setting train adapted to be placed in winding and setting engagement by the endwise movement of the stem-arbor, by means of a loose sliding prolongation of the stem-arbor, like complainants' bar, or block, N, which, when the stem-arbor is pushed inward, brings into action a spring which throws the end of the yoke carrying the winding pinion into contact with the winding wheel, and which, when the pressure of the stem-arbor is withdrawn, throws the winding pinion out of engagement with the winding wheel, and the setting wheel into setting engagement with the dial-wheels, by the action of springs, and which secure the same result as the complainants patent; that

is, the engagement is not forced by the direct push or pull upon the stem-arbor, but by the more gentle action of the springs. Therefore, while there is some

slight change in the mechanism, it is practically the same as that of the complainants' patent. While defendant contends that the normal condition of its watch is that of the winding engagement, yet, the moment the pressure upon the stem-arbor is withdrawn, the action of the spring throws it into setting engagement the same as in the complainants' patent. In other words, as I understand the operation of defendant's watch, it is normal in the setting engagement the same as complainants'; it is only in winding engagement while constrained there by pressure from the stem-arbor pushed inward to its inner limit.

As I have already said, the Colby patent, upon which this suit is brought, refers only to the locking device in the stem-arbor, so far as this suit is concerned, which locking device is in the pendant sheath of the stem-arbor. The proof shows affirmatively that the defendant only manufactures the movements of watches; that it has never made any watch-cases, and has never made any stems or pendants with this locking device; and the complainants admit that the only ground for holding the defendant liable upon this Colby patent is that it is a contributory infringer, inasmuch as its movements are adapted to be used with the Colby pendant, or stem-locking device. I think it is an abundant answer to this claim that the defendant's movement is adapted to be used with any watch which has the stem-arbor not directly connected with the stem-winding and hands-setting trains. Several such stem-arbors are shown in the proofs. In the Himmer patent a device is shown for locking the stem-arbor in its various positions by means of a catch or latch, which could, undoubtedly be applied to pendants, or to the complainants' watch, if they saw fit. I therefore find that there is no infringement of the Colby patent. A decree may therefore be prepared finding that the defendant infringes the first, third, fourth, fifth, and sixth claims of the Church patent, and that it does not infringe the Colby patent, and the bill is dismissed as to the Colby patent.