TEMPLE PUMP CO. *v.* GOSS PUMP & RUBBER-BUCKET MANUF'G CO. AND OTHERS.

Circuit Court, N. D. Illinois. March 28, 1887.

1. PATENTS FOR INVENTIONS—NOVELTY—BUCKETS FOB CHAIN-PUMP.

Patent No. 178,785, of June 18, 1876, to John A. Churchill, for an improvement in pump-buckets, compared With patents granted in 1852 to one Polley, and in 1875 to J. D. Shoots, and one in 1874 to M. D. Sennett, and other prior patents granted to Mooney, Hanlan, Van Duser, and Johnston, *held* not void for want of novelty.

2. SAME—INFRINGEMENT.

Letters patent No. 178,785, to John A. Churchill, for an improvement in pump-buckets, *held* infringed by the bucket manufactured by the Goss Pump. & Rubber-bucket Manufacturing Company.

In Equity.

Pierce & Fisher, for complainant.

West & Bond and A. N. Waterman, for defendants.

BLODGETT, J. The bill in this case seeks an injunction and accounting by reason of the alleged infringement of patent No. 178,735, granted June 13, 1876, to John A. Churchill, for an "improvement in pump, buckets." The patent covers ah expansible bucket for chain-pumps, consisting of a screw-threaded bolt or link, with a loop at each end, whereby the link is united with other links to form a pump-chain. On this threaded link is placed a concavo-convex or bell-shaped rubber button, the outer periphery of which is intended to be of about the size of the inner bore of the pump-tube, This rubber button is fastened to one end of the threaded link, just below the eye or loop, with the concave

surface downward; and Upon the other end of the link is screwed a metallic washer or disk of such size as to enter the concave end of the rubber, so that, by screwing this washer upward along the link into the mouth or concave part of the rubber button, the periphery of the button or bell-shaped rubber will be expanded to make it fit as closely as shall be needed against the interior of the tube, as the outer flange of the bucket is worn away by use. The longitudinal lines of the convex and concave surfaces of this bell-shaped rubber are not parallel to each other, but the convexity is considerably more than the concavity, so that the body of the rubber is thinner at the periphery or outer edge than at the central portions, although no rule is laid down or suggested as to any ratio or difference between the lines of the concave and convex surfaces.

Infringement is charged of the first claim only of the patent, which is as follows: "(1) The combination of the grooved screw-bolt or link, A, concavo-convex rubber, B, and interior expanding washer, C, substantially set forth."

The defenses are: (1) That there is no patentable novelty in the combination; and (2) that defendants do not infringe.

As to the defense of want of novelty, it appears from the proof that rubber buckets, with some degree of expansibility, for chain-pumps, were comparatively old at the time this inventor entered the field. In 1852 a patent was granted to one Polley for an adjustable pump-bucket, which was simply a hollow globe of rubber, and the adjustment was obtained by pressure upon the ends of the globe, whereby it was flattened, or spread out at the center. In January, 1875, a patent was granted to J. D. Shoots for an expansible bucket for chain-pumps, which showed a rubber disk upon a link between two metal buttons, and by screwing these buttons together pressure could be brought upon the central portion of the rubber disk so as to expand it outwardly. Patents were also granted to Mooney and Hanlan and Van Duzer and Johnston prior to that granted to Churchill; but all of them showed the expansion to have been obtained by mere squeezing, so to speak, upon the central portion of a rubber disk, whereby the outer portion of it was expanded. In April, 1874, a patent was granted to M. D. Bennett for an expansible bucket, in which a rubber disk was shown working between convex and concave metal disks, whereby the outer periphery of the rubber disk was bent or curved downward, or released, so that it would spring upward, and thereby some degree of expansibility was obtained. There were also other expansible buckets, of which the Van Zant and Davis patents are good examples, where the expansion was obtained by a rubber disk carried upon a tapering spindle or link, and by means of a hole through the disk, and, by crowding or forcing this rubber disk further on the spindle, its outer periphery was to some extent expanded.

I have no time to go into a minute analysis and discussion of each of these prior devices, but it is sufficient, I think, to say that Churchill seems to have been the first to so

arrange his expanding device as to leave the outer rim of the bucket free, that the rubber would not become set and its elasticity lost; it being conceded from the proof in this case

that rubber, when subjected to pressure for a long time, becomes set or fixed in its texture, and loses its elasticity. The Churchill device shows the outer flange of his bucket hanging over the washer in such way that it is not cramped or bound, but is free to spring inwardly or outwardly, as the size of the pump-tube requires, thereby adjusting itself readily to the inequalities of the pump-tube and to its own wear by use. To do this he took the old threaded link which he found in the art, and a rubber button, but made the button or disk concavo-convex; that is, convex upon the upper side, and concave upon the under side, mating it bell-shaped,—a form which had not been previously shown,—and placed within the mouth of the rubber bell the expanding washer, which, On being screwed up or down the link, expanded the bucket, or allowed it to contract. The first claim of the patent is for a combination of these parts. It is entirely immaterial, with regard to the Validity of this patent, whether all those parts were old, or whether any of them were new if no one before this inventor had made this combination, and the combination is useful, then it is a patentable device. I do not find in the testimony in this case the combination of these operative parts of this patent. As already intimated, I may find threaded links; I may find a metal washer; and I may find a rubber disk; but I do not find a bell-shaped rubber or concavo-convex rubber disk; nor do I find an expanding washer, combined to operate with a threaded link as these parts are made to operate in the Churchill patent.

It is urged with much tenacity on the part of the defense that, under the Churchill patent, there must be not only the concavo-convex rubber, but it must have a drip-hole near the periphery; and there must also be a hole or holes through the washer to allow the escape of the drip-water. It is true that he describes these drip-holes in the rubber and the washer, but it seems to me that he had the right to claim also the combination of the three parts without these drip-holes. I therefore conclude that the defense of want of novelty must fail.

As to the question of infringement, I find in the defendant's bucket the threaded link, the bell-shaped rubber, and the metallic washer, all combined and operating precisely as they operate in the Churchill patent, although in some of the defendants' later buckets the bell-shaped rubber is so constructed that the washer may be screwed downwards upon the link, instead of upward, for the purpose of expanding the periphery of the bucket. This I do hot consider anything but a colorable change, as it makes no difference, it seems to me, in which direction the expanding washer is moved in order to operate as an expander.

It is also urged by the defendants that the Churchill patent was practically worthless, of would have been practically inoperative, from the fact that no provision was made for fastening the rubber to the link, and that for want of such fastening the rubbers soon become loose, and turn Upon the link; and it is also insisted that the washers, as well as the rubbers, were liable to work loose, under the construction given in the Churchill

patent, by coming in contact with the forks of the reel as the pump was worked. There is a conflict in the testimony upon this question,

which I do not deem it necessary to settle for the purposes of this case, as it seems very clear to me that Churchill, and any person who used the Churchill patent, was at liberty, if it was found necessary to do so, to fasten the rubber by, any of the well-known mechanical methods, such as a pin passing through it, or making the part of the link which was covered by the rubber square or triangular, or of any such irregular shape as would prevent the rubber from turning on it; and the same may be said of the washer. There were modes by which the washer could be prevented from turning if it was found desirable to do so.

It is also contended that the defendant does not infringe the Churchill patent, because his rubber is firmly fastened to the neck of the link by projections or nibs which enter a slot or recess in the rubber, and hold it from turning, and that the interior of the washer is beveled, so it will not turn by catching in the reel-forks. At most, all that can be said in reference to these differences between the defendants' and Churchill's patents is that the defendants have improved upon the Churchill patent to some extent. Whether their improvements are such as will sustain the patents under which defendants are working, it is not necessary here to inquire into or pass upon. I am clear, however, that the defendants do use and infringe the first claim of the Churchill patent. Much discussion was also had at the hearing as to whether the rubber button shown in the Churchill model and drawings is technically concavo-convex in form. I do not find in any of the dictionaries or works on mechanics a definition of the compound term "concavo-convex." I find definitions of a concavo-convex lens, and a concavo-convex file, but I find nothing defining or fixing the form or relations of the lines of a body in order to entitle it to be described as concavo-convex. I think it is enough, for the purposes of this case, to say that Churchill intended to use a rubber button or bucket, (and I use the word "button" because this bucket takes the place of the old metal disks or buttons which were formerly used on pump-chains,) one side of which should be convex and the other concave. The degree of concavity and of convexity is not defined or described in express terms, but the general form which he intended to describe is undoubtedly shown in his drawings; but I do not think that Churchill intended to limit himself to just the degree of concavity or convexity shown in his drawings. A reasonable latitude, it seems to me, is allowable in the practical construction of buckets under this, as under all other, patents. The degree of convexity and of concavity must be left to the practical experience and judgment of the constructor. The concavity of the defendants' buttons is greater than that shown in the drawing of the Churchill patent. In fact, while the interior of the Goss buttons is concave, the material at the flange is made thicker, so that, by screwing the expanding plate downward on the link, it operates to expand the periphery of the button; but, as I have already said, the change in the interior form of the rubber does not escape the patent.

A decree may be entered finding that the defendants infringe, and awarding an accounting.