

HOYT *ET AL.* V. HORNE.

*Circuit Court, D. Massachusetts.*

July 25, 1888.

PATENTS FOR INVENTIONS—INFRINGEMENT—RAG-ENGINES.

Patent No. 303,374, issued to John Hoyt and dated August 12, 1884, for improvement in rag-engines for paper making, the main features of which are a beater roll mounted on a horizontal shaft in one end of a vat, and a horizontal partition dividing the vat into upper and lower sections, the material being carried from the lower section between the knives of the beater-roll, and delivered over the top of the roll into the upper section, is not infringed by the patent issued August 10, 1886, to John H. Home, having an upright partition, which, in connection with the beater-roll, was in use before the issue of the Hoyt patent.

In Equity. Bill to restrain infringement of patent.

*W. W. Swan* and *Anthony Pollok*, for complainants.

*Livermore & Fish*, for defendant.

COLT, J. This bill charges the defendant with infringement of letters patent No. 303,374, granted August 12, 1884, to John Hoyt, one of the complainants, for improvements in rag-engines for paper-making. The specification refers to the prior state of the art, and describes the invention as follows:

“This invention relates to engines for beating rags and similar fibrous materials into pulp for the manufacture of paper. In these machines, a beater-roll, set with knives around its periphery, is used, in combination with a bedplate, also set with knives; the said parts being placed in a tank or vessel in which a constant circulation of the material to be pulped is maintained. Heretofore ordinarily the material has been circulated horizontally around an upright partition termed a ‘mid-fellow,’ and the beater-roll and bed-plate have been placed in the alley or channel between this ‘mid-fellow’ and one side of the tank. The beater-roll lifted the material over a sort of dam, (termed a ‘back-fall,’) and the material then flowed, by the action of gravity, around the ‘mid-fellow,’ and entered again between the beater-roll and the bed-plate. It has been, however, proposed to dispense with the ‘mid-fellow,’ and have the material returned under the back-fall and bed-plate. In either case, however, the circulating force is that of gravity, due to the piling up of the liquid or semi-liquid on the side of the back-fall opposite the beater-roll. Consequently the flow is comparatively feeble, and it is necessary to use a large quantity of water in order to prevent the fibre in suspension from depositing. In the present invention a much more rapid and vigorous circulation is maintained. The beater-roll is placed at one end of the vat, which is of a depth sufficient to contain it, and the other part of the vat is divided by a horizontal partition or division, which extends from the beater-roll nearly to the other end. The material to be pulped is carried around by the beater-roll, and is delivered into the upper section above the partition. It flows over the partition, then passes down around the end of the same, and returns through the lower section of the vat to the beater-roll.

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The bed-plate is placed at the bottom of the vat, under the beater-roll. The beater-roll not only draws in the material, creating a partial vacuum in the lower section of the vat, but delivers it into the upper section with considerable force, impelling it forward very rapidly.”

It is evident that one of the main improvements described in the Hoyt patent consists in using a horizontal partition which divides the vats into upper and lower sections, in place of the old upright or mid-fellow partition. This also appears from the language of claims 1 and 2, which are now in controversy:

“(1) The improvement in beating rags to pulp in a rag-engine having a beater-roll and bed-plate knives, consisting in circulating the fibrous material and liquid in vertical planes, drawing the same between the knives at the bottom of the vat, carrying it around and over the roll, and delivering it into the upper section of the vat, substantially as described.

“(2) A rag-engine for paper-making, comprising the vat, the beater-roll mounted on a horizontal shaft in one end of the vat, and the horizontal partition dividing the body of the vat into an upper and lower section or passage, the fibrous material and liquid being carried from the lower section between the knives, and delivered over the top of the beater-roll into the upper section or passage, substantially as described.”

In defendant's machine, which is made under his patent dated August 10, 1886, there is found in substance the old upright partition, and not the horizontal partition of the Hoyt invention. Consequently, in defendant's machine there are no upper and lower sections, in the sense used in the Hoyt patent. The effect of the Hoyt structure, as set out in the first claim, is to circulate the fibrous material and liquid in vertical planes, but the result is quite different in the Home machine. A careful examination of the Hoyt patent makes it clear that the defendant's machine does not infringe claims 1 and 2, because one of the most essential elements found in these claims, and which constitutes in great part the real improvement of Hoyt, is absent from defendant's machine. Bill dismissed.