

in the udder, which is there conveyed by a branch out of the different milk ducts, which are branched, the other, mammary gland.

Paul, (*v. supra*) also see, not only the udders of productive cows, but the transmissi-

short bones (vertebræ), firmly attached the one to the other, it is short, stout and stiff; the vertebræ of the milker are the very reverse of the others, being long, slender and supple. As to the length, it has been ascertained that good milkers in general have a tail, the last vertebra of which hangs  $1\frac{1}{2}$  inches to 2 inches below the point of the hock. This slenderness of bone and tail, as well as of all the bones in the frame of the good milker, is due to a temperament that leads her to utilize her food principally for the production of loose and watery tissue rather than for the formation of coarse bone.

*Legs.*—In a good milker, the legs are slender and lean, and so short that, in some, the teats are at their extremity not more than ten inches from the ground.

*Udder.*—Nothing in the cow better deserves our attention than the udder, since it is the laboratory in which the milk is made; in a good milker, the udder should, first of all, be large, well developed, elongating itself and rounding itself off under the belly in a fine curved line, and rising high between the thighs, which should naturally be wide apart, to afford more room for the udder when full. The quarters, too, of such an udder are well developed, and therefore the teats are placed well apart.

Here is a Guernsey, "Fantine the 2nd" (3,730 A. G. H. B.) entered by her owner Mr. Chas. Solveson, of Nashotah, Wis., in the competition of dairy-cows



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at the Columbian Exposition at Chicago (600 lbs. of butter in a year, including being dried off for 5 weeks before calving). A very proper cow in general, but in her udder surprisingly good. Massena's udder is not so good in front; but it is the only deficient point in that superb cow (*v. page 193*). In competitions she usually lost 7 marks out of the 100, 5 of which were for a faulty udder, 1 for the neck being a little short, 1 for the line of the back being a little sunken.