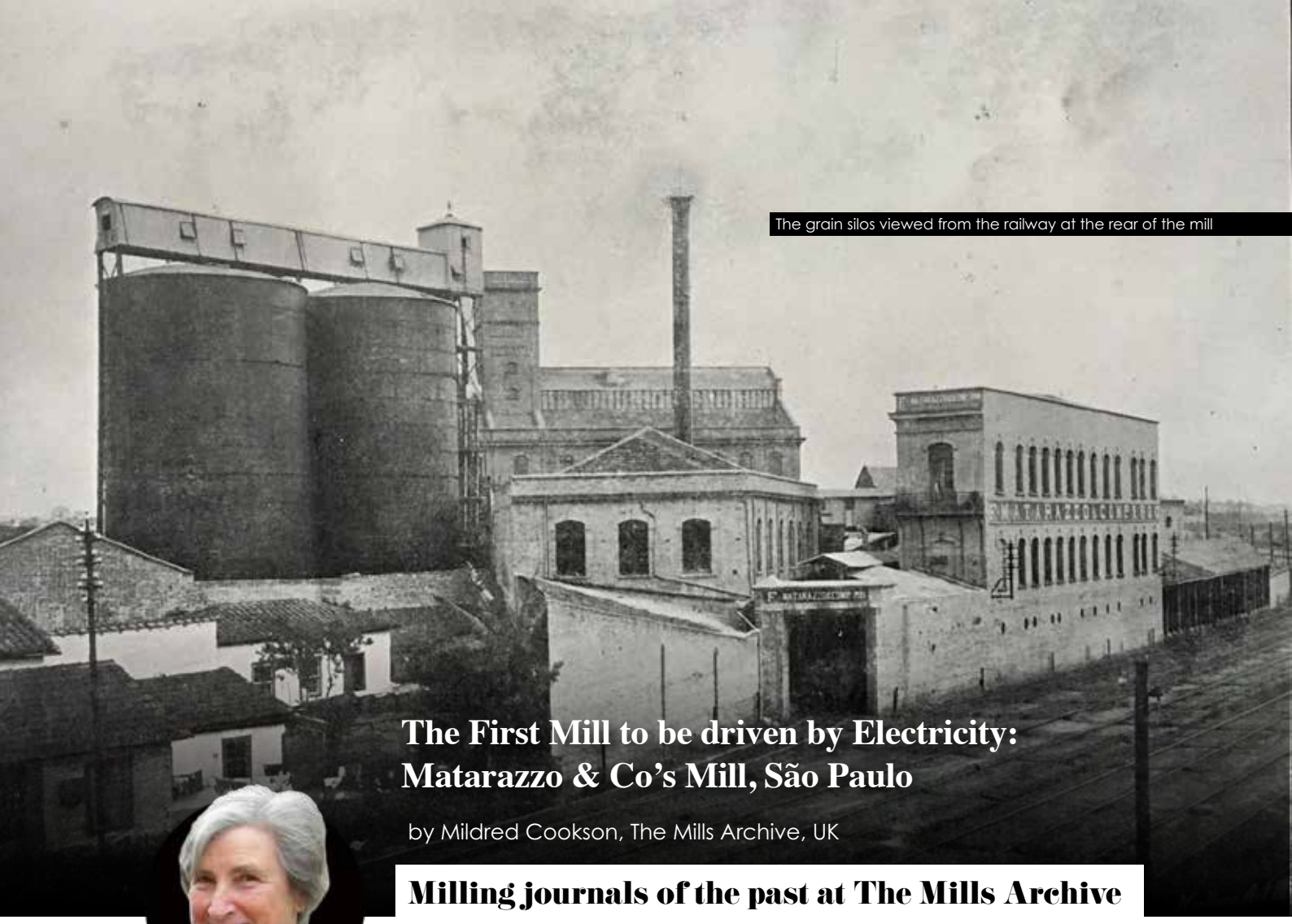


The grain silos viewed from the railway at the rear of the mill

The First Mill to be driven by Electricity: Matarazzo & Co's Mill, São Paulo

by Mildred Cookson, The Mills Archive, UK

Milling journals of the past at The Mills Archive

by Mildred Cookson, Mills Archive Trust, UK

This title headed an article in the Christmas edition of Milling in 1902. Twenty years earlier Francesco Matarazzo had emigrated to Brazil from Italy and was destined to become the fifth richest man in the world by 1937, the year he died. In 1900 a British bank had provided the finance for him to build a modern mill in Sao Paulo and by 1902 electricity was becoming more and more used for running machinery. It was not so surprising that the whole plant in a large flour mill would come to be powered this way and Matarazzo & Co were early adaptors.

Originally the setup was driven by steam, and although coal was abnormally expensive in Brazil, the mill was still a great success. It used "Monitor" wheat separators and scourers, "Simon" patent wheat washing, stoning, and drying machines, a ventilated whizzer and "Cyclone" dust collectors, cylinders, graders, sieves, and fans. The roller plant of the first mill had 50inx10in Simon 4-roller mills for the breaks, and smooth 4-roller mills for the reductions, with a full complement of scalpers, purifiers, graders, and centrifugal dressing machines. Band conveyors were also installed for conveying grain from the railway cars to the silos.

During 1902 Henry Simon of Manchester had erected the firm's second roller plant of 20 sacks capacity, comprising a complete set of machines for cleaning the wheat, as well as for grinding, purifying the middlings and dressing the flour. As a result of this success, Mr. Matarazzo called in the Manchester firm to erect a duplicate twenty sack plant bringing the total up to 40 sacks per hour. In addition, a splendid range of steel storage silos for grain were made in England, put together, marked, then taken apart to be shipped to Brazil where they were erected by Simon's own superintendent mill erectors.

The silos were 76ft, high from the outlets at the bottom to the tops of the domes and held 15,000 quarters. Band conveyors were provided which ran parallel to the railway siding by which the grain could be transferred direct from the cars to the silos at the rate of 50 tons an hour. The high tower seen in the illustration contained a main elevator for lifting the wheat at the same rate as band conveyors moved it from the railway cars. Other bands were located below the silos for transporting the grain to the cleaning house.

The mill manager was Mr H Rishworth, scion of the well-known firm Rishworth, Ingleby & Lofthouse of Hull UK, and was trained on Henry Simon's staff. He was not only general manager for the mill from the first but had the responsibility of supervising the various engineering problems that took place.

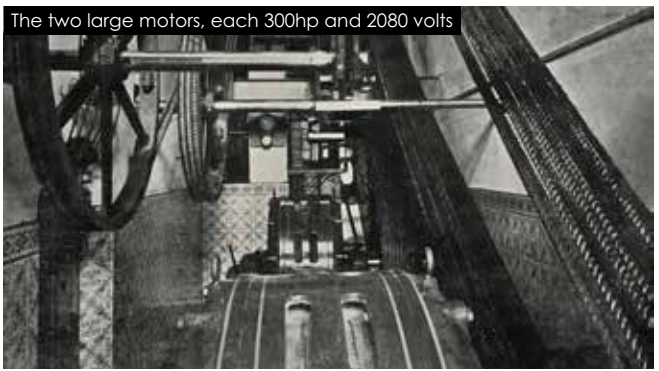
The whole of the premises formed one of the finest properties of the kind in Brazil. They constituted the second largest mill in the country, the largest being those of the Rio de Janeiro flour Mills and Granaries Ltd., situated at Rio de Janeiro, which were also built and equipped by Henry Simon.

The city of Sao Paulo is fifty miles from the port of Santos, resulting in a very high price of coal for deliveries up-country. This was the prime motivation to move to electrical power.

Fortunately for Mr. Matarazzo, the Light and Power Company

The mill from the street

One of the large motors installed by Henry Simon



The two large motors, each 300hp and 2080 volts

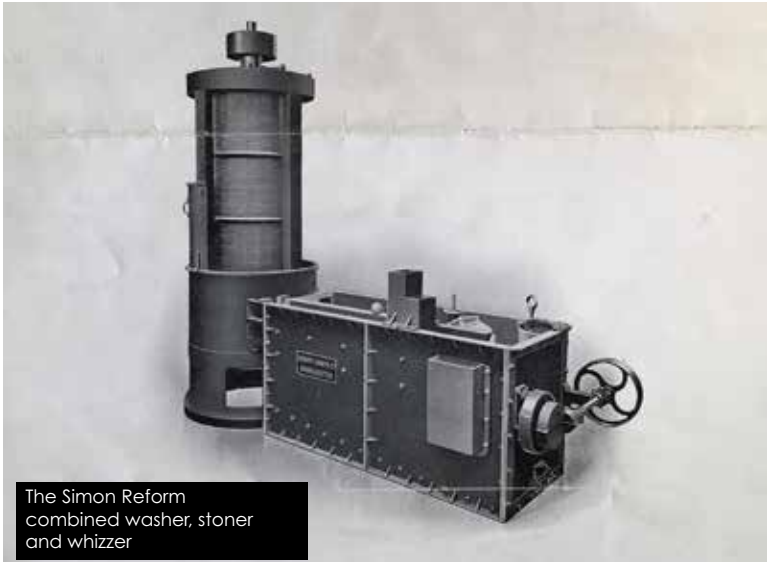
The Cyclone dust collector

of Sao Paulo had developed a power station by a waterfall in the adjacent mountains, and by means of turbines, dynamos and electric cables, were able to supply the milling firm with electric current to drive their mill at a much lower cost than could have been done by steam power. The journalist believed that price negotiated was UK£17 per horsepower, per annum, with a discount of 5 percent if 250 hp was consumed, and 10 percent for over 300 hp. The charge for the use in 1902 for lighting the premises and for the electric oven amounted to £300 per year.

One large motor of 2-300 hp was arranged for each of the two roller plants. The power was transmitted from them to the main line shafts of the mills by means of cotton ropes. The speeds did not vary even when switching off the cleaning plant. Although the motors were close together there was no vibration, and

the bearings gave no trouble. Financially they proved their worth by saving between UK£3,000 and UK £4,000 per year compared with the cost of working with a steam plant.

Milling considered that there were many sites in Britain and Ireland where electrical power could be adopted to advantage. As coal was cheaper, the economy of steam engines was difficult to beat for mills and factories where their machinery was near the main engine. The point where it paid to transmit power by wire, instead of by belt depended on this distance. The heavy drag of a mill running empty with widely spread, ill placed machinery, contrasted starkly with the light power load required to run a more compact mill. Shafting alone in some mills took considerable power, and a wire would never get out of line like shafting, nor would it need oiling!



The Simon Reform combined washer, stoner and whizzer