

he Miller of December 1885
published an extensive article
on Messrs Davidson and Sons'
New Phoenix Mills, recently
fitted out on the roller mill
system of Mr J Harrison Carter
of 82 Mark, Lane London.
Mr Davidson's firm had
been established as millers

at Newcastle-upon-Tyne since 1830 and their history illustrated the productive march of progress made in the art of milling art during that period.

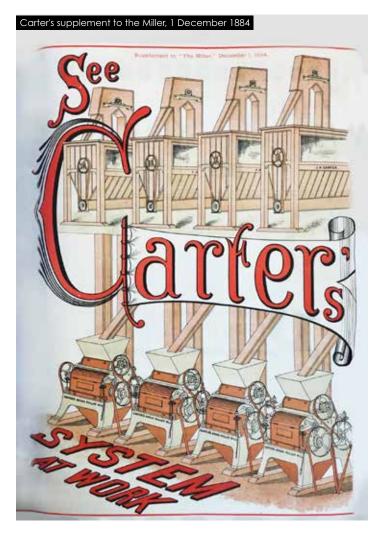
The founder of the Phoenix mills, and the father of the owner in 1885, was the late Mr. John Davidson, who had a remarkable career. John was born at Glanton, Northumberland on March 31, 1802.

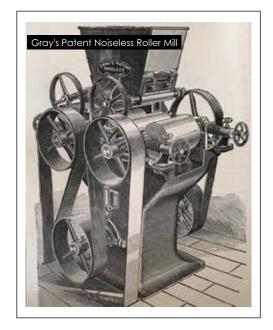
On his mother's side he came from a long line of millers and started his career as a miller by serving an apprenticeship to his maternal uncle, Mr. Mather of Ingram Mill in Ingram Northumberland. He completed his milling education in the New Town Mill, Chillingham, then finally at Low Close Mill in Durham.

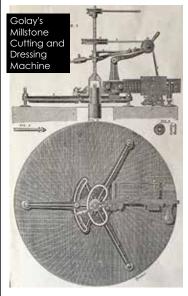
## A mill on a magnificent scale

In 1820 John took his first independent step by setting up as miller, in partnership with his brother, at a windmill on Carrs Hill, Gateshead. This windmill at Carr Hill is marked as 'Old' on the 1st edition Ordnance Survey plan, so was presumably out of use by 1857.

A few years later this mill was exchanged for another windmill, situated on the famous Windmill Hills, and







belonging to Gateshead Corporation. His trade there seemed to have been good as he prospered and it was recorded that in 1829, he left this mill to build a steam mill in Hill Gate, Gateshead. It was thought that this was the first instance of the application of steam to flour milling in the North of England.

At some point previous to 1840 his brother, Walter, had left the firm and in that year, John began the building of the Hill Gate Mill on a magnificent scale. In 1844 the work was completed, and a massive six storey mill stood ready to receive the extensive machinery.

Whilst the work was being undertaken, John Davidson was busy

visiting the most advanced mills in the country, to find out with his own eyes, the latest and best engineering results and their application to flour milling.

For example, the rough wooden spur gearing made way for the line shafting, and metal gearing adjustments, which were said to have been first erected on a complete scale by Rennie, in the Albion Mills London in 1784.

The labour of conveying and lifting by hand of grain and its products through different stages in the mill was abolished by means of automatic elevation appliances, wheat and flour dressing machinery of the latest type were fitted throughout the mill, and to ventilate the millstones, spouts were fitted to the stone casings.

These spouts were carried shaft wise

through several floors, until a proper exit could be found for the heated air.

## An ever-widening circle of custom

For ten years the mill continued to produce an ever-widening circle of custom, and to place Mr. Davidson at the head of English millers. Sadly though, at the end of the decade, came a disaster, which took away Mr Davidson's son who was his right-hand man at the mill.

In 1854, a worsted factory in Hill Gate caught fire and culminated in a great explosion that was said to rock the



foundations of houses in Gateshead and Newcastle, Davidson's mill happened to lie close to where the fire had started and was one of the first buildings to be destroyed. Mr William Davidson, the son of the then head of the firm, lost his life endeavoring to rescue some of his fellow workmen from the raging fire.

The site of the mill passed into the hands of the Gateshead Corporation for quayside expansion, but not deterred, Mr. Davidson built a new mill on the opposite side of the river, aptly calling it the Phoenix Mill.

In two years following the fire the new mill was up and running, fitted out with twelve pairs of millstones, shortly after to be increased to twenty pairs. As well as the millstones there was the most up to date cleaning and other machinery. There was also a good stock of French silks, and the reels were furnished with iron

THE MILLER. THAN S. 1878. CARTER'S ENGLISH CHILLED IRON ROLLER MILLS FITTED WITH ADJUSTABLE BUFFER SPRINGS OREGE WARREST WITH OR WITHOUT AUSTRIAN AND DIFFERENTIAL INCARIAN MILLS SPEED PORCELAIN TRIAL ALLOWED A lover paperties of Raylor Silly for Cara Creshing, Need Creshing, Mineral Cres 1878 Advertisement for Carter's English Chilled Iron Roller Mills

heads and tails, something novel at that time.

## The merits of middlings purifiers

The millstones were belt driven instead of the usual spur gearing, the mill also, it was believed, to be only the second English flour mill to have Golay's diamond millstone dresser, invented by Mr. Samuel Golay of Paris in 1868. (The Mills Archive holds a copy of his patent dated 1868; the image for this article is from the author's own collection).

It is interesting to note that the merits of middlings purifiers were here early recognised, and not surprising to find that Wegmann porcelain roller mills for the conversion of middlings soon found a home in the Phoenix Mill. The old plant newly installed by Mr Carter, included twenty-eight pairs of porcelain middlings rollers.

The mill also had a miniature mill furnished with glass rolls. The old stone mill, as started in 1856 had a motive force of 100-horsepower, which was supplied by two engines each of 50hp.

In 1860 John Davidson took his eldest son into the partnership and nine years later retired from the business. He continued to take a keen interest in the miller's art until he passed away January 9, 1878, aged 76.

Next month I'll continue the story describing the structure of this phoenix that had risen from the ashes.

