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SOME CONTRIBUTIONS

TO

Irish Paper Trade History.

X.

**The Swift Brook Mills of Messrs. John
 McDonnell and Co., Ltd., Saggart.**

In Slater's Directory for 1846, the following mills near Dublin are mentioned:—R. J Hicks and Co., Loaders Park; T. Liddy, Newholland Mill, Lucan; C. McDonnell and Sons, Killeen; J. and T. McDonnell, Saggart; Jos. McDonnell, Templeogue; M. McDonnell, Old Bawn Mills, Tallaght. In Cork, the Dripsey Mills were being worked by B. Allen and Co., and W. Phair was still there. At Limerick, there was Cullin and Donaldson, of Six-Mile-Bridge. In Antrim, there were W. and E. Blow, Dunadry; and the Antrim Paper Mill Co. (T. Prenter, manager), Mill Row: the offices of both these were in Belfast.

Of all these firms, only one survives to-day, viz.: Messrs. McDonnell and Co., Ltd., of Saggart and Dublin. After the death of the founder of the business, it was carried on by his son John, who built a second mill in 1848, subsequently known as the "Upper," being situated on a higher level than the older one. It is now the principal mill of the two. The Rev. Father Joseph McDonnell, S.J., of Dublin, a nephew of the John Mc-

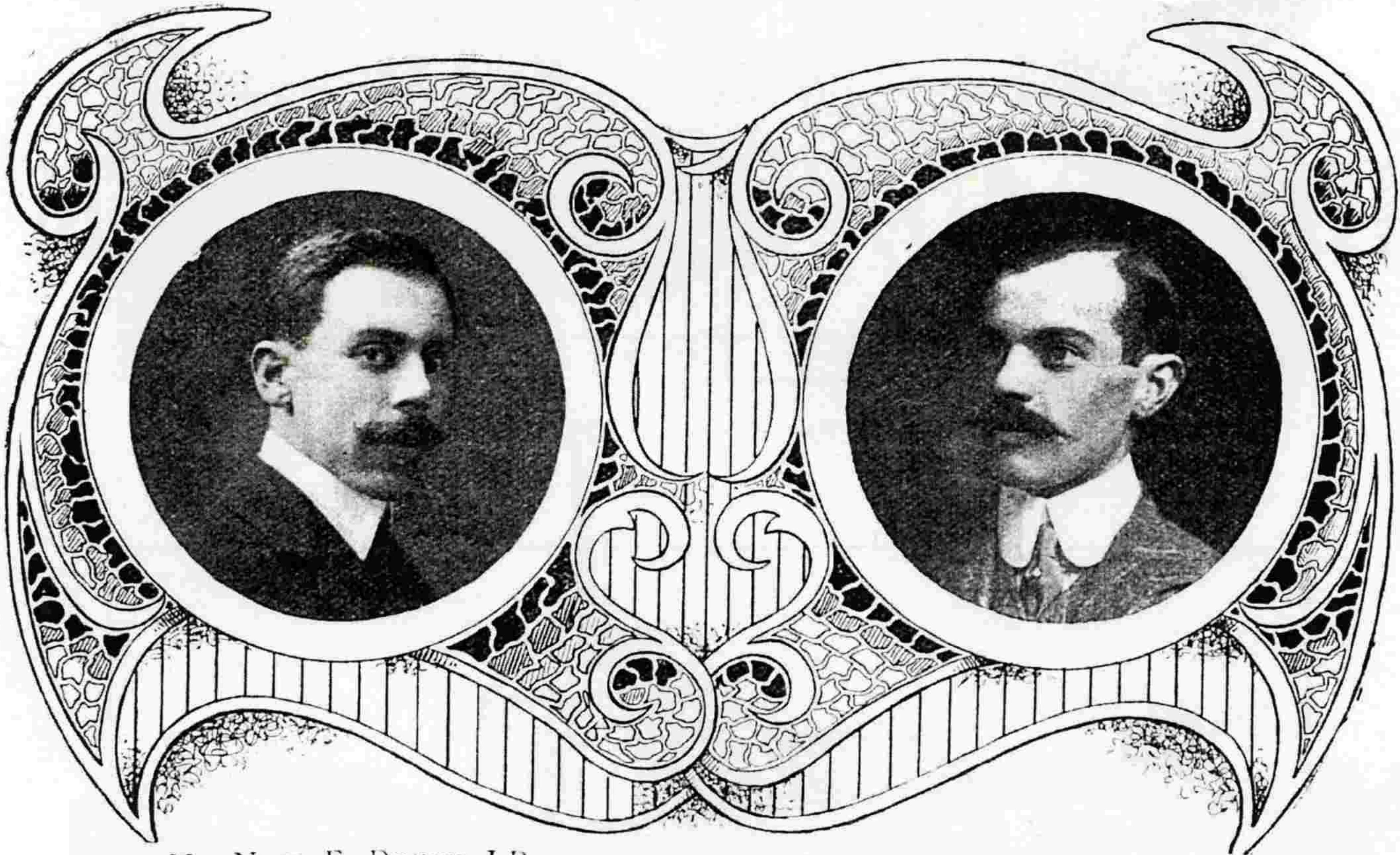
Donnell mentioned above, has very kindly furnished us, at our request, with some particulars about the connection of his family with these and other Irish mills, which we give below in his own words:—"Joseph McDonnell, my father, had a paper mill at Templeogue, about four miles from Dublin, and a business house in the city, on Merchant's Quay. My cousin, James McDonnell, carried on a mill about three miles further away from Dublin, at Old Bawn, near Tallaght. Another cousin, Sir Edward McDonnell, had a mill at Killeen, near Clondalkin. His life was a busy one, as he was also the first Chairman of the Great Southern Railway of Ireland. He was one of the pioneers in the construction of that line, and built the present handsome Dublin Terminus of the line at Kingsbridge.

"Of the four paper mills in our family, Saggart was undoubtedly the best and largest. At my uncle John's death in 1859, as he had no children of his own, he left the mills under the charge of his solicitor, Sir Patrick Maxwell, with a yearly salary of £300, to be worked and held in trust until my elder brother John should reach the age of 24. Then, provided he had acquired a complete knowledge of the business to the satisfaction of his guardian, he was to become sole owner of the mills. Failing this, they were to come into my hands on like conditions. My brother failed to satisfy his guardian in this matter. The consequence was that the property was kept over to await my coming of age, and was to be given to me then upon the same conditions. However, in 1877, on my leaving Clongowes College,

where I was educated, I had already made up my mind to join the religious Order of the Jesuits, and this, of course, meant my abandoning all prospect of carrying on the mills at Saggart. Under these circumstances Sir Patrick Maxwell, who had now become my guardian, put the mills in Chancery. The entire property was said to be worth about £30,000; it was sold by order of the Lord Chancellor, in 1880, to a Dublin company formed by the late Mr. John Girdwood Drury, at very much below its value. From that day down to this, the mills have been worked with fair success, under the management of Mr. Drury and his sons.

"My father died in 1858, since which date some of the mills have been devoted to other

working is that formerly known as the Old Drimnagh Mill at Inchicore. The original Killeen mill at Inchicore, *i.e.*, the one which was worked by Sir Ed. McDonnell, was subsequently taken over by Mr. Nolan, a member of the well-known Dublin firm of Browne and Nolan (Nassau-street) who made in it the paper for the Bank of Ireland notes. Since his occupation of it ceased it has had a very chequered career, and is now derelict. The mill "a mile or so from Killeen," which the Rev. Father refers to as being now in the occupation of Messrs. Kynoch, Ltd., is the "new" Clondalkin Mill, which was erected on the site of the old one by Mr. Hacking, who worked it under the style of the Leinster Paper Co. The old mill, it will be remem-



MR. NOEL E. DRURY, J.P.
Director and Manager.
Messrs. J. M. McDonnell and Co., Ltd.

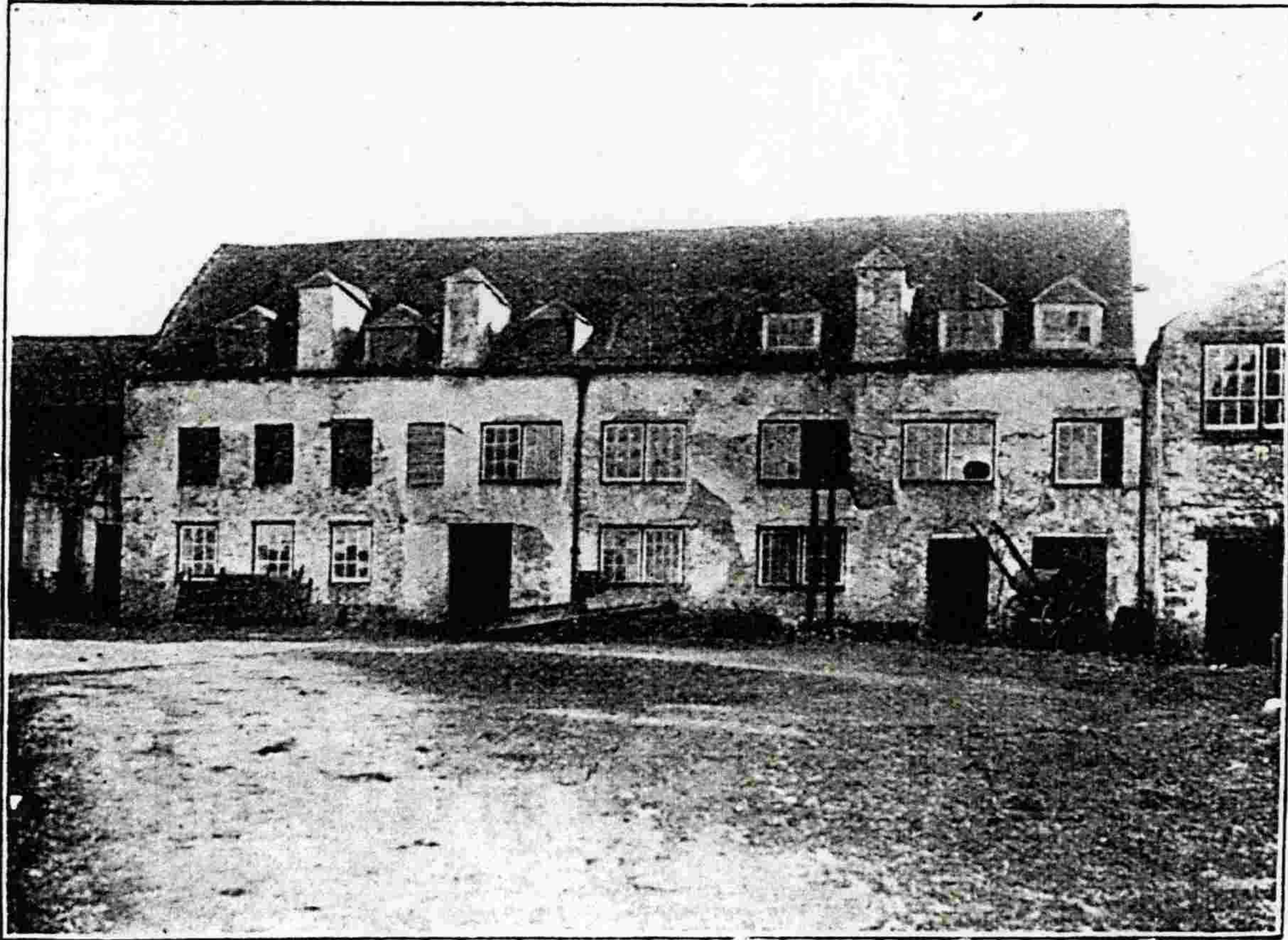
MR. J. G. DRURY.
Secretary and Director.
Messrs. J. M. McDonnell and Co., Ltd.

purposes. As I was a mere infant at the time, I cannot speak with any certainty of the class of paper made at Templeogue. My impression is that it was note and writing paper. At Killeen, which for some years longer continued to work, I believe the class of paper made was chiefly printing. In fact I seem to recall being told that it supplied the paper used by one or two of the leading Dublin journals. Messrs. Kynoch and Co. have, within the last few years, starting making, I think, cartridge paper and other coarse kinds at the Killeen Mills. About the same time they also started a sort of subsidiary paper factory on a small scale, at another mill about a mile or so from Killeen."

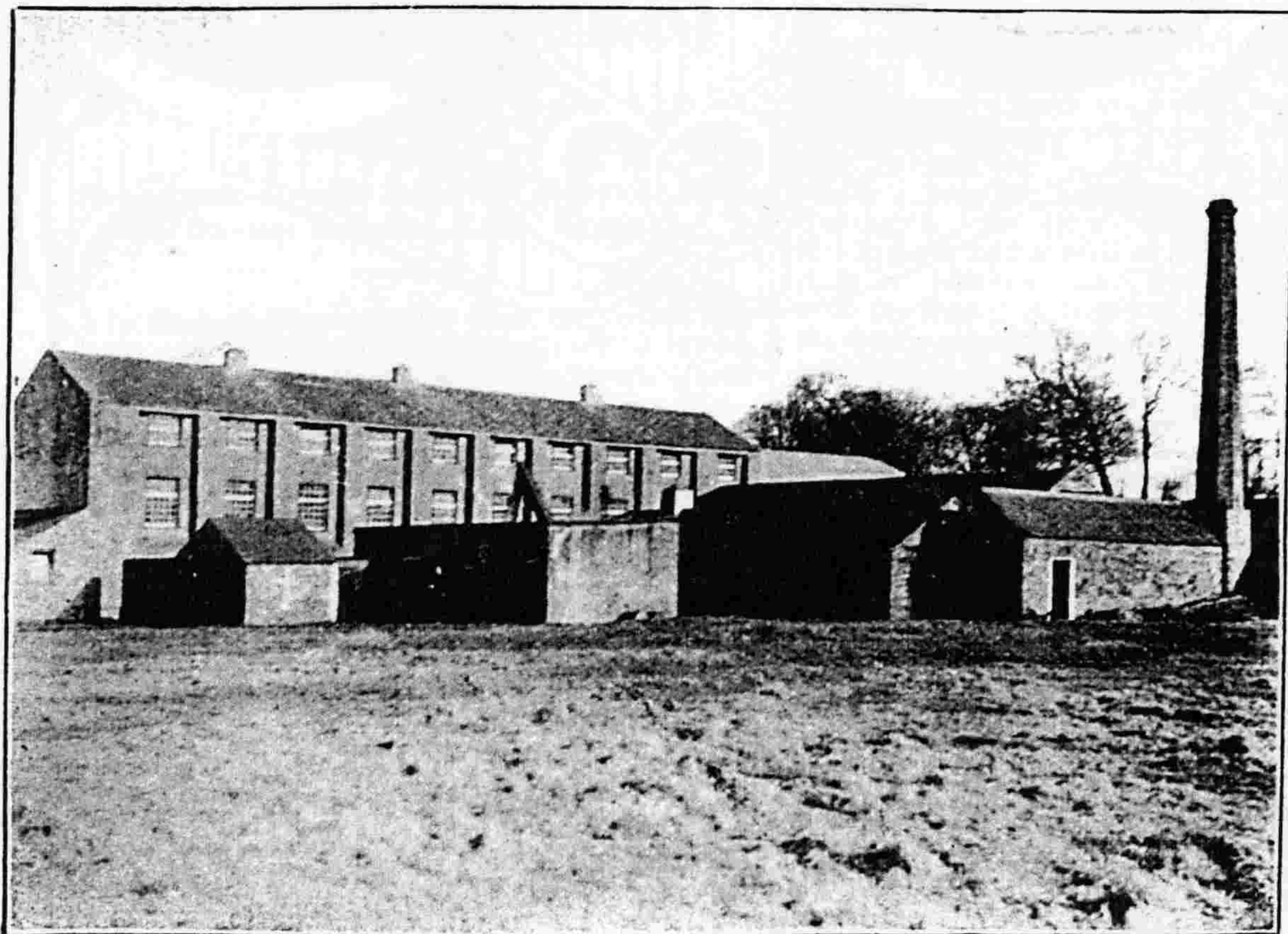
With regard to this point, the so-called "Killeen" mill which Messrs. Kynoch are now

bered, was for a couple of years in the hands of the late Mr. Wm. Bertram, formerly of Edinburgh, who traded as the Dublin Paper Mills Co.

"As to the Old Bawn Mill," says the Rev. Father, "it ceased working before 1880. I believe it never made any but the coarser kinds of paper. Thus two out of four mills, owned by members of my family during the first half of the nineteenth century, are no longer in existence, and the others are working on a smaller scale. I remember once being told that my uncle John McDonnell, of Saggart, used to say that Free Trade would be the ruin of the Irish paper industry. His words seem to have come true, as Ireland is no longer able to compete with America and Germany, or even



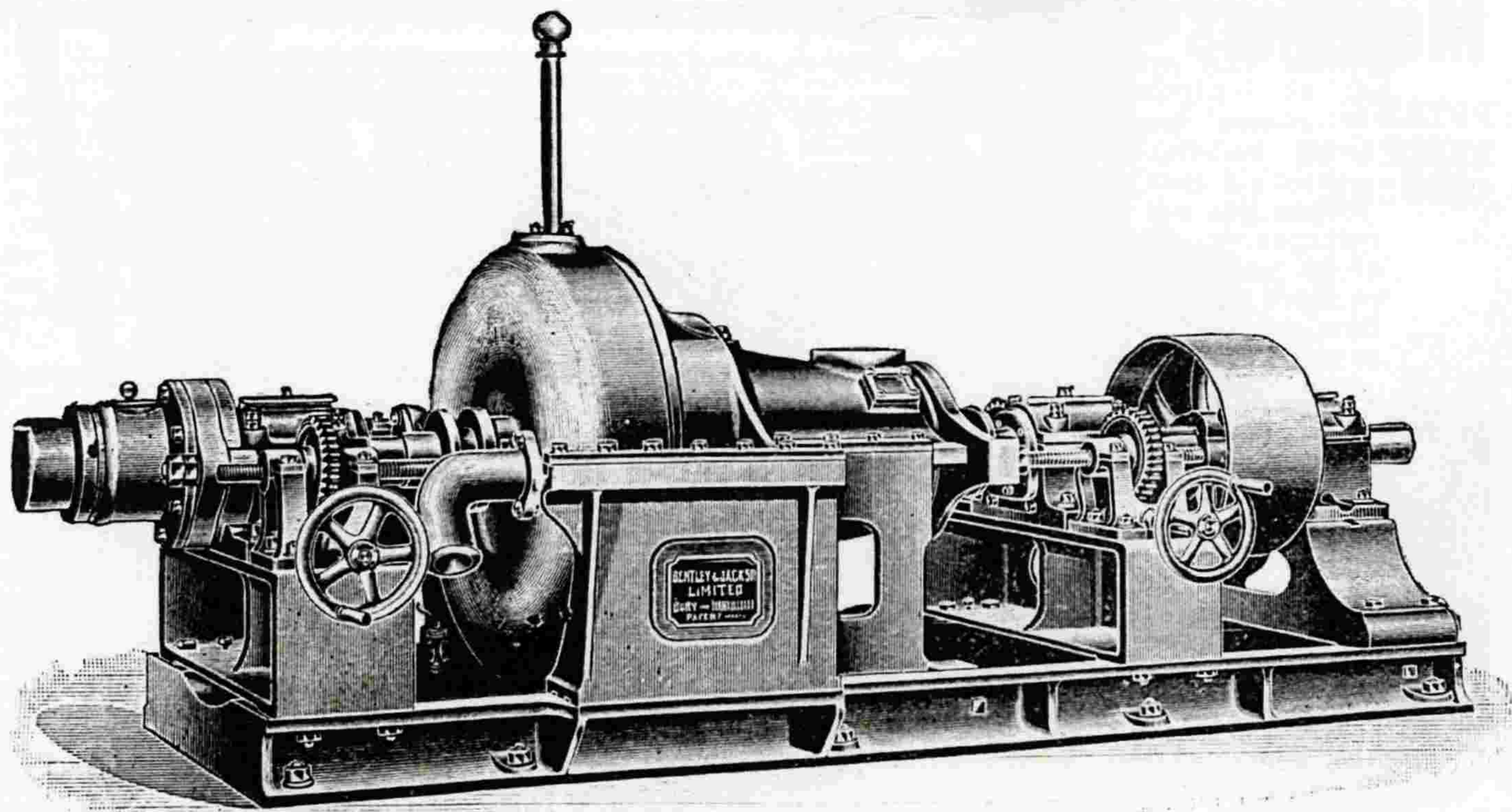
SWIFT BROOK MILLS, SAGGART.—THE OLD BUILDINGS OF 1795.



SWIFT BROOK MILLS, SAGGART.—RAG HOUSE AND STORES.

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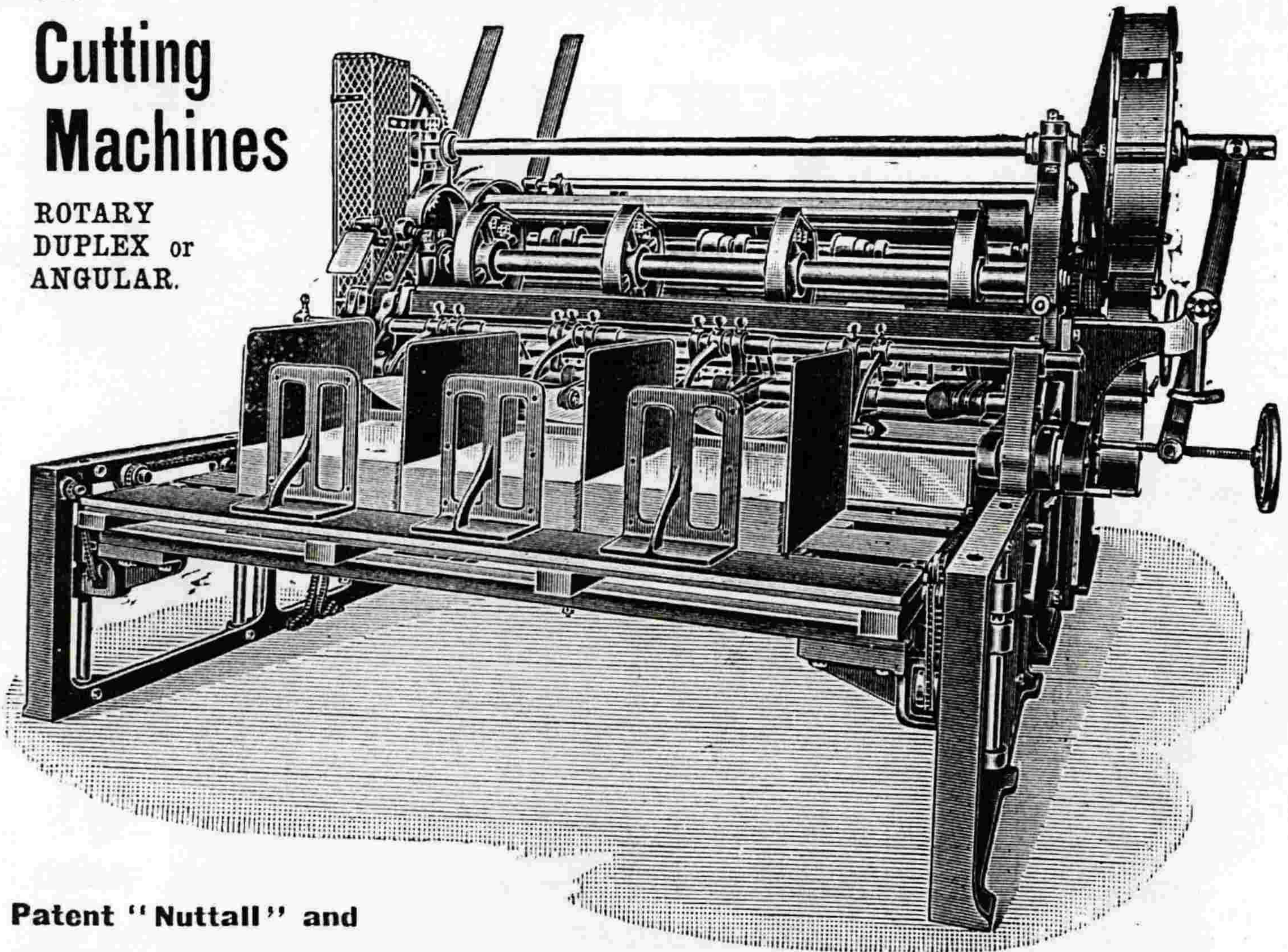
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the Manufacture of Paper.

with England, in the race for trade supremacy in the manufacture of paper.

"I should like to speak a little more in detail about the Saggart Mills, which, indeed, are the only ones with which I have had any very intimate acquaintance. Much of my boyhood was spent in Saggart; hence of the mills there I can speak with considerable knowledge and authority.

"At the time when I knew Saggart it was a large and flourishing concern. The paper was the very best in Ireland, and as such had won gold medals for superior excellence at various exhibitions. We supplied, I think, most, if not all, of the paper used in the Irish Government offices of those days. This Government contract was a valuable one, and in addition to it I should say that much the larger portion of the high-class note and writing paper used throughout the country was from the Saggart Mills. They had a monopoly in fact of high-class paper. Both mills were splendidly provided with the most up-to-date machinery. The method of drying was different and more elaborate in the "Upper" mill than in the other. Here the paper passed on light open cylinders through a sort of enclosed corridor space, filled with heated air, projected through gratings from beneath. Furthermore the paper, besides being glazed by the addition of 'size' in its initial stages, received a higher and more perfect finish by being placed and pressed between copper plates. The motive power was partly water, partly steam. In the Upper mill my uncle erected what was at the time, and may be still for all I know, the largest water wheel in the three kingdoms. It was 50 feet in diameter, and was looked upon as quite a wonder in its way, so much so that crowds used to come from Dublin and elsewhere to see it. In the early seventies a very fine 'Corliss' steam engine was put up, with a large boiler to supply it, at a cost of some £5,000. This rendered the Upper mill, at any rate, independent of the water supply. At the same time a chimney of about 100 feet in height and six or eight feet in diameter at the base was erected in connection with the boiler that supplied the new engine.

"Very elaborate and costly arrangements had been made to secure a good and plentiful supply of water. About three miles from Saggart, at a place called Brittas, two reservoirs were made, covering in all some fifty acres. The object of these was to keep a good reserve of water for the dry season. One of them was deep, and they had to be banked at either end with great sloping stone embankments, about 30 feet in height. By careful engineering, a mill-race was constructed which carried water from a distance to the ponds, and then pursued its way over the remaining three miles to the mills. Here there were six other small filtering ponds, where the water was thoroughly cleansed and purified. The excellent colour of the white paper was, I believe, in no small measure due to the fact that the water used in making it was so very clear and pure.

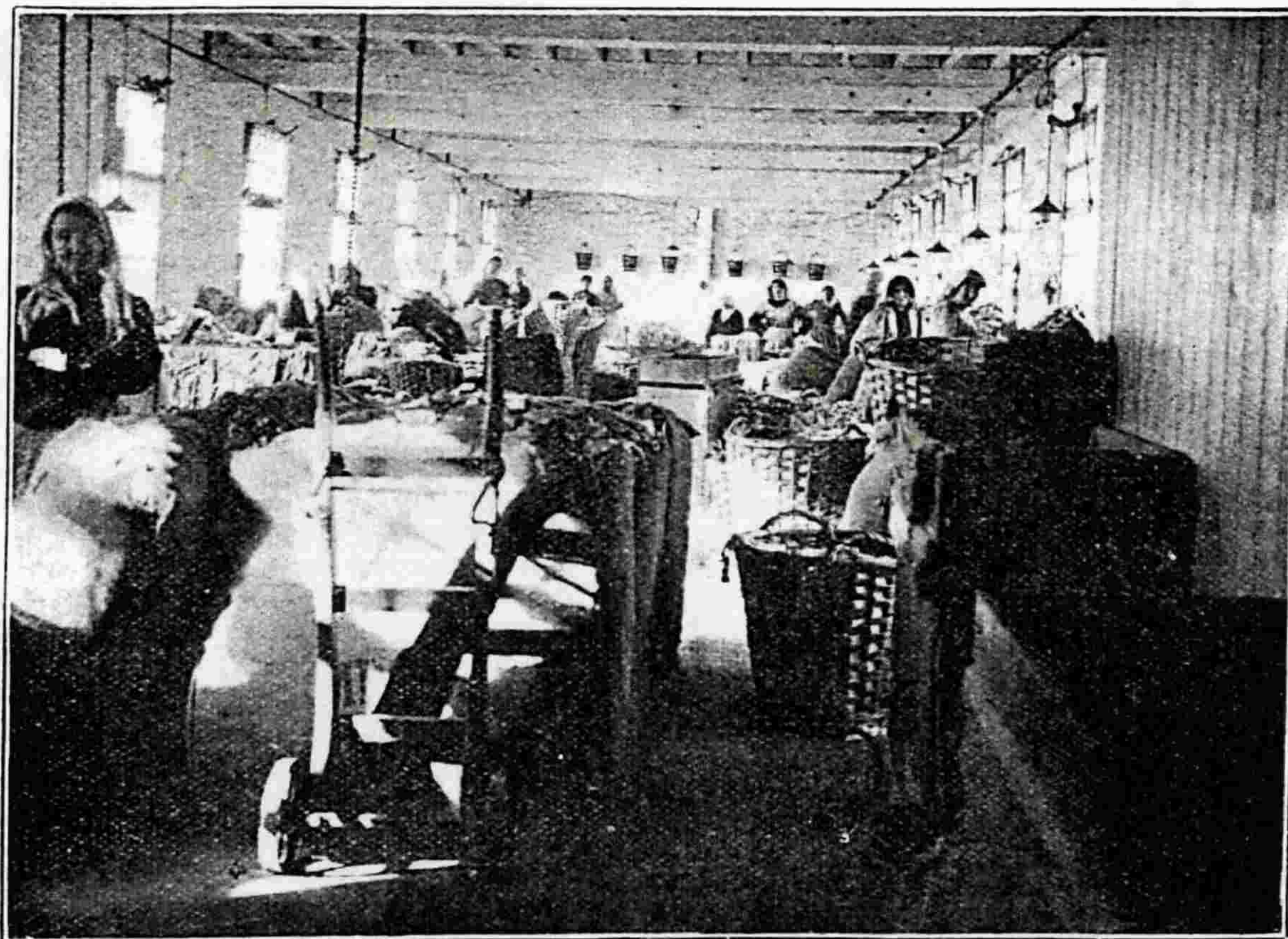
"Wood fibre was unknown in those days—

at Saggart at any rate. The best linen rags alone were used; esparto was also used to give strength and toughness to the paper. It was a matter of considerable trouble and expense to transport the paper from the mills to the stores attached to the Dublin office at Lower Ormond Quay, where practically all the official work was carried on. Early every morning a string of carts, heavily laden with paper, set forth from the mills on their journey to the Irish metropolis. The same carts re-appeared at the mills towards evening, with a return load of rags, packed in huge bags. All loads going out and coming in were carefully checked at the weighing house.

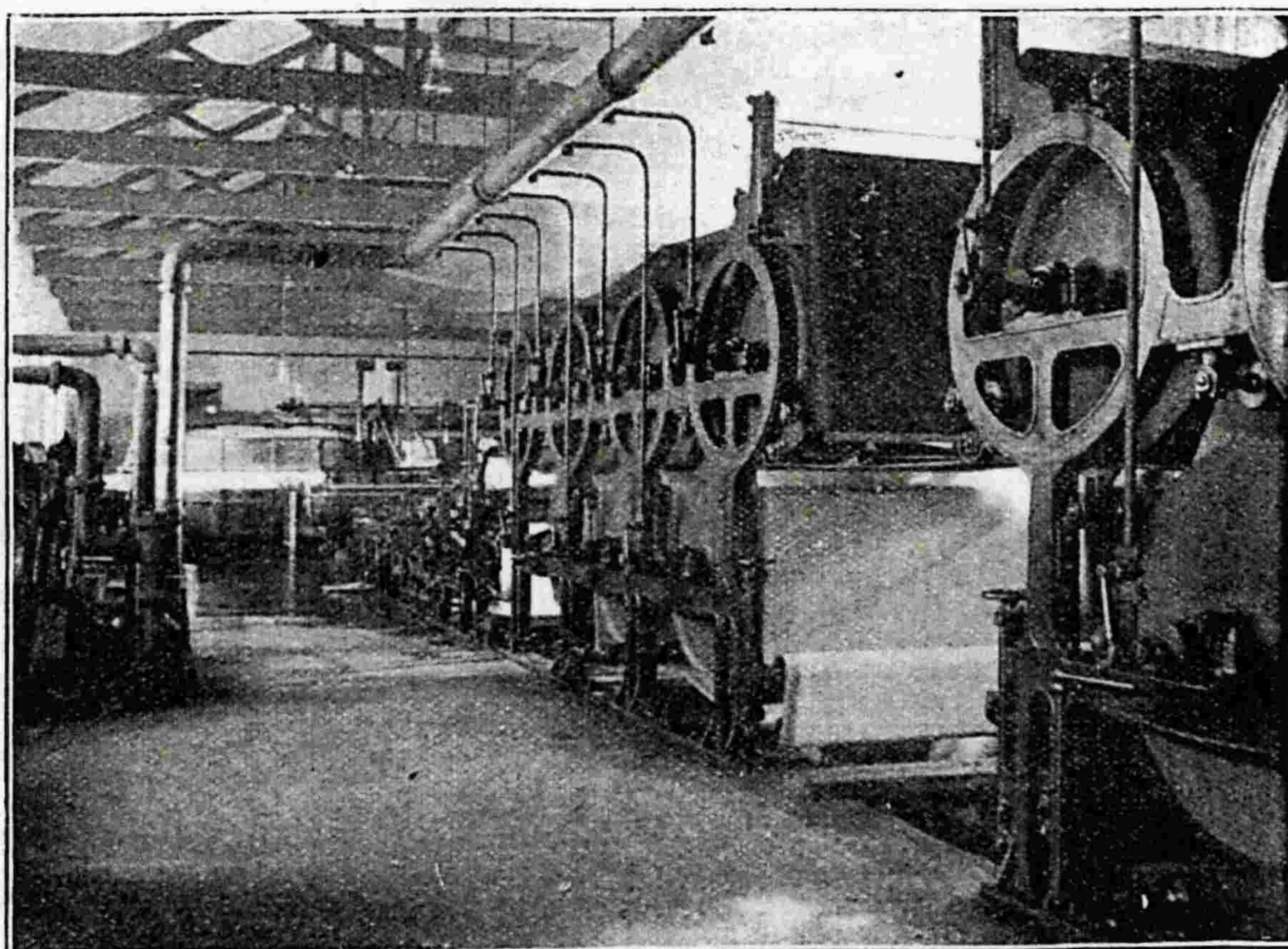
"They constituted quite a little town, these Saggart Mills. There were about 400 hands all told, whose wages varied from the two or three pounds a week paid to the millwrights, down to the six or seven shillings of the boy or girl rag sorters. There was a smithy, a lathe house, a gas house and a carpenter's shop. It was my pleasure in the vacations, home from school, to wander round among the men and watch them at their various avocations. Or I would accompany the foreman or the manager on his rounds through the mills, watching, with the eager interest of a boy, the different and complicated processes to which the raw material was subjected ere it issued forth, the finished article, ready to be packed in reams and carted off to Dublin. And in the cool summer evenings I would get my fishing rod and try my luck among the trout that were plentiful in the ponds. I had a great friend among the men, who was an accomplished fisherman. Many a time, when it was his turn on day-work and his labour in the rag engine-house was done, we made our way together in the cool of the summer's evening up to Brittas. There was splendid fishing there, as my uncle had kept the reservoirs well stocked, and some times big trout of three or four pounds weight rewarded our excursions.

"Immediately around the mills there were about 50 acres of land, under the care of the steward, whose business it was, also, to pay the hands on Saturday, and to keep an account of paper going out and raw material entering the mills. Besides this official there was a manager, a second cousin of my own, and under him a foreman, skilled in all the technicalities of papermaking. An old-fashioned residence with pleasure ground and vegetable garden, and a good-sized lawn in front, bordered by fine trees, under which an avenue led to the front entrance, completed the adjoining property. Here my grandfather had lived, and after him my uncle, who was very fond of gardening, and kept the grounds well stocked with flowers.

"These are reminiscences of some five and thirty years ago. I recently visited Saggart for the first time since I left it at the age of nineteen, on my way to join the Jesuit Novitiate at Miltown Park. How changed was all I loved and knew so well about the mills! Only one of them was working—the upper mill. The number of hands had been



SWIFT BROOK MILLS, SAGGART.—VIEW IN RAG HOUSE

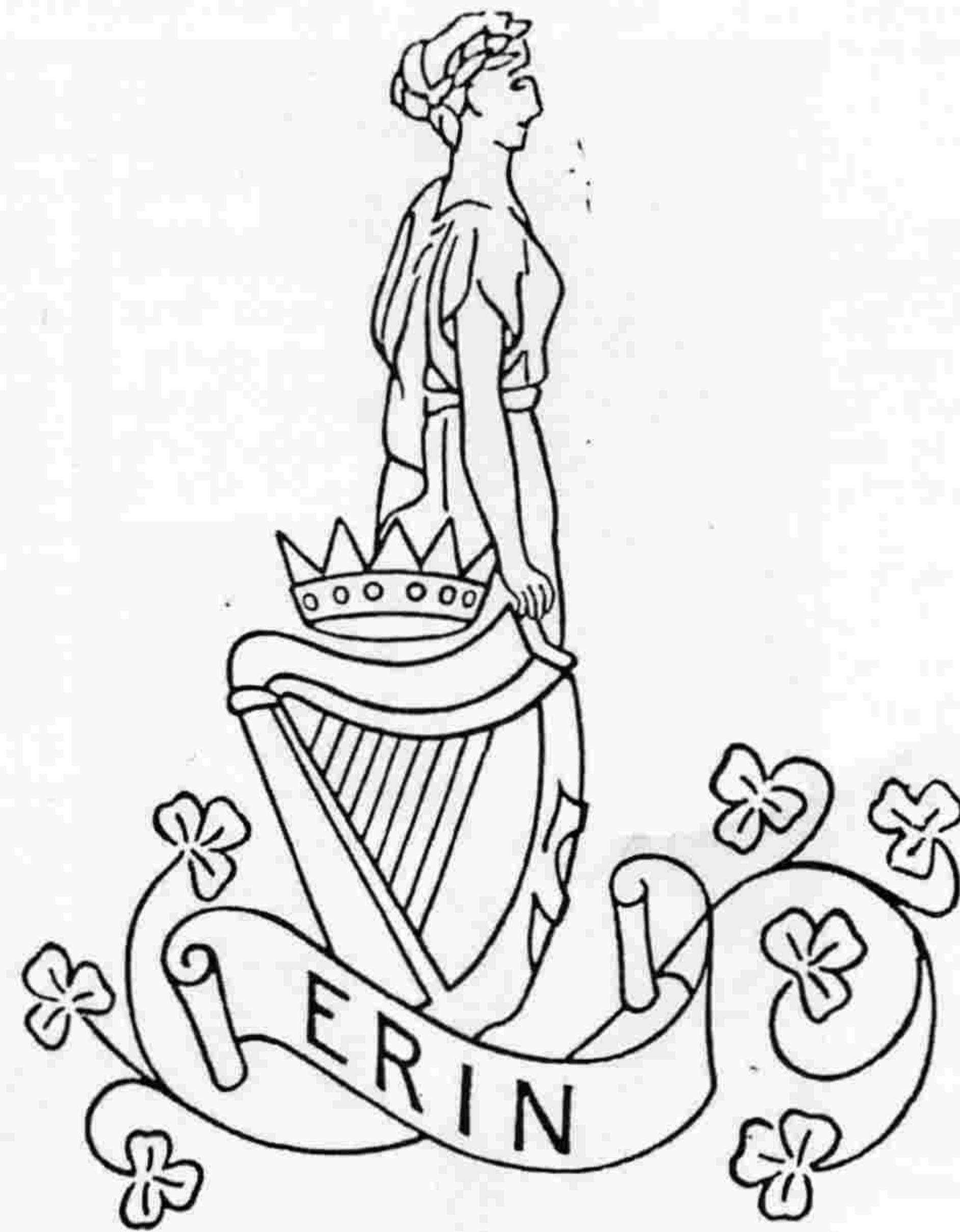


SWIFT BROOK MILLS, SAGGART.—INTERIOR OF MACHINE HOUSE.

reduced, and everything was on a smaller scale. Some of the filtering ponds—my fishing haunts of former days, were dry or out of use.* With just one or two exceptions, all my old friends among the men were dead and gone. 'Eheu, fugaces, Postume, Postume, labuntur anni'! What a change the years had wrought! Like so many other industries in Ireland, the paper industry is barely holding on. Until a few years ago Saggart was the only paper mill surviving in the country. Old Bawn mill is now a ruin, and the beautiful old mansion has been gutted, the exquisitely carved oak chimney-piece belonging to the drawing-room being removed to a museum in Dublin. Templeogue Mill, if used at all, is devoted to some other purpose. Saggart paper, however, is making a good fight still. The 'Ancient Irish Vellum' note paper, packed in small neat is. boxes of a couple of quires each, is to be found almost everywhere throughout the country. The industrial revival will, it is hoped, do much for the Irish paper industry, and may restore it eventually to something like the high position that it held in times gone by. I am convinced that Protection, worked on proper lines, would do a great deal to bring about this consummation. As things are at present, we can never hope to compete with America and Germany".

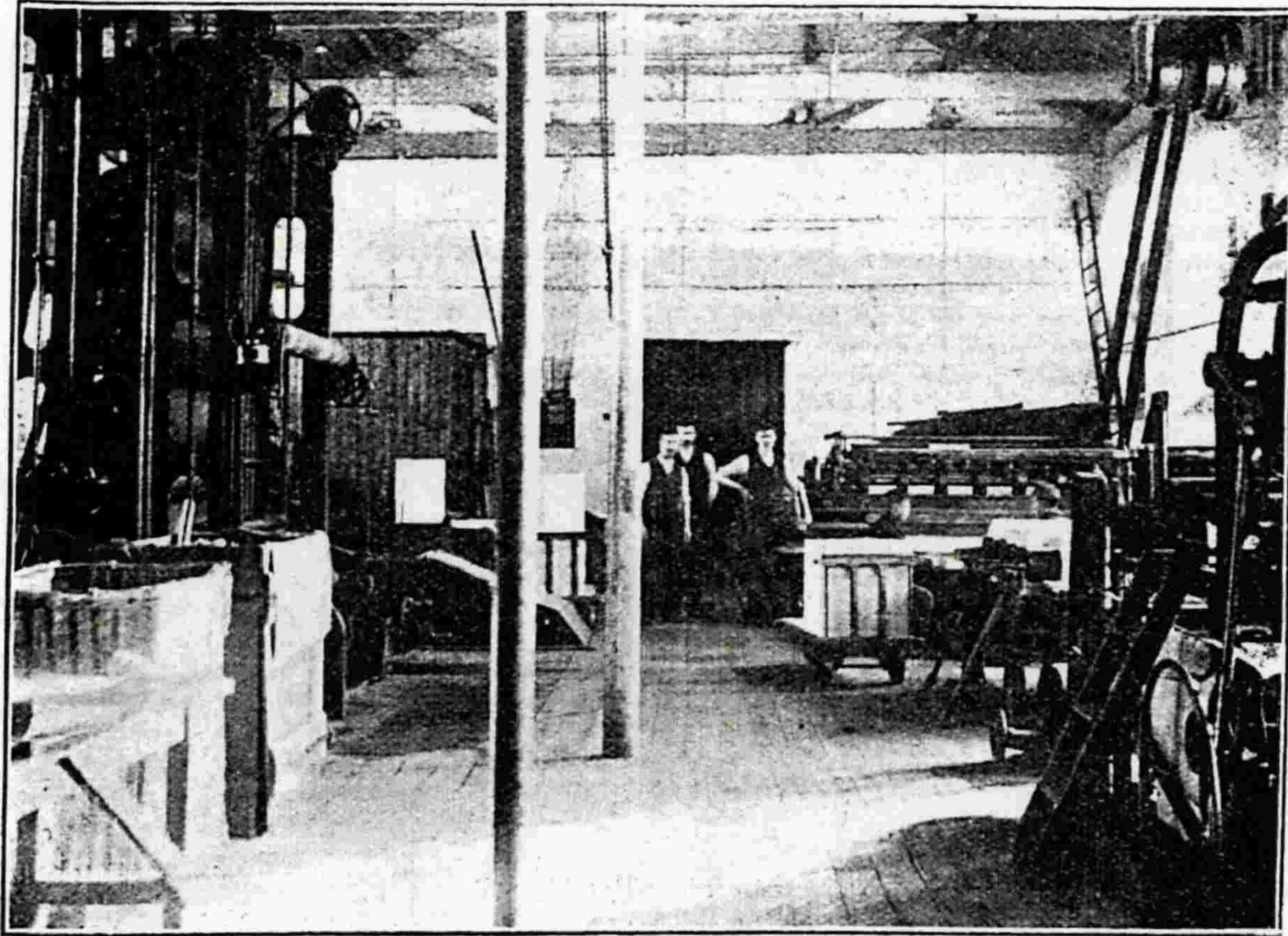
To the Rev. Father's account of the Saggart mills in the days when the papermaking industry was still flourishing in Ireland, we may add that under the control of the present managing directors—Mr. N. E. Drury, J.P., at the mills, and Mr. J. G. Drury in Dublin—many enlargements and improvements have lately been made in the premises. The old water wheel is now supplemented by electricity as a driving power, and though the gas house is still standing, electric lighting has been adopted throughout the mill. Messrs. McDonnell and Co. make nothing but pure rag papers, their principal lines being the best sort of ledger papers. They have always made it a point not to put anything on the market which would not do them credit, and their papers obtained prize medals at the Exhibitions held at Dublin in 1855 and 1882, at Cork in 1883, and at Liverpool in 1887. The firm is, in fact, not merely working the mill with "fair success," but doing excellent business all along the line. Their present makes are fine and superfine writings, banks, type-writing, and hand-made-like account book papers, air-dried and tub-sized. Saggart is about eight miles south-west from Dublin, four miles west of Tallaght (itself once an

* In order to prevent any misapprehension, we may say that previous to the Rev. Father's visit, the machinery from the Lower Mill had been transferred to the Upper one, in order to reduce works cost. Thus the Lower Mill (i.e., the old one seen in our first illustration) was left free for rag sorting and other preliminary processes of a nature likely to raise dust, which might find its way into the pulp if all the work was carried on in the same building. The fact that one of the ponds was out of use is accounted for by the installation of a Bell's filtration plant at a cost of over £1,000.

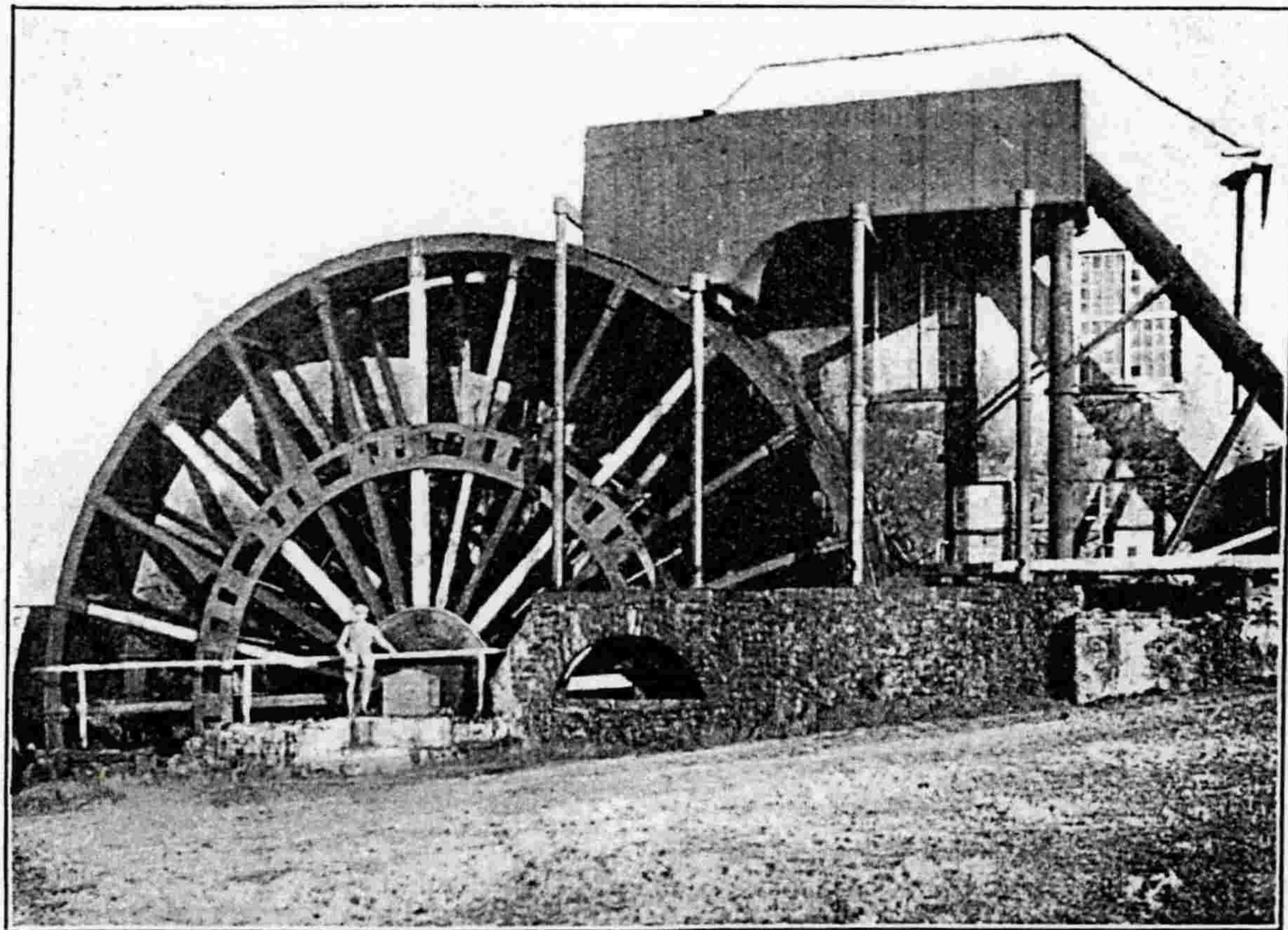


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SWIFT BROOK MILLS, SAGGART.—INTERIOR OF CUTTER AND CALENDER HOUSE.



SWIFT BROOK MILLS, SAGGART.—THE GREAT WATER WHEEL.

Irish papermaking locality), and about the same distance south-west of Clondalkin. The nearest railway station is at Lucan, on the Great Southern and Western line, some four miles to the north, but the steam tramway from Dublin to Blessington passes a point about a mile south-east of Saggart.

Swift Brook, it appears, derives its name, not from the rapidity of its flow, but from the circumstance that much of the land through which it passes was formerly the property of the "Witty Dean," from whom its original appellation, "Swift's Brook," came. The real name of the stream is, however, the Camac. The gaunt and somewhat unlovely ruins of Dean Swift's house are at the back of the mill, the proprietors of which still pay rent to the Dean's representatives.

We are indebted to Messrs. McDonnell and Co. for the use of the accompanying photographs of the mills as they exist to-day, and as we do not remember to have previously seen a series of views of a modern Irish paper mill they will no doubt be of interest to our readers and the paper trade in general.

In looking at these pictures it is of course necessary to remember that papermaking in the sister isle is an industry of very modest proportions. Huge establishments like those at Sittingbourne, Cardiff and Bury are not to be found there, but the illustrations here reproduced will be sufficient to show that even a small mill, of old standing, is not necessarily an out-of-date or poorly equipped one.

The first view shows a part of the original buildings, which were either built or altered in 1795 (see *World's Paper Trade Review* of August 4th last.) The upper part was the rag-sorting room of the original mill, but the structure is now used as a store. The present rag house is the three-storeyed building seen in the view of the Lower mill. The ground floor is used for uncleaned rags, and the middle one for sorting purposes, whilst the upper storey contains the stock of cleaned rags. In the days when paper was made by hand at Saggart, the loft-drying of the sheets was carried on in this building. The engineers' and carpenters' shops of the mill are situated to the right of the tall chimney stack.

Our next illustration shows a part of the rag-sorting room. Special precautions are taken to prevent the rising of dust to the inconvenience of the workers. Under the benches on which the women sit there is an apparatus for exhausting the dust, so that the atmosphere of the room is kept very clear.

The view of the interior of the machine house shows the 75-inch Umpherston machine with its steam connections, etc. Though not of large dimensions, this department is sufficiently roomy, well lighted, and maintained in excellent order.

The other interior view is of a part of the cutter and calender room. The former machine is by the West End Engine Works Co., of Edinburgh, the calenders being of "Umpherston" type. An electric light switcher will be noticed on the end wall, and the power for the lighting plant for mill, offices and manager's house is supplied by a

Hornsby suction gas engine. The power house also contains a 100 k.w. Belliss-Peebles steam set, running in parallel with a water-wheel-driven dynamo in the Lower mill. The huge water wheel, referred to by Father McDonnell, is shown in the last picture. It was built by J. and R. Mallett, of Dublin, in 1848, and has a total fall of 53 ft. 1 in. A 26-in. main supplies the wheel with about 18 tons of water per minute, and at the ordinary working speed of 1½ revolutions per minute, the wheel gives 50 to 55 h.p. at the machines.

A new beater house was erected in 1905. Both beaters and breakers are driven by electric motors, and a new Umpherston beater (making the fourth) has just been installed. Two of the beatermen here, John Kelly and Mathew Mulvey, have been in these mills since boyhood; they are both now nearly 70 years of age, and must thus be amongst the few survivals from the days of which Father McDonnell speaks so feelingly. Although so near to the Irish capital, Swift Brook Mills are situated in a very rural district, the open country extending quite up to the walls of the buildings, which are mostly constructed of local stone.

(To be continued.)

Light and Paper.

Light, it seems, does not merely discolour paper or make it yellow, but, at the same time, without the co-operation of any other agent, affects its solidity.

Experiments have been made which seem to confirm this view. After being kept for a year and three weeks in a vacuum exposed to light a good type of paper (pure rag), the primitive tensile strength of which was 11 kilogrammes, gave way with a weight of only 9 kilogrammes, and the co-efficient of elongation decreased by two-thirds.

Comparative experiments demonstrated that the spontaneous destruction of paper is much less rapid when under the influence of time alone, being protected against air and light. On the other hand, the action of light is much more intense, and that of air (with the variations of temperature, alternate siccidity and humidity) adds its effect. However, the action of air alone, though not null, seems least important.

Thus light would be the chief cause of the deterioration of paper. But what kind of light? Is it total light or certain rays the mysterious effect of which has not yet been accurately determined? Does ultra-violet play a part, or infra-red? These are problems which it would be interesting, perhaps, to elucidate, by comparing the different sources of light. The result would, possibly, be in favour of acetylene.

If you are in the trade, why not trade with a "real trade newspaper?" That's the sort of reciprocity that pays all concerned.