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The Belfast Linen Trade Circular.

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Notices.

Correspondence and items of interest bearing upon the Textile Industries, Technical Education, or other questions treated in this Journal, are solicited. Market reports, or notes respecting the position and prospects of our Irish industries, will be specially acceptable. Correspondents should write briefly and on one side of the paper. Foreign readers are invited to send reports, and to point out any facilities which may exist for promoting the interests of Irish manufacturers.

The *Irish Textile Journal* is published on the 15th of each month. Yearly subscription, including postage, 11/6. Subscriptions payable in advance. Free sample copy sent to any address. Advertisers will find the Journal an excellent medium for announcements suitable to its pages. Terms may be known on application.

All remittances to be made payable to the Proprietor, F. W. SMITH, 7, Donegal Square East, Belfast.

The *Linen Market*, published every Saturday, at the above address, deals exclusively with the Irish linen trade in all its branches. Annual subscription, £1 1s. The *Irish Textile Journal* and the *Linen Market*, if ordered at the same time, will be supplied by post for £1 4s., or if within the City delivery for £1 2s. 6d., per annum.

The *Home and Foreign Linen Trade Directory*. Published at 2s. 6d. Price reduced to 1s. for the few remaining copies.

A *Souvenir of the Irish Linen Trade*, being a series of 12 Views, illustrating the Cultivation of Flax, the steeping, drying, scutching (by hand and power), and preparation of it for market. The Spinning of Flax by hand on the old spinning-wheel, the reeling, winding, and warping of the Yarn. Weaving of Linen by hand, the bleaching and finishing of the Cloth, and the subsequent examination, lapping, and making up of the goods in the Warehouse, together with a view of the old Irish Linen Hall or Market in Dublin for the sale of the Linens. From original engravings in the possession of Messrs. J. N. Richardson, Sons & Owden, Ltd., Belfast—dated 1791.

Carefully printed Bromide Photographs (7½ x 6), on India-tinted card mounts 10½ x 14 £1 5s. per set, or unmounted, £1 for the set of 12. Published at the office of this Journal.



The Revival of Industry.

THE advance which has been made during the past few years in reviving Irish industries goes far towards showing two things—first, the capacity of the people for work, and, secondly, the success which inevitably follows effort. Nothing can be more gratifying to those who have identified themselves with the industrial movement than the recurrence with which they now see Irish products singled out for rewards and prizes wherever exhibited. The days are not so very far distant when home-made fabrics—we are not speaking of the products of Belfast or other power-looms—used indeed to take prizes, but only at local and subsidised exhibitions, and when in competition with other articles produced under similar circumstances. This is not now the case. Examples of Irish home-made fabrics, whether linen or woollen, can to-day be placed in competition with similar products coming from any part of the world, and they will not have to take second rank. In this category we have not included laces, for from time immemorial Irish laces have been *sui generis*, and apart from others. But even here we see the results of intelligent effort, increased activity, and greater industry, in the enhanced marketable value of the article, and in the increased and increasing popular demand. Thus, from what has been done, it is perfectly legitimate and safe to argue what may be done. There is no valid reason why Irish hands in

village, hamlet, or town should lie idle; there is no acceptable excuse for cottiers of the North or West or South to continue trusting solely to the produce of their stony and arid plot of land, or to the precarious harvest of the sea. There is work for all, and, better still, so widely have the larger centres of industry and instruction become diffused, that consultation and intercourse with them is no longer an impossibility. This is an all-important factor in the revival and extension of the industries. An industrial map of Ireland, showing these centres of private or associate enterprise as they exist to-day, would reveal a state of things which, ten years ago, would have seemed impossible to the most sanguine. Round these centres of industry reign peace and contentment, born of honest toil and its rewards; in the villages and cottages to which their influence has spread will be found the same happy state of affairs. Where once was poverty, squalor, perhaps vice, certainly discontent, we find now the other and brighter side of the shield; and, knowing what has been done, we can only hope and trust that year by year other portions of our country may come under the same happy influence.

Technical Schools.

The Committee of the Kevin Street Schools, Dublin, have just issued some important circulars to the elementary schools of the city on the subject of exhibitions and of loans and the grants of apparatus. Of these circulars the first, announcing the terms on which exhibitions will be competed for and the value of those to be granted, is most worthy of note; the others refer to purely local matters, and only repeat former ones. The examinations for the exhibitions will be held in the Dublin Technical Schools, Lower Kevin Street, on the 1st and 2nd of December next. The candidates must have attended some elementary school in the city for two years, have passed the fifth standard, and be between the ages of 13 and 16 on the 1st day of December. On the result of the examination there will be awarded ten exhibitions for boys and five for girls of the annual value of £5 each, payable quarterly, and tenable for two years at such evening or day technical school "as shall be approved of by the Technical Education Committee." We note one very practical and highly commendable proviso in the regulations, and that is to the effect that "when the fees payable at any school selected by a candidate shall exceed the amount of the exhibition in the first year, the Committee may apply such portion of the second year's exhibition as may be necessary to cover the amount, if they think it expedient to do so." This regulation is one which considerably increases the working value of the exhibitions, as without it even those who, by hard work, had gained the coveted honour and reward, would in many cases still be debarred from following out the course of their studies to the best advantage. It is hardly necessary to add that, though the examination for these exhibitions is competitive, yet unless a sufficiently high standard of proficiency is reached, they will not be awarded to the first ten or five boys or girls on the examiners' lists. The only point to note about the grants or loans of apparatus to the schools is that they depend upon the good answering of candidates from such schools at these examinations—a healthy and useful regulation.

A Satisfactory Report.

The thirty-fifth report of the Inspector of Reformatory and Industrial Schools in Ireland has just been laid upon the table of the House of Commons, and we are glad to note that Sir Rowland Blennerhasset is able to again speak highly of these institutions. To the Artane establishment, at once the "largest and most remarkable," he devotes the greatest notice, and in the report officially confirms all that we had the pleasure of publishing in these columns laudatory of that school. During the past year the average number in the school daily was 800, and the annual cost for each boy was £20 17s. 5d.—of which some £13 is receivable in grants from the Government and the Dublin Corporation. It would further seem that since July, 1870, to the present time, over £80,000 has been expended on this institution by the Christian Brothers and their friends, "without any grant in aid from the Government, or without borrowing sixpence from the State." The sanitary condition of the school buildings, the care taken of the boys, and the competent and efficient supervision, are all proved by the abnormally low death-rate which has prevailed for years, and is still sustained. Sir Rowland pays a high tribute to the "unselfish labour for the good of forsaken and unfortunate children" which is being done. In this work, "Protestants and Catholics, Christian Brothers and others, professional men, busy merchants, and ladies of rank and position are all equally zealous, and all equally deserve well of their country." That these are the conditions under which Industrial and Reformatory Schools can work to

the best advantage is obvious; but we should like to make sure of other things. Do the trained artisans turned out from Artane remain to benefit the society which, at great sacrifice, has rescued them? Or do they carry their education, their energy, and their practical skill to other countries? These are questions which the community at large should ask themselves, and to which they should find an answer. They do not involve any question of the value of the work done in our Industrial Schools, nor of the absolute necessity for continuing that work. But they do involve, if answered in the negative, as we fear they must be, the necessity of finding some means of inducing our trained youths to remain at home. The problem is complex, but it admits of solution, and we commend it as one which will amply repay study to all interested in those all-important institutions, Reformatory and Industrial Schools.

Cultivation of Barley in Ireland.

Mr. W. J. Malden, Agricultural Director of the Royal Dublin Society, has recently published a valuable paper on the cultivation and harvesting of barley, which will be read with much profit by farmers and landowners interested in promoting the cultivation of this cereal. Our climate, Mr. Malden considers, is not uniformly favourable for the production of the highest quality of barley, but it can be grown to profit if the necessary care and skill be exercised. Unfortunately, however, "it too frequently happens that, when the grain is of fair quality, it is so unskillfully managed that it is very much injured before it reaches the maltster." Ireland can, however, grow a considerable quantity, and this might be very much increased, and so diminish the importation of foreign grain; but carelessness on the part of the grower leaves the market largely in the hands of the foreigner, which unfortunately is the case with other crops as well as barley, all traceable to the want of the needful technical education which would insure success. The paper deals fully with the subject, from the selection of the soil to the harvesting of the grain and bringing to market, and under each head the advice is sound and practical. "The endeavour," he says, "of every barley-grower should be to grow grain of the finest quality, though from circumstances of soil and climate the choicest quality may not be attainable by every grower; but carefulness in every operation results in a more valuable sample, while without care good samples cannot be obtained. The barley grower's watchword must be *Uniformity*: uniformity in the soil, in its cultivation and manuring, and in the sowing, harvesting, and delivery to the purchaser of the grain. Unless a sample is uniform, the maltster cannot convert the barley into malt out of which the maximum quantity of sugar or saccharine matter can be extracted; some grains must be over-malted and others under-malted, and this incurs the loss which goes so far to regulate the price the farmer gets for his grain. It cannot be too strongly enforced that operations must be regulated with the view of securing uniformity." We wish that the next subject Mr. Malden would take up would be on the Cultivation of Flax in Ireland, as we feel sure he could deal with it in a masterly manner.



Practical Instructions in Linen Weaving.

IX.

(SPECIALLY WRITTEN FOR THIS JOURNAL, AND ALL RIGHTS RESERVED.)

The Power-Loom.



IN the preceding papers a few of the many difficulties in connection with power-loom machinery have been pointed out. It is obvious that many loom managers and tenters who have only one type of loom to deal with may not be conversant with the number of problems to be met with when possible changes take place. This paper is therefore specially written for the purpose of drawing their attention to these changes when they occur. Success must depend entirely on overcoming obstacles by the co-operation of employers with their managers, not only in an endeavour to improve the production, but also in devising better means for such, with facility and economy.

Taking the ordinary loom, whatever rate of speed it may be running at, we who have anything to do with it all know that a great amount of power is uselessly expended; that is to say, it has no

value for whatever form of picking motion is used; the shuttle is driven with a force sufficient to journey far beyond the reed space or shuttle boxes. This is a waste of force to commence with, but it is further increased in this way: let us suppose that the force to send the shuttle through a forty inch space is one unit, and the power actually expended is six times as much, then five units are needlessly expended; the shuttle must be stopped after travelling through the forty inches, and a brake has to be applied, for this purpose, in the shape of a *swell* in the box it runs into, so that to overcome the five units wasted five more must be expended, making ten of a loss. This, however, is not the end; the shuttle has to be sent back again, the usual six units of force being used, of which only one is required for the pick; the other five are required to overcome resistance. Thus fifteen units of power is a total loss, leaving only one for actual work. The greater the speed of the loom, the greater is the force for the propulsion of the shuttle. Is this necessary? It does not exist in hand-loom weaving, whatever speed is used or however great the reed space. We have far too much power, and by increasing the speed of looms we do not want an *increase of force*, but an *increase of picks*, and, of course, production. Taking this view of the subject, and bearing in mind the action of the hand-loom weaver in throwing his shuttle across the web with no more force than actually needed, it is possible to understand that a distinct specified and never varying motion, regulated by the speed of the loom, would overcome such a gross waste of energy. A spring, the tension of which could be set according to width of loom, might be released by the motion of the loom as many times in a minute as the revolutions of the crank shaft. This would certainly propel the shuttle with a gentle force quite sufficient for the due delivery. There is no doubt whatever that the picking motion can be made independent of the speed of the loom—in fact, this was done years ago, but it was not sufficiently appreciated or encouraged; nevertheless, the invention was developed in the production of heavy canvas cloths, carpeting, &c. It was a positive motion, every portion of the loom being connected with each other, including the shuttle. If the loom stopped when the shuttle was in the shed, it remained there till the loom started again, and proceeded as if no interruption had taken place, because it was self-acting. No picker, no noise, going across the breadth of web in the precise time required; no possibility of flying out, and the power exact; never too much or too little, as is continually the case with every picking motion we have, and thereby becoming uncertain in its action.

To a large extent the prosperity of a factory depends upon the perfection of its weaving machinery, and no more anxious task can possibly devolve upon factory owners and managers than the choice of different looms. While the principles operating are very much alike in all looms, there are differences of detail both in their structure and nature for the various fibres manufactured. Suggestions are often made by persons possessing no practical acquaintance with the condition of things in a weaving shed furnished with new looms. The most essential point in such a case is to have a specially expert tackler or tenter to set the looms or superintend the preparing of them for the reception of warps. Considerable ability is required to do this well, or a great deal of trouble is sure to result. Good management will always secure able tacklers and good weavers; this object attained, many evils will disappear.

The remarks which I intend to make on the various motions of a power-loom may not be altogether new to many readers of this Journal; nevertheless, it is a fact that the principles involved in these movements are not generally understood by a number of tenters or managers. To turn out a good quality of cloth, with plenty of it, and at same time to keep the working expenses at a minimum, requires the most assiduous attention on the part of all engaged in the various operations. We may have the best make of loom, but an element that enters very largely into the business is the first start which it gets. A loom invariably keeps, to a greater or less extent, the character given to it at the commencement of its movements. If all the parts are not properly adjusted, and it is allowed to run in a slovenly condition for a considerable time, it will be found a very difficult task afterwards to make a really good working loom of it. The loom may be made in strict accordance with scientific rules, of the best material and workmanship, with every improvement that experience can suggest, but placed in the hands of an unskilled tenter all its best qualities will be destroyed. The driving of looms is also a matter of great importance for proper working; the most expert tenter is often baffled in trying to keep his looms in good working condition through irregular turning power in place of a steady uniform motion. Of course, in small weaving sheds this is a difficulty not easy to surmount, because the loom, unlike any other class of textile machinery, requires to be frequently stopped to change shuttles and repair broken threads, &c., and this may possibly cause nearly all of them to be off at one time. The engine will then run off at a higher speed, because the weight is removed for the time being, and the remainder of the looms will dash away until they bang off with a strong concussion of force sufficient to displace every bolt in their construction. Of course, this effect may be checked by the action of the engine valves or by the engineer; but even so, when the looms are all started again the speed is below what it ought to be, and the banging off continues owing to the weakness of the picking motion not having a proper quantity of power to drive the shuttle across the web, and if the protector is not in good condition or work, the consequence is a smash, or, as commonly known, a "trap."

The driving shafts also require consideration; they ought to be strong

enough to prevent vibration caused by the twisting or torsional strain thrown on them, which is sure to be transmitted to the loom. If the shaft is too long for its diameter, the looms placed under the end of it will be short of power occasionally, and are certain to knock off, thus poor work and uneven cloth will be produced. The belting is another important point. There is a proper medium in the length which is not sufficiently cared for in many instances; when too short, the belt requires to be so tight that the crank shaft and other parts of a loom are overstrained; when the belt is too long, it has a surging movement which transmits itself to the loom in the shape of an irregular movement, so that it is difficult to make perfect goods in fine light fabrics. I will, in another communication, enter into the question of the transmission of power through belting.

Having noticed what affects the working conditions of a loom in the first instance through shafting, &c., I may say, before entering into further details, that those in charge of the mechanical department of a weaving establishment should be capable of suggesting and making improvements as experience may point out. Many parts of a loom get worn out, and before replacing them it ought to be a consideration whether any beneficial alteration could be made—in fact, it is in the mechanics' shop, and the everlasting repairs needed, that we must seek for improvements. Continuous employment among looms ought to create some degree of invention that would be useful and economical to employers, and decidedly beneficial all round.

The Crank.—The movements of the crank of a power-loom may be considered a very simple subject to dilate upon, nearly one and all being of opinion that its movement is merely for the purpose of moving the lay backwards and forwards; but if it is examined minutely, it will be found the dominant factor that really governs all the motions in the loom—in fact, it is the vital principle which ought to be thoroughly studied by those who take a pride in being pointed out by weavers "as good a tenter as ever used a screw-key." Now, let us carefully discuss a few facts which, I trust, my fellow-tenters will fairly bear in mind when we come face to face with the problem—what is the best kind of movement suitable for the lay? We come in contact with intricacies not to be found on the surface. The space in which a power-loom lay moves is a curved line, with the crank revolving at a uniform speed. The lay moves faster when beating up the shot than when the crank is at the back centre (that is in a direct line with the back rest of the loom), and the shuttle passing across. That is exactly what is required, a smart impact of the reed in beating up the shot into the cloth, with a decided pause at the opposite end of the stroke, so that the shuttle has time to pass through the shed. This is the eccentric movement of the crank, and it is obtained by placing it in a lower plane than its connection with the swords of the lay. Now, here lies the whole reason for the statement that the crank is not so simple a movement as it appears. The best position is found by expert and experienced tenters when the top circle of the crank is on a level with the connecting-pins which secure the arms of the crank to the lay swords. Clearly comprehended, it is obvious that this eccentricity will become varied in proportion to the length of the connecting-rod, and the diameter of the circle formed by the revolution of the crank. This is a point well worth the study of technical teachers and their students, as well as those directly employed in the weaving sheds. If carefully thought out, it will be found this eccentricity can be increased by shortening the connecting-rod and increasing the *throw* of the crank; the reverse, by a longer connecting-rod and less throw of the crank, or by either. We now find that the broader a loom is, the greater the necessity for this eccentricity in the movement of the lay. Why? Because the shuttle requires *more time* to traverse the *distance* independent of pulley speed. Then how is *this eccentricity* obtained? Well, I will try to give my experience, though I have no wish to pose as an authority on the subject, but will simply leave what I say to be reflected upon. The greater eccentricity is generally found by *increasing the circle of the cranks in proportion* always to the *breadth* of the loom; but this is limited when we arrive at a certain point beyond which the crank is unable to give this eccentricity to the movement of the lay. Where looms are of extreme width—six or eight yards wide—sail-cloths for example—cams must be employed instead of the crank, because the lay would require to become motionless during the time the shuttle would be passing across the reed space. The proper position of the lay in its action upon the cloth is, as in hand-loom weaving, at right angles to the fell; but being in an inverted position from that of a hand-loom lay, it is more liable to be disturbed in its motion in describing its arc on each side of the vertical line, owing to vibration of the centres of gravity from side to side of the centre of motion. To prevent this, it is so placed that the commencement of its stroke springs from the vertical line at the fell of the cloth. Hence, the rule that the swing-rail or rocking-tree at the bottom of the swords must be perpendicular to the reed when in contact with the cloth.

Length of Stroke.—In the lay it is to an extent affected by the leverage of the swords, according to the distance between the connecting-rod and the shuttle-board; but this distance, if considerable, will weaken the action of the lay in driving the shot into the cloth. This at once points out the fact that the connecting-rods must be attached to the lay as near the warp-line as they can be made to act. This gives the lay a more effective motion. Space is economised, and so is time for speed in shuttle-movement, with the least injury to fine, tender yarns, and ease to the machinery. This is the best possible example of a lay's motion as

worked by a good hand-loom weaver. What is the motion of the lay? Its object is two-fold: it bears the shuttle across, and drives the weft to form a cloth. Then time must be given for the shuttle to pass in proportion to reed space, and in beating up the shot, quickness of force. The pauses to effect these objects must, if right, be unequal; hence, by the shortening of the crank at the contact with the cloth, time is gained with advantage for the work. And thus time so gained, or any portion of it, can be used to increase the pause at the full stroke in a certain proportion required by the shuttle. When the rocking shaft is perpendicular with the reed, just as it touches the fall of the cloth, the swords of the lay work in what is termed the *quarter-move*, and prevent any vibration caused by the centre of gravity passing and repassing the centre of motion. The length of traverse depends upon the size of the shuttle. The throw of the crank is thus determined; the centre will be placed below its point of connection with the swords, a distance equal to half the circle it describes. This position gives the necessary eccentricity to the movement of the lay. Of course, the distance of the crank, apart from the swords, will be equal to the connecting-rods, which should not be too long, because it would diminish the eccentricity we have just given to the movement of the lay. Space being exhausted, further details next month.



Southern Notes.

The Munster Technical Dairy School.



SINCE the foundation of this national institute in 1880, it has had, to quote the words of Professor Carroll, "a run of continual progress." I am naturally more interested in the dairy school than in the agricultural department. When the educational system of this country is placed on a proper basis, we shall probably have in Dublin a higher agricultural institute similar to that at Berlin, agricultural colleges at Belfast, Cork, and Galway, and agricultural schools at such centres as Newry, Mullingar, Kilkenny, and Bantry.

The Committee of the Cork Dairy Farm consists of ladies and gentlemen resident in the neighbourhood of the city. £1,000 is annually spent in working the school. Mr. Smyth (the director) and Mrs. Smyth (the lady superintendent) are indefatigable in their efforts to make the school a complete success. A comprehensive and practical system of education in dairy-farming is given. This includes instruction in the factory system, as well as in ordinary butter-making with the simplest appliances. With a view to the further development of the butter industry, the Committee have organised the teaching of both requirements. The success attending their efforts may be gathered from the fact that at the Manchester Show in 1887 all the best prizes, including the Society's gold medal and the champion medal, were won by the pupils of this school, while several of them now occupy in England the position of County Council lecturers, junior demonstrators, dairy managers, and dairy-maids. The speech made by Professor Carroll at the Cork Dairy Farm, in reference to the industries solely managed by women, is very interesting. He said:—"In those districts where the men had taken an intelligent interest in dairying it had always prospered. In Holland, when they left the dairying to women, they had no improvement; but in this country, and in Northern Europe, great progress had been made in consequence of the interest taken in it by men." I would add, however, that where women have worked hand-in-hand with men the result has been perfectly satisfactory. Winter dairying has not been, so far, quite successful at the Model Farm, owing to causes for which the Committee cannot be held responsible. Cheese-making has not been quite a success either; indeed, in the production of cheese the chemical constituents of the soil form important factors in its quality, the various makes being recognised more from the flavour supposed to be given by the locality than from its method of manufacture. It is not improbable that Irish soil may not be altogether favourable to excellence in this direction; but, of course, the last word has not been said. When the Munster Dairy School shall be turned into an agricultural college, poultry-rearing will, no doubt, receive particular attention. From time to time excellent lectures are delivered by Mr. E. Brown, F.L.S., in this branch. Upwards of one million and a-half pounds are received annually for eggs and poultry by Irish producers. This is less than half of what Great Britain imports from foreign countries. Bee-keeping is another subject that will receive attention. A suggestion that I would offer is that at Cork and at Glasnevin not only should girls be trained as County Council lecturers, junior demonstrators, dairy managers, and dairy-maids, but they should be trained to become farmers. If there be no objection in principle to educate girls to become lawyers and doctors, as was suggested recently by Mr. Maurice Healy, M.P., at a meeting in the South Infirmary, Cork, and if they have been gradually educated to fill positions from which they were formerly excluded, there can be no reasonable objection why they should not receive the technical training indispensable for the successful cultivation of the soil and the management of live stock.

These and the dairy industry form three separate lucrative businesses, to which cookery should be added. I would like to call attention to the great need that exists at present for technically-trained cooks. The tourist industry in Ireland is opening up; and I was informed by the manager of a leading hotel in Dublin that a well-known firm of tourist agents, who were about to start hotels in different parts of Ireland, were having a number of English girls trained to fill the position of cooks. Why should not Irish ones be trained for such work? The Irish girl is as purely a Celt as her Gallic sister, and possesses the same quick wit, deft manipulation, and quite as much aptitude in acquiring knowledge as her sister. It may not form part of the function of the Munster Dairy School to train cooks of this class, but it would be most desirable to make a beginning in this direction, and the school might take up this important subject. Perhaps Mrs. Priestley, whose article on the Industrial Schools of the Continent has gained her a high place among the thinkers of the age, might be induced by the Ladies' Committee to deliver a few lectures at the school. The Committee have certainly given convincing proof of the practical earnestness with which they work for the public good. When such opportunities are afforded to farmers' daughters of acquiring a thorough knowledge of the dairy business, it is greatly to be regretted that they do not avail themselves to a larger extent of its advantages. I can only attribute it to the conservatism which seems to be inherent in classes through unbroken continuity of usage, transmitting, as it were, certain defined lines of thought and action, which eventuate in that most deplorable evil, prejudice. The Russian peasant is an exemplification of this truth. The *Northern Whig*, commenting favourably in a leader on the Munster Dairy School, remarked that one girl sent from the County Down, who knew nothing of dairy-farming, was able, after a session or two, to take and successfully manage a farm stocked with 30 cows. This being so, I was sorry to observe, on looking through the list of annual subscribers, that Ulster names were in this instance conspicuous by their absence. Doubtless this has occurred through oversight, and because the matter has not been placed before them in a proper light. We have not forgotten the generous subscriptions that came from Belfast when our citizens here proposed to start an exhibition in 1883, nor their practical sympathy with our people at other times. I would take the liberty in this connection of soliciting attention to the concluding words of the report read by the hon. secretary, Mr. Richard Barter:—"Though the account closes with a somewhat increased balance in hands, mainly due to new subscriptions received through Mr. George French from the Kerry Grand Jury, and the reduction in several items of expenditure, the Committee cannot regard the financial position of the institution as at all satisfactory; their efforts are very much hampered for want of means. With a greater number of subscribers, be the subscriptions large or small, they would feel justified in extending the scope of the institution in many ways, and be, therefore, in a much better position not alone to claim, but to demand an increased annual Government grant. They, therefore, again appeal to all who are interested in the promotion of technical education to give practical help by becoming subscribers."

The Antiquarian Society.

The learned strangers have visited us, and we are pleased to hear that they enjoyed themselves, but I fail to see how their scientific wanderings have added lustre to antiquarianism. Some of the subjects chosen would not appear to have been selected by a Petrie. The visitors were welcomed by the sister association here, the Cork Archaeological Society. Ivy-clad Blarney claimed their first attention, and the famous stone their homage; but, alas! doubt was thrown upon the whereabouts of this relic of the MacCarthy or of Cromwell—it all depends upon your standpoint which it is. The self-assertive Yankee "guessed" he had the stone at the World's Fair; others maintain that its existence is apocryphal; but as "expediency is the mother of invention," it was considered that one stone was as good as another, so the time-honoured ceremony was accomplished to the general satisfaction. There was at least one learned Irishman there well versed in antiquarian lore. He tells us that their dreamy and distracted looks, their exclamations and their attitudes, before the Ogham stone in the eastern gable end of the historical ruin at Ardmore, in the Co. Waterford, which they visited, reminded him of the antics of the gentlemen who founded the Pickwick Club when they examined the geological relic immortalised by Dickens.

It is, however, gratifying to know that we inhabit a country with traditions and ruins, a loss that brother Jonathan keenly feels, but he is creating both, for antiquity adds respectability, even if the antecedents be questionable. We do not, of course, object to learned societies, nor are we oblivious to the halo of sentiment that surrounds antiquity. Our national foible is to err in this respect; but tastes such as these must always belong to the few, whilst the larger questions affecting everyday life command the attention of the many. In this connection it might be said that the advent of a commission to inquire into the administration of the Poor Laws or the coming of a Social Science Congress would be received with pleasure, and the president of the Cork Archaeological Society could make important disclosures at such a meeting. Here is a melancholy fact of more importance than the discovery of an Ogham stone, or the unearthing of the tools or bones of ancient Ireland, interesting though they be. We have in this city 600 public-houses paying license duties varying from £4 10s. to £28 a-year. We have 1,200

families, representing between two and three thousand persons, receiving over £4,000 a-year in outdoor relief, to say nothing of the amount spent by the ladies of the St. Vincent de Paul Society in their visits to about 4,000 poor people during the past year. We are considered in Ireland to reverse proceedings, and to put what is vulgarly termed the cart before the horse, and start Irish Literary Associations and Antiquarian and Archaeological Societies at the wrong time. The utterances of two distinguished Irishmen—a Northerner and a Southerner—should be impressed on the mind of any impartial judge. Sir Gavan Duffy says, in reference to the proneness of his friend, Thomas Davis, to favour Antiquarian Societies:—"He sets, in my opinion, an undue value on the Antiquarian Societies, and mere social sympathy, and the dilettante nationality which grew enthusiastic over the Cross of Cong, or a Jacobite song of the latter bards, but was indifferent to the present sufferings or hopes of the people." And the late Lord O'Hagan, addressing, in 1853, Belfast citizens—Protestant and Catholic alike—thus expressed himself on the same subject:—"And if the life of a country be thus balked of a prosperous issue; if it be denied the means of wholesome and fruitful activity; if its children remain from year to year vegetating at one low level of squalid want, without hope of change, or ability to improve their hereditary state, it sounds like mockery to boast of their literature, or to blazon their art, or to glory in their poetry and eloquence. In the misery of their condition, these things seem only as the wreath upon the grave, the sculptured pomp of the sepulchre which hides corruption."

A Model Tailoring Establishment.

Recent contributions to some of the leading London monthlies on the subject of strikes led me, casually, to ask a question of the leading firm of tailors and military outfitters in the South of Ireland—the old-established firm of Messrs. Keane & Turnbull, Cork. They kindly offered to allow me to look at the log-book of their expenditure, which was, indeed, a revelation to me. Every attention is given to secure the comfort of their workpeople, and all work is done on the premises. The wage bill of the firm was close on £6,000 a year. The piecework system is adopted, and I found that one man, without working overtime, earned in a week as much as £5 15s., his income being, in fact, equal to that of some bank managers or district inspectors of constabulary; and, if he worked overtime, he could earn more than many a professor at the Government colleges. At random I culled figures representing the weekly wages of others to be, according to the work done, £3 17s. 11d., £3 6s. 8d., £3 2s. 2d., £3 0s. 4d., £2 14s. 9d., £2 15s. 9d. After this proof that the work is well done and well paid for, no one will be surprised to learn that the firm receives a large number of orders from customers in foreign countries. One post brought them orders from such distant parts of the world as Cape Colony, Australia, South America, and British Columbia.

Cork, August, 1893.

MARGARET T. DOWNES.

THE NEW TECHNICAL SCHOOL AT BLACKBURN.

THE new Technical School in Blackburn is now approaching completion. It was originally instituted as a memorial of Her Majesty's Jubilee, and a subscription fund of £15,000 was raised. Building operations commenced in 1889, and with one short interval have been continued since. The middle of the building was completed first, and one floor of the north wing, and two floors of the south wing temporarily roofed. This portion was occupied in 1891, and 680 students enrolled. Meantime certain interior arrangements were being proceeded with as required. At this time the committee of management approached the Corporation, which body had made all the grants in their power under the Technical Instruction and Local Taxation (Customs and Excise) Acts, with a view to the municipalisation of the school. An agreement was arrived at and a special Act of Parliament obtained in 1892, which abolished the trust deed, and transferred the school to the Town Council. Special clauses preserved the rights of life members to a place on the school committee, and also maintained with some few extensions the representation of trades. On the 9th November, 1892, the school became a municipal institution. In addition to the subscription fund and the annual grants made by the Corporation, a sum of £12,000 has been raised with the permission of the Local Government Board. This sum is secured on the rates under the Technical Instruction Act, 1889. The school is a four floor building with an enclosure in front. At the rear is a large piece of land upon which stands the weaving shed and the dynamo house. There is plenty of land still vacant, which will be available for future extensions.

The basement floor contains rooms devoted to cookery, physics, chemistry, and commercial subjects. There is also a large lecture theatre for textile classes. The ground floor contains the committee room, secretary's offices, science class rooms, a library and reading room, a good sized museum, and when the present building operations are completed there will be available a masters' common room and an extensive suite of rooms for theoretical and practical cookery. The first floor has been used up to the present for art classes, but in the completed school will be devoted entirely to chemistry. There is a large lecture theatre with master's room and preparation room attached. The laboratory is an L-shaped room, and the bench accommodation will be for 72 students working at one time. In addition to a masters' room there are rooms for

combustion, storage of chemicals, storage of apparatus, and outside the laboratory, but conveniently placed, a balance room. The second floor will be devoted to art. There is a commodious elementary art room, a special room for design, another one for geometrical drawing, and a specially arranged room for clay-modelling, with a clay store and casting room attached. The clay-modelling rooms have cement dado and cement floor, with convenient and ready outlet for water. On this floor is a large antique room facing direct north. Convenient store rooms and lockers have been provided, and there is also preparation for a hydraulic lift to travel the four floors. Lavatories and cloak rooms at convenient portions of the building have been provided, and a scheme of decoration appropriate to each room is contemplated. At the beginning of the session just closed 1,033 students were enrolled.—*The Record*.



SPECIAL REPORTS.

The Irish Woollen Trade.



CONSIDERABLE activity prevails in almost every branch of the Irish woollen manufacture. The trade of the new season—that relating to the spring of 1894—may be said to have been fairly entered upon within the past month. The wholesale warehousemen of London and other cross-channel centres of trade, have purchased already on a scale more than equal to that of any past year, so far as cheviot and Saxony tweeds and indigo serges are concerned. The ranges of patterns produced by the leading manufacturers are very extensive, and the designs are on all hands acknowledged to be unusually good. The styles are very varied, but the chief demand is for small, neat checks; larger checks are also being shown in considerable variety, but they are not taking well in any branch of the trade. Striped designs are still selling in moderate quantities, but the large demand of a few seasons ago for these seems to have passed away. Both across the channel and on this side there is a gratifying improvement in the demand for the better qualities of tweeds; while cheviot qualities are still selling as largely as ever, the demand for Saxony tweeds in good qualities, up to 3s. 6d. and 3s. 10d. per yard for narrow widths, is substantially increasing. For the English trade, also, there has been for some seasons past a growing demand, that has now settled into a steady and permanent trade, for very fine qualities of six-quarter, thoroughly-shrunk Irish tweeds and suitings. Some of the leading makers are giving considerable attention to the prosecution and development of this better class trade, which undoubtedly is of a more profitable nature than that of the coarser end.

In the local trade there has been almost an unprecedented keenness of competition this season for the coming spring orders. Within the past week all the leading Irish and South of Scotland manufacturers have met together in Belfast, and have had to submit their ranges at the same time. It is seldom, indeed, that the qualities, finishes, and designs of Scotch and Irish woollens have been brought into the same closeness of comparison and competition. Without saying anything whatever in disparagement of the Scotch makes, it is gratifying to be able to state that the leading Irish makers have left town with not only larger orders than they have taken at any corresponding season, but with orders larger in proportion to the extent of the trade than formerly. Of course all orders, Scotch and Irish alike, require confirmation when the woven patterns have been submitted; but the bulk of the "selections" is generally in fair proportion to the extent of the confirmations, and affords a fair index to the ensuing trade. In narrow-width chevions from 1s. 8d. to 2s. 2d. a very large trade indeed has been done; and Saxonies from 2s. 5d. to 3s. 6d. per yard have been selling better than in any previous year. A very successful trade is being done in heavy-weight indigo serges—say 14 oz. for 27-inch goods—which trade takes the satisfactory form of an all-the-year-round demand; while in the finer classes of indigo serges—24 oz. to 26 oz. for 54-inch widths—there is a well-sustained if not largely increasing demand. There has not been the same hesitation observable in placing the orders for the coming spring trade that was so marked, and which caused so much inconvenience to the manufacturers, when the autumn orders were being arranged. In this connection it is gratifying to report that the autumn turnover has been materially increased by the placing, within the last few weeks, of some substantial orders for immediate delivery, or for delivery as soon as the makers have been able to bring the goods round.

In dress tweeds the look-out is still far from bright, though some manufacturers who have laid themselves out to produce finer and lighter fabrics in the wide widths are said to be meeting with a ready sale for all they can produce. The trade, however, in Donegal and Co. Mayo narrow hand-loom tweeds for dress purposes may be said to be almost at an end. The heavier weights of both, for men's wear, have met with a very encouraging demand, and are being now produced with such a

marked improvement in texture and finish, and in such a variety of colourings, that they are pretty certain to remain in public favour for summer wear. It is said that some of the local warehousemen have introduced them to the English trade with fairly good results.



The Making-up Trades.

The Shirt and Collar Factories.

BUSINESS in the shirt and collar branches of the making-up industries has quieted down somewhat during the past month. In the shirt houses the demand for the lighter classes of goods, such as French print shirts, fine Oxfords and Harvards, which, owing to the unprecedentedly long spell of fine weather, had continued to an unusually late period of the season, has now almost entirely ceased, and the demand for winter shirts has not yet fully set in. The samples of wool goods, however, and of the heavier weights of flannelettes and other coloured cotton goods, have now for some time been in the hands of the travellers and agents, and manufacturers doing a purely wholesale trade have booked opening orders to a fairly satisfactory extent, although buyers everywhere are operating with the utmost caution. The orders placed, however, are quite sufficient to keep the workers well engaged for the present, and should repeat orders come in in proportion to these, as they have done in former years, the trade of the season will be fully up to the average. Some of the houses are a good deal discouraged as to the future prospects for this autumn and winter, owing to the coal strike and other labour disturbances across the channel, and some of their most reliable English customers are buying with a moderation that betokens little hopefulness of good trade in the immediate future. The manufacturers who sell to the large retail houses here and across the channel have done fairly well with the earlier buyers, but retail buying for winter does not become general for some weeks to come yet.

The collar and cuff houses are on the whole fairly well employed, though some branches of the trade seem to have fallen into a condition of permanent dullness. Although the demand for men's collars and cuffs is well sustained, and in Belfast may well be described as a steadily growing industry, the very large trade formerly done in ladies' collars and "setts"—extensive enough to form at one time the chief feature in the business of some of our largest factories—has very nearly died out, though another sudden turn of fashion's wheel may make the demand set in in full force again at any time. Meantime, the loss of business here has been very considerable. On the other hand, the rage for ladies' shirts and blouses has very fully compensated for the time being for the falling away in the demand just mentioned. The trade in ladies' shirts and blouses has been larger than ever this season, and the demand has continued almost up to date of writing. It is feared by some that we have seen the last of this vogue, so beneficial to Belfast while it lasts; but the same fear was expressed by the manufacturers at the close of last season, happily without fulfilment. There is no reason why a trade in these or similar garments should not be continued for almost an indefinite period, if the manufacturers only give sufficient attention to the turning out of novelties in make and style. One could not but be struck with the sameness which prevailed in the styles turned out by the different factories, and the slavish manner in which each factory followed the designs of its fellows. Another practice indulged in, which, however stimulating to the demand for the moment, has a tendency permanently to destroy the trade, has been that of producing the same style and design in any quality required, from the lowest and cheapest to the most expensive made. Ladies are not slow to discard any fashion, if they find the garments they are wearing themselves copied with great faithfulness in those worn, say, by their servants. Other branches of trade have felt the injury that follows the practice referred to, and if the trade in ladies' blouses, &c., is to have any chance of permanence, manufacturers will not only require to give earnest heed to the necessity for the production of novelties, but to take care that the better qualities of the goods they produce shall have confined to them their own styles of make-up, and their own designs of material.

A steady trade is passing in fronts of all kinds, though here, as in the collar and cuff end, the trade of Belfast is mainly confined to the lower and medium qualities. The higher priced goods, upon which it is natural to imagine that the chief profit is obtained, are principally bought from the London factories. It is said that the reason of this is, that the London factories are so much more convenient for special orders for instant delivery, that these are always for the better qualities, and that the stock orders for fine goods naturally follow the specials. The extension of the telephone system may obviate the difficulty under which Belfast manufacturers labour in this respect.

The Apron and Pinafore Trade.

Orders for the coming season have been freely placed for holland goods of various kinds, and for some fancy pinafores, of which linen or holland forms the basis. All-linen pale hollands have sold in very moderate quantities, but a very fair trade indeed has been done in union pales, and in goods made from union dowlas and fancy union roughs. The

The Belfast Linen Trade Report.

DRAWN UP BY THE LINEN TRADE BOARD, APPOINTED UNDER THE SANCTION OF THE BELFAST CHAMBER OF COMMERCE.

THE condition of the market since last review has been one of continued quietness, the financial excitement in the United States of late having contributed largely to the temporary depression which has affected business at this side as well as there.

FLAX.

Pending the opening of the Irish flax markets this season, there has been little or nothing doing of late in the raw material, stocks being practically exhausted. Our crop is being harvested under fairly favourable conditions, notwithstanding the recent heavy rains and high winds, and it is believed the quality will turn out much superior to the past year or two. This being so, it is much to be regretted that the acreage is so small. The markets generally will not open till next month, but small samples have been hurried forward within the past ten days. At Cookstown, on the 5th inst., a small lot sold at 10/- per stone, and at Omagh on same day about 2 tons, which brought 8/- to 9/3. At Belfast, on the 11th inst., 1½ tons of very strong flax, though with not much quality, sold from 8/3 to 10/- per stone.

The market for Russian flax has been very quiet, buyers holding off making purchases at present quotations, and the turn of late has been towards easier rates.

YARNS.

Spinners up to the present having old contracts to work upon have had no difficulty in disposing of any stocks over and above forward orders. In consequence, they have not been pressing for business, and hold very firmly for current rates. What stocks there are on the market show no increase on previous month, and lately for tow and some classes of lines an improved inquiry has appeared. The range of line wefts from 55's to 85's, though quoted three-halfpence under last month's tariff, does not really indicate a decline in prices, as the extreme point was hardly tested, owing to the unwillingness of spinners to extend their contracts.

BROWN POWER AND HAND-LOOM LINENS.

Continued quietness, so far as new business is concerned, has been the experience of manufacturers for the past month, though, at the same time, a good deal of old contract work is still incomplete, so that looms have been to the present well employed. For the near future, manufacturers would like a much better inquiry than at present prevails, but there has been no disposition to give way in price to induce orders, the continued high rates of yarns precluding this. Power-

loom bleaching cloth is still in very light supply, as most of the production is on order, and prices keep quite firm. Hand-loom makes are perhaps a little more plentiful, but harvest work will now much reduce the output for several weeks. Demand, however, is at the moment very quiet, but prices are nominally unchanged. Dress linens have had a good demand of late, the revived trade in this class of cloth being encouraging. Roughts have also been in fairly good request at firm rates, and several makes of tow goods are in demand at the advanced prices lately current. Though not so much doing in towelling, glass-cloth, and domestic linens and unions as some time ago, there is still a good turnover, and rates are maintained. Linen handkerchiefs are not much inquired for, and cambric makes are also slow of sale. Cambric cloth is in pretty fair request for hemstitching, but the production is much smaller than formerly. In damasks and diapers there is a lull in demand for both power and hand-loom makes, but prices are without change.

BLEACHED AND FINISHED LINENS.

Home Trade.—This branch has been very flat of late, and buyers have not done more than almost a retail business, pending the present disturbing elements of strikes at home and financial disquietude in foreign markets.

Continental.—Only a limited demand from the principal markets. With Germany, however, there has been somewhat more doing, but other countries show a falling-off in trade for months past.

United States.—Advices which have come to hand of late indicate a very much quieter condition of the market at the other side, with little disposition during the present unsettled state of affairs to do more than a very limited business. However, compared with other textiles, linens have fared better, and the shipments from this side to the end of last month have been fairly well kept up.

Other Markets.—The Foreign West Indian trade has improved, the shipments for last month being much in excess of same month of 1892, and for so far the year's trade is quite equal to last year's. Mexico, Brazil, and Argentine Republic continue to indicate an increase. British North America, though better than in 1891, has not come up in volume to last year. With smaller markets grouped under the head of "other countries" there is a continued increase.

On the whole, the export trade of the United Kingdom in linen manufactures shows a satisfactory improvement compared with last year, the total value for the seven months ended 31st ult. being £3,080,888, against £3,018,319 last year, and £2,946,460 for 1891.

Prices Current for ordinary Line and Tow Wefts. August 14th, 1893.

LEA NOS.	14	16	18	20	22	25	28	30	35	40	45	50	55	60	65	70	75	80	85	90	100	110	120	130	140	150	160	
Line Wefts	—	—	—	8/-	7/3	6/6	6/-	5/9	5/6	5/-	4/10½	4/7½	4/4½	4/3	4/1½	4/1½	4/1½	4/1½	4/1½	4/3	4/3	4/3	4/3	4/4½	4/7½	4/9	5/-	5/3
Tow Wefts	6/3	5/10½	5/9	5/6	5/4½	5/3	5/1½	5/-	4/9	4/6	4/4½	4/3	These prices are per bundle of 60,000 yards of grey Yarn, subject to the usual discount for cash.										120 threads 2½ yds. = 1 lea 12 leas = 1 hank 16 hanks 3 cuts = 1 bundle					

amount of trade done is fully up to that of last year. From a Belfast point of view, it is regrettable to report that there is a renewed demand for all-cotton holland aprons; these are now being produced in very substantial quantities by some of the leading houses. The manufacturers generally have been busily engaged during the past month in getting up their ranges of fancy pinafore samples. Some of the principal makers of these are at present in London and Manchester, and are reported to be meeting with very fair success, but the result of their journeys will not be fully known in time for the present issue. So far, however, the prospect of trade is promising enough. The factories are all fully employed, most of them, as well as the shirt and collar factories above referred to, being still engaged to some extent on ladies' blouses and similar garments.

The manufacturers generally complain—as do also the collar and cuff makers, and these with more reason—that while they have to pay an advance in some cases in the price of material, no corresponding advance can be obtained in the price of the made-up goods. The advance, however, only affects a small portion of the material employed, and with steady trade there would not be much ground for grumbling.

The Irish Cotton Trade.

THIS branch of the Irish trade is in a rather sluggish condition just now, the market for most classes of union and cotton goods having been paralysed by the financial troubles in both Australia and America. The United States, which is the great outlet for these classes of goods, is at the moment practically, or at least comparatively closed, importers of dry goods having had their confidence shaken in the stability of many of their customers, and not knowing what house may be the next to succumb in the wide-spread and general breakdown. Many on this side are of opinion that the worst has been already seen, while others holding less optimistic views fear that more crashes are inevitable. The President's recent message to Congress will, it is hoped, help materially to allay the general panic, and restore that commercial confidence without which trade is simply an impossibility. Under these circumstances it cannot be wondered at that fewer yarns have been imported into this country during the past three or four weeks than usual, while the greatest difficulty is encountered in effecting fresh sales. Manufacturers here

Exports of Linen Yarns and Linens from the United Kingdom for the Month ended 31st July, 1893; and in the Seven Months ended 31st July, 1893, compared with the corresponding periods of the Years 1891 and 1892.

COUNTRIES.	MONTH ENDED 31st JULY.						SEVEN MONTHS ENDED 31st JULY.					
	Quantities.			Declared Value.			Quantities.			Declared Value.		
	1891	1892	1893	1891	1892	1893	1891	1892	1893	1891	1892	1893
LINEN YARN.	Lbs.	Lbs.	Lbs.	£	£	£	Lbs.	Lbs.	Lbs.	£	£	£
To Germany,	224,800	241,100	350,300	17,868	19,681	28,151	1,958,100	1,650,800	2,852,600	160,012	137,408	215,160
Holland,	216,100	101,000	142,600	7,776	3,770	5,520	1,339,000	1,045,100	1,298,700	46,741	38,463	47,068
Belgium,	111,500	124,700	163,100	9,602	9,494	11,783	990,700	811,700	1,304,600	83,168	63,450	92,258
France,	115,100	78,100	91,400	12,626	8,946	11,354	815,100	768,400	756,700	90,182	86,586	87,020
Spain and Canaries,	335,700	714,700	354,700	12,449	24,995	17,446	2,304,000	4,012,700	2,088,400	83,131	141,506	96,565
Italy,	20,700	10,600	25,400	1,018	470	1,081	225,300	258,600	184,600	10,986	11,721	8,498
United States,	26,100	55,400	54,100	826	1,979	2,076	224,700	300,400	306,500	8,518	10,096	10,809
Other Countries,	120,600	206,800	152,200	5,009	8,969	7,613	959,200	1,114,100	1,467,500	43,270	48,417	63,406
Total,	1,170,600	1,532,400	1,333,800	67,174	78,304	85,024	8,816,100	9,961,800	10,259,600	526,008	537,647	620,784
LINEN MANUFACTURES.	Yards.	Yards.	Yards.	£	£	£	Yards.	Yards.	Yards.	£	£	£
To Germany,	284,700	275,700	315,100	13,471	13,124	16,387	2,192,300	2,196,200	2,212,600	105,780	106,617	103,553
France,	210,800	134,100	131,400	9,772	6,469	6,620	1,215,800	1,161,600	787,100	54,725	52,266	36,150
Spain and Canaries,	135,900	71,300	85,100	5,523	2,453	2,841	1,015,500	1,244,600	362,500	36,428	50,769	11,784
Italy,	65,300	48,400	22,900	3,052	2,079	933	543,900	635,200	467,800	23,368	27,806	19,030
United States,	7,816,800	9,916,900	8,420,600	159,713	202,723	182,504	48,957,200	56,827,700	61,453,400	1,020,793	1,165,643	1,278,522
Foreign West Indies,	1,747,700	542,700	1,348,400	31,233	10,288	28,591	9,711,100	11,488,000	11,319,100	191,675	220,015	228,823
Mexico,	158,300	93,300	168,100	3,646	2,479	4,221	1,023,500	798,000	801,100	25,040	19,961	21,000
Republic of Colombia,	402,200	344,000	250,900	7,323	5,518	4,582	2,069,500	2,345,200	2,122,300	36,426	38,721	35,213
Brazil,	283,800	235,800	236,700	9,326	6,936	9,640	2,180,500	1,425,800	1,758,900	71,463	40,618	53,456
Argentine Republic,	101,900	174,400	150,300	2,001	5,204	4,485	407,600	472,700	843,500	9,116	14,111	27,994
Philippine Islands,	45,200	10,500	14,800	909	401	559	686,100	221,300	237,300	12,352	4,197	6,170
British North America,	755,800	1,061,000	942,800	12,532	21,363	16,888	4,693,600	5,310,300	5,060,200	90,134	102,218	90,293
British West India Islands & Guiana,	173,800	83,900	109,600	3,964	1,548	2,168	1,137,100	953,900	827,400	22,726	19,811	16,728
Do. East Indies,	264,900	227,600	306,900	6,428	6,731	8,189	1,796,100	1,756,400	2,110,400	56,899	49,135	55,896
Australasia,	1,672,200	1,238,000	1,219,100	46,418	31,503	30,707	7,517,500	7,017,300	5,301,100	214,771	187,280	141,161
Other Countries,	1,392,300	1,202,100	1,889,500	35,036	31,232	39,603	9,502,300	8,954,600	10,808,000	228,112	210,163	234,096
Total Plain, Unbleached, or Bleached,	14,086,900	14,312,200	13,729,100	311,035	308,401	306,049	85,279,400	94,370,000	95,207,400	1,918,499	2,060,059	2,075,380
Total Checked, Printed, or Dyed, and Damasks or Diapers,	1,216,200	1,118,400	1,590,500	29,851	31,255	37,912	7,491,900	6,743,200	9,397,200	190,329	170,969	208,075
Sail Cloth,	208,500	234,100	342,600	9,461	10,395	14,957	1,878,300	1,695,600	1,868,100	84,980	78,303	81,419
Total of Piece Goods,	15,511,600	15,659,700	15,662,200	350,347	350,051	358,918	94,649,600	102,808,800	106,472,700	2,193,808	2,309,331	2,364,874
Thread for Sewing,	214,400	190,600	196,500	27,059	24,279	22,552	1,466,100	1,426,300	1,462,900	182,064	178,180	177,504
Other Articles,	107,036	91,092	85,215	570,588	530,808	538,510
Total Value of Linen Manufactures,	484,442	465,422	466,685	2,946,460	3,013,319	3,080,888

NOTE.—For Cwts. in previous Flax Table for this year read Tons.

Importations of Flax—Dressed, Undressed, and Tow or Codilla of:

COUNTRIES.	MONTH ENDED 31st JULY.						SEVEN MONTHS ENDED 31st JULY.					
	Quantities.			Value of Imports.			Quantities.			Value of Imports.		
	1891	1892	1893	1891	1892	1893	1891	1892	1893	1891	1892	1893
From Russia,	Tons.	Tons.	Tons.	£	£	£	Tons.	Tons.	Tons.	£	£	£
Germany,	6,841	5,851	5,126	177,030	157,481	162,594	41,362	46,390	37,166	1,089,442	1,208,469	1,166,733
Holland,	214	45	334	4,750	1,281	10,029	1,769	1,967	2,948	47,499	43,424	81,664
Belgium,	285	258	85	14,056	6,765	3,035	3,148	3,743	4,178	165,074	167,327	158,345
Other Countries,	848	683	421	45,881	34,698	19,405	10,031	9,586	8,980	562,580	504,131	448,455
Total,	105	199	111	2,818	6,251	2,135	3,453	1,351	650	82,712	31,619	14,931
Total,	8,093	7,036	6,077	244,535	206,476	197,198	59,763	63,037	53,922	1,947,307	1,954,970	1,870,128

show no inclination whatever to buy more than they absolutely require to keep their looms going, and as most of them have fairly large contracts not yet executed, they are unwilling to enter into further engagements at the present high prices demanded by the spinners. Besides, there is no great demand for union goods of any description at present, unless perhaps for cheap crashes at about 2½d. per yard. There is extremely little doing in union roughs and creams, which were hitherto sold in large quantities both for export and local cutting up. A moderately steady business has been done up till the present in union glass-cloths and towels, and a fair balance of unexecuted orders remains on the books, but there are very few fresh orders being received now for these goods. Shirting unions are fairly well sold up, but it is probable that there will be a slackness in the demand for the next couple of months. There is little or nothing doing in union handkerchiefs, unless in some of the fine sets of hand-loom makes for hemstitching purposes, and even in these the sales are very limited. As regards cotton cloth, the past month has been almost a blank. Those who have made the printing and bleaching and hemming of cotton handkerchiefs a speciality find it extremely difficult to place their goods, and unless for assorting purposes, or to keep their hands employed, very little cotton cambrics are being bought at present. The sales of cotton interlinings, although as a rule fairly well maintained, has been lately only limited, and buyers are hard to induce into new engagements unless tempted by some advantages in price.



(From our own Correspondents.)

Whilst we endeavour to obtain the most reliable reports from the best sources of information, it will be understood that we do not hold ourselves responsible for the views of our correspondents.

Irish.

DUBLIN.—The reports from the various markets are not as satisfactory as they might be. Especially is this the case with linens. A dulness has settled down in this direction which is far from pleasant, and, in the face of a small inquiry, prices have been with difficulty maintained. It is to be hoped that this state of affairs will not last, and that the depression is only temporary. In woollens no change of any importance has occurred. For raw material prices remain nominally unaltered, but very little business is doing, and the same applies to piece goods. For wools the latest quotations are:—Supply still limited; trade quiet but steady; Downs, 10½d.—10¾d.; hogget, 9¾d.—10¼d.; ewe or wether, 8¾d.—9¼d.; seaside, 8¼d.—8¾d.; mountain, 7¼d.—8¾d.; Scotch, 5d.—7d. There can be no doubt that, as I foreshadowed in my notes last month, the disturbance of the silver and consequently other monetary markets has reacted unfavourably upon our produce markets. Everything is unsettled, and all that can be hoped for is that the depression which affects linens will be but temporary. Opinions tend to this favourable view, and I trust that the general idea will be the correct one.

The Skibbereen Convent.

I have referred before to the National Workmen's Exhibition which has been held in the Agricultural Hall, London, and at which many of the Irish exhibits attracted a good deal of attention. I am now able to announce that three prizes were awarded to the products of the linen looms of the Skibbereen Convent. The prizes were for pure linen tea-cloths—one on red linen ground, and one on white ground with grey-green embroidery, the work of a girl named Margaret Donovan; another was for the same work upon white ground with white embroidery, made by Nora Duggan. These were similar to articles of the same kind which are being regularly produced in the art-work schools of the Convent, which, besides, turn out pure linen handkerchiefs, embroidered or plain; lawn dresses of various colours, sheets, pillow-cases, towellings, and many other articles, which can always be had on application, and all made of the finest linen on the spot. The linen weaving industry at Skibbereen is of a late growth, and the proficiency to which this re-introduction of hand-loom weaving has been brought reflects the greatest credit upon the energy and intelligently directed efforts of the nuns. Embroidery has, of course, been long one of the chief occupations of the girls at the Convent, but they now produce their own material to form the foundation of this embellishing art, and that they do so with success is shown by the prizes which they have carried off in open competition in London. Speaking from a personal knowledge of these products, I can fully apprehend the awards made, which must be as gratifying to all interested in the spread of home industries in the South and West of Ireland as, no doubt, they were to the nuns of the Skibbereen Convent and their young and industrious charges.

Lady Aberdeen.

Lady Aberdeen's latest tour—and what will, I fancy, be her last tour for some time to come—through Ireland has come to an end. She and

her husband will be starting in a very short time for their gubernatorial duties in Canada, and for a space of five years Irish industries will have to be content with what assistance Lady Aberdeen will be able to give them from Government House in Montreal. She was able to stimulate and help the workers by words of advice and suggestions dictated by experience and a full knowledge of the subject. At Limerick she announced that the Central Committee of the Irish Industries Association had determined to grant £100 in aid of the lace schools at Limerick, to assist in pushing on the trade and generally extending the advantages of the industry. Limerick is well deserving of any assistance that can be afforded. As a centre of lace manufacture it ranks high both from an artistic and technical point of view. Limerick laces have always commanded attention and obtained favour in the market. Intrinsically they have ever deserved it, and latterly the increasing artistic value of the designs used has advanced their material value. The £100 now about to be granted will be put to a good use, as nowhere has greater intelligence been shown than by those who direct and control the Limerick schools. Here there has been no hesitancy in adopting new designs, or in making use of the artistic training which has of late been available for lace workers and designers. In no schools has a greater advance been shown year by year than in those of Limerick, and the action of the Central Executive of the Home Industries Association in awarding a grant must be fully approved of. The only pity is that limited funds preclude similar grants being made to other centres of industry almost, if not quite, as deserving as Limerick.

The Foxford Mills.

I think I may say that the difficulty with respect to the supply of water-power to these mills is now at an end, so far as human arrangements and engineering skill can overcome it. The Fishery Conservators have accepted a plan submitted to them by the mill-owners, the fishery owners, and the Congested Districts Board. The only alteration suggested is one to provide for the freer passing of the fish, and this in no way affects the efficiency of the water-supply. There is an obvious advantage in the manner in which this dispute has now been settled—that when adopted and finally passed, as it no doubt will be, the plan will be in black and white, will be signed by all parties concerned, and all will be bound by it alike. There is no doubt that considerable difficulties surrounded the solution of the problem involved in giving to the mills erected by the nuns at Foxford a sufficiency of water-power without interfering with other and prior existing rights; but it now appears, and on seemingly indisputable authority, that if the mills have been stopped, that was owing far more to the deficiency of water-power caused by the long drought than to the so-called "miserable wrangle" over the water-rights. As a matter of fact, it is believed that, should a similar long-continued drought again occur, the same unfortunate results will ensue irrespective of any "wrangle," which will not be possible in the future. All's well that ends well; and the wheels of the Foxford Mills will be turning merrily, I hope, before these words are in print; and if good come of it, though regrettable in itself, the incident which has drawn so much public attention to the Foxford factory will not have been entirely without advantage. The nuns have large orders for their wares on hand, and I hope that, as fast as these are worked off, others will be received, and that during the coming months, when in the nature of things no failure of the water-supply is to be expected, the mill wheels will continue to constantly revolve, and the industrious colony will find itself fully and lucratively occupied.

LURGAN.—We are experiencing in the linen cambric trade considerable dulness now, but hope it is only temporary; all the handloom-made goods in linen cambric for hemstitched handkerchiefs are being fully used up, but the quantity turned out from looms is small. Woven bordered cambric handkerchiefs, except where orders are running for the season, are very slow, but the turnout from hand-looms for all makes is now so small that production is easily used up. Linen handkerchiefs (hand-looms) are also a slow sale. Power-loom manufacturers keep well employed, and with better reports of the flax crop, and the financial condition cleared in the United States, there is great hope of a return to better times, if not soon, at least for a fair winter's trade. Owing to the unsettled state of affairs in America, and with firms having some of their orders cancelled for that market, the machine hemstitching factories are very badly off for work in order to keep machines running—in fact, some of the places are going only about half-time. Blouse makers are pretty busy, also embroiderers of shams, sheets, tea-cloths, &c. There is some dulness in fine hand-loom damasks and diapers, also in the coarser goods made in power-looms.

English.

BARNESLEY.—In this district business, on the whole, keeps fairly good, and in the month just passed a satisfactory demand has been experienced for most classes of linens. A further improvement has taken place in the request for drills, nearly all classes having partaken in it; the demand for fancy and coloured makes has been large. In table damasks there is nothing new to note; the same quiet feeling has per-

vaded this branch as has been the case for months. In drabnets, bluettes, and other goods of a like character, there has been a falling off, the demand having been very quiet. In bed linens generally a rather better business has been done, sheetings especially having sold freely. Domestic fabrics have had a good demand, narrow goods having met with most favour; those upon which monograms, crests, and other devices are put seem to have met with increased interest. Towellings of different kinds have sold fairly well, the chief call having been for fancy and coloured makes. In hand-made linens there has been very little doing; in fact, there is seldom much passing in this branch, and less seems to be done in it year by year. Prices of most classes of goods are about as last month.

LEEDS.—A general feeling of depression has pervaded this district during the greater part of the month, the chief cause having been the crisis in the coal dispute. The last strike in the coal industry had a very injurious effect upon this district, chiefly amongst those engaged in the making of the lower classes of goods, but it also acted in a minor degree upon those who produce the better makes of cloths. In the present crisis it is feared that the strike will have far-reaching consequences, and already there is an uneasy feeling amongst buyers and sellers alike. In the worsted branches things have, during the month, assumed a quieter aspect than for a long time past, and new orders have come in slowly. Some firms are very busy on old orders, whilst others are very quiet. In tweeds and chevots, also, less has been done, and the outlook in these branches is rather depressing. In serges there is still a large business being done, and makers generally are busy, with the exception of those engaged in the lower qualities, who, recently, have found a difficulty in getting new orders. The ready-made clothing branches are in a very depressed state, and, during the last week in the month, business was at a very low ebb. All engaged in the woollen trade are anxious for an early settlement of the strike. Prices of most goods show no change.

BRADFORD.—There has been a steady business done during the month in the raw material. Lustre wools have kept in good demand at slightly harder rates, whilst other English sorts have sold fairly well. Botany wools have only been quiet. In the yarn branches orders have not been very numerous, but, notwithstanding this, spinners are at present well engaged on old orders, and especially is this the case in bright haired and mohair yarns, which will last for some weeks to come. There is, therefore, no eagerness to book new orders, unless at slightly harder rates; and, as the Continental trade has shown a falling off, merchants are careful in placing orders, unless on old terms. In botany descriptions business has been much quieter, and spinners of these, as a rule, are short of work, owing to the stagnation in the American coating trade, and a rather despondent feeling is apparent, as it is not expected that much improvement will take place in the demand from America for some months to come. The piece trade is in a fairly steady state, although manufacturers could get through more work if orders were more numerous and of larger bulk; but the tendency seems to be to give out small orders in a variety of designs and styles of goods in fancy makes, whilst for plain fabrics orders also are for small lots. Prices are unchanged.

MANCHESTER.—Just when linen buyers were confidently preparing for an active business campaign, destined to bring up to something like normal figures the turnover which had shrunk so greatly during the stoppage of the spinning mills, the hands of the clock have again been put back by the strike of coal miners in this district. The idleness of so many hands has paralysed business for the time being, and travellers can hope for very few results in this district while the struggle continues. An unfortunate circumstance in connection with the dispute is the appearance it bears of a struggle for mastery between employers and employed. This, as much as bad trade, is accountable for the stoppage of so many thousands of men in Lancashire, Cheshire, and Yorkshire.

Much dissatisfaction has been caused in this district at the attitude of the Postmaster-General in relation to the Queenstown Mail Service. The decision of the department to stop the special arrangement for expediting the despatch of the English mails *via* Queenstown, is looked upon as another instance of the favouritism which has recently been extended on every possible occasion to the Southampton route. It cannot too often be pointed out to the officials in St. Martin's-le-Grand, that the centre of gravity of our great American trade is not in London, but in Lancashire, and that the primary consideration in dealing with the American mails should not be the interests of London, but the interests of Manchester, Leeds, Bradford, Liverpool, Belfast, and Glasgow.

Messrs. Kendal, Milne & Co., of Manchester, have purchased the showcase and contents of a section of Messrs. John S. Brown & Sons' exhibit of linens at Chicago. The damask display of the firm is spoken of highly by Manchester travellers who have recently returned from the States, maidenhair ferns, begonias, morning glories, and other floral effects being included amongst the novelties shown. The body of Mr. Ward (for many years carpet buyer for Messrs. Kendal, Milne & Co.) was interred the other day at the Southern Cemetery. The deceased was well known to members of the linen trade here, and was a large buyer of linen threads. His department is the largest of its kind in the North.

The Scotch linen agencies are meeting with very hard times just now. Messrs. Erskine Beveridge & Co. are running short time, and other firms in Fifeshire experience difficulty in keeping machinery fully em-

ployed. The demand all round is poor, as far as our market is concerned; and with raw material at its present price, and fuel tending in an upward direction, prudent men do not care to make for stock. The handkerchief trade is rather quiet, the American demand leaving much room for improvement. The lines of fancy cotton handkerchiefs shown for autumn embrace large collections of embroidered goods, which appear likely to have a steady sale throughout the season. A number of United States buyers have arrived at Liverpool and other ports by recent steamers, for the purpose of operating for the spring trade. We have also in Manchester a number of Canadians, some of whom were here three months ago. They include Mr. J. A. Ogilvy, of Ogilvy, Sons & Co., Montreal; Mr. Dewar (who is accompanied by another gentleman from the same house), of John Macdonald, Sons & Co., Toronto; Mr. Bethune, woollen buyer for Messrs. Gault Bros., Montreal; Mr. C. Cockshut, of C. Cockshut & Co., Toronto; and a number of others representing houses in St. John, N.B., St. John's, N.F., and London, Ontario. Mr. Perkins, of Stavert, Zigowala & Co., Manchester, arrived home by the *Compania*. The Canadians are operating to a very fair extent, trade prospects in the Dominion being apparently satisfactory. The leading Canadian banks are in a sound condition, the crop outlook is good, and the foreign trade of the country is expanding. The houses whose representatives are now in Manchester did, as a rule, a large trade at the close of the half-year. Messrs. John Macdonald, Sons & Co., and Wyld, Grasett & Darling, have had a good season in their linen branches, especially in linen ticks, towellings, crashes, and loom damasks.

Scotch.

DUNDEE.—There has been no improvement in the condition of this market since last month; on the contrary, the dulness seems greater, the production of linen goods having been reduced by several manufacturers. The uncertainty regarding financial matters in the United States is the principal cause of the present flatness, as buying for that market has been much curtailed of late. *Flax*—As Russian flax is largely used in this district, the prospects of a good crop this year causes buyers to hold off, in expectation of obtaining easier rates later on. At the moment, therefore, there is little or nothing doing. New Riga crowns are quoted at £24 10s., Petersburg £31 to £32. *Yarns*—A very slow sale reported for both lines and tows, and though prices are nominally maintained, the turn is more favourable for buyers, but no disposition exists to contract ahead, so that any business passing is for immediate wants. *Linens*—All round, complaints are made of the small amount of new business offering, either on home or shipping account, and manufacturers have considerably reduced their production, as, having regard to the high price of yarns, it is very difficult to get paying rates for cloth. In the jute trade there has been a falling off in demand for goods and yarns also, but prices have been well supported.

Continental.

LEIPSIK, August 7th.—No particular change to report regarding trade in this district. Previously placed orders for linens are running out, and fresh contracts are scarce and small, owing to the high prices required by manufacturers. A revival of business in cloth appears to depend on easier prices for flax and yarns, which manufacturers hope for.

United States Market.

(From our Special Correspondent.)

NEW YORK, July 28th, 1893.

SINCE last writing a decided and very palpable change has overtaken matters commercial, and what was thought to be only a temporary ruffling of banking affairs has extended its sweep to nearly all our great manufacturing interests. You have heard of the closing of our great cotton mills at the East, the shutting down of the iron industries, and the suspension of all embryo enterprises as well as many of long-established fame—Clark's thread mills, etc., etc.

To the optimistic mind this means a shortening of sail rather than disaster—a desire to confine production to a safe limitation that will meet wants only, now that all speculative buying has ceased and will be an unknown quantity for, perhaps, months to come; for the "boom" quality that carried all businesses along on a sweeping tide for the past few years has subsided, and left us facing the hard side of concrete facts. Much is hoped for in the way of relief from the extra session of Congress that will have organised before this letter appears in print; but those who know the dragging code of procedure that characterises the assembling of our legislative bodies are aware that Congress will waste weeks in getting down to the vital questions of its extraordinary session. There will be a bitter and prolonged fight of a sectional nature over silver, the West and South against the East—the great mercantile community waiting meanwhile for the promised relief. Shrewd men of both the great political parties are wavering just at this moment, undecided as to whether, after all, the silver imbroglio is of as much consequence as the matter of the tariff; and not a few are arguing that, if the policy of the

dominant power were defined once and for all, business would again assume a tone that would eventually lead matters to their normal vigour.

How are linen trade matters affected? Well, in several ways, and all, of course, affecting consumption materially. The far-away jobbers, who start the fall season with their July purchases and pave a way to be followed by retail purchasers later on, have scarcely appeared at all, and the few who came on bought lightly—and disappeared. Very many orders given in spring for fall delivery have been cancelled outright. This has affected the damask trade, and, more particularly, the handkerchief trade,—handkerchief men have more complaints in this respect than any other branch of the linen business. Troy collar manufacturers have suffered in common with all others, and, per consequence, there is a curtailment of requirements for cutting up,—last summer the collar men were unable to fill their orders, this summer some of them have but few orders to fill. The usual summer shut-down of two weeks will begin next Monday, August 14th. Then, if a mooted proposition to

continue the recess during the entire month does not prevail, labour will be resumed. S. L. Munson, the big collar and shirt manufacturer at Albany, has ordered half-time at his factory until further notice. It is only fair to say that, of all industries affected, the collar and shirt trades have preserved the most buoyant tone, and they will spring into activity again with the first dawn of confidence; indeed, the more sanguine spirits argue that demand in all lines will come with a surprising rush when matters have once settled themselves. The vexing question of the duty upon embroidered handkerchiefs and upon hemstitched handkerchiefs has not reached its final settlement, and importers are still paying the 60 per cent. under protest. Attention will be given to the linen goods exhibits at Chicago in a later letter. Mr. Thomas Hanna, of the firm of Robert Watson & Son, Lurgan, appointed to be judge, or one of the judges, of the linen goods exhibits, arrived a few weeks ago and is now at Chicago. Edward M'Connell, jun., has severed business connections with his father, and is now giving his entire attention to the affairs of the National Butter Company, in which he is largely interested

PEMBROKE TECHNICAL SCHOOL, DUBLIN.

In the *Record* for last month, a Journal published by the National Association for Promoting Technical Education, we find the following account of the New Technical and Fishery School at Ringsend, Dublin:—

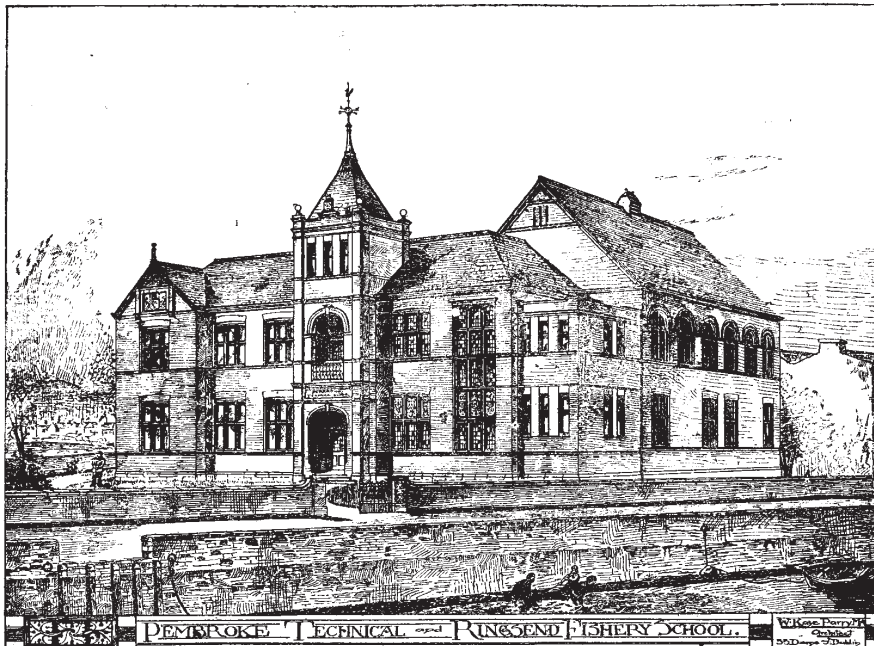
"About two years ago Lord Pembroke offered to grant a free site and to erect a Technical School, upon the condition that the Pembroke Township Commissioners agreed to maintain it. This offer was promptly accepted, and a school built, which will be opened in September next. A scheme for the future government of the school has been framed by the Educational Endowments Commissioners, and provides for representation on the Board of Governors of the following:—The Pembroke Township Commissioners, the subscribers, the boat owners, the fishermen, the fishery commissioners, the founder. The subjects of instruction will include—Technical Classes: fishing, the natural history of fish, navigation and seamanship, the laws of weather, currents, tides, &c., sailmaking and mending, boat-building, netmaking and mending, manual instruction, smiths' work, cookery, domestic economy, laundry work, dressmaking, knitting, ambulance, swimming. Science and Art Classes: geometry, arithmetic, algebra, mechanics, chemistry, biology, drawing. The school will have an assured income of about £900, and owing to its proximity to Dublin it has been found possible to secure an efficient body of teachers in each department. The Governors look forward to adding a library, a technical museum, and a marine laboratory, and they trust to be able to extend their operations to other parts of Ireland. This school will be one of the first *bona fide* fishery schools established in the kingdom, and the success of the venture will be looked forward to with much interest." The architect of the building is Mr. W. Kaye Parry, M.A., B.E., Dublin.

We have to thank Mr. Oldman, Secretary of the National Association, for the use of the illustration which accompanies this description.

GROWTH OF FLAX IN INDIA.

FLAX is largely grown in India at the present day, but only for its seed. It has been a matter of surprise to some that the cultivation of the flax-plant, though successful in India, has never been availed of in producing the fibre. During the late Indian Colonial Exhibition, in 1886, attention was drawn to this fact by those interested in the flax industry, and it was suggested that, considering the samples of the seed exhibited, the plant must thrive well in this country; and the only thing necessary would be the cultivation of the crop to suit the extraction of the fibre. However, it has to be borne in mind that in India the conditions under which crops are raised differ much from what they have in Europe and America. Here the land is for the most part owned by the ryot, and then only in small acreages. No regular plantation could be opened, and as great care is necessary in the raising of the crop and the preparation of fibre, cultivators do not like to run the risks, even at the prospect of getting better profits, so long as they could produce other crops, which do not require so much attention, and which pay them well for their trouble.

As with many other products, the Indian authorities organised experiments in flax culture, and it was at one time thought that the plant for fibre could be successfully grown in Behar, North-Western and Central Provinces, but the Government of the day discontinued further investigations.



We have no more flax plantations to-day than we had years ago; more than one venture in its extended cultivation having failed, and resulted in losses to those who embarked in it.—*Indian Textile Journal*.

CHICAGO EXHIBITION, 1893.

AMONG English machinists in the complimentary list, the firm of Galloways, Limited, appear as having contributed a horizontal compound engine, which drives one of the three lines of shafting running through the British section of the machinery building. It is suitable for indicating 350 h. p. at 70 revolutions per minute, with 100 lbs. boiler pressure, fitted with all the latest improvements. In the Agricultural Section, Group IX., Combe, Barbour & Combe, Limited, Belfast, show samples of various vegetable fibres, illustrating their condition during the various processes of preparing, spinning, and twisting, the samples being accompanied by a series of photographs of the several machines used in each process. In mineral waters the following Irish firms have exhibits:—The Artesian Company, Limited, Dublin; Belfast Mineral Water Company, Limited; Cantrell & Cochrane, William Corry & Company, and W. A. Ross & Sons, Limited. In stronger drinks, Malcolm Brown & Company, J. M'Carthy & Sons, Old Bushmills Company, Limited, and Sir J. Power & Son have contributed samples. The Drogheda Chemical Manure Company have a case of their goods, and Brunner, Mond & Company, of Northwich, show a collection of their alkali and other manufactures used in the bleaching trade. In the sea fishing and angling group, the Baltimore School of Fishery exhibits a model of their school as well as a model of one of the school fishing smacks, together with samples of their cured mackerel. In building materials, the Irish Portland Cement and Brick Company, Limited, Dublin, contribute specimens of their manufactures. Photographs of Irish scenery have been supplied by the Northern Counties Railway Company, the Great Northern Company, Great Southern and Western Railway Company, the Midland, and other lines. In the stationery department, Marcus Ward & Company, Limited, show Royal

Irish linen and other writing papers and envelopes, children's books, cards, calendars, chromo-lithographic publications, &c., &c. Fry & Company, Dublin, exhibit silk and damask and poplin goods, together with carriage laces and trimmings.



FOREIGN LINENS AT THE CHICAGO FAIR.

THE French exhibit is the largest, most varied, and most attractive of any in the entire Exposition. It is partly on the ground floor and partly in the gallery. On the former is a very large case filled with garments for women and children from the Bon Marché, Paris. They are all made from hand-woven lawn and hand-made lace, the flax being grown in France. Among the articles greatly admired are a child's dress, made of needlepoint Venetian linen lace, valued at \$3,700; a dress trimmed with linen lace, which is an exact reproduction of that on the baptismal robe of Louis XIV., valued at \$1,800; a set of ladies' underwear, trimmed with Medicis lace—four pieces—marked \$2,000. It is claimed that these are the finest linen garments ever made. In other cases Etenne Mosere shows white, embroidered, and coloured handkerchiefs; Frank, ladies' underwear, embroidered, and in fancy colours; Simonnot, Godard, et Fils, coloured and printed lawns specially adapted for underwear.

In the gallery are a large number of cases filled with linen goods of various kinds, some of which are deserving the attention of the raisers and manufacturers of flax in this country. One exhibitor, D. Dobloch, Lille, shows heavy, coarse, bleached and unbleached linen cloth for garments for mechanics and labourers. They look well, and are very serviceable. For the small sum of 19 cents, enough of this linen cloth can be obtained to make a pair of pantaloons. Several large cases are devoted to displays of heavy flax cloth, carpets, mats, clothes lines, small and heavy cordage, bagging, inner soles for shoes, carriage rugs, and traces for harness. All these articles show what can be produced from the flax raised on the Western prairies which now goes to waste, it being produced solely for the seed it produces.

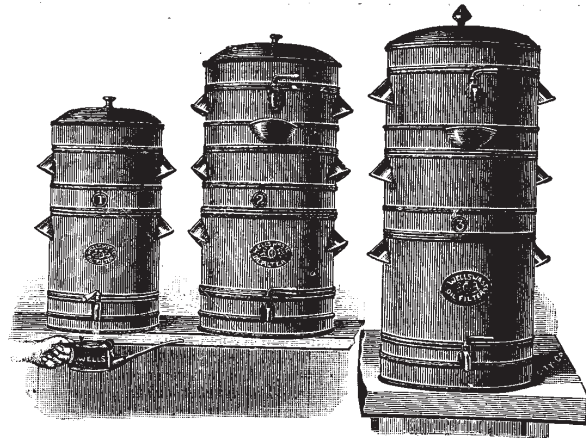
The displays of Russia and Belgium are similar. They both show large quantities of linen yarn designed for exportation, heavy flax cloth for garments for men, and all kinds of linens for dress and household purposes. In the Russian section is a large display of linen cloths woven with from two to five bright red stripes. There is also a large collection of the flax cloths as supplied to the Ministry of War. Obviously, uniforms are made from these for use in summer or for wearing in hot countries. All the processes of dressing, netting, and manufacturing flax are well illustrated in the Russian department. In a small case that may escape the notice of most visitors are most beautiful linen garments.

The displays of Austria and Germany are also similar, and show to what extent linen is used for outer garments and other purposes for which cotton and wool are employed in English-speaking portions of the world. Many of the displays of fine linens are very excellent, and raise the inquiry whether the best linens are produced in Ireland. In the Austrian section, Carl Siegl, Mahr, Schonberg, shows seamless sheeting 90 inches wide, pillow cases with fine adjour work, pillow linen 45 inches wide, hemstitched sheetings, damask towels, napkins, and table-covers; also fine linen for shirts, cuffs, and collars. Several exhibitors from the city of Freudenthal, which is the Belfast of Austria, show most beautiful bed-spreads, furniture covers, napkins, and other linen goods. Some of the table-cloths are bordered with designs in gold thread. There are many novelties in the Austrian linen exhibit.

In the German section, G. Langheinrich, Schlitz, Hesse, has a fine booth fitted up as a dining-room for displaying table linens and towels. The table is in the middle of the room, and is covered with a fine cloth, while napkins are in their appropriate places. In the centre of the table stands a beautiful vase filled with blooming flax. In one corner of the room is a spinning-wheel, while the walls are ornamented with beautiful napkins framed in royal purple velvet. Large cases contain specimens of table linen.

Christian Dierih, Oberlangenfleau, Silesia, makes a large display of dress goods for women and children. They are of linen, mixed with cotton or wool. Cloth of this kind appears to be generally worn by country people. The colours are excellent, and the patterns varied. This manufacturer claims to have turned out 30,000 different patterns and styles of these goods. In this display are many kinds of linen feather-tight bed ticks and pillow-cases. None of them are striped like those used in this country, but are very ornamental, the colours being very bright.

Gaschenhaper and Raesicke, Berlin, manufacturers and purveyors to the Court, display trousseaux for brides, outfits for gentlemen, ladies, and children, table-cloths, white, coloured, and hemstitched, and many other goods. In the exhibit is the duplicate of the bridal outfit for Her Royal Highness the Princess Margaretha of Prussia, and the table linen ordered by the Empress Frederic for the Royal Palace. The entire display of the firm is fit to set before princes.—*New York Journal of Commerce.*



WASTE OIL FILTERS.

In these days, when small economies are carefully considered in the management of mill property, or where machinery of any kind is used, any fresh means whereby a saving can be effected is sure to command notice. We have pleasure in drawing attention to a very useful filter designed by Messrs. A. C. Wells & Co., St. Pancras, London, to save waste oil. Up to the present, small users of oil have been in the habit of throwing this waste away after it has been used on their gas or steam engines and other machinery. This filter will clean the oil thoroughly, so that it can be used over and over again. There has been a great want for a small and inexpensive filter, and we are not surprised to learn that large quantities have been sold. They are nicely enamelled, so that they are quite an ornament to an engine-room. The oil is placed in the top receptacle, where the worst dirt naturally settles. The top and cleaner portion of the oil is then drawn off by the tap into the second chamber, where it passes through a filtering bed, and then proceeds by a pipe to another filtering pan arranged in the bottom chamber. The oil can be readily drawn off by the tap at the bottom. Messrs. A. C. Wells & Co. are also the makers of the well-known unbreakable lamps and oil feeders, which have had such a large sale.



Book Notices.

Kelly's Directory of the Manufacturers of Textile Fabrics. London: Kelly & Co., Limited, High Holborn. 1,535 pages, price 30s. All the works published by this firm are compiled with great care, and for business purposes are indispensable in the counting-house. This new issue is the fourth edition of one of their directories, and is of special interest to all connected with the textile industries, embracing, as it does, a very extensive range of districts in England, Scotland, and Ireland, not only of textile manufacturers, but of all other trades in any way connected therewith. The cost of collecting and compiling such a vast number of names must indeed be a very heavy item. Besides an extensive London directory, there are upwards of 6,500 towns included in the work, whilst the number of manufactures and trades is over 560. A very useful preface gives statistical information respecting the woollen, cotton, linen, silk, and other industries of the United Kingdom, compiled to the latest date.

Commercial Gambling. By Charles W. Smith, Liverpool. London: Sampson Low, Marston & Co., Limited, Fetter Lane. Price 3s. 6d. The author, who has had 31 years' experience in the commercial world, deals with a subject which he holds is most seriously affecting the commercial and trading interests of the country at the present time, and to its influence the depression of late years, and the fall in price of the products of the soil, are largely traceable. In the preface he wishes the landlords, farmers, and working classes, as well as commercial men, "to realise the curses which the Option, Future, and Settlement systems have brought upon the world." The evil had its origin in America, but within the past 15 years it has crept into and has now firmly established itself in British commerce. In short, it is a total perversion of legitimate trading, by which one buys and takes delivery of what another has to sell. Under this spurious system no goods whatever pass, the dealings represented by paper contracts being settled from day to day, or week to week, by a clearing (or sponging) house arrangement, created to liquidate these transactions. Whatever produce is dealt in on the speculation of its price at a future date, when that date comes round, the margin or difference is only adjusted between the contracting parties; if the price has gone up or down, the margin is a profit or loss accordingly, but no goods representing the dealing are moved. The outcome of this gambling system is that the actual world's total of any crop dealt in becomes doubled or trebled or quadrupled on paper, so that the ordinary factors of supply

and demand can no longer be depended upon for regulating the price of those commodities. It is necessary that the produce dealt in should be one of prime importance and quickly turned over. The author gives the following as the "List of Commodities worked under the Option and Future Systems, based on Settlement. *In America*—Provisions, wheat, maize, oats, coffee, lard, pork, petroleum, sugar, cotton. *In England*—Wheat, maize, sugar, cotton, coffee, tea, silver, silk. Besides these, warrants in England are used as the medium of gambling in iron, copper, and tin." He also states that there are large speculations carried on at home, but the orders are executed principally in America, as there are no organised institutions in this country for gambling in these commodities. A case in point, which occurred last year in Liverpool, will illustrate the nature of this spurious trading, and show what a disturbing influence it has on the actual *bonâ fide* market value of produce.

A broker held about £2,000,000 worth of produce in the shape of Future Contracts—not a pennyworth did he ever intend to demand delivery of actual produce against. This enormous gambling transaction was known to all, for all recognised, sooner or later, that the same quantity had to be re-sold, and, further, that if the market did fall somewhat, it would be impossible for this broker to find margins to pay into the clearing-house. Hence danger and ruin ahead to many connected with the clearing-house. The market did fall, re-selling commenced, and the smash came. Well, under the rules, this colossal mass of Future Contracts had to be sold at the best possible price on the day of failure, which meant absolute panic and ruin to many, besides an unwarrantable shrinkage in the value of actual stocks of that produce all over the world. What did this broker's creditors do to avert this panic and save their own financial necks? Why, they imitated the Bank of England's action in 1890 after the Baring collapse, and formed a strong syndicate, and thus, as it were, fathered upon themselves (but, I may add, with no outside guarantee) all the said unsold contracts, and gradually, week by week, liquidated the said holdings; but, by doing so, held the market in check for weeks from a natural advance which would have happened had this bankrupt stock of Futures been out of the way, and the market been regulated by supply and demand.

By this system, the author contends, "the value of actual and *bonâ fide* stocks of produce are reduced down to the panic value of the gambling paper or Future contracts, which value, therefore, regulates the retail value of all such produce in every part of the world, and affects not only the producer, but also eventually the agricultural labourer, as well as the value of the land that grows the produce." The book is deeply interesting, and the subject one that demands searching investigation; for the deductions of the author, as the result of long experience, are that it means commercial ruin to the country, if measures be not adopted to make this gigantic gambling in food and raw materials illegal. A Parliamentary Commission should make a thorough and exhaustive inquiry into this system—which is a potent factor in the present agricultural depression—with a view to legislation, since no power at present exists to check an evil which has grown to such magnitude within the past decade. He contends that it is absolutely necessary that a Bill should be brought in to make it illegal to sell Futures or Options ahead, or forestall the market in any way of any produce, food products, or commercial commodities, which the sellers do not actually hold in some shape or form at the time of sale. The United States Senate, by a large majority, has passed an anti-Option Bill which puts a tax on such transactions to make them prohibitive, but the House of Representatives has unfortunately shelved the measure for the present. At all events, so far as the home markets are affected by this gambling system, a strong case is made out by Mr. Smith calling for Parliamentary notice, and we trust that very soon steps will be taken in the House of Commons to have an inquiry made, both deep and searching, and embracing not alone this system, but the modern invention of Trusts, Combinations, and Syndicates, which have spread so much of late. The book is one which should be extensively read and studied, for it discloses a condition of things that more or less affects everyone. The author is not a "crank," nor the subject a "craze;" but the work is a sober relation of facts which should be faced, and of an evil that ought to be denounced.

Visit Ireland. By E. W. Crossley, Gresham Hotel, Dublin. Price 6d. This is the title of the new descriptive and illustrated guide, compiled and arranged by the author with a view to draw special attention to Irish scenery, and to promote a larger tourist traffic throughout the country. The leading railway companies have of late years issued very attractive guides over their respective lines, but this being more extensive, and embracing a far wider range of country, both coast and inland, undoubtedly meets an acknowledged want, combining, as it does, descriptive sketches of the most charming scenery of Ireland, side by side with the necessary commercial and travelling information required by tourists. The work, which must have entailed great labour and extensive travel, is produced in an attractive style and is most creditable to the compiler, the letterpress being interspersed with excellent photographic views. The work will come as a revelation to many tourists, who have never given a thought to Ireland as a country where a delightful holiday may be spent. The Irish railway companies are waking up to the importance of providing the best hotel accommodation in the most attractive centres, and when these are added to what already exist, we may hope for a very large increase in tourist traffic. The steamship and railway companies ought this season to combine and make a free distribution of 50,000 copies of the work throughout the United Kingdom and abroad to tap some of the traffic, although it may be rather late to hope for any material increase this year.

J. Bagshaw & Sons, Limited, Engineers, Batley. We have received the illustrated catalogue of this firm, which is got up in excellent style, and gives full particulars of the many specialities for which the firm is noted, especially in reference to pulleys, shafting, and friction couplings. In addition to the details of their manufactures, a number of useful rules and tables are given in the book in regard to the transmission of power by shafts, wheels, ropes, and belts, also for safe loads for steel and iron girders.

The Season. Journal of Fashion. London. 1s. monthly. The August number of this first-class journal well sustains the reputation it has acquired as a leader of fashion. Its numerous plates and designs for dresses and mantles make it valuable, not only to the trade, but for home work, the flat patterns given being of the greatest assistance to both. The gymnastic dresses for ladies and children are particularly effective. To linen manufacturers the very elegant model of a dress in white linen will be of interest, and as this season there has been a large demand for Irish linen for dress purposes, we are glad to find the fashion journals are supplying designs for costumes in this material. The holland, drills, and white linens, plain and embroidered, now made in the North of Ireland for ladies' and children's dresses, are all excellent, and are sure to be in much greater demand next year for home consumption, as well as for shipment.

Chemicals and Dyes.

(Special Report by Messrs. SADDLER & Co., Ltd., Middlesbrough.)

THE Ammonia market continues excited, and Sulphate of Ammonia is difficult to obtain at the advanced market quotations of £13 10s. Carbonate and Muriate of Ammonia have also a corresponding advance in value. The expected great coal strike has given a capital fillip to ordinary chemicals, the "Great Union" having decided to close their works when their stock of fuel runs out. This action will doubtless have an important effect on the value both of Caustic Soda and Soda Ash for the rest of this year, as the cessation of production will afford an opportunity to clear out accumulated stocks, which for some time have depressed values. Tar Products continue low and in poor demand, 90% and 50%; Benzoles being offered at the same price, which is lower than has been known for many years. Pitch is the only article amongst Tar Products which seems to hold its own. Aniline Oil is being offered at 6d. and Salts at 5½d. per lb. These exceptionally low prices should largely increase their use, for, after all, there is no black so pure, fast, and artistic as that made from Aniline. Alizarine is in fair demand, but at unremunerative prices. Nitrate of Soda continues to realise the advanced quotations of £10 per ton. Oxalic is brisk, and most makers are asking more money. Sulphate of Copper is also better at an advance of £1 to £1 10s. per ton, whilst Tin Salts, Tartaric and Citric Acids, as well as other dyers' chemicals, are in slack demand, and at low rates.

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Selected List of Applications for Patents relating to Textile Fabrics.

Compiled from the Official Records, by Messrs. W. P. THOMPSON & Co., Patent Agents, of 6, Bank Street, Manchester; 6, Lord Street, Liverpool; and 325, High Holborn, London, W.C.

- W. A. JENKINS, Belfast, No. 10,928.—Women's aprons.
 J. BARBOUR, A. COMBE, and J. FORD, Halifax, No. 11,318.—Drawing and gill spinning, binder twine, rope, etc.
 J. BARBOUR, Belfast, No. 11,396.—Gilt bars.
 H. LOCKWOOD and A. T. HALL, London, No. 11,360.—Scutching and cleaning fibrous stems and leaves.
 JOHN GOOD, London, No. 12,145.—Flyers for spinning.
 H. RYKBOSCH, London, No. 13,210.—Hackling flax and other fibrous material.
 J. DAWSON, Bradford, No. 13,746.—Travelling carriers or aprons employed in machinery for washing and drying wool.
 W. P. THOMPSON (H. M'DERMOTT, U.S.), No. 13,906.—Stop-motions for carding machines.
 J. C. WALKER and J. E. STEPHENSON, No. 13,933.—Decorticating fibrous plants.

SPECIFICATIONS PUBLISHED.

The specifications of the following patents have been printed and published during the month, and copies thereof may now be obtained at the uniform price of 1s., which includes postage.

- W. AYRTON, Manchester, No. 10,065.—Automatic spooling machines. 1892.
 J. GOOD, Far Rockaway, U.S., No. 9,279.—Spreading and drawing hemp. 1893.
 T. BUZZI and RAFFAELLO MENOCHIO, Prato, Tuscany, No. 8,966.—Separating vegetable impurities from wool. 1893.
 E. N. B. and H. St. J. K. DONISTHORPE, London, No. 13,301.—Heating fibrous leaves for the purpose of obtaining the fibre therefrom. 1892.
 G. YOUNG and W. CRIPPIN, Patricroft, No. 8,766.—Apparatus for dyeing, bleaching, and otherwise treating cotton and fibrous materials. 1892.

GERMAN APPLICATIONS.

- FRÉDÉRIC TER WEELE, Paris, No. 3,798w.—"Improved circular plyers for the Hübler combing machine." 1st September, 1892.
 MANN & SCHÄFER, Barmen, No. 9,786m.—"Improved jacquard machine." 12th May, 1893.
 M. DUESBERG-DELREZ, Verviers, No. 5,722d.—"Improved carding engine." 18th April, 1893.
 GEBB. SUCKER, Grünberg i. Schl., No. 7,350s.—"Improved tension device, applicable for keeping the threads of warping machines in place." 14th April, 1893.