LATE FOREIGN NEWS.

The Krupp works at Essen, Germany, recently turned out a gun that can propel a ball fifteen miles.

Father Cre, a French priest stationed at Jerusalem, recently found a talent of the time of King David in his dooryard.

Grasshoppers did an immense amount of damage in Ohio to oats and other growing crops. Whole fields of oats were destroyed.

During one week this month 312 car loads containing 3,816 tons of green fruit were shipped East from California. So far this season 6,000,000 more pounds of fruit have been shipped than last year.

Burt Revier and Charles Lemont, of Dundee, Minn., were both in love with the same girl and they agreed to settle the matter of rivalry by a fight in the presence of the young woman. She was watching the battle from a buggy, when the horse took fright and ran, throwing her out and causing fatal injuries.

An ingenious Frenchman has invented a contrivance for removing the hair by machinery. It is told that it operates with as great precision as Dr. Gilliotine's, and does not remove so much of the man with the hair.

Photography has determined the cause of the recent glacial avalanche in the Alps. It was hydraulic pressure beneath and behind the glacier, produced by masses of ice falling into connecting water at [illegible] and at a considerable distance.

In view of the impending cholera plague Dr. Darenberg says to the Parisians, "Boil your ice!" Freezing does not kill the germ of contagion, and there is only one practicable way of preparing ice so that it may be taken safely into the system.

By the new Education Act in South Australia, women are made eligible as members of the boards of advice. These have some what, the same functions as British school boards, but with less authority.

The authorities in Russia have ordered that a person who dies from cholera shall not be buried for twenty-four hours in order to prove groundless the popular belief that many are buried alive.

A Vienna glass manufacturer claims to have produced a substitute for glass which contains all the transparent, odorless and acid-resisting properties of glass, while it has the greater advantages of being pliable and to a great degree unbreakable.

The city of Paris makes much of its shade trees. The transplanting of large trees is done there with perhaps greater success than anywhere else. It is now proposed to make an official inspection of all the trees in the city, with the view of removing those that are not healthy and substituting trees that are.

A decree has just been promulged in Servia that all peasants who are in arrears with their taxes will be permitted to pay them in the form of bay and straw, to be delivered to the Army.

A new species of bear was shot by Captain Power during his late travels in Thibet, the animal was one-white colored, with a white collar, and is quite unknown to naturalists.

An electric railway is being built at Kobe, Japan, to give reader access to the mountain resorts and direct communication with the Wakasa Gulf on the western coast, sixty-five miles distant. A beach line will be added to Osaka, the chief summer resort in that part of the country.

A photographer in the Tyrol made a negative of two tourists against a back ground of pine woods. When he developed the plate he found a presentment of a large bear in the act of hugging for the denser timber appeared to be the edge of the forest. Neither the man with the camera nor any of those in the group had known that the bruin was near.

[illegible] a country chateau in Spain, [illegible] a rector sighted [illegible] The [illegible] interested [illegible] and received in Genoa at [illegible] Messenger. [illegible] has been [illegible] to the [illegible] tour in the south of France. President Carnot personally pinned the decoration of the order of agricultural merit on the breast of the great scientist farmer, who [illegible] emotion. It was [illegible] Eat M. Carnot had [illegible] the pin about a half inch deep into the poor farmer's breast.

The Popes is to give a yacht presented to him by an admiring son of the north of Europe. Cycling on the part of wealthy Roman Catholics in England, Spain, and Italy. Pope Pio Nono, on one occasion, in his youth, had a yacht given to him by the Duke of Leeds, Prince Regent, on it was [illegible] of the Mediterranean, and [illegible] screw [illegible]

Capt. Richard Oxford, Md., offered to carry a [illegible] into a boat and allow it to blow up with dynamite, for a wager of $100. He had to shoot [illegible] heads. A young man named [illegible] accepted the offer, and was blown about forty feet into the air, but got his return to the water surface unhurted on the fragments of the wreck, and received a handsome fee and other prizes.

Apropos of the Jewish deportment in the House of Commons of Keir Hardie, the representative of a workingmen's constituency, the English papers relate the experience of the first Jewish member of the French Chamber of Deputies. No attention was paid in the Chamber to his breach of conventionalities; but in the evening, when he started out to see some of the sights and tried to enter a dive called the Montagnes Russes, he was stopped at the door on the ground that he was not suitably dressed.

Seasonable Notes.

Upon a good gravel road the draft power required to move a given load is only one-third as much as required upon a dirt road in the same average condition. To make a good gravel road the earth bed must be well drained.

There is a right and a wrong way of using good crops for manure. In a light soil, if plowed under in hot weather, they have a tendency to sour the land. Better let them grow until cooler weather. If you find it absolutely necessary to plow a green growth or a heavy sod under at this season, it would be well to apply a coating of lime immediately after, to counteract the souring tendency. The best way is to use commercial fertilizers on the land to prompt the growth of a renovating crop. If used upon a market crop the land receives no permanent benefit.

The plant food brought into availability by thorough cultivation this season does not exhaust itself wholly on the present growing crop but remains available and effective for succeeding seasons. The results of the proper cultivation of that controlled not exhausted this year, by any means. The knowledge of this fact should encourage one in the effort to till well.

If you think you can afford only one manure or thorough tillage for your crops, give them the tillage. There is much later in the day in the soil which may be brought into use by proper cultivation. As going to the foregoing, we may quote Prof. Roberts, one of our best authorities, who says: "We do not half estimate the value of tillage. There are vast stores of fertility in our soils, if we will only bring them out and render them available by thorough and persistent culture."

One of the important duties of the farmer at this special season of the year is to constitute himself a weed killer. Not a single weed upon the farm nor about the farm, in the yards or roads, should be permitted to ripen its seeds, for then dozens or even hundreds will spring up to annoy you and to rob the soil where now there is but one. There are not many weeds that will persist in living long if their stocks and leaves are kept cut down, and fewer yet that will survive if cut close to the root now. Take a day now and clean them out thoroughly. It will save you many days in the future.

A single experiment in agriculture does not afford proof that can be received as definite and conclusive. For this reason many are inclined to doubt the efficacy of the work of our experiment stations. Most of the stations have now made their plans so as to repeat the more important work year after year, but in this way it takes a long time to reach any conclusions. It is an excellent idea to arrange to duplicate experiments on different soils and in different localities, as is now doing in some states. This increases the value of the testimony, brings it into shape sooner, and, the work being conducted at various points, so that it is open to observation by a greater number of farmers, inspires more confidence than that done at the stations alone. The more closely our farmers can be brought into direct connection with experimental work the more will they appreciate its practical value. The system of substations should be extended.

EXPERIMENTS WITH WINTER WHEATS.

Bulletin Seventy-nine of Ontario Agricultural Bureau.

In growing winter wheat, and indeed any other form of cereal crop, it is highly important that the farmers give much attention to the selection of the most useful varieties. In some seasons this is not so important, as almost any variety will give a fair return, but in others when the conditions of growth and ripening are not so favorable the difference in the yields in some instances amounts to nearly 50 per cent. with varieties grown under the same conditions. As it is impossible to forecast the nature of the season, it is always better to be forearmed by sowing varieties possessed of sufficient vigor and hardihood to enable them to bear up well under adverse conditions.

The qualities to be sought in winter wheat include the following:

1. Ability to give good yields. Occasionally we meet with varieties having nearly all the requisites given below, and yet the yield from them is only ordinary.

2. The quality of the grain, including weight per bushel and value for milling purposes. A variety possessing good milling properties is certainly to be much preferred to one equal in other respects but lacking in these.

3. Strength of straw. This is very important in some seasons, more especially on soils where the grain is liable to lodge, well it bears so directly on the yields and on the labor of harvesting.

4. Non-liability to rust. Although rust is largely dependent on season, soil and location, some varieties have the power of resisting it in a marked degree.

5. Earliest in maturing. This is also intimately associated with yield, as in some seasons an advantage of from three to five days in early ripening, will make a great difference in the returns.

6. The presence or absence of beards. These are so far objectionable unless there is a decided superiority in other directions, as beards are less pleasant to handle, they lessen the value of the chaff for feeding purposes and are associated more or less with lack of refinement in quality.

Owing to the low prices ruling for winter wheat there will be an inclination to sow a less acreage this season. This tendency can easily be carried too far. We do well to remember we have an excellent wheat producing country and that we want large quantities of straw for bedding which cannot be secured so effectually in any other way. There is always less hazard in growing a variety of crops, and it also furnishes a more equable division of the work of the farm. And there is at the same time a possibility of some advance in prices. It is at least questionable as to whether this province should at any time grow less wheat than will suffice for home consumption.

SELECTION OF VARIETIES. In selecting varieties to sow these kind should be preferred which have given the most satisfaction during a term of years rather than for one year. We sometimes find varieties give excellent yields one year which do very poorly the next. We are now able to give facts relating to the behaviour of a considerable number of varieties for three years as shown in Table II., and these should certainly prove valuable to the farmers of this province engaged in growing winter wheat.

THE VARIETIES GROWN. There were in all 115 plots of winter wheat grown at this station during the present year, including 68 varieties. Of these 35 varieties were grown in duplicate plots; and in another field 8 varieties were grown in plots varying from half an acre to two acres. The larger plots were duplicates of some of the smaller plots, and the particulars relating to them will be given in the annual report. Of the 68 varieties grown, 44 were Canadian and American and 24 were foreign. The foreign varieties which were imported originally from Germany, England, France and Russia in 1890, are all from last year's seed. Some of these kinds have as yet proved equal to some of the best of the Canadian and American varieties and as many of them do not ripen sufficiently early to be reported upon in the bulletin with the latter, we do not feel justified as yet in recommending the farmers to grow them. This bulletin therefore gives the particulars relating to 44 Canadian and American varieties grown under exactly the same conditions.

LOCATION AND SOIL. All the varieties of winter wheat both native and foreign, were grown in plots side by side in the same range. These plots contain each exactly the one-hundredth part of an acre. The yield per acre is estimated from the actual yield of the plots. The aspect of the land is southwesterly with so little slope, however, that it is almost imperceptible. The soil may be designated as a mild clay loam.

PREPARATION OF THE SOIL. The soil was prepared on the bare fallow system to secure uniformity of condition in a field devoted to the growth of experimental grains. This is the only bare fallow that we had on the farm. The cultivation given was much the same as is usually put upon bare fallows. Barnyard manure was applied at the rate of 15 tons per acre in the spring of 1890 and a crop of rape was grown and pastured off upon the land the same year. No manure was put upon it since.

MANNER AND TIME OF SEEDING. The seed was sown by hand as we have no machines suitable for sowing in drills in plots of the size mentioned. The plots were all sown Sept. 2nd, with the exception of Nos. 27, 29, 36 and 40 of Table I., given below, which were sown Sept. 9th, and Nos. 34, 37 and 39, which were sown Sept. 15th. The same amount of seed was sown upon each plot, at the rate of 1½ bushels per acre by weight.

THE CONDITIONS OF SEASON AND WEATHER. These were on the whole not so favorable as during the previous wheat year. The weather in the autumn was such that all the Canadian and American varieties made a good growth and they also passed the winter safely. But the months of May and June were abnormally wet, which along with the heavy winds that prevailed caused more or less of lodging in nearly all the varieties. Some of them also rusted considerably. In fact none of them could be said to be entirely free from leaf rust. During the ripening period the temperature was unduly high, but notwithstanding the yields were in many instances fair.

A second table shows the yields for three years of the following fifteen varieties:—Surprise, Early Red Clawson, Rodgers, Red Velvet Chaff, Golden Drop, Bonnell or Landreth, Golden Cross or Volunteer, Manchester, Standard, Hybrid Mediterranean, Martin Amber, Seneca or Clawson, Lancaster, Red Lion, New Monarch. The average yield of grain per acre of these fifteen varieties was 30.9 bush. in 1890; 51.6 bush. in 1891, and 41 bush. in 1892. For the three years the average was 41.19 bush. The average weight per bush. in 1890 was 60 lb. 5 in 1891, 61.3 lb; in 1892, 60 lb. For the three years the average was 61.1 lb. The Surprise heads the list in point of yield, averaging 46.37 bush. per acre for the three years. It is possessed of many good qualities, as ability to yield well, good strength of straw, freedom from rust and good milling properties. The Early Red Clawson follows closely with an average yield of 45.70 bush. Its earliness of ripening is a strong point in its favor. The Rodgers which comes third on the list does not stand higher in milling properties. The Manchester which yields well in some localities, has not done so well with us, as it is somewhat prone to rust. The Red Lion, which several years ago was sold in some localities for $15 per bush. is very weak in the straw. It weighs well, and this is the best feature about it.

Table III. gives yields of the following 8 varieties for two years: American Bronze, Egyptian, Garfield or Natural Cross, Jones' Winter Fyfe, Bulgarian, Winter Pearl, Canadian Velvet Chaff, Democrat. These varieties have been grown here for but two years, and like those of the previous table under the same conditions. The average yield obtained from them in 1891 was 55.3 bush. per acre; in 1892, 39.9 bush.; for the two years 47.6 bush. The average weight per bush. in 1891 was 63.2 lb.; in 1892, 59.9 lb.; for the two years 61.5 lb. The American Bronze which stands first in point of yield for the two years did not give nearly so good a return comparatively this year as last. Although it stood up well, it was considerably affected with rust. The Egyptian, though an old variety, has done well, and it will also be observed that it weighs well. The Garfield, coming third in point of yield betrayed considerable weakness of straw, while the plots on either side of it stood up well. Jones' Winter Fyfe although possessed of first-class milling properties is only medium as to yield and weight of grain. The Bulgarian which bears considerable resemblance to the Democrat yields fairly and weighs well. It seems to be a rugged wheat and is possessed of good milling properties. The Canadian Velvet Chaff has done rather poorly with us this year. The yield of grain was comparatively low, and it was notably deficient in weight.

Table IV. gives yields of the following 21 varieties for one year:—Dawson's Golden Chaff, Mediterranean, Fulcaster, Red Wonder, Deitz Longberry, Reliable, Fultz, Russian Amber, Cryell, Rutherford, Rumsey, Genesee, Valley, Walker's Reliable, Hybrid Delhi, Monette, Red Russian, Longberry Red, Velvet Chaff, Manilla, Scott.

The 21 varieties in Table IV. were grown here this year for the first time in these comparative tests and considerably more than one-half the number were imported from the United States. The average yield per acre is 44.74 bush., and the average weight per measured bush. 61. 3 lb. The yield of straw per acre is abnormally large, being 3. 2 tons per acre, which is probably 50 per cent. more than in ordinary seasons. Weighing the straw at a later date would doubtless cause some reduction. The Dawson's Golden Chaff originated in 1881 by Robert Dawson of Paris, Ont.; comes first in point of yield. The wheat stood up better than any other variety but it was affected considerably by rust which no doubt affected the quality of the grain.

The old Mediterranean, imported from the United States, comes second in point of yield showing that it still retains its old time vitality. The Fulcaster, also from the United States, gave the remarkable weight of 64. 5 lb. to the bush. The Red Wonder came out well but is very weak in the straw. It would probably do well on sharp, sandy land. The Scott, so popular at one time, seemed to be lacking in vitality and stands at the foot of the list in point of yield.

From a table given it is shown that generally speaking the bearded red chaff red wheats gave more straw and more grain per acre and also gave grain weighing more per bush. than the bald white chaff white wheats. There is very little difference in the relative quantities of straw produced. In weight of grain the average difference in favor of the bearded varieties as compared with the bald is 2.03 lb. In 1891 the difference, 1.37 lb., is also in favor of the bearded sorts. The red wheats outweigh the white varieties by 1.48 lb. per bush. In 1891 the difference in the same direction was 1.96 lb. In 1892 the bearded varieties gave an average yield of 5 bush. per acre more than the bald, while in 1891 the bald varieties yielded 9.9 bush. per acre more on an average than the bearded. The present season, the red wheats yielded 4 bush. per acre more than the white, while last season the white wheats yielded over 5 bush. more than the red. In Bulletin 155 issued on winter wheats in 1891, it is stated "that white wheat is grown under favorable conditions the bald varieties yield considerably more than the bearded." To this we may add that from the results obtained this year it would seem to be true that in seasons when the conditions are not really favorable the bearded varieties will yield more than the bald.

DISTRIBUTION OF SEED.

As we have a limited quantity of seed for distribution we append the following in reference thereto:—We will supply any of the following varieties, viz.: American Bronze, Jones' Winter Fyfe, Early Red Clawson and Bulgarian in lots of one and two bushels. As the quantity of each variety is limited we can only agree to furnish seed while the supply lasts and in the order in which we receive the applications. The prices charged will be moderate. For further information apply to the Professor of Agriculture.

Some of the varieties will be distributed in smaller lots through the medium of the Ontario Agricultural and Experimental Union. This Union which meets annually at the Agricultural College is composed of the officers, ex-students and students of the College, and all farmers throughout the province are invited to co-operate in the work that is being carried on by the Association. This work consists of the testing of seeds and fertilizers under conditions as nearly similar as may be found practicable. The seeds are furnished by the Union free to farmers and full instructions regarding the mode of conducting the tests are also furnished at the same time. The only return asked of the farmer is a report of the results to be sent after harvest by a time fixed upon as mentioned in the insertion sheet. These reports are made upon blank forms furnished to each experimenter along with the instructions. At the present time there are no less than 5,088 plots under experiment in this province conducted by ex-students and other farmers, the results of which are published annually and cannot fail to be of much service to the agriculturist.

In the subjoined table will be found the different sets of varieties of wheats which will be sent by mail in half-pound lots of each variety to farmers applying for them and in order of the application so long as the supply lasts.

Three sets of Fall Wheat for Co-operative tests.

(1.)—Dawson's Golden Chaff, American Bronze, Early Red Clawson, Bulgarian, Mediterranean.

(2.)—Dawson's Golden Chaff, American Bronze, Fulcaster, Red Wonder, Surprise.

(3.)—Dawson's Golden Chaff, American Bronze, Jones' Winter Fyfe, Fultz, Golden Drop.

Each farmer wishing one of these sets will please address the Secretary, C. A. Zavitz, Experiment Station, Guelph, *mentioning which set he desires*, when the grain with instructions for testing, and blank forms on which to report, will be forwarded free of cost to his address.

CONCLUSIONS.

The results of the experiments may be thus summarised:

1. That the average yields per acre of the 44 Canadian and American varieties grown in 1892 were: straw 3.2 tons, grain 42.6 bush. per acre and weight per bush. 60.5 lb.;

2. That as the averages obtained from the 15 varieties grown at this station for three years were 30.9 bush. in 1890; 51.6 bush. in 1891, and 41.6 bush. in 1892, while the average weight per bush. in these respective years was 60, 63.3 and 60 lb., we are justified in concluding that the wheat producing capabilities of Ontario are still of a high order.

3. The four best yielding varieties in 1892, all of which gave more than 50 bush. per acre, are Dawson's Golden Chaff, Golden Drop, Mediterranean and Fulcaster, named in the order of the yields which they made.

4. The four varieties giving the heaviest weights per bush. in 1892 were the Fulcaster, 64.5 lb.; Velvet Chaff (bearded), 63 lb.; Red Wonder, 62.8 lb. and Fultz, 62.5 lb.

5. The four best yielding white wheats in 1892, were Dawson's Golden Chaff, Bulgarian, Democrat and Surprise, and the four best yielding varieties of red wheat were the Golden Drop, Mediterranean, Fulcaster and Red Wonder, in the order named in both instances.

6. That the bald Velvet Chaff varieties gave an average of 7.8 bush. less per acre than the mean average of the 44 varieties grown in 1892 and weighed 3.1 lb. less per bush.

7. That in our experience of the past three years the average yields per acre of the white and red wheats have not been far different, being about one bushel per acre in favor of the white wheats.

8. That in our experience of the past three years we have found that the red wheats average from 1 to 2 lb. more per bush. than the white wheats.

THE AMEER APPEALS TO INDIA

He Asks Help to Prevent Russian Aggression in the Pamirs.

The Ameer of Afghanistan has addressed a formal request to the Government of India asking the Government to assist him in preventing Russian aggression in the Pamir region, part of which is claimed to be Afghan territory. Col. Yanoff, the Russian commander, continues to occupy the advanced position to which he recently advanced. What is said to principally alarm the Ameer is the fact, previously called attention to by Prof. Vamberyf that at Penjideh, in the neighborhood of the Djemshidis, a tribe of tributary vassals of the Ameer of Afghanistan, the Russians have established a military post whence they actively spread reports of the blessings accruing to those placing themselves under the rule of the Czar

Prof. Vambery characterized the rising of the Hazaras against the Ameer as serious, and added that, as the troops of the latter have already received a severe check, the result of the insurrection is difficult to foretell. He ascribed the cause of the rebellion to Russian machinations, and even mentioned the probability of the insurgents having been secretly furnished with Russian weapons. He predicted that, should the situation assume a really dangerous aspect, no other course would remain open to Abdurrahman Khan than to seek assistance from the English, and it would then remain to be seen in what light Russia would regard England's interference.

Bravery we share with the brutes.
Fortitude we share with the saints.

YOUNG FOLKS.

The Grass Spirit.

Jessie had run away—actually run away, because mamma wished her to take some jelly to a poor sick girl at the cottage down the road; but the sun was hot, and she felt lazy and thought perhaps if she ran away mamma would get some one else to do it.

She had come to the water's edge, and lay on the bank in the cool, sweet grass, listening to the rushes as they swayed to and fro in the breeze and watching the tall cat-tails nod their heads.

All at once there was a commotion amongst the rushes, something was coming up out of the water. Was it a toad? Jessie raised herself up and looked hard, for if there was one thing in the world she hated it was toads.

But this was not a toad; it was the strangest thing she had ever seen. She knew fish sometimes jumped up out of the water, but this was not a fish. First a little green head was poked up, with a tuft of fine grass sticking straight upon the top of it, instead of hair. It looked like a boy's face, and presently with a spring, a funny little figure came out of the water and stood upon the bank.

There was grass hanging from its neck to its knees, and its long legs were bare and green like its hands and head. The hands, she noticed first, because they were so shrivelled up and small.

The little creature sat there for awhile shaking the water off the blades of grass which formed its dress, much as a dog would shake itself after it had jumped out of the water. Then it turned around and saw Jessie.

"Hollo!" he said in a weak little voice, "and who are you?"

Jessie was too much frightened to answer, so, without waiting, the funny little creature went on.

"I suppose," he said, "that if I don't tell you who I am first, you won't tell me who you are. Don't look so scared, I never hurt any one. I am a Grass Spirit."

"I never saw you before," said Jessie, in such a hoarse, frightened voice, she hardly knew it for her own.

"Maybe not," replied the creature, "but I have often seen you. When ever you throw yourself down on the cool, green grass, and think how nice it is to feel so happy and comfortable, I am there close, though you don't see me. Then I am often in other places, too. When the ladies run about on the grass and like to feel the dew between their bare little toes, I am there beside them, and when the good people in the cottages bring sick children into the country for a picnic under the trees, I hide behind one of the trunks and listen to them laugh, and help them enjoy themselves, though they do not know it. Then when the cows or goats are nibbling at the long grass in the fields, I am making it taste good."

"You must be very kind," said Jessie, getting over her fright a little now.

The Grass Spirit smiled. "I have thought so once," he said, "but I have had a lesson. I used to be a little boy, but I was not always kind, for I kept refusing to do anything that would make any one else feel happy, till one day I fell asleep beside a bank, something like this, only there were no trees on it, just tall grass here and there, and I slipped off into the water in my sleep and something happened, I don't know what; but I was changed into a 'Grass Spirit,' and rose out of the water all green with long grass hanging from my shoulders, and my hands all shrivelled up worse than you see them, because they are getting bigger now all the time.

"I could not bear to look at them at first, and I was so angry I would tear handfuls of the grass off my shoulders. You see it was because I never used my hands to do anything kind, that they became shrivelled up.

"When I got out of the water I found, after awhile, that my heart was changed too, and had become so soft that I kept flying about trying to make someone else happy. One day I met another Grass Spirit, and he told me that it I kept on as I was, being kind to people for the same number of years that I had not been kind to them, that I would get changed back again into a boy. But look! The sun is setting, and I generally travel at night, so I must be off."

And while Jessie watched in astonishment, the Grass Spirit soared away and was soon out of sight.

She was wondering what would happen next, when she felt herself gradually slipping, slipping down the bank. In her terror she clung to the grass. She was close to the water now, and in another minute would be changed into a Grass Spirit. Was it possible she had been dreaming, and that this was her mother's hand holding hers?

She was safe enough with her head on her mother's lap, and her hand in hers.

"Why, Jessie," said the well-known voice, "what is the matter, my dear, you are shivering as if you had been frightened in your sleep?"

"Oh, mamma, it was a dream then," said Jessie, looking about her in a bewildered way. "I am so glad, and I will never run away again when you want me to take something to a sick person."

TEN YEARS OF ELECTRICITY.

The Marvelous Progress Shown in a Single Decade.

Just ten years ago—August, 1882—the first central station for commercial incandescent lighting was established, and arc lighting was beginning to assume its present form; yet a single decade has seen the use of electric light and power advance from the experimental stage to the very front ranks of industrial enterprises.

The most recent estimate of the capital invested in the electrical industries in the United States is $500,000,000, and of this amount $350,000,000 represents the proportion which electric lighting and power have attained; $100,000,000 is also the estimated investment in electrical supplies, of which the electric lighting and railway appliances constitute a large proportion.

The influence which the Edison and Thomson-Houston Companies exerted in the development of the electrical industry will be further appreciated if we consider the slow progress made in this branch of science previous to the time of their organization. The telegraph was at that time almost the only important application to which electricity had been adapted, and, although electric lighting by means of the voltaic arc had been accomplished by Sir Humphry Davy as early as 1810 by means of a battery of 2000 cells, it was not until 1867, when Dr. Siemens announced his invention of the self-exciting dynamo that any material progress toward the science of electric lighting was made.

At the Paris Exhibition of 1878 the system of electric lighting invented by Jablochkoff, by means of which several of the streets of Paris were lighted by electricity, proved an incentive to inventors which resulted in the production of the modern type of arc lamp, which was in a comparatively experimental stage at the time of the organization of the American Electric Company of New Britain. The incandescent lamp had received less attention at the hands of scientists than the arc lamp when Edison announced his invention. The division of the electric current into small units had been a long-standing problem before the scientists of that day, but all the experiments previous to Edison's invention had been in the direction of a filament of low resistance, which obviously required a prohibitive amount of copper to conduct the current for a few lamps, even over short distances. The invention of a high resistance filament marked the turning point in the history of incandescent electric lighting.

Thus we see that the whole of this great industry has practically come into existence within a single decade. The men who have been making history at such a rapid rate have been so engrossed with the present and the immediate future that they have paid little attention to the preservation of records, &c., that would not only be of interest but of great practical value to the great army of young men who have taken up the science of electrics as a field for their life work. In the work on the Richmond Road experiments were made with, perhaps, seventy-five different designs for a trolley. No memoranda or photographs were preserved, and not even Mr. Sprague himself can tell to-day just what a half dozen of them were. This is only one instance out of many where data have been irrevocably lost.

When flattery is unsuccessful, it is but the fault of the flatterer.

An aerolite of immense size fell the other day into the Caspian sea near the coast of the peninsula of Apsheron, on which Baku, the Russian oil city, is located. It is lying in water of a depth of nearly thirty feet and stands seven feet above the water. As it must have sunk into the soft ground to the depth of some feet, the stone cannot measure less than forty feet in length. It made a terrible noise when coming down, and kept the water boiling to a great distance for a long time.

ITEMS OF INTEREST.

The London *Standard* says that a discovery of gold has been made in the Mawddach Valley, Wales. The gold-diggers at the Gwynfynydd Mine struck a vein of gold-bearing quartz, said to be four feet thick. Specimens have been sent to the assayists in London, and a yield of twelve ounces per ton is declared. The Crown it is said, granted a small plot near Gwynfynydd in December last to a gold-prospecting Company with a capital of £500, and during the six months ending midsummer they are said to have distributed £6000 as the result of their efforts, being a return of £1200 per cent. upon their investment.

The English Channel Bridge and Railway Company have modified their plains. A new route has been adopted which will considerably shorten the distance. The number of piers in the proposed bridge will be reduced from 12 to 7, and the space increased in size to 400 and 500 metres alternately from one end of the bridge to the other. The time required for the completion of the bridge would be seven years, four of which would be occupied by operations in the sea. The total cost of construction and interest till traffic could be opened is estimated at £32,000,000.

The executive committee of the Unionist Convention for the provinces of Leinster, Munster and Connaught have resolved to issue in book form a report of the proceedings of the great meeting held recently in the Leinster Hall. The volume will contain a list of the executive and general committees, a complete list of all the delegates, the full text of the telegrams of sympathy received from Unionist organizations in Great Britain, the letters read upon the meeting from the Duke of Abercorn, the Duke of Devonshire, Professor Tyndall, Mr. Lecky and others. To each delegate a copy of the report will be presented.

An old man who occupied a shiffing shanty in Germany and lived by begging, handed his will to the clergyman who was with him in his last illness. The will gave his possessions, ninety thousand dollars cash, to the poor family in the house tenement which had given him food and nursed him, though themselves in want.

A box containing a baby was left at a railway station in Spain. The station agent urged it upon a switchman to take it himself. The switchman and his wife pitied the little one so much that they took it home. When the woman was making the baby ready for their night's rest, she discovered money enough to pay for its generous support and thorough education.

Abitration has ended a formidable strike in England. The Durham Coal-Owners Association proposed to reduce wages seven and a half per cent. The men struck. After a while, it was announced that further reduction was unavoidable to ten per cent, and later to thirteen per cent. About eighty thousand men were in the strike. After more than two months' loss of time, the trouble was referred to the Bishop of Durham and he decided for ten per cent, which the men were willing to accept.

Cyrus W. Field, whose name is famous through his eminent service in laying the Atlantic Cable, had many tokens of recognition. Among them are six large oil paintings illustrating the laying of the cable, the gold medal presented him by Congress, the gold box presented by his fellow citizens of New York, and many other tributes. Shortly before he died, Mr. Field gave the collection to the New York Museum, where they will be objects of great interest as long as distinguished enterprise for the comfort of man commands attention.

The Lady Godiva show was revived at Coventry the other day after a lapse of five years. Miss Alice Shepherd, from the Royal Aquarium, London, rode as Lady Godiva through the miles of streets, and the procession, which included half-a-dozen bands of music and the trade organizations, was of great length. The weather was cold and damp, but the city was crowded with strangers.

A bust of Wm. Murdoch, the inventor of gas-lighting, contributed to the Wallace monument of Stirling by the Scottish Association of Gas Managers, was unveiled on July 29th by Lord Kelvin, better known as Sir Wm. Thomson. At a luncheon which was given afterwards Lord Kelvin made allusion to the great contest that was supposed to be running between gas and electricity. The chairman had said the gas managers were not afraid, and he, as an electrician, was not afraid either. Just as the gas had succeeded without snuffing out the sun, the moon and the planets, so he believed that electricity would succeed without snuffing out gas.

A breach of promise case in which the usual order of things was reversed, came up before the Hadbingham Sheriff Court the other day. An Edinburgh woman named William Lenny sued Isabella Burnside, a domestic servant, for £100 damages for breach of promise of marriage. The defender admitted the promise of marriage, and stated that she cancelled the engagement on account of the pursuer's intemperate habits. She tendered a sum of £10 16s 1d in full of pursuer's claim, being the amount alleged to have been expended by him in furnishing a house in the Cowgate of Edinburgh. The defender was applied to be admitted to the poor's roll.

A gentleman while fishing near Wamphray, Dumfriesshire, hooked a fine sea trout. While running the fish to the landing place, his rod was caught upon some object in the water. On drawing in the line, he found one of his hooks had got fixed, to a fine otter. The otter came up stream with the sea trout in tow. Nothing daunted, the fisherman held on to the otter and after a severe struggle brought him ashore on the gravel bed at the top of the pool. On attempting to kill the otter, it showed fight, and ultimately escaped leaving the angler in possession of the sea trout.

What must be regarded as a record iceberg is reported to have been recently passed by the barque "Dunfriesshire" in the Indian Ocean. She was going from Shanpness to Sydney, New South Wales, and on arrival at the latter place reported having passed three icebergs near the Crozit group of islets in the Indian Ocean. The largest of the floating dangers was a perfect leviathan measuring, it was estimated, ten miles in length and about 160 feet in height. The second largest is said to be about three miles long, and the smallest one mile.

In the Midst of Our Prayers.

Can you ever keep your mind ten minutes on one supplication? Few of us can. While you are praying your store comes in, your kitchen comes in, loaves and fishes come in. The minister spreads his hands for prayer, you put your head on the back of the pew in front, and travel round the world in five minutes. A brother rises in prayer meeting to lead in supplication. After he has begun the door slams, and you peep through your fingers to see who has come in. You say to yourself, "What a finely expressed prayer!" or "What a blundering specimen! But how long he keeps on! Wish he would stop! He prays for the world's conversion. I wonder how much he gives toward it? There, I don't believe I turned the gas down in the parlor! Wonder if Bridget has gone home yet? Wonder if they have thought to take that cake out of the oven! Oh, what a fool I was to put my name on the back of that note! Ought to have sold those goods for cash, and not credit!" and so you go on tumbling over one thing after another until the gentleman closes his prayer with Amen! and you lift up your head, saying, "There, I haven't prayed one bit; I am not a Christian." Yes, you are, if you have resisted the tendency. Christ knows how much you have resisted, and how thoroughly we are disordered of sin, and He will put out the one earnest petition from the rubbish and answer it. To the very depth of His nature He sympathizes with the infirmity of our prayer.—[T. De Witt Talmage.

Dairy.

The old-fashioned dairyman mows little and pastures much. The modern dairyman reduces his pasturage and grows soiling crops, keeps more cows to the acre, improves his land, makes more money.

Beware of patent churns and all new-fangled devices for bringing the butter quick, or for getting more than the ordinary quantity from a given amount of milk. For the home dairy nothing is better than the small rectangular or swing churns, and none will bring much more than five pounds of butter from 100 pounds of fully average milk. Agents and peddlers who want to sell you recipes and implements which will do more than this are as bad as lightning rod men.

Separators, as a rule, will take out about a half pound of butter more on one hundred pounds of milk than the churn will. This is an increase of about ten per cent. in the product. The separators sell for a little more than $100. With this data, and knowing the size of your dairy, you can figure out for yourself whether it will pay to invest in one of these machines.

HIS SKULL CRUSHED IN.

A Man Killed in an Explosion of a Tank at Hamilton.

A despatch from Hamilton says:—Shortly before 3 o'clock the other night a frightful accident occurred at Freeman's fertilizing works in Wentworth-street. On the third storey of the building was a huge boiler or tank, used for the purpose of reducing by steam the remains of horses and other animals. The tank was attended by the nightwatchman, Albert Babcock, whose duty was to look after the building at night and attend to the steam tank. Last night he allowed too great a pressure of steam to accumulate, and the result was disastrous to himself. The big iron cover of the tank was blown off, and was driven against the roof with such force as to leave a jagged hole in it. The cover fell back into the room.

The noise of the explosion was heard many blocks away and soon attracted a large crowd to the spot. Poor Babcock was found in a corner of the room. He presented a terrible appearance. The top of his skull was crushed in and his brains were oozing out. All his ribs were broken, his face was black and bloody and he was terribly scalded by the steam. He was still alive, however, though unconscious, and the city ambulance was hastily sent for. Babcock was conveyed to the City Hospital, where he died half an hour after his arrival. It is supposed that at the time the accident occurred he was standing in a stooping position over the tank, and that the edge of the cover struck him in the forehead as it flew up, crushing in his skull and hurling him into the corner where he was found. There were safety valves and a steam gauge attached to the tank and the inference is that the poor fellow's death was the result of his own carelessness.

Babcock was 26 years of age. He came to Hamilton from England 18 months ago and for 10 months had been in the employ of Mr. Freeman. A year ago he was married and he became a father a few weeks ago. He lived at 185 Simcoe street.

EIGHT DOLLAR'S A HEAD.

The Sultan of Morocco Determined to Suppress the Angheras—Tangier Again Threatened.

A Tangier despatch says:—The negotiations between the Sultan's officials and the leader of the Angheras tribesmen looking to the submission of the latter have been broken off by order of the Sultan. The Sultan has directed that a grand attack be made upon the Angheras, and to stimulate his troops he has offered $8 for every prisoner they capture, wounded or unwounded, and $8 for every head they bring in his camp. It will readily be seen that the number of prisoners will be small, as the troops will get double the money for a head that they will get for a prisoner. If the Angheras live up to their reputation, however, and there is not the slightest reason to suppose that they will not, the Sultan's troops will have a week hard for the same promised them. The Angheras, in their mountain retreats, will be able to make a long struggle against any force the Sultan can place in the field against them, and, knowing the mountains as they do, it will not be an easy task to capture them. Neither will it be easy to secure the heads of those who happen to be killed in battle, for it is thought that if the Angheras cannot carry off the bodies of their dead they will themselves cut the heads off to prevent the troops doing so. Considerable alarm again prevails in Tangier, as it is feared the Angheras, whose territory lies within sight of the city, will make an attack upon the place. It was thought that the troubles were ended a few days ago when the Angheras leaders offered their submission to the Sultan, but it appears now that the latter would agree to none of the conditions the tribesmen insisted upon, and determined to whip them into submission.

M. Tetard, a countryman, in Parisfora few days recently, stood in the Rue le Richelieu in a pouring rain protected only by his umbrella. He inquired of M. Bezuchet the way to the Chateau d'Eau. That gentleman, who had no umbrella, thereupon volunteered to guide the countryman part way to his destination, but instead of taking him in the right direction he led him a mile in a directly opposite course, sharing his umbrella, and then hold him to retrace his steps and keep right on until he reached the Chateau d'Eau. Then M. Tetard slapped the Parisian's face. He was arrested for assault, but was acquitted, and the wily Parisian had to pay the costs.

Entitled to the Best

All are entitled to the best that their money will buy, so every family should have, at once, a bottle of the best family remedy, Syrup of Figs, to cleanse the system when costive or bilious. For sale in 75c bottles by all leading druggists.

Deeds are efforts the soul makes in trying to speak.

Dr. Harvey's Southern Red Pine for coughs and colds is the most reliable and perfect cough medicine in the market. For sale everywhere.

We never willingly offend where we sincerely love.

A break down in the harvest-field is annoying, and is expensive. It is doubly vexatious if it is the result of our own neglect to give the machine a proper overhauling. Roger's peerless machine oil saves the bearings.

Prudence is not poverty, but it is the thorny road to wealth.

TOOTHACHE. When suffering with Tooth ache, use 'GIBBONS' TOOTHACHE GUM.

Good