

**Incubator FOR SALE**

(Manson - Campbell) Chatham make; 160 egg capacity. Price \$12. Can be seen at 198 Lake Avenue

**Properties For Sale**

\$2200—On Hainer street two storey frame dwelling with stone foundation, near bridge on lot 68x87 1/2, all conveniences, in good repair, will accept part cash, balance arranged.

\$2300—On Jones street, one storey venience, in good repair, lot 30x92 feet, good land, will accept part cash, balance arranged.

\$2850—On Haynes, two storey frame dwelling with barn for stabling six horses, lot 44x148 ft., all in good repair, will accept one half cash, balance mortgage at 7 per cent.

\$3000—On Leeper street, one storey frame dwelling on 30ft. lot for \$2200. Separate from building, lot size 100x160ft. will accept small cash payment balance arranged.

\$3100—On Welland Ave., one and one-half storey dwelling with four bedrooms and every convenience, all in good repair, on lot 85x148ft. will accept \$1500. cash, balance mortgage at 7 per cent.

\$3600—On Page street, two storey frame dwelling with stone foundation and every convenience, all in good repair. Will accept small cash payment, balance arranged.

\$3900—On Church street, two storey frame dwelling with stone foundation, all in good repair. Will accept part cash, balance mortgage at 7 per cent.

\$6500—On Niagara street, two storey brick dwelling and grocery with good connection and turnover, hot water heating, stone foundation, good cellar, all in good repair, a snap, good reason for selling. About \$2000 stock, 100 cents on \$1. Terms arranged.

**KERNAHAN & GRAVES**  
Phone 33 14 Queen St.

**"Mazda" The Best Tungsten Electric Lamps**

The Kind You Read About

We carry the largest stock in the peninsula, and can fill orders for any quantity immediately.

By them by the box and save money.

Guaranteed against defects.

**J. H. SANDHAM COMPANY**  
235 St. Paul Street  
Telephone 1112

**M. MALLOY**  
Light and Heavy Trucking.  
Local and Long Distance Moving.  
Phone 1878 65 Lowell Ave

**Skates Ground and Concaved at 15c Pair**

By latest improved skate grinder. Call and see. Also furniture repaired at

**Novelty Woodturning Works**  
30 Centre Street

**Farmers, Notice!**  
If you want

**To Sell Hogs**  
either alive or dressed, call write or telephone for our prices before selling elsewhere.

**Moyer Bros., Ltd.**  
8 Frank St. - Phone 197  
ST. CATHARINES

**LUMBER**  
James M. McBride & Sons,  
George-st, near Welland ave  
TELEPHONE 41

**TEMPERATURES OF AIR**  
The Atmosphere and Its Relation to Agriculture.

High and Low Temperatures Sometimes Beneficial and Sometimes Hurtful—Old Sol the Primary Source of Heat and Light—An Interesting Study of Air—Live Stock Notes.

(Contributed by Ontario Department of Agriculture, Toronto.)

**A**TMOSPHERIC temperature has ever been a matter of much concern to agriculturalists. A high temperature, although necessary and beneficial in some cases, is detrimental in others, but in each case requires a liberal amount of precipitation. On the other hand the destructive frost of late spring and early autumn is an unpleasant but frequent visitor to the agriculturalist. Man has harnessed much of nature and made it his servant, but as yet no one can say that man can control the atmospheric temperature, although he may modify it in a few instances or overcome some of its disastrous effects.

The primary source of all heat is the sun. Old Sol shines and heat and light travels the intervening 92,900,000 miles of space with a velocity of 186,000 miles per second. Some of this heat is absorbed in its transit by dust particles, water-vapor and the temperature of the air in contact with it. The latter has the greater effect on air temperature.

Local conditions have a great effect on temperature. Water requires about five times the quantity of heat to raise its temperature one degree as does soil, thus large water areas tend to prevent high temperatures. Also, as there is always slow evaporation and it requires about 200 times as much heat to evaporate one gallon of water, as to raise its temperature one degree, the temperature is kept more moderate. Large swamps and bush areas freeze large quantities of water to the atmosphere as well as retaining the spring water longer in the country and consequently has a moderating effect.

Frosts are also prevented by water, swamps and bush areas, because they produce a high humidity and are not so readily cooled as large land areas. Air of high humidity acts as a better blanket as it were, than the dry air. Also the temperature at which dew is formed is higher and the lowering of the temperature may be sufficiently arrested to eliminate any danger of frost.

The type of agriculture in any section is decided by its air temperature. Any new crops which are imported must first become acclimatized to that section before they are a success. Winter cereal crops of Ontario and hay crops are not affected by extremely low temperatures unless growth is started by warm weather followed by low temperature or by heaving of the soil about the roots. Late spring and early fall frosts cause much damage. If the temperature does not drop below 28 deg. F. only the tenderest vegetation suffers, but below it wholesale destruction results. High temperatures cause strong evaporation from the leaves of plants and thus the need of a large amount of precipitation to prevent wilting or death itself.

In a pamphlet by A. J. Connor, of the Meteorological Office, Toronto, an interesting relation between the growth and yield of wheat and the temperature is set forth. Both yield and growth are increased by a low temperature and a low range in temperature. A critical period appears to exist in the latter part of the 90 days following sowing, and if the weather in this period be warm, dry with great temperature range, the wheat plants will head quickly and the harvest be light; but if the cool moist conditions exist heading will be postponed and the yield increased. Thus it remains a matter of seeding at the proper time to insure the cool moist weather in the critical period. In the Western Provinces the sowing is early, namely, the last of April, throwing the critical period about the middle of July, the variability of the temperature of which is the critical factor. However, the rule there is the earlier the better, while in Ontario we are unable to sow spring wheat sufficiently early to procure that desired cool, moist weather, nor can it be obtained by late sowing.

All cereals are best adapted to the temperate regions and especially those of low temperature and small temperature range. Consequently the above temperature effect is applicable to all. Fruits as a rule, require a higher temperature region, but not a high-temperature range. Many fruits, however, have a wide distribution and is the result of variety.—R. C. Moffatt, O. A. College, Guelph.

**Live Stock Notes.**

This is the time of year when horses are in danger of getting too much hay and too little exercise. Idle horses will keep in much better condition if given regular exercise, and if their supply of hay is wisely restricted.

Stables that are well ventilated and lighted, even though on the cold side, are more comfortable and more healthful than dark, steamy, warm stables.

Young cattle and breeding stock of beef breeds enjoy a short outdoor run every day during winter, and treatment of this kind promotes health.

Breeding ewes must have abundant exercise if vigorous, healthy lambs are looked for.

Good alfalfa or clover hay, with about four pounds roots or two or three pounds of silage, per ewe, per day, makes a good ration.

Roots fed to horses not at hard work will cut down the cost, as well as add variety, to the ration.

An announcement from Moscow is to the effect that the Soviet Executive has given orders to advance the clock one hour on February 15th.

**Lace Making In China**

**C**HINESE women seemed to have had very good taste for fancy work even in very early times. Before they knew what laces were they began to make them, though not so fine and beautiful as those of to-day. The kind that they made was the embroidery lace. Narrow strips of satin or silk from one-fourth of an inch to three or four inches wide, were first woven, then different designs of flowers, fruits or insects were embroidered with various colored silk threads or gold-plated or silver-plated threads. The finished laces were very much like the silk embroidery laces of to-day, which come from England and France, only that they were not very brilliant in color owing to the lack of different shades of color at that time.

As every other thing progressed so did the art of lace-making. Finer and fancier ones appeared, the best known of which were the Mei-az and Mu-li laces, named after their designers. The best were not found in the market places but in the homes of individuals. It is said that a girl on her tenth birthday should start on her work of making lace and other embroideries in order to get ready for her wedding garments, such activities were stopped at the coming in of foreign laces. To-day they are kept as curios.

Later as glass beads were introduced into the country, the making of bead-lace began. The beads were either round or oval-shaped. They were strung into different geometric designs. The round beads were made into very fine designs such as the bead-lace of to-day. At the time demanded the designs and variety of laces varied, until the foreign silk laces came into fashion and put a stop to all other kinds. Imitations of these silk-laces were attempted, but owing to the lack of proper machinery and varieties of patterns they could not compete in popularity with the imported ones. For quite a time the home-made laces were out of fashion.

About twenty-five years ago in the city of Chefoo in Shantung a girl's school was established by a foreign missionary. It was in this little school that the art of hand-made lace was first taught to the Chinese by foreigners, which has now become an important industry in China. The lace thus made is the so-called "Chefoo" lace. It is found that the greatest amount now is not made in Chefoo, but in a district called Hsiang-tse, thirty-five miles from Chefoo. There the foreign silk laces were first made, but it did not prove a success for its competition was rather small at that time.

A British missionary in 1895 established the first institution for lace-making. From this time on the lace industry became important. In addition to the silk lace which was made of entirely Chinese silk, the thread lace was also introduced in 1904. The thread, both cotton and linen, and the patterns, came exclusively from England and France. Besides the above mentioned ones here are the cluny, the filet, the rochet, the point venise, and the Swarov laces. The finest of the laces comes from Ching Chou in the Tsinan district in Shantung. Chi Hsia is still a great centre, yielding fully fifty per cent. of the laces of the places. Shantung and Swatow are now gradually coming into competition.

The cluny and torchon laces are made by fastening the designs on a cushion especially made for the purpose, and using the same method as the making of bobbin lace by hand. These two kinds have found a great market in Australia and America. The filet lace is made by using a net which is spread over a frame. The pattern is provided with a needle. The thread used comes from England, yarn forty is most used for the purpose. Filet lace has been introduced only about seven years ago, but it is welcomed greatly. The net for the rough kind of lace is largely made in Kiangpoh, a district east of the Whangpoo river, though some of the schools are still making it, yet their quantity is comparatively small. Growth appeared a year earlier than the filet. It is made with a hook. The best thread for this kind of lace is the Fil d'Irlande Brillante, a French thread, which is generally called by the local name, "Shiny thread," owing to its bright silvery lustre. Point venise is another kind made — by using a needle in much the same way as the filet lace, only that Fil d'Irlande Brillante should be used instead of the ordinary thread. The so-called Swatow lace is manufactured in Swatow.

As yet no factories can be found for lace-making anywhere in China though the lace industry is rapidly progressing. It has been found that the practice of supplying thread to the workers and paying them for their labor is being introduced by some small exporting firms, but it has not proved a success owing to the difficulty of importing foreign threads. The usual way now employed is for brokers to furnish the nets and the patterns to the manufacturer to have the lace made at a certain amount and then to sell the finished lace to the exporters. Usually one embroidery piece of the net, size about four feet long and a foot and a half wide, the worker receives a dollar and the thread. As to the selling price it varies greatly according to the quality of the lace.

The quality of the lace depends upon its cleanliness, fineness, evenness of pattern, firmness and its workmanship, and also the kinds of thread with which it is made. The new and fancier patterns greatly promote the popularity of the lace since the grade of its quality requires real skill to judge while its appearance nobody can fail to observe.

**CELLS OF BODY LIVE ON.**

**Proof That They Do Not Die When the Body Dies.**

Never was there a more convincing proof of the recently discovered fact that the cells of the body do not die when the body dies, but live on, how long no one yet knows, than that contained in an article by Dr. Albert H. Ebeling, of the Rockefeller Institute for Medical Research, in the Journal of Experimental Medicine. In this article Dr. Ebeling describes his experiences with a piece of the heart of an unattached chicken. This was cut out by Dr. Alexis Carrel on January 17, 1912. To-day it is still alive. Needless to say, the embryo chick from which it was cut has turned to dust long ago. The fragment is a bit of connective tissue. Not only is it alive, but it has been growing all these seven years. The old cells have been forming new ones, taking the material for this purpose from the medium in which they have been kept. This medium is a clot formed by mixing the blood plasma of adult chickens with an extract of chick embryo in equal parts. The latter is obtained by washing seven or eight day old embryos in Ringer's solution, chopping them up, centrifuging for ten minutes and drawing off the super-natant fluid.

The fragments of heart are kept in glasses filled with this fluid and fitted with covers. They are kept undisturbed for eight hours and then a fragment is transferred to a black glass, in which it is cut with a cataract knife into two or three pieces as nearly equal as possible. Each of these pieces is washed in Ringer's solution and placed in a glass with fresh medium, there to grow undisturbed for another forty-eight hours when they are ready for examination.

This process has been repeated 1,390 times, and the latest strains are still growing—in fact, they are growing more rapidly than when first the piece was taken. During the first year the growth was slow and irregular. When the strain was twenty-eight months old the fragments of tissue which showed the maximum speed in growth increased fifteen times the size in eight hours. The seven-year-old strain may sometimes become forty times larger than the original fragments in forty-eight hours. This is probably due to the fact that as time went on the doctors have improved the medium and are now using one that exactly suits the connective tissue of the heart.

The speed of growth can be watched under the microscope, an Dr. Ebeling's article is accompanied by some splendid photographic enlargements. One of these shows a piece of the tissue magnified 240 times, photographed on April 25, 1919, after forty-eight hours of growth. It shows a mass of living cells of connective tissue, each with its nucleus showing as a dark spot.

**Australia's Big Irrigation Scheme.**

Thirty thousand acres of land will be submerged by the construction of a mammoth dam in southeastern Australia, the object of which is to form a great irrigation reservoir. Work has started on the structure, which will be located on the Murray river a short distance below the confluence of Mitta Mitta Creek with that river. It is estimated that the project will cost \$9,000,000 to complete. Approximately 43,560,000,000 cubic feet of water will be impounded.

The total length of the dam will be 3,941 feet. This will comprise three sections: An earthen dam, 2,700 feet long; a concrete speedway, 740 feet long, and an outlet works of the same material, 161 feet long. At some points the dam will be nearly 100 feet in height. The foundation will extend down to a stratum of granite, 34 feet below the surface of the earth.

Only a comparatively small portion of the dam will be situated in the river bed proper, as the greater part will extend across an alluvial flat on the left bank of the stream. In construction the dam will be a concrete core wall will be built on a dirt embankment. Thirty-one gates will be installed in the concrete section. Water thrusts will be used and the dam will furnish power to generate these. The outlet works, pierced by eight 6-foot pipes, will be equipped with valves and capable of discharging 8,000 cubic feet of water per second under a 29-foot head.—Perry Mechanics.

**Trains Driven by Air.**

Many people believe that the only way railway trains will be driven in the future will be by means of electricity, but if the new system, now being tried on the Italian state railway is as cheap as experts predict it will be then our railways will be driven by air!

By this new system air is compressed into big central tanks; from which it is distributed to special air fuel stations along the railway line by means of strong pipes. At these air fuel stations locomotives will be able to stop and refill their own tanks with compressed air.

It is said that the building of air tanks along the railway and the laying of pipes will be nothing like so costly as electrification, which requires not only a third of track, but more along the engines. With compressed air the modern steam-engine requires very little alteration, and so the enormous expense of complete new set of engines would be done away with.

The fuel is easy enough to get. Moreover, it is absolutely clean, and this will be one of the necessary qualities of any motive power of the future.

**A Patented Swing.**

A recently patented swing for young children terminates in a fabric pocket with holes through which a child's legs are thrust, to permit it to kick the device about or walk as far as the ropes of the swing allow.

Hon. Manning Doherty is elected by acclamation in East Kent, but Premier Drury will be opposed in Halton by E. J. Stephenson of Toronto.

1870 Our Golden Jubilee 1920

**The Mutual Life ASSURANCE COMPANY OF CANADA**

**Fiftieth Annual Report**

CONDENSED STATEMENT

	1918	1919	Increase
Income	\$ 7,021,103	\$ 8,583,404	\$ 1,562,301
Paid to Policyholders	3,291,413	3,811,092	519,679
Assets	34,755,736	38,020,949	3,265,213
Surplus Earned	813,710	1,302,801	489,091
New Assurances	21,541,069	40,625,656	19,084,587
Assurances in Force	137,640,614	170,706,305	33,065,691

**Fifty Years of Progress**

**Our Jubilee Year.**—The year 1919 was notable inasmuch as it completed the fifty years of the company's active operations, and at the same time marked the year of its greatest development and progress in all departments of its business. The first policies were offered to the public in the spring of 1870, and the end of the first half century sees the company with unimpeachable assets of \$38,000,000 and policies in force amounting to \$170,000,000.

**Remarkable Expansion of Business.**—The most remarkable feature of the year was the flood of new business received, due largely to the awakening of popular appreciation of the beneficent function of life assurance by the experiences of the war and the influenza epidemic that followed. The increase in new business acquired was nearly 90%. That the record for quality business was fully maintained is indicated by the large increase of \$33,065,691 in the total business in force, being over 80% of the new business written.

**The Surplus Earnings.**—No item of the year's operations is more gratifying than the great increase in the surplus earnings. Notwithstanding a certain number of abnormal death losses arising from the war and the influenza epidemic, amounting to \$352,857.85, the surplus earnings for the year were \$1,302,801, an increase over the previous year of 80%, and showing earnings of \$34.27 for every \$1,000 of total assets held at the end of the year.

**Invested Funds.**—Never in the history of Canadian life insurance has there been such a remarkable opportunity for the profitable investment of life insurance funds, and the effect of the past year's investments will be to enhance the surplus earnings over a long period of years, through holding up the average rate of interest earned on the invested funds. For the year 1919 the company earned the very satisfactory rate of 6.39%.

**Comparative Statement of Growth**

Year	Income	Assets	Paid to Policyholders	Assurance in Force
1870	4,356	6,216		\$ 500,000
1880	83,691	225,675	\$ 26,681	3,094,884
1890	489,858	1,696,076	176,151	13,716,800
1900	1,164,875	5,165,493	424,815	29,518,625
1910	3,020,996	16,279,562	804,759	64,855,279
1919	8,583,404	38,020,949	3,811,092	170,706,305

A copy of the detailed report will be mailed to every policyholder in due course.

**C. E. HANSELL - District Manager**  
ST. CATHARINES, ONT.

**STARR Gennett RECORDS**

Here They Are Now  
For All Lovers of Good Music

**New Starr Gennett Records for February**

FROM the great cathedrals and halls of old England, the studios of great artists, and the Broadway theatres, where talent and melody are wedded, comes the all-embracing range of Starr Gennett Records, bringing joy and entertainment to thousands of homes.

Ask Your Dealer for

**STARR Gennett RECORDS**  
THE STARR CO. OF CANADA, LONDON, ONT.

**WEAVER'S MUSIC STORE** 163 1/2 St. Paul Street