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Passenger Airship Coming To Travel Atlantic Air Lines

The British R-100, Now Nearing Completion, Will Be Used To Test Out and Demonstrate the Feasibility of Regular Trans-Atlantic Air Travel

SCHEME NO DREAM

British engineers are now completing the R-100, a dirigible passenger airship, which is expected to make a demonstration voyage across the Atlantic to New York next September. Commander Burney, of the British Navy, one of the designers of the R-100, who is now in Washington, describes the airship in the following article and expresses the opinion that if her tests prove successful a new era in overseas transportation will be opened. His article appeared in the New York Times, partly as follows. The illustrations give a good idea of this air monster.

Few people realize the great advance which has been made in the design and construction of dirigibles during the last few years, but the fact that plans are now being made to inaugurate a regular transatlantic service is an indication that big developments are impending. As a first step toward the realization of these plans it is proposed to utilize the British dirigible R-100 as a demonstration vessel and to operate her on a New York Montreal-London route, beginning next Fall.

Owing to the fact that dirigible development hitherto has been mainly in the hands of British Government departments and also because the vessels themselves have been built for war purposes, it is difficult to make people believe either the extent of the passenger accommodation which can be provided or the lowness of the fares necessary to give a commercial success.

Take as an instance the R-100, as this vessel is now practically complete and will be in the air in a few months' time. The passenger accommodation consists of the equivalent to a three-story house mounted in the vessel, as photos show.

On the lower floor are the crew's quarters, consisting of a mess deck and cabins. Leading from this to the upper floors is a double staircase, similar to that in a steamship, and on the lower passenger floor one will find two promenade decks, some fourteen feet wide, specially strengthened to permit dancing; a restaurant to seat fifty persons at one time and cabin accommodation for that number. These cabins are of two or four berths and may be compared with those provided in an Atlantic liner. They are fitted with bunks, electric light and stowage arrangements for the 100 pounds of passenger's baggage which will be carried free.

Balconies for the Passengers.

Above this floor is yet another, on which further cabins are provided for fifty more persons; a smoking lounge, and two balconies, enabling passengers to move their chairs from their cabins to the balcony and view the scenery below. Elaborate arrangements have also been made for the comfort of the passengers, and an extensive electric equipment has been installed so that electric cooking, heating and lighting can be provided, thus allowing normal meals to be served as in a hotel.

Lavatory and washing accommodations similar to, those in use on fast limited trains have been adopted and equivalent facilities installed.

The dirigible has important advantages over both the airplane and the steamship in that there will be no noise of the engines, no vibration and no motion equivalent to that in a liner. Therefore, it is believed, there should be no sickness.

A minimum fare of $100 should be adequate to give a satisfactory financial return. The success of dirigible transportation, like many other developments, will depend largely on the ability to cater to large numbers of travelers. The lower the fare that can be successfully charged, the more profitable will be the basis of this new industry, and just as the cheap motor cars can only be produced if they are manufactured in large numbers, so it will be with dirigibles.

A Two-Day Passage.

There is little doubt, therefore, that we can visualize, within a comparatively short time, a fare between London and New York of only $250, the time of transit to be less than forty-eight hours. The establishment of such a service would entail a veritable revolution in transportation, for the Atlantic service would be followed by the establishment of lines radiating from New York and London throughout the world.

What the Dirigible Has Done.

So much attention has lately been paid to airplane transportation and so little to airship transportation that it may be well to recall some of the results which have been obtained in aerial transportation work by airships in the past.

Before the war, various airships built in Germany carried approximately 10,000 passengers without a single accident, fatal or otherwise, to any passenger, a record which cannot be beaten by any other form of air transport. Admittedly the flights on which these passengers were carried were short, not more than three or four hours in time; nevertheless, they compare favorably in duration with the cross-channel service between London and Paris by airplane.

Guiding Experiences.

There is, of curse, a vast difference between short flights of three or four hours' duration and the inauguration of a regular transatlantic service, but even in this respect there is some definite experience to show the feasibility of such a service. As far back as 1919, the British airship R-34 crossed the Atlantic, from England to America, refueled in America and then made a successful return flight; and in 1925 the airship Los Angeles crossed the Atlantic from Friedrichshafen in Germany and arrived at Lakehurst in about eighty hours.

We have, therefore, two sets of experiences to guide us. In the first place, we have the fact that on short flights passengers can be carried in these vessels both safely and surely; and, in the second, that with the pre-war design of airship, when extra fuel is carried instead of paying load—that vessels of this type can successfully cross the Atlantic from East to West.

No doubt many who to-day think such a development but the dream of some mad inventor will become enthusiastic in support of the development of dirigible travel. The proposed demonstration flights across the Atlantic should prove, at any rate, that this system of transport is quite feasible; and as soon as this has been demonstrated, all that will remain to inaugurate an efficient Atlantic service will be the provision of the necessary capital.

The Airship Guarantee Company, which has constructed the R-100, has already worked out the general design for the transatlantic ship for the regular service, and this vessel—called the Atlantic type—will be as great an advance over the R-100 as the R-100 is over previous vessels. The estimated cruising speed has been increased to ninety-five miles an hour and the endurance increased from 4,000 miles to 6,000 miles. At the same time more luxurious accommodation has been provided for passengers and the number to be accommodated increased from 100 to between 150 and 170.

Let us now examine some of the adverse factors to see why so long an interval has elapsed between 1919, when this development was shown to be possible, and the present time when they are actually being made.

The first big setback to airship development was undoubtedly the destruction of the British vessel R-38 when over the Humber in 1921. This disaster was closely followed by that of the Roma in America, and that was followed by the destruction of the Dixmude in the Mediterranean. The reason for these disasters had hardly been analyzed when that of the Shenandoah occurred. The inevitable result upon the public mind of this succession of disasters was to confirm the idea in most minds that these great vessels would always suffer from such inherent structural weakness that it would be impossible to build a really practical vessel. Unprejudiced technical examination of the position does not confirm this opinion—the causes of these disasters have been analyzed and obviated in the new designs.

As a result of the use of these vessels during the war, designers both in Germany and in England were competing in an endeavor to lighten the structure of the vessel to a maximum degree in order to enable the vessels to reach as great a height as possible, so that they might avoid anti-aircraft gunfire. It was, no doubt, perfectly legitimate to take the great risk which such a lightening of the structure involved during the war, but it is now known that all these vessels were structurally weak.

Structure Problems.

Before any part of the R-100 was constructed, about two years were spent in investigating the various problems connected with the provision of a structure sufficiently robust to withstand such aero-dynamic forces as were likely to be brought upon it during flight, and, as a result of these investigations, the R-100 is approximately five times as strong as any airship which has hitherto been built. Her cruising speed, furthermore, is approximately equal to the maximum speed of any vessel previously built; and it is thought that as a result of these two major improvements the R-100 should be able to encounter successfully even abnormal storms.

One thing, however, is quite certain, and that is that the public confidence will not be regained by the airship until a definite proof has been given to the world that the claims put forward by the designers of these craft can be substantiated in operation.

It is mainly for these reasons that the demonstration flights across the Atlantic by the R-100 are being planned. When a considerable number of such flights have been carried out successfully, and the experience gained on these flights embodied in the new Atlantic type of vessel, we shall be on the eve of a new era in transportation.

Unless some unforseen invention is made, the limits of performance of the airplane can to-day be assessed fairly accurately, and there is a general consensus of opinion on the part of airplane constructors that a transatlantic airplane service is not in sight; and even if developments enable a 400 per cent. increase in pay load for a given horse power to be obtained, still it would not be possible to inaugurate an airplane service.

There are many members of the public, however, who have the idea that such a service would be feasible if seaplanes were employed, as the seaplanes could alight on the water and refuel from some vessel in mid-Atlantic. Unprejudiced investigation into such a project will show its utter futility. Those who have crossed the Atlantic during this winter so far must have observed that there was not a single day on which a seaplane could alight on the water without being instantly destroyed. It may be, and probably will be possible for certain spectacular flights to be made by either airplane or seaplane by carefully selecting a day in which meteorological conditions are favorable; but there is a great difference between a spectacular flight carried out at great risk both to the pilot and machine at a selected moment and the continuous running of a service on regular schedule.

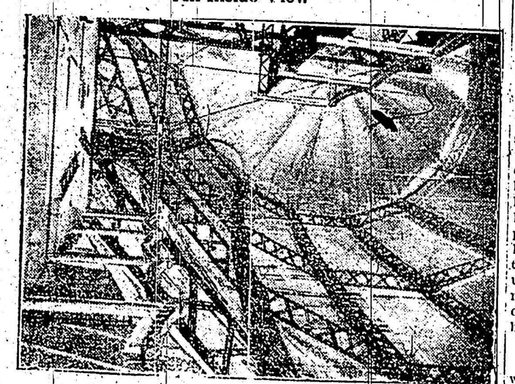
Airships for Long Trips.

One hopes that the proposed flights of the R-100 will turn public opinion to appreciate that the airship and airplane are complementary and will not operate in opposition to each other. The airship is pre-eminently the vessel for the long-distance transoceanic flights and the airplane the type of craft for short-distance operation.

The British Government has appreciated this situation and is laying the foundations of a great imperial airship service stretching from London to Egypt, India, Australia, New Zealand, South Africa and Canada. Already airship bases are erected or in process of erection in Egypt, India, Canada and South Africa, while the Governments of Australia and New Zealand have signified their intention of erecting airship bases in their own countries as soon as the R-100 has proved successfully that it can operate with both safety and reliability.

It remains only to establish a daily service between London and New York to bring not only those material benefits in trade that must inevitably result to the world as a whole a greater stability, a more earnest wish for peace and a better understanding between the peoples of the world.

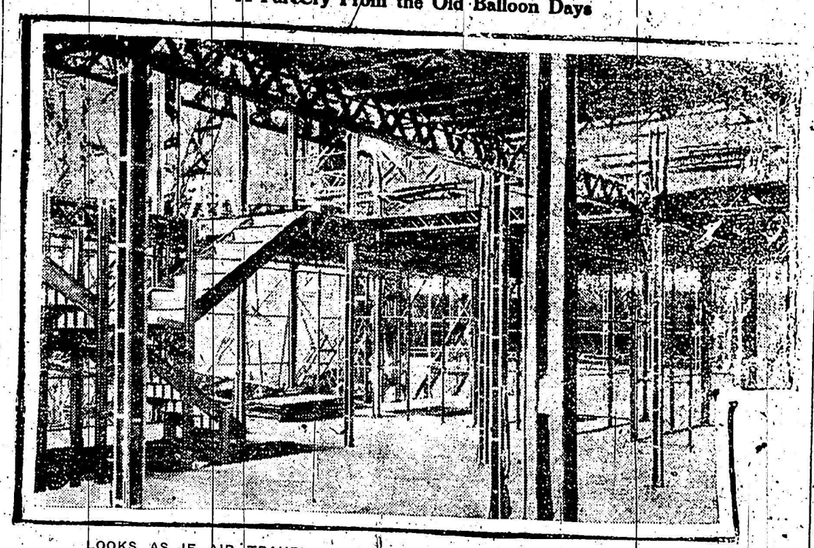
An Inside View



LOOKING ALONG THE R-100

This view gives some idea of the general construction of Britain's Leviathan of the air.

A Far Cry From the Old Balloon Days



LOOKS AS IF AIR TRAVEL WOULD SOON BE SAFE

Not the interior of a factory, but the future restaurant of the new gigantic air liner R.1100, built for the British Air Ministry. This is just the central deck, with the crew's quarters one deck below and another deck above. The air liner is to be put on regular transatlantic mail service.

Alberta Coal

Plans Are Still Under way to Supply Ontario Users

Fresh efforts to find a way of marketing Alberta coal in Ontario were under way in Ottawa recently, when E. W. Beatty, President of the C.P.R.; Howard Stutchbury, representing Alberta, and others, were there.

The Government is reported to be in favor of a $7 freight rate, with the loss being made up to the railways by Federal and Provincial subsidies. Price of coal at the mines averages $4 per ton. With a $7 freight rate and $3.50 per ton for cartage and overhead, the cost of Alberta fuel in Ontario cellars would be $13.50 per ton, with the exception of Toronto where 50 cents per ton would be added for bagging.

There is the disadvantage that Alberta fuel is not equal to Pennsylvania coal in heating efficiency, according to Government experts who have made tests.

However, prospects for a seasonable movement are considered hopeful.

One of our youngest airwomen is a Bristol schoolgirl, who belongs to the flight aeroplane club of that city. She is only about fourteen years of age.

Farm Notes

Effect of Inoculation on the Yield of Legume Crops

At several of the Experimental Farms in Canada tests have been made on the effect of inoculation on legume crop yield where legume bacteria were absent from the soil or present in insufficient numbers, and the results are summed up in a pamphlet on Legume Inoculation written by the Dominion Agricultural Bacteriologist. In some cases the increases in yield resulting from inoculation comparatively slight but in many instances they were strikingly large. At the Kapuskasing Experimental Station two years after seeding, the inoculated alfalfa seed produced 3 tons, 1,465 pounds of dry matter against 3 tons 967 pounds produced from untreated seed. Results at the Beaverlodge, Alberta, Station, were much more striking. On areas clipped in the year of seeding on that station the aggregate crop of two years from inoculated red clover seed was 4,162 pounds per acre as compared with only 320 pounds from uninoculated seed. For alsike the comparison was 4,268 pounds with 640 pounds and for sweet clover 5,660 pounds with 1,520 pounds per acre. The pamphlet may be obtained from the Publications Branch, Department of Agriculture, Ottawa.

Relative Value of Fresh and Rotted Manure

Weight for weight rotted manure is more valuable than fresh manure as it contains percentages of plant food and has these elements in a more available condition. However, according to a new bulletin on Manures and Fertilizers written by F. T. Shutt, Dominion Chemist, and L. E. Wright, the losses in rotting frequently outbalance the benefits. Generally speaking, the sooner the farmer gets his manure while still fresh into or onto the soil the better. Still there are times when the rotting of manure is an advantage. It is well suited for light and sandy soils as it tends to make them more compact and retentive of moisture. On clays and heavy loams fresh manure is best as it improves their physical condition by opening them to the air and making them more friable. Fresh manure is also preferable for crops which have a long season of growth. With crops having a short period of growth and where early marketing is a consideration rotted manure with its quickly available plant food is best. It should be remembered that when rotting manure in a large heap the mass should always be kept compact in order to reduce losses to a minimum. The bulletin may be obtained from the Publications Branch, Department of Agriculture, Ottawa.

Mixing Fertilizers on the Farm

A farmer may save as much as 25 per cent. in the cost of his commercial fertilizer by buying the ingredients separate and mixing them at home. Besides, by this means he will be able to prepare the mixture in the quantities and proportions which experience has taught him are best suited to his soil and crops. The operation of home mixing is fully described in a new bulletin on Manure and Fertilizers, distributed by the Publications Branch, Department of Agriculture, Ottawa. It may be performed on a floor with a shovel, a screen, and a mallet for breaking lumps. The sacks should be emptied separately and, if necessary, the material pounded fine with the mallet, then passed through the screen, which should have about ten wires to the linear inch. The ingredients having been thus prepared in separate heaps, the one to form the largest proportion of the mixture, usually the phosphatic fertilizer, is first spread on the floor and the other ingredients superimposed in successive layers. The batch is then turned by shovelling, first to one side and then to the other, four or five times. After turning once, the whole batch should be passed through the screen to ensure the absence of lumps and facilitate mixing. One ton is generally enough to mix in one batch. It is best to apply the fertilizer with 24 hours after mixing but if it has to be kept awhile it is well to add a certain proportion of filler, such as fine dry loam or sand, in order to check the tendency to cake. Basic slag is best used alone. At any rate, neither it nor wood ashes nor other substances containing free caustic lime should be mixed with sulphate of ammonia.

Fertilizing the Orchard

The orchard is one part of the farm where commercial fertilizers can be used to advantage. It has been experimentally demonstrated that when commercial fertilizers are properly used in conjunction with cover crops on orchards they will give as good results as the same amount of plant food supplied in the form of manure. In fact manure alone may not supply a sufficient quantity of nitrates at the critical period in spring as its nitrogen is not in so readily available form as that in nitrates. For this reason, In a bulletin on Modern Orchard Practices, distributed by the Publications Branch, Department of Agriculture, Ottawa, orchardists are advised to depend upon the different forms of nitrogen, potash and phosphate as found in commercial fertilizers to supply the necessary mineral elements of plant food.

At the same time orchardists should avoid the ready-mixed or complete fertilizers for orchard use. For example, nitrogen contained in the average mixed fertilizer is not in a very quickly available form. Nitrate of soda is probably the best form in which to supply the nitrogen. For sod orchards, acid phosphate, the most readily available form, should be used, but for orchards in cultivation basic slag will likely meet requirements as it possesses the added advantage of containing some lime. Muriate is probably the best form of potash for orchard use.

Methods of Feeding Meal to Pigs

That it pays to give pigs warm food in cold weather was shown in a test made at the Kentville, Nova Scotia, Experimental Station. The pigs were divided into four lots as equal in weight as possible. Each lot received an equal quantity of meal, roots, and milk, and had access to water as required. The methods of feeding the meal, however, were different for each lot. Lot 1 received meal fed dry and lot 2, meal in water slop fed cold. Meal soaked from one feed to the next was fed cold to lot 3, and warm to lot 4. The lot fed dry meal did not do so well as the three lots fed slop. Lot 4, did best, indicating that for cold weather warming the feed is profitable. (Issued by the Director of Publicity, Dominion Department of Agriculture, Ottawa.)

A MODISH FROCK.

The smart simplicity of this chic frock will appeal at once to the discriminating woman. The graceful jabot and circular inset at the left side front are of special interest, and the long dart-fitted sleeves are chic. No. 1717 is for Ladies and Misses, and is in sizes 1 years, 36, 38, 40 and 42 bust. Size 38 requires 4¼ yard 36-inch, or 2⅜ yards 54-inch material. Price 20c the pattern.

Our Fashion Book, illustrating the newest and most practical style, will be of interest to every home dressmaker. Price of the book 10c the copy.

HOW TO ORDER PATTERNS.

Write your name and address plainly, giving number and size of such patterns as you want. Enclose 20c in stamps or coin (coin preferred; wrap it carefully) for each number and address your order to Pattern Dept., Wilson Publishing Co., 73 West Adelaide St., Toronto. Patterns sent by return mail.

Sunday School Lesson

February 26: Lesson: Mighty Works of Jesus 5: 22-27, 32-36, 41, 42. —Thy faith hath made thee whole. —Mark 5: 34.

SUBJECT: HOW HUMAN FAITH CAN PRODUCE THE MIGHTY WORKS OF JESUS

INTRODUCTION.—The work of Jesus, the Son of God, now comes before us as an example of the extraordinary power of faith into the souls of men, and the part which this faith plays in the events which it is permitted to influence. Faith in one or other of its forms comes before us in every lesson. Jairus makes his request in vs. 27, 28 where the woman touches his clothes; in vs. 30 where the same woman is commended for her act, and Jesus says that her faith hath made her whole; in vs. 36, where Jesus encourages Jairus to believe despite the adverse news from his home. In vs. 34, before that the help which Jesus rendered powerless through lack of faith. Here we have notable instances of the power of faith.

Jesus appears in this lesson in spite of the natural ingratitude, the Great Physician, people, the sympathetic touch of incidents chosen never to forget that there must be a response obedience to him if he is to help Saviour. It is not a question of refusing his help because of lack of faith. The truth is that we cannot help where there is no trustful disposition. He will not work on ours if it is not rendered to him. Even God is powerless if we are against him.

V. 22. As Jairus is mentioned of the presidents of the synagogue we may assume that he was a man of good education and of high standing in his own religious community. The fact of such a man coming to Jesus at a time when the religious authorities had declared against him is a sign of his faith. The word comes out in his falling at the feet of Jesus—an Oriental expression of reverence.

V. 23. Jairus' request is simple. Jesus are now declared. He comes out again in his confidence that Jesus is able to do anything which he requests—to heal his little daughter from the jaws of death's door.

Vs. 24-27. Jesus at once goes with Jairus, and he is interrupted when an extraordinary incident occurs. The fact of his going with Jairus' case does not appear to have any other sufferer from many years. By the way, A woman, suffering from a distressing complaint, comes behind him, touches his clothes, and departs. She feels that among the crowds following Jesus, her furtive act with a trembling hand will escape notice. Her faith is plain by many circumstances: (1) she had suffered from twelve years, yet still hoped on; (2) she had tried all manner of cures in vain, yet still hoped on; (3) she had grown worse as time went on, yet not even now despaired. To this must be added (4) the manner in which she expressed herself: "If I may touch but his clothes, I shall be well."

Vs. 32, 33. It shows how dear our Lord was to the touch of the woman's secret act to him that the poor sufferer might think to slip away even without which she had sought and received her a gift not obtained by stealth, but with his own frank consent and blessing. Therefore, "Who touched my clothes?" The power of Jesus to by an individualizing act which singles out all its recipients for special personal blessing. The grateful recipient of his healing power confess her act.

Vs. 34. We may well suppose of Jesus in obtaining the woman's confession by the words, "Thy faith hath made thee whole," which he here uses not only wishes her to know that he knows willed her health and rejoices in it, will remember all her days, not only that, he healed her, but that he has given her act of faith and confession its consequences.

Vs. 35, 36. The interruption of Jairus now returns to Jairus and his daughter. The sad news that his little girl has passed away seems too late for Jesus now to come to the trouble the teacher. But Jesus treats the news as though he had not heard it. He encourages Jairus not to fear, but only to believe.

Vs. 41, 42. The laughter of those excited in the house by the Master's assurance, "The child is not dead but only sleeping," reminds us that there are forces working against Jesus. Unbelief had been overcome through the action of the faith of the authorities, and Jesus had to face the scoffers before he could deal fully with the case before him. Only in the society of the believing Christ and of his own disciples does he find an environment conducive to the full operation of his spiritual powers. Where he finds it, his powers know no limit.

Shipowners and Australian Trade

Leeds Yorkshire Post says: "Almost practically all the Australian trade is shipowner's expenses are three times as great as at Montreal. A ship that takes a vessel three times as long to load or discharge her cargo. Very heavy losses have been suffered by shipping companies engaged in the (grain) trade, and ships that used to have upwards of 20 years ships operating on the Australian service have now only two or three. The great developments in the export of grain from Vancouver and Prince Rupertine, and the determination of Canada and South Africa to improve the facilities make it more imperative that Australia should take steps to put herself on a more competitive basis.

A slightly hilarious man was mistakenly thrown his arms around a totally strange woman in the dark and to apologize. "'Scuse me," he gasped, "I thought you was my wife." "You're a fine husband for a woman to have, you are!" screamed the lady in a rage. "There, there," placated the gentleman soothingly, "y' talk jus' like her, too."

FLOWERS and VEGETABLES

No. 2

Note:—To accommodate our varying Ontario climate (from Pelee Point to Hudson's Bay) we are running these articles early enough for all—so clip out for reference and file

Growing Plants Indoors.

Many tender bedding plants for the window box and hanging baskets can be grown by the amateur if started indoors this month, while the hardier sorts if given an earlier start in this way will come into bloom several weeks sooner than if planted directly in the open. The same is true of many vegetables such as tomatoes, cabbages, lettuce, melons, and even a few beets, carrots, and bulbs of corn. Starting these indoors will materially hasten the time when they will be ready for the table. A shallow cigar box or something similar is the best thing to grow these in where space is limited, or if there is plenty of room a florist's "flat"—a shallow box 12 inches by 18 may be used. Punch a few holes in the bottom of the box to allow drainage, and add a layer of cinders or gravel to serve the same purpose. Get some fairly good soil, and break it up fine. If there is not a supply already in the cellar, the nearest greenhouse man will be glad to sell some. Moisten the earth, then mark off the rows which need only be one inch apart, sow the seed, and cover the top of the box tightly with a piece of sackcloth or burlap. This keeps the seeds from washing away and hastens germination. It is best to start the seeds in a warm, dark place, and when they have pushed up through the soil, remove the burlap, and give them full sunlight. Unless there is a storm window on outside keep the box back at least eight inches from the glass to avoid drafts and low temperatures.

Making the Hot Bed.

Where one has a larger garden and wants to get off to an early start, it is better to build a hot bed than to try and grow the early plants indoors. Secure a supply of fresh horse manure which has been turned every day or so to prevent burning, and store this in some sheltered spot until ready to use. The hot bed should be located where it will be convenient for the attendant, and it must be protected from north and west winds by fences, buildings, or shrubbery. Make a pile of the manure eighteen inches deep, and be sure it is well pressed down. If drainage is good, a hole may be dug and the manure placed in this. On top of the manure place a light frame of wood any desired size and cover tightly with a window sash, sloping this a few inches towards the front, which must be south. Cover the manure with three or four inches of fine soil. The bed will heat up rapidly at first, but by the fourth day will have cooled down sufficiently to allow planting. In cold weather water sparingly and only on bright days. Ventilate a little every day by raising the sash, keeping this open longer as the days grow warmer. Plants should be transplanted once, and hardened off in a cold frame, which is similar to the hot bed only without the manure, before being set outside.

Watch the Lawn.

A careful inspection of the lawn is advisable as soon as the frost comes out of the ground. The past winter has been particularly severe on winterling grass and clover, some of the coldest weather occurring when there was little cover of snow. As a result, there has been a good deal of freezing and thawing, which alternately contracting and releasing the top layer of the soil breaks off many fine roots and thus kills the grass and clover. To correct this condition, it is advisable to go over the lawn in early spring with a heavy roller or pounder. Bare and thin spots should get new seed and plenty of it. Sprinkling this over a late snowfall is a good plan especially when the snow is melting and will disappear in a few hours. The seed will work down into the soil and germinate in a few days.

Another Good Bank Statement

It would be foolish to imagine that it is only in Canada that banks show gratifying balance sheets. While Canadians are justly proud of the records of their financial institutions, here is a little country across the Atlantic that the pessimists tell us from time to time has had its day and is now slipping down the path to oblivion so far as its financial greatness is concerned.

The annual report of Barclay's Bank of London, England, which has just been published shows:

Profits for the year	£ 11,530,000
Turnover	50,675,000,000
Deposits	1,591,867,000
Increase in deposits for the year	45,000,000

The Chairman referred without boasting to the revival of British trade. The showing of the bank would seem to endorse his optimism.

THE LATE WIFE

Ordinary But Rich Mortal: I would like to have you paint a portrait of my late wife.

Great Artist (matter-of-fact): Like most women, I suppose. But she will have to be on time—very prompt with her sittings—if she wants me to do the work.