TELEPHONE BELL'S SHEEP

Famous Inventor Has Originated a Peculiar Breed on His Nova Scotia Farm—Twin Lambs as a Regular Thing One of His Hopes.

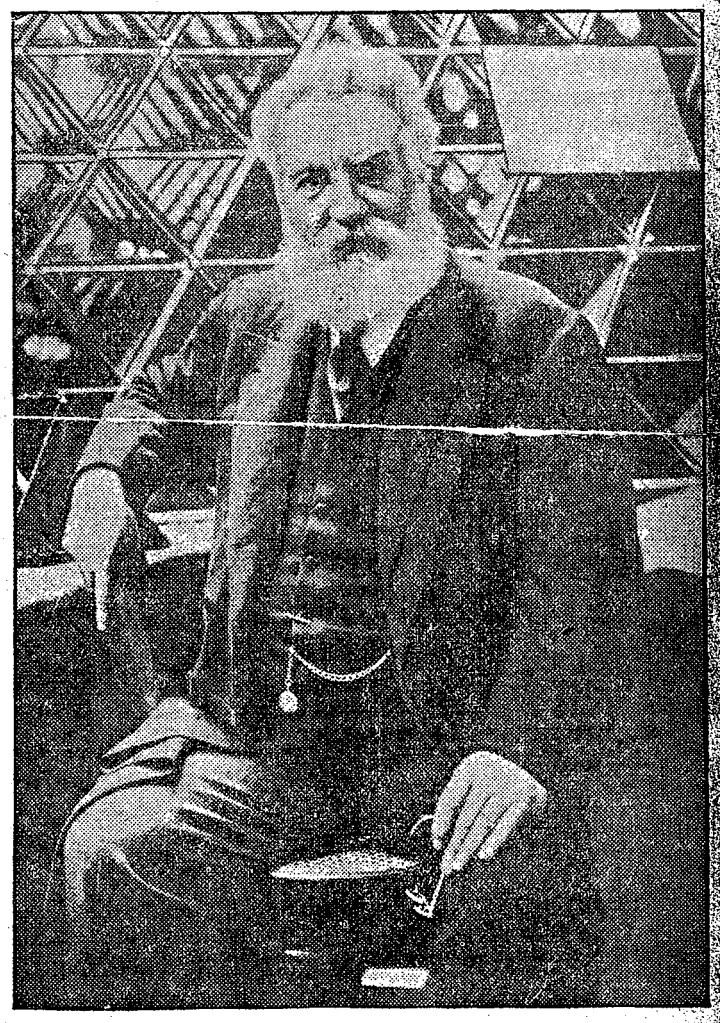
Queer Scientific Studies in Experimental Evolution—The Carnegie Institute Interested—Dr Bell's Latest Flying Machine, Which Has Carried a Man—The Question of a Flying Motor—Says Dr Langley Was Unjustly Criticised Before His Death.

WASHINGTON

Every man, woman and child has heard of Dr Alexander Graham Bell, who, by inventing the telephone, annihilated distance in our social and business intercourse, and brought the mouths and ears of the human race together. Every deaf person reveres Dr Bell as the promoter of his father's invention of visible speech, whereby the so-called dumb talk and understand their fellows, and the scientific world knows him for his many experiments along original lines and just now especially for his new discoveries as to aerial navigation.

There is, however, a field in which Dr Bell has been working of which the world knows nothing. It is a strange field for him, but, like the others in which he has been so successful, one where practical results are being reached by the patient application of scientific principles. It is in experimental evolution, and that more especially as related to stock breeding.

Dr Bell has been working in this field for about 16 years, and his work has already resulted in the origination of a new breed of sheep. It has also brough forth the discovery of principles, which, if carried out to their full, may in time make great changes in our sheep industry and in the physical make-up of that race of animals throughout he world.



TELEPHONE BELL,

His Latest Photograph, With His Aerial Vehicle in the Background.

Sheep Breeding.

Dr Bell's discoveries are not like anything attempted in the past. That sheep can be improved by selective breeding is well appreciated in all the great grazing countries. Take, for instance, Australia. I have seen rams sold there at auction at $5000 apiece for their wool-growing qualities, and have been told that the average fleece of seven pounds had been increased to 10 pounds in flocks of thousands.

In New Zealand, the chief mutton country of the world, the weight of the lambs has been greatly bettered by proper breeding, and here in the United States, where we have something like 60,000,0000 sheep, our best stockmen are in the same way adding to their pr

on wool and mutton.

Indeed, the breeding of fine sheep is now considered quite as important as the breeding of fine cattle. Wool is selling for over 30 cents a pound, and we are shearing from 40,000,000 to 50,000,000 sheep every year. If we can add a pound to every fleece the increase in our wool clip will be 40,000,000 pounds per annum, and at present prices will add $12,000,000 to its value.

An even greater result can be obtained if we could have more and better lambs, for they form one of the chief receipts from our sheep industry. They numbered 22,000,000 at the last census and were the offsprings of 32,000,000 ewes, averaging about two lambs to every three ewes. Had each of the ewes had twins our lamb crop would have equalled 64,000,000 instead of 22,000,000, and would have sold for three times as much.

Dr Bell's Sheep.

These facts give some idea of the practical side of Dr Bell's experiments. The scientific side is even more interesting and far-reaching in its possibilities, and it is the one which appeals especially to him. The work is going on steadily upon his country estate near Baddeck, N S, and now also at the farm of the Carnegie institute on Long island, where studies in experimental evolution are being made.

Dr Davenport, the head of the Carnegie farm, has been furnished with some of Dr Bell's sheep, and a set of carefully recorded experiments will be made by him under the auspices of the Carnegie institution.

But I will give you the story as Dr Bell told it to me just before he left for Nova Scotia a few weeks ago.

"I do not know that you are acquainted with sheep," said he. "Many people are not. I have had farmers scoff at the idea that sheep have no upper front teeth, and have seen them surprised to find this the case. Indeed, I myself knew little about sheep until 1889, when I bought the farms at Beinn Bhreagh, which now compose my summer home in Nova Scotia, near Baddeck. Upon one of these farms I found a flock of 51 ewes, and the following spring I observed that about one-half of the lambs produced were twins. Some of the ewes had but one lamb, but many had two, and I began to wonder if there was not some characteristic which would enable one to distinguish the twin-bearing ewes.

To find out I made a careful examination of the milk bags of all the mothers. Now the ordinary sheep bag has but two nipples, and it is from those that the lamb draws all its milk. This was the case with my sheep. I noticed, however, that upon some of the bags were embryonic nipples in addition to those of usual size. In some cases these were barely perceptible, and in none were they larger than good-sized pimples. Upon looking farther I found that the ewes bearing the embryonic nipples had far more twins than those not so marked. Of the ordinary ewes only 24 percent were twin-bearing, while of those which had these marks of an undeveloped milk supply 43 percent had twins. This seemed to indicate that the marks meant something, and I then began to experiment to find out how much."

Queer Experiments.

"Please tell me just what you hoped to ascertain, Dr Bell?" I asked.

"In the first place, I wanted to find whether by selective breeding those now dead embryonic pimple-like nipples could be made alive and useful. I wanted to know whether they would grow and fill with milk; and whether, if they did so, the sheep growing them would yield a greater milk supply. In the second place I wanted to know whether, after I had produced a sheep with four good live nipples instead of two, that sheep would have twins oftener than sheep not so developed."

"What did you find?"

"In the first place," said Dr Bell, "I experienced little difficulty in developing the embryonic nipples. I was soon able to raise sheep having four nipples and yielding milk, and, indeed, for several years past nearly every one ewe born on my farm has had four live functional nipples instead of two. In recent years I have produced a large number which have six such nipples, and I think there is no doubt but that I could eventually produce a six-nipped variety of sheep. Indeed, I have already produced a four-nipped variety. Of the lambs dropped this year eight have six nipples and, in addition we have now, for the first time, a lamb with eight nipples. This is the only one of that character that I have produced and the only one I have ever heard of.

The Question of Twins.

"How about the twins, doctor?" I asked.

"As to that part of my investigations I have not been so successful. The proportion of twins born has been small, and the sheep with the four or six nipples have not proved more fertile than those of the ordinary kind. I believe, however, that by using twins only for breeding purposes it may be possible to raise a twin-bearing stock, and that is what I hope to do now. I feel that I have accomplished what I set out to perform as to my first proposition, and that by using my multi-nipped varieties and breeding only from twins I will eventually have a breed of sheep which will almost always produce twins.

"Were these sheep all born on your farm?"

"The most of them were," replied Dr Bell. "My investigations, however, have not been confined to my own sheep. I have a catalog which I published in 1904 containing the records of about 800 sheep of which 655 were born on Beinn Bhreagh, the others having been purchased by me. The catalog gives a record of every sheep as to the matters under investigation, and it covers our work from 1890 until 1904. In addition I have the records for 1905 and 1906."

"My search for sheep of this character," continued Dr Bell, "was not confined to my own flock. I was anxious for specimens from other flocks, and I gave the butchers of Baddeck a standing offer of $10 for any six-nipped ewe they might bring in. This offer has been open for several years, but it has resulted in my securing only one such sheep out of the many thousand they have handled for killing, and that sheep was poorly marked. A year or so ago I imported some horned Dorset ewes from Uxbridge, Ont. The Dorsets are very prolific, and each of them gave me twins last year. This year one has given