

wax or waxes, the mixture of which he guards as a secret. These waxes are the outcome of many years experience and are top-notchers, and just as good as the fancy ones in the store windows. It is a rather sorrowful sight to see the hundreds of pairs of white, badly scraped ski-bottoms grinning at you in the face from the racks of the Laurentian-bound trains, and among these are also skis used by would be cross-country skiers. Any harness is in my opinion a good one as long as it gives the skier the right freedom when ski-ing. Most skiers have also their own inventions and improvements made on account of experience from several different harnesses. I have my own harness, which I find to be the best, and so have other racing skiers. The poles should not be too long, then they are only in the way.

In the fables we learned that one part of the body could not get along without the other; the same thing applies to the cross-country skier. Even the best man with

excellent outfit would not amount to much without the right training behind him. It is not merely the arms and legs that have to be trained, the whole body has to have its share, and this can only be got by starting the training early, already in the summer. Swimming, running and all kinds of sports are essential to make a man fit for the real ski-ing in the winter. Most of the Finnish cross-country skiers are participating in running events during the summer months, which enables them to be strong enough to carry away the principal cups in the winter games.

In conclusion I would like to state that my candid opinion is that Canadian skiers have the greatest opportunity to show the world, at the next Olympic games, that they are in the international class, but only if they will submit themselves to a hard, determined training programme and by choosing an outfit better suited for cross-country ski-ing.

## THE EVOLUTION OF A SKI JUMPER

By NORMAN BERGER

*Dominion Ski Jumping Champion—1924-1925-1926*

OF ALL the European sports which have been introduced to Canada ski jumping, I think, has appealed most readily to the imagination because of the skill and daring required in order to become adept, and its spectacular features. Serious accidents have been few, and generally a spill means no more than having one's collar filled with snow or a ski broken.

Ski jumping has made a great advance in recent years and the jumps are much longer and on a totally different style from that which prevailed a few years ago. The cause of this change is the building of greater ski jumps—for example, Lake Placid Hill and Lucerne-in-Quebec, where jumps are made up to approximately 250 feet.

It is interesting to note that altogether different methods of training are used by the Norwegian and Canadian boys. I can remember when I was a lad in Norway, born a few miles outside of Oslo, the way we used to train. We concentrated especially on the take-off to get the timing down to perfection. Gathering after school on a certain hill, we built our own take-off, tramped down the landing, then some of us took two or three jumps while the other boys stood by and criticized us as to take-off and landing. Taking turns about, this continued all afternoon. I may also state that we changed the take-off several times during the afternoon

to give us different effects. These activities were resumed every day, moving from one hill to another, always building our own small jumps and practising and practising the take-off until some day we hoped to become adepts.

After this kind of practise, we usually went for a run across country—the leader trying to find the most difficult descents as well as the most difficult climbs. Going down a hill on one ski is part of the training, to give us better balance.

In order to promote more interest in our training, we held competitions among ourselves, paying one or two cents as entry fee (the prizes were accordingly) and doing our own judging and marking. By so doing, we were certainly learning the fundamentals of ski-ing, and soon could know any hill or any take-off just by looking at it. These practises went on whether it was raining or snowing; cold or mild; and as a result we learned how to wax our skis for different snow conditions. During these competitions we usually borrowed the names of famous skiers and tried to imitate their style to our best ability.

On Saturdays we held cross-country races, again doing our own judging as well as laying out the course. I, personally, used to do quite a lot of cross-country racing as a young boy, and have a few prizes stored

away. The smaller competitions in Norway are usually held on Sundays; the jumping commencing about ten o'clock in the morning and the cross-country race at two o'clock or two-thirty in the afternoon. In these competitions some of the best skiers in the district compete, the number of competitors ranging from seventy to one hundred. In order to start the races quickly they are run off every half minute. When you realize that the majority of the competitors very often ski ten or fifteen miles to get to the place where the competition is taking place, participate in the jumping and cross-country races, then ski the same distance home, all with a heavy pack, you can readily understand that ski-ing becomes second nature to these boys.

My first competition is still green in my memory. At the age of nine I skied with several boys about ten miles to witness a competition at a place called Risebrobakken. I had no intention of competing at the time, as my parents did not believe in my ability as a skier and had not provided me with the necessary half krone for entry fee. However, a kind friend paid the fee and I was in my first competition. I don't remember the distance I made, but this I do remember—that I won sixth prize with one fall and you couldn't call the king my uncle! The following Sunday I took part in a competition held at Lysakerbakken where I was third. The Sunday after that I was extremely lucky and won first prize with the longest standing jump. After this competition I am very happy to say that I have nearly always been within the first three places. My last competition in Norway took place in the winter of 1915-1916 at Sarabraaten, Oslo. From

then on I did no ski-ing whatever until I joined the Montreal Ski Club in 1921, from which time my record is an open book.

Timing is the essential thing in all sports and more so, perhaps, in ski jumping. If you have a faulty take-off, the slightest off balance, you will have a faulty flight through the air, a faulty landing, and in nearly every case, a fall. A jumper who has learned to take-off correctly can overcome any difficulty that may arise between the start and the take-off and correct his take-off. When taking off correctly the style will be automatically correct as well as the landing and you have nothing to worry about with the exception of the distance made by your competitors. Always keep that in mind.

The Canadian boys, I notice, would like to walk before they can crawl (to use the old expression); that is to say, after they are graduated from the junior jumps to the intermediate they despise the smaller jumps and immediately go to the hill where competitions are held and practise on this hill continuously. What will happen? They will, after a time, achieve considerable distance, learn how to exploit the course and the air resistance. This, of course, is of great importance, but if the take-off is faulty, the style and landing will be the same. These boys become what is known as "one hill men;" good on their own hill but cannot seem to get anywhere on a strange hill. I would earnestly suggest that the ski clubs in Canada get down to brass tacks; take hold of the young boys and tell them what to do; see that they practice on small jumps and leave the big jumps alone. After all, they are the coming champions.

## THE FLYING KILOMETRE

THE 1933 FLYING KILOMETRE was won by F. Huber of Kitzbuehl, who established a new record, covering the course at an average speed of 78.93 miles per hour. Special long heavy skis are used weighing approximately 50 pounds and 6 inches in width. The competitors wear crash helmets, goggles, and streamline stiff rubber attachments to their clothes to minimize wind resistance. In order to withstand the terrific pressure as the skis strike the outrun, they are provided with handles in front of the toe irons to hold on to. The Flying



Kilometre trials are run annually at St. Moritz down a specially prepared course, with the snow packed down hard and absolutely smooth, with a gradient of 35 to 36 degrees, electric timing. The competitors take a flying start of some 150 feet and the length of the course itself is 500 feet. The idea was developed by Dr. Walter Amstutz and has year by year been developed, just to see what speed can be made on skis under perfect conditions. I imagine the next step will be to send these young men down the hill paced by a motor sled.