

■ *Kenneth Doherty, director of the Pennsylvania Relays and the Philadelphia Inquirer Games and author of Modern Track and Field (Prentice-Hall, 1964), was United States two-time decathlon champion and record holder (1928-1929) and a coach with more than 30 years experience at Princeton, Michigan, and Pennsylvania.*

**ELVERT WOODBURN** plodded down a grassy runway, stuck an iron-tipped hickory pole into the earth, climbed hand over hand to clear a cross-bar 10 feet, 7 inches in the air, then fell heavily to the hard sod below. It was a world pole-vault record that some believed would never be surpassed.

Yet this week vaulters will probably soar more than six feet higher, as track stars from all over the country compete in the National Amateur Athletic Association Indoor Track Championships in New York—and 17 feet is far from an ultimate for them.

Woodburn made his historic jump in 1874 at the Ulverston Cricket Club in England. In following years, some athletes who tried to top his mark died in their attempts, impaling themselves on the spikes of splintered poles. Now, of course, the vaulter is safer, both from broken poles and in his landing, but the thrill and challenge are still there, making vaulting the glamour event of today's track and field meets.

Spectators, who in the 1930s were fascinated by sprinters and in postwar years by milers, now focus attention on the likes of John Pennel, the first man to vault 17 feet, and Fred Hansen, Olympic champion and current world-record holder at 17 feet, 4 inches. And inevitably they speculate, "Just how high can a pole vaulter go?"

Whenever I'm asked this question, I hedge with, "What height would you accept as possible?" Then, when they mention 17 feet, 6 inches or even 18 feet, I agree, "Yes, that's a sound estimate. They'll do that all right." It's all so speculative; so many factors can change. In fact, more factors related to vaulting have changed in the past four years than during the previous 40: the pole, pit, runway—and, especially, beliefs as to what can be done.

But I will venture this prediction. Before the 1968 Olympic Games at Mexico City, the vault record will be closer to the 20-foot mark than to the present world record. Impossible? That's

## Will the Vaulters Go?

That's the question at the AAU Indoor Track Championships this week; the answer, says this authority, is an astonishing one—and so are the reasons

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## How High

*John Pennel, first man to pole vault over 17 feet, is whipped into the air by fiber-glass pole—only one of many innovations revolutionizing the sport.*

what they said in 1900, when 13 feet was predicted; just as in 1920 for 14 feet; in 1930 for 15 feet; in 1950 for 16 feet; and in 1960 for 17 feet. Of course, there is a human ultimate for the pole vault, as in all track and field events, but when not only performance but the rate of improvement in performance is increasing, you can safely bet that we're not close to it yet.

First of all, keep in mind that vaulting with a fiber-glass pole requires a much more complex technique than with a steel pole. To perfect this technique will require a dozen or so years of experimentation by many vaulters, as well as many years of practice by one "perfect" athlete perfecting the style they decide is best.

Cornelius Warmerdam, still considered vaulting's "peerless performer," cleared 15 feet, 8½ inches in 1943 with a bamboo pole, but this was after more than 40 years of experimentation with bamboo by many men and after 14 years of vaulting by Warmerdam himself.

The fiber-glass pole gives a great advantage to its users. Even when their technique is mediocre, its catapult action—added to the extremely high handgrip allowed by the deep bend of the pole at the take-off—lifts them 18 inches or more above what they could clear with a steel or bamboo pole. These are not truly great athletes that are clearing better than 16 feet today. Most of them are under six feet in height; few of them have great speed; even fewer have devoted years to perfecting their techniques with the fiber-glass pole.

**F**OR INSTANCE, John Pennel is less than six feet tall, has practiced with the fiber-glass pole less than four years, and takes a wide grip on the pole—his hands are as much as 24 inches apart—although this certainly cuts his swing and his momentum at the top of his vault. How much better will a taller man like Olympic champion Fred Hansen do if he continues to perfect his style, timing, and control for another four or even eight years?

But when considering all-time ultimates in the pole vault we should not restrict our thinking to the pole alone. There are other factors being improved, without which fiber glass would be much less effective. First of these is the vaulting pit. It once was made of sandy loam about a foot high, then of sawdust and shavings two feet high. Today we use a nylon netting almost four feet high pulled snugly around soft synthetic rubber.

In the old days, a man worried about his landing almost as much as about clearing the bar. Now, a vaulter has little concern for the landing.