

## MARSHLANDS.

first distinct advance.

In 1865 Pierre Lallemont, a Frenchman, exhibited a bicycle with the cranks and pedals attached to the front wheel, which was also the larger of the two. Previous to that time, the front wheel had always been the smaller. Lallemont's invention was the forerunner of the "ordinary" or high bicycle, which was so familiar and in such general use twenty years later. In 1868 the rubber tire was introduced, and other improvements followed in time. It was not until 1876, however, that a bicycle, in the general acceptance of the term, was seen in America, and not until the following year that an American, A. D. Chandler, of Boston, was in actual possession of one.

The Englishmen were quicker to realize the advantages of the wheel, and for a time all bicycles used in America were of English make. In 1878, however, a sewing machine company in Hartford, Conn., undertook their manufacture, on a small scale, of course. That it was not a gold mine may be imagined from the fact that one year later the sales of bicycles in this country had reached a total of exactly ninety-two. In November, 1879, there were, by actual census, easily taken, just thirty-five wheels in New York City.

Even as late as 1883 three wheelmen were arrested for daring to ride in Central Park, in New York City.

Until 1886 the high wheel was in general use. The previous year—recall Dalziel's invention and note how history repeats itself—a low-built

bicycle, driven by chain-power, had made its appearance in England, and naturally found its way to this country. It met with immediate disfavor and when, in 1887, a woman's bicycle was invented by a Washingtonian, the roar that went up—the suggestion of immodesty which it conveyed—proved such a shock to the public that it was years before it recovered. But it did recover, as all the world now knows.

The pneumatic tire—invented by a veterinary surgeon, J. B. Dunlop, of Belfast, Ireland—came out in 1889, and completed the "death" of the "ordinary," although, as a matter of fact, it was not until 1863 that the air tire was fully understood and was in general use.

It was not, however, until the pneumatic tire became known that cycling can be said to have had a really permanent foundation, and to no other invention is due the present happy condition of things. The new tire wrought a great change in the construction of bicycles, reducing their average weight. Witness that it has reduced the mile record from 2:22.3-5 to 1:40.3-5. Yet how few know how much of this is due to the insistence of an eight-year-old boy, Inventor Dunlop's son?

"In 1885," says he, "I bought a tricycle for my only son, John, who was then eight years of age. For a few years previous to that I had been thinking of spring wheels, with the object of reducing vibration, and rendering the propulsion of vehicles comparatively easy.