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JAMES H. GRIDLEY.

It is with the deepest sorrow we record the decease, on the 25th ult., at Washington, of Mr. James H. Gridley, the active manager of the branch offices of the SCIENTIFIC AMERICAN in that city.

Mr. Gridley was born in Boston, Mass., January 15, 1833. His family removed to Providence, R. I., when he was quite a lad, and there he received his early education. In youth he was more than ordinarily intelligent and quick to learn. Among his early acquirements was stenography, and his knowledge of this art, a rare accomplishment in those days, gave him a position as stenographer and clerk with Fowler & Wells, phrenologists, New York. In 1854 he was in Cincinnati, learning the art of mechanical drawing in the patent offices of Knight Bros.; subsequently he had practical experience in a machine shop. 1858 finds him in Washington as a mechanical draughtsman and stenographic reporter in Congress.

In 1860 Mr. Gridley entered the SCIENTIFIC AMERICAN office in Washington, where his sterling abilities found immediate employment and recognition. His conspicuous talents soon caused his promotion as manager, a position which he continued to hold without interruption until his decease, always enjoying the confidence and esteem of his employers. The business interests of Messrs. Munn & Company in Washington, it is known, are very extensive. Of these, in all their details, Mr. Gridley had the management, yet such were his superior qualities as a business man that in all these years there was never an example of irregularity or confusion. No one could have been more devoted to the interests of those for whom he acted than was Mr. Gridley. He was implicitly relied upon, and discharged every trust with zeal and ability.

The number of employes under his management was quite large. He had the happy faculty of so directing their efforts as to yield the best industrial results, and yet every individual revered Mr. Gridley as a friend and associate.

As the head of a large establishment like ours, the number and variety of important questions relating to Patent Office law and practice, that constantly arose for decision was marvelous; but Mr. Gridley disposed of them with rapidity and almost unerring judgment. He was necessarily brought into frequent intercourse with the various officials of the Patent Office, from the Commissioner down, and it may be said, without affectation, that he invariably commanded the respect and esteem of those with whom he had dealings. Mr. Gridley's position often brought him into communication with the heads of the various government departments, with governors, senators and representatives. He is remembered by all for his kindly disposition and satisfactory business methods. His domestic relations were all that could be desired. He had a lovely home, and here, after the business cares of the day were over, he was accustomed to enjoy the refining influences of music and literature. He was one of nature's noblemen. To us his loss is irreparable.

"Green be the turf above thee,
Friend of our better days;
None knew thee but to love thee,
None named thee but to praise."

PARALLEL BOUNDARIES.

To the Editor of the SCIENTIFIC AMERICAN:

In your issue of December 15 I find an article on page 371 relative to the migratory character of parallels of latitude, in part as follows:

"From the Lake of the Woods to Vancouver's Island, the 49th parallel has been established as the boundary line between the United States and British America, for a distance of more than 1,200 miles. Similarly, the north line of New York, Vermont, and a part of New Hampshire is the 45th parallel for more than 250 miles. The shifting of these two boundary lines, consequently, brings alternately under the jurisdiction of the United States and Canada two strips of land 60 feet wide and 1,200 and 250 miles in length.

"Together they contain 11,000 acres, or land enough for a hundred good sized farms. This land was all on the Canadian side in April and May, 1890, and in May, 1891, all on the United States side in Nov., 1890, and again in Dec., 1891."

Without occupying any of your space commenting upon the usefulness of this discovery, if it is one, I think you need have no apprehensions relative to its effect upon boundary lines that may have been originally referred to some parallel of latitude, as was the line between Pennsylvania and New York fixed by decree upon the 42d parallel.

This line was located on the ground by commissioners in 1787, one of whom was the celebrated David Rittenhouse (a surveyor then without a peer in this country or any other), with all the precision available at that time, and monuments placed at every mile.

After a lapse of nearly a century, many of these monuments were more or less displaced or lost, and portions of the line became somewhat obscured. Commissioners for both States were authorized about the

year 1875 to investigate this subject. The commissioners on the part of Pennsylvania proposed to go back to the original decree and fix the line upon the 42d parallel of latitude, with all the precision of modern science.

The following extract from the report of the New York commissioners will show the position taken by that State:

"Since this boundary was fixed by methods always employed in laying out boundaries described as parallels, and since the work was of the best quality of its day, therefore, according to all precedent and legal ruling, there can be no doubt that the line marked on the ground by our commissioners in 1786-7 is the bounding line between New York and Pennsylvania; and every effort therefore should be made to restore this line."

In such cases the practice is to use landmarks and all available testimony to recover as many points on the line as possible, and then to connect these with straight lines.

This method was adopted in the final settlement of the boundary between the United States and Great Britain, and in all other cases with which we are familiar.

Thus we see that boundary lines, whether between States or nations, when once established on the face of the earth, agreed upon by all the parties interested and monumented, none of the gymnastic performances of the magnetic needle, variations in isogonic lines, or any modern discoveries as to the migratory character of parallels of latitude, will ever disturb them thereafter. Even the joint action of two States is not sufficient to move a boundary line that has once been established, until such action has been ratified by an act of the United States Congress.

Any one desiring to pursue this subject farther will find ample satisfaction in the final report of the New York commissioners, to which the surveyor's (Maj. Clarke) report is appended, 1886. What map of New Hampshire shows any part of that State limited by the 45th or any other parallel of latitude?

N. SPOFFORD,

Surveyor for Massachusetts on her northern boundary. Haverhill, Mass., Dec. 31, 1894.

Japanese Athletics.

Athletics hold an important but subordinate position in the schools of Japan. Once a year there is a gathering of all the students in a district to engage in athletic contests. In those seen by Mr. Hearn, and described in "Glimpses of Unfamiliar Japan," six thousand boys and girls from all the schools within a distance of twenty-five miles were entered to take part. A circular race track, roomy enough for an army, allowed four different kinds of games to be performed at the same time.

There were races between the best runners of different schools, and races in which the runners were tied together in pairs, the left leg of one to the right leg of the other.

Little girls—as pretty as butterflies, in their sky blue hakama and many-colored robes—contested in races in which each one had to pick up as she ran three balls of different colors out of a number scattered over the turf.

The most wonderful spectacle was the dumb bell exercise. Six thousand boys and girls, massed in ranks about five hundred deep; six thousand pairs of arms rising and falling exactly together; six thousand pairs of sandaled feet advancing or retreating together at the signal of the masters of gymnastics, directing all from the tops of little wooden towers; six thousand voices chanting at once the "One, two, three," at the dumb bell drill: "Ichi, ni—san, shi—go, roku—shichi, hachi."

The games began at eight o'clock in the morning and ended at five in the evening. Then, at a signal, fully six thousand voices pealed out the national anthem, and concluded it with three cheers for the Emperor and Empress of Japan. The Japanese, instead of shouting when they cheer, chant with a long cry, "A-a-a-a-a!" which sounds like the opening tones of a musical chorus.

Wreck of an Engine.

A serious accident occurred recently to the great engine in the blast furnace of the Carnegie works at Braddock, Pa. The engine was used for four years to furnish the hot air for two of the great furnaces. The engine was disabled by a mass of iron falling on it from a height of twenty feet. Several of the pipes were crushed, and the engine "ran away" and was broken to pieces by the violence of its own action. The fly wheel, which measures thirty feet in diameter, flew apart, and pieces of it weighing two tons were hurled more than a block away. The engine house was demolished. The loss is about \$15,000, and it will necessitate closing the furnaces for an indefinite period.

The output of the furnaces was about 250 tons per day, and over 300 men employed in this department will be thrown out of work.