

THE MAGNETIC NEEDLE.

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(Read at the Autumn Meeting of the General Mining Association of the Province of Quebec, at Sherbrooke, Que., September 27th, 1894.)

A slender bar of steel, charged with some of that mysterious, imponderable fluid or influence called magnetism, generally about five inches long and about one sixteenth of an inch thick, pointed or wedge-shaped at the ends, and provided at its centre with a cup shaped piece of very hard metal, or precious stone, so arranged that the bar may freely turn upon a pivot, is essentially the simple little instrument known to-day the world over as the Magnetic Needle, which possesses the wonderful property of remaining in a direction, or of turning upon its centre until it assumes a direction, nearly North and South, and this provides data from which the direction of the geographic poles of the earth can be inferred with a fair degree of accuracy.

Such is the essential part of the instrument, which, for at least seven centuries, has been the greatest boon to navigators, and of inestimable service to explorers of unknown territory.

The early history of this simple but invaluable contrivance is lost in antiquity. It is thought that the Chinese were its inventors; and one authority states that the Emperor of Ho-Ang-Ti, marching with his army against the enemy, finding himself embarrassed by fog, constructed a chariot which indicated the South. This was in the year 2634 B.C., and it is supposed that the Magnetic Needle was referred to; but the first time that it was explicitly mentioned was in a Chinese dictionary finished A.D. 121. However, its use to navigators was probably not generally known till the middle of the twelfth century.

In order to bring forcibly before you some of the wonderful properties of the instrument, I will arrange a needle so that its extremities will turn towards the poles.

I have here a common knitting needle about seven inches long, to which I have imparted some of that subtle, imponderable fluid or influence, generally described as magnetism.

Attached to the centre of this bar of steel is a fine silk thread by which I suspend the bar.