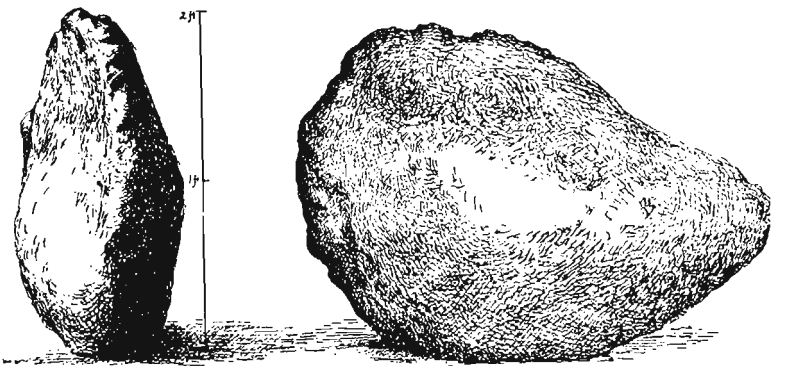
ART. LIII.—*Description of the Mt. Joy Meteorite;* by EDWIN E. HOWELL.

THE accompanying cut gives a good idea of the form of the third largest meteorite found in the United States, and the largest east of the Mississippi River.



It was found in November, 1887, on or about the 16th of the month, by Jacob Snyder, about a foot below the surface while digging to plant an apple tree near his house, five miles to the southeast of Gettysburg, in the township of Mt. Joy, Adams Co., Penn. It was supposed by the finder and his friends to indicate the near presence of an iron mine, and considerable prospecting was done to locate it. The meteorite was placed on some timbers in the open air where it remained until the summer of 1891, before it was seen by any one who surmised its true character.

Professor F. W. Clarke induced Mr. Snyder to send it to the National Museum for inspection, but was finally unable to secure it, as Mr. Snyder was unwilling to part with it for a price, which the museum felt justified in paying. I, therefore, purchased it from Mr. Snyder on the 15th of August, 1891. The three largest dimensions of the meteorite are 11, 24, and 33½ inches and it weighed on the museum scales 847 lbs. Professor Clarke had a few ounces taken off for examination; with this exception and the scaling of decomposed crust, from the outside, the mass still remains as it was found.

Professor Clarke has kindly furnished me with the following analysis, made by Mr. L. G. Eakins in the laboratory of the United States Geological Survey.

Professor Clarke did not succeed in developing the Widmanstättian figures satisfactorily, and the small amount of nickel shown by the analysis would indicate a poor etching

iron; when larger surfaces are available, we shall doubtless obtain better results.

Fe	93.80
Ni	4·81
Co	0·51
Cu	0·005
P	0·19
S	0·01
	99·325

No idea can be formed of the length of time the meteorite had lain in the ground and very little of the amount of surface decomposition, it has undergone;—sufficient, however, to remove all the finer pittings, leaving a comparatively smooth surface.

Having been much interested in Mr. Davison's examination of the magnetic properties of the Welland meteorite, and thinking that this line of investigation in other meteorites, might lead to interesting results, I requested Mr. Marcus Baker of the U. S. Geological Survey, to make an examination of the meteorite, which he kindly consented to do.

The result of this examination is to show that the meteorite, as a whole, acts as a mass of soft iron, gaining polarity under the inductive action of the earth. The lower portion on the north side became a north-seeking pole, while the upper part became a south-seeking pole; a pretty distinct neutral line was shown, inclined to the horizon at an angle (20°–25°) which is approximately the complement of the local inclination of the dipping needle. This induced polarity shifted with each change in the position of the whole mass, and in general this shifting of the poles took place promptly though not always at once. Mr. Baker also states that his observations suggested the probable existence of an unequal distribution of permanent magnetism, but this matter requires further investigation.