Therefore it was decided to run continuously, assuming this diagnosis as correct, and by increasing the heat of the blast and making the charges more fusible, to flux the intruder, little by little, and thus get rid of it. Accordingly the furnace was run at its highest heat, night and day, and was tapped every hour or two for several months; but things, instead of looking better, began to grow worse. The tapping hole was drilled higher and higher, and the "Time to tap" came more often, until the men, though shifted frequently, were thoroughly sick of it, for it was necessary to make up fresh mould beds at every tap; and moreover, tapping is a very fatiguing job, as any one who has tried it can testify. Their worry could not have lasted much longer, but it was brought to an unforeseen and sudden end, when it was found that the thick cast-iron pipes in which the blast was heated, by the burning of the waste gases from the furnace, had been melted and warped out of shape in the endeavors to raise the heat of the blast.

Nothing was left now but to shut down, tear out the lower part of the furnace, remove the sow, and then rebuild the hearth and replace the hot blast flues before starting up again.

Blast furnaces, by the way, are built for just such emergencies, and are so mounted that when the hearth is torn out the stack rests securely on six or more iron columns about eight feet high. No time was now to be lost. Masons were set to work and soon demolished the laboratory, when everyone saw with astonishment that what was supposed to be an ordinary, every-day sow had grown to be a colossal hog, which Barnum would have paid thousands for, if it could have played cards or told fortunes; and it would have been sold to him gladly for half that sum, with twenty per cent off, if he had wanted it.

No one was curious enough to invent a method of weighing this mass, but its weight was estimated to be between twenty and thirty tons. Salamanders, or sows, are generally started by the chilling in the bottom of the furnace of a portion of the iron, or of difficultly fusible slag, and are slowly enlarged by successive layers being chilled around them, unless by raising the heat of the blast, and increasing the amount of fuel and the fusibility of the slags they can be melted out.

This course of treatment failed in the present case from the fact that the hearth had been made of inferior fire brick, so that when the heat was raised the fire brick burned out and thus gave the hearth an area more than double what it should have been. Thus the heat, instead of being intensified, was distributed over a large area, and only served to keep the surface of the sow pasty, so that the successive additions would adhere more firmly.

Now here was a problem that was very perplexing. The mass was three feet thick, and had a horizontal diameter of about seven feet. It was therefore too large to be pulled out between two of the columns, likewise too large to be buried, just where it was, by undermining it. Blasting was out of the question, for powder would not have shaken it, and dynamite or nitroglycerine, if employed, would have to be used in such quantities as to blow the furnace into bits; for this was no tender beast, but was composed of the toughest wrought iron that good magnetite and charcoal could make. Two days were spent pounding it with sledge hammers, trying to reduce its size by breaking off the edges, so that it could be pulled between the pillars; but hardly ten pounds were removed, although the men relieved each other every few minutes. This idea was of course abandoned, on account of dulness in the iron trade, and because the demand for pen-knives and watch-springs was light at the time.

It was next offered to an enthusiastic mineral collector as a cabinet specimen, but was sadly refused.

It really began to look easier to move the furnace and works to another site and leave the fire-eater mistress of the situation; but luckily there was a last resort, as there always is in such cases, and that was to go through the laborious process of raising the mass inch by inch with jack-screws, crowbars, steel rails, beams, tackles, hoists, ropes and chains, up on edge.