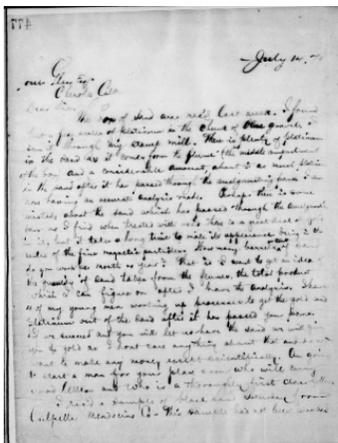


-1776-

[Menlo Park,] July 14, 79

To Louis Glass¹



Dear Sir.

The box of sand was rec'd last week.² I found but a few scales of platinum in the chunk of blue gravel. I ran it through my stamp mill.³ There is plenty of platinum in the sand as it comes from the flume (the middle compartment of the box) and a considerable amount, about $\frac{1}{5}$ as much platinum in the sand after it has passed through the amalgamating pans. I am now having an accurate analysis made. Perhaps there is some mistake about the sand which has passed through the amalgamion pans as I find when treated with acid there is a great deal of gold in it, but it takes a long time to make its appearance being in the centre of the fine magnetic particles. How many barrels or tons^a of sand do you work per month or year?⁴ That is I want to get an idea of the quantity of sand taken from the flumes, the total product which I can figure on after I have the analysis. I have 4 of my young men working up processes to get the gold and platinum out of the sand after it has passed your pans.⁵ If we succeed and you will let us have the sand we will give you

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the gold as I dont care anything about that and do not want to make any money except scientifically. Am going to start a man for your place soon who will carry good letters and who is a thoroughly first class fellow.⁶

I rec'd a sample of black sand Saturday from Calpella Mendocino Co— This sample had not been worked and I found 50 times more platinum and iridsomine than gold in it.⁷ The writer says there is plenty of the sand. My agent will probably want to hire a prospector to travel with him through the state do you think he will have any difficulty in hiring one?

In regard to the platinum near Oroville to which you refer what would be the probable cost of prospecting for^b that vein which you speak of as being discovered several years ago?⁸

I send you a "Daily Graphic" with a cartoon which may interest you.⁹

I will also send you a pony crown Telephone in a day or two—tried to get two but^c failed—¹⁰

In the course of 2 or 3 weeks I expect to have some of the new style chemical receivers. Not having the right to sell or give them away I will loan you 2 (permanently) and anything else I can do for you do not hesitate to call on me. Thanking you for your kindness in giving information and for the sample ores I remain Very Truly Yours

Thomas A Edison

LS (letterpress copy), NjWOE, Lbk. 4:477 (*TAEM* 80:102; *TAED* LBoo4477). Written by Stockton Griffin. "or tons" interlined above. ^bAdded in left margin. ^cInterlined above.

1. Louis Glass was secretary of the Spring Valley Mining & Irrigating Co. in Cherokee, a rich hydraulic mining site north of Oroville in north-central California. He subsequently became general manager of the Pacific Phonograph Co. in San Francisco (Gudde 1975, s.v. "Cherokee"; *TAEMG*3, s.v. "Glass, Louis"). He first wrote on 12 June in reply to Edison's inquiry addressed to Wells Fargo & Co. because "it is from our mine the Platinum etc has been obtained in this locality" (DF [*TAEM* 50:667; *TAED* D7928ZBH]).

2. In his draft of a letter sent on 21 June, Edison had asked for 25 pounds of black sand from the Spring Valley mine. Glass forwarded one sample of gold-bearing gravel and two of black sand, one from which the gold had been removed and the other still untreated. Edison later reported that the untreated sand contained "181 oz per ton of the platinoid metals of which 110 oz is pure platinum." TAE marginalia on Glass to TAE, 12 June 1879; Glass to TAE, 2 July 1879; TAE to Glass, 1 Sept. 1879; all DF (*TAEM* 50:667, 779; 51:147; *TAED* D7928ZBH, D7928ZEA, D7928ZOE).

3. The *Scientific American* reported in its 26 July issue that "Mr. Edison has a stamp mill and all the apparatus required for reducing ores of

various kinds. His facilities for reducing refractory ores and metals are particularly good." Nothing is known of the mill except for John Kruesi's 4 June measured drawing of a "Platinum Stamp Mill." Its operation is not apparent but evidently a five-toothed cog wheel would crush or grind ore against a flat surface. At least two other devices for handling platinum ores were to have been built later. On 15 July, Batchelor wrote an order to "make a platinum separator to get fine scales out of the black sand." His accompanying sketch is unclear but may represent some sort of pan sifter. Ten days later Kruesi ordered an "ore concentrator," evidently a form of centrifuge. "Progress at Menlo Park," *Sci. Am.* 41 (1879): 52; Machine Shop Drawings (1879–1880), Lab. (*TAEM* 45:70; *TAED* NS7986CAV); Cat. 1308:161, 165 (Order Nos. 212, 213), Batchelor (*TAEM* 90:747, 749; *TAEB* MBN003:54, 56).

4. Glass had previously given a detailed description of the hydraulic mining process used by his firm, which produced "an immense torrent absolutely saturated with water and sand" from the crumbling hillsides, the great bulk of which was carried away in flumes and deposited in the Sacramento River valley. He explained that approximately every three months the flumes were cleared of "a large quantity of black sand but I do not suppose we save an ounce in a ton, we get only what may be left in the flumes after the water is turned off," and he offered "no method of separating the black sand, or of even ascertaining how much there may be of it." At this time hydraulic mine operators faced strong challenges (and even the prospect of a complete shutdown) by downstream farmers over the release of large volumes of gravel and silt. Glass to TAE, 30 June 1879, DF (*TAEM* 50:770; *TAED* D7928ZDX); Kelley 1959, 85–123.

5. This work was probably done primarily by Edison's chemical staff, which at this time included Alfred Haid, John Lawson, Otto Moses, and possibly C. E. Mumsell, who is known to have been on the staff at least through mid-April. In his draft reply on W. C. Hendricks & Co.'s letter of 16 July, Edison indicated that

Sodium Amalgam will do better than any process reducing the heaviest coating of peroxide Iron from the Gold. would you be will[ing] to treat your clean up matter by the addition of sodium to the mercury if we will furnish it free this will give you more gold and of the platinum saved we will pay you 50¢ per oz. treat your gold and free it absolutely of silver, and do it at your mill. I have some very smart German chemists. If you will send 25 lbs of sand that has passed through the Silver pan & thrown away we will give you the amount of gold in it that would be saved to you. [DF (*TAEM* 50:939; *TAED* D7928ZHB)]

About this time Edison also dictated notes for a reply to Colorado ore dealer Frank Ballou that he had "just finished process works elegantly for taking out gold from black sand a sub for chlorination nothing used but horsepower." On a subsequent letter from Ballou, Edison indicated that the process for separating the gold from the black sand "is an electrical one using the Dynamo machines of the electric light for furnishing current. Am perfecting it." TAE marginalia on Ballou to TAE, 1

and 24 July 1879, DF (*TAEM* 50:778, 1016; *TAED* D7928ZDZ, D7928ZIW); for the subsequent development of this electromagnetic ore separator see Doc. 1921.

6. This was Frank McLaughlin, who departed on 11 September. Glass subsequently promised to provide “a trustworthy and experienced prospector.” McLaughlin to TAE, 13 Sept. 1879; Glass to TAE, 26 July 1879; both DF (*TAEM* 51:197, 50:1036; *TAED* D7928ZPH, D7928ZJH1).

7. P. R. Klein had sent Edison a sample of black sand from the vicinity of Calpella, in northwestern California, on 3 July. Edison replied that although it contained much platinum and iridosmine, “I hardly think it would pay to mine for platinum alone the gold is in such great excess.” Edison requested additional specimens and sent \$20 to pay for preparing them because “My present impression is that we will get all the platinum we want of the Spring Valley Mining & Water Co Cherokee Cala but I desire to investigate all parts.” Klein to TAE, 3 July 1879, DF (*TAEM* 50:784; *TAED* D7928ZED); TAE to Klein, 14 July 1879, Lbk. 4:479 (*TAEM* 80:103; *TAED* LBoo4479).

8. Glass had described in his 30 June letter (see note 4) minerals taken from a lode in the nearby mountains “fifteen or more years ago” which a local chemist had determined to be platinum. He reported that he had recently sent “a man up there prospecting, but he found the gulch filled in about six or eight feet with earth and debris washed down from above, and was unable to get down to the lead, provided there is one there, which I believe to be the case.”

9. “The Wizard’s Search” appeared in the *New York Daily Graphic* on 9 July 1879, two days after a *Graphic* column skeptical of Edison’s electric light noted that “Maybe there is a great future before the platinum burner, but its inventor prospecting for a mine of the metal in order to give it a firm start in life is not a very hopeful sign of immediate usefulness.” In its explanation of the cartoon, however, the *Graphic* offered a more optimistic outlook. Contrasting Edison with alchemists and other practitioners of “effete superstition,” it described “the hero of our cartoon” as “simply a man of our time masquerading in medieval robe” and noted in conclusions that “Diamonds are so cunningly imitated as to deceive the very elect among jewellers, and in case the sage of Menlo Park should soon be found by some inquisitive reporter to have filled his backyard with manufactured platinum, so neatly done that old Mother Nature would readily endorse it as genuine, the operation in his hands would be deemed so much a matter of course that most of the newspapers would hardly think the fact worth mentioning.” “The Wizard of Menlo Park,” *New York Daily Graphic*, 9 July 1879, Cat. 1241, item 1225, Batchelor (*TAEM* 94:499; *TAED* MBSB21225X); “What Edison Still Wants,” *New York Daily Graphic*, 7 July 1879, p. 28; “Pictures of the Day,” *ibid.*, 9 July 1879, p. 44.

10. The crown telephone was a form of magneto devised by George Phelps which used curved bar magnets arranged to resemble a crown. The “pony” may have been a small version, perhaps with only one bar (Prescott 1878b, 601–602). In his 12 June letter (see note 1) Glass had asked Edison for a hand-held carbon transmitter to use with his Phelps receivers because the instruments available from Gold and Stock in San

In this New York Graphic cartoon of “The Wizard’s Search” for platinum, the text of Edison’s mining circular letter (Doc. 1734) appears on the placard in the foreground.



Francisco “are a cumbersome apparatus for fastening to the walls of a room.” Edison promised that he was “going to ‘hook’ a pair of telephones and send to you so when you get them you need not indicate the source from which they came.” Shortly thereafter Charles Batchelor directed that “one Pony Crown Telephone” be sent to Glass (TAE to Glass, 11 July 1879, Lbk. 4:461 [TAEM 80:95; TAED LBoo4461]; Cat. 1308:161 [Order No. 214], Batchelor [TAEM 90:747; TAED MBNo03:54]).