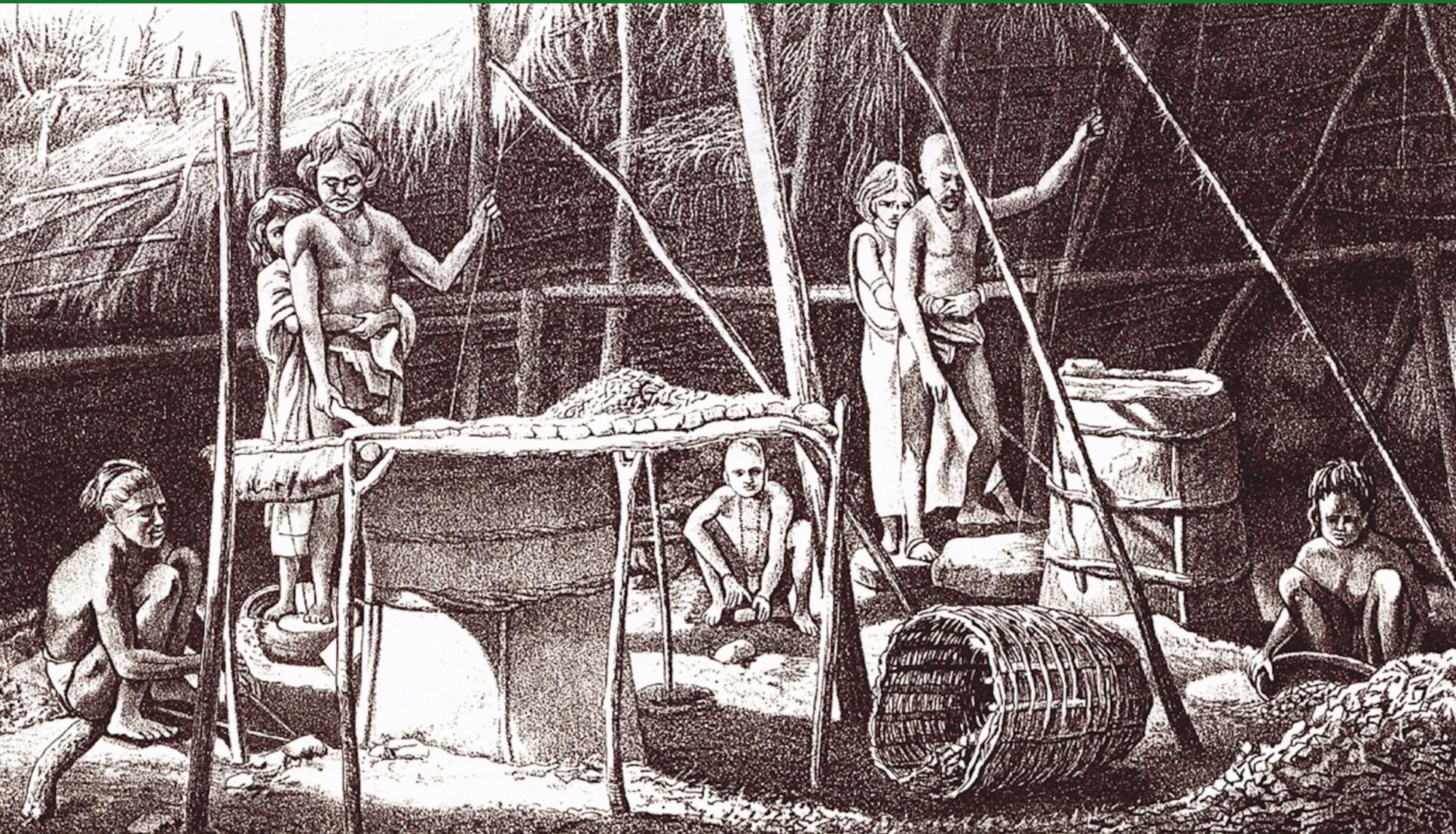


Tradition and innovation in the
history of iron making:
an Indo-European perspective

*Jan af Geijerstam
TICCIH Sweden*

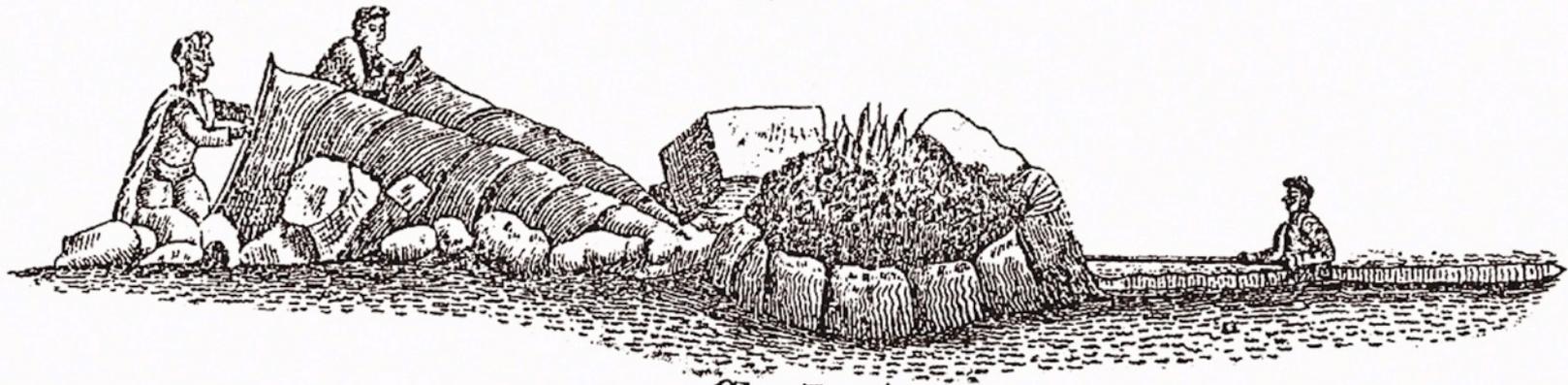
Photo:
Peter Nyblom





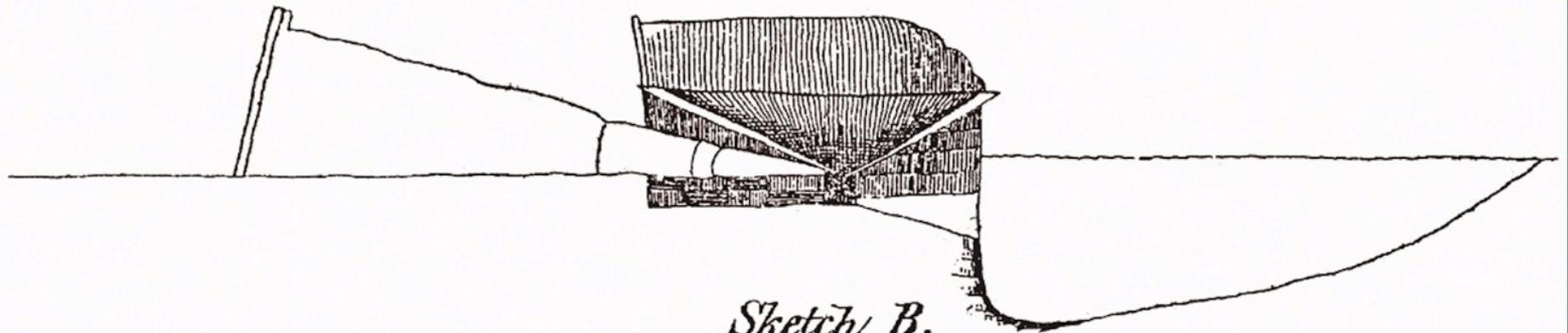
Agaria iron smelters. Ball, *A Manual of the Geology of India* (Calcutta/London 1881).

KUMAON FURNACE, FOR SMELTING IRON ORE.



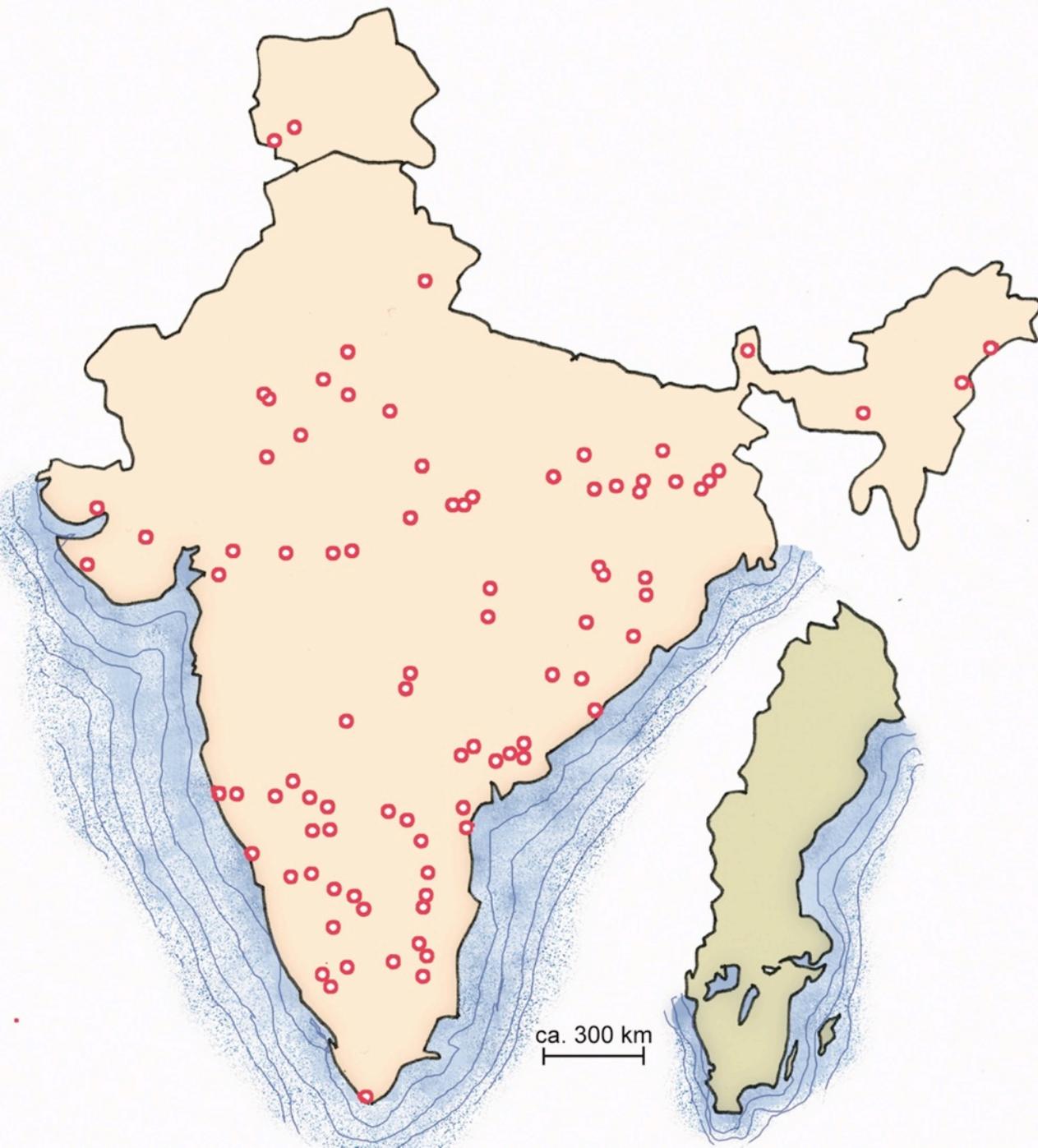
Sketch A.

Vertical Section, from the front



Sketch B.

Kumaoni furnace for smelting iron ore. J. O'B. Becket, *Iron and Copper Mines in the Kumaon Division* (1850).



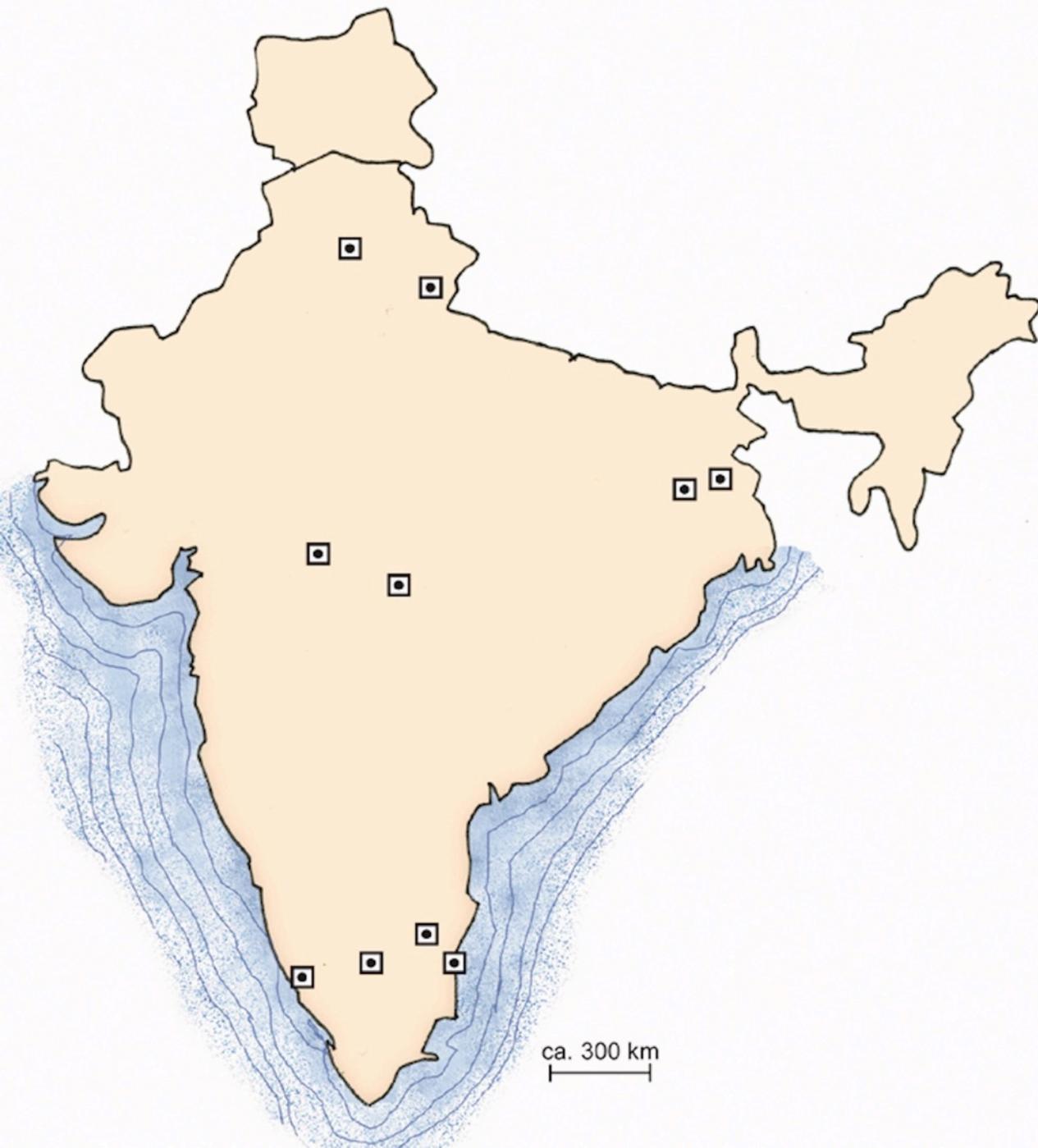
Sites of traditional iron making observed before the year 1900 according to references in Thomas H. D. Touche, *Bibliography on metals of economic value in India* (1918).

वीथि सँकुल VEETHI S



E THIASAN

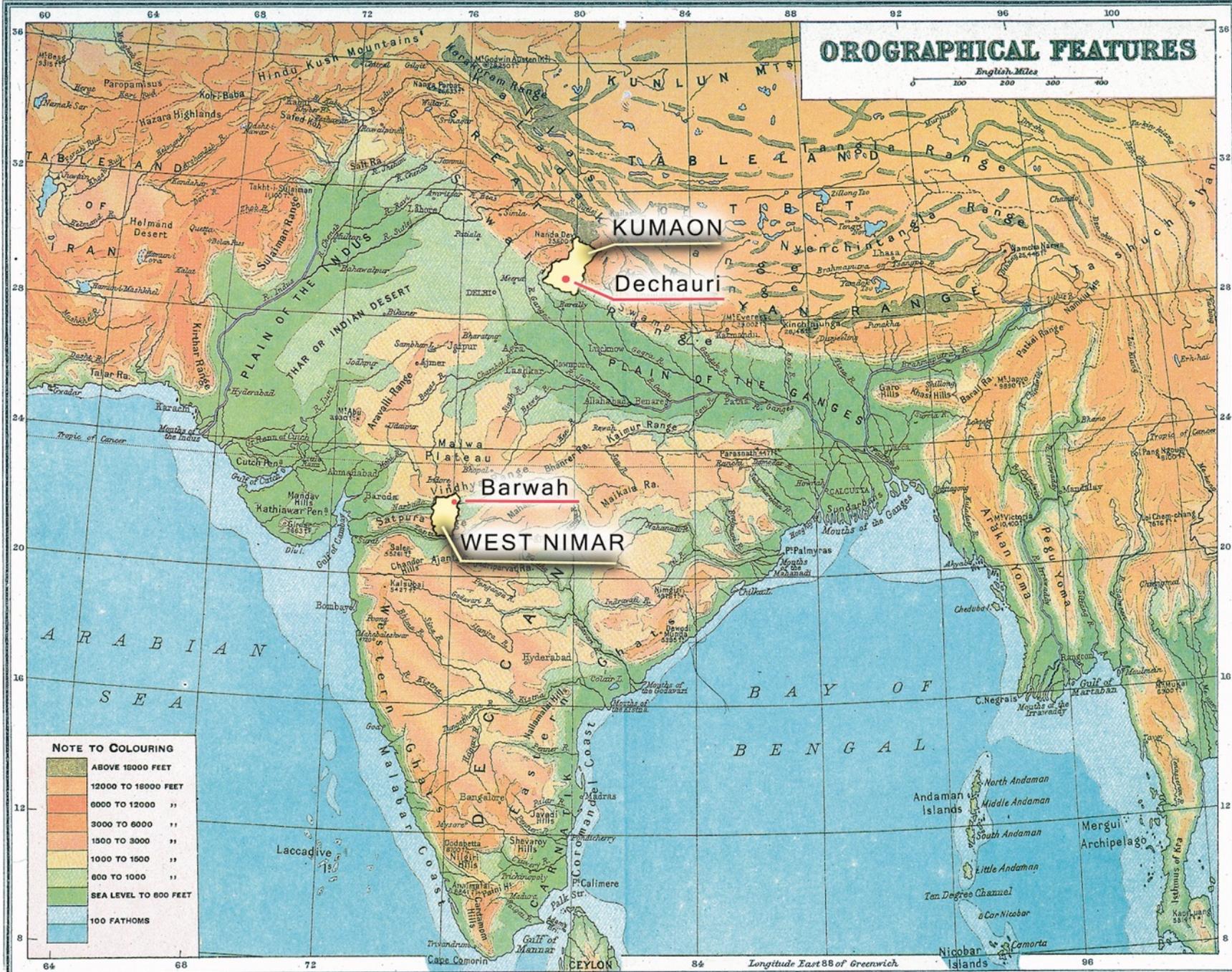




Blast furnaces in nineteenth century India. Attempts to build modern ironworks based on European technology were very few in India. Most if not all were short-lived.

OROGRAPHICAL FEATURES

English Miles
0 100 200 300 400



NOTE TO COLOURING

(Dark Brown)	ABOVE 18000 FEET
(Orange)	12000 TO 18000 "
(Light Orange)	6000 TO 12000 "
(Yellow-Orange)	3000 TO 6000 "
(Yellow)	1500 TO 3000 "
(Light Green)	1000 TO 1500 "
(Green)	800 TO 1000 "
(Light Blue)	SEA LEVEL TO 800 FEET
(Blue)	100 FATHOMS

The Kumaon Iron Works

Memorandum of Agreement

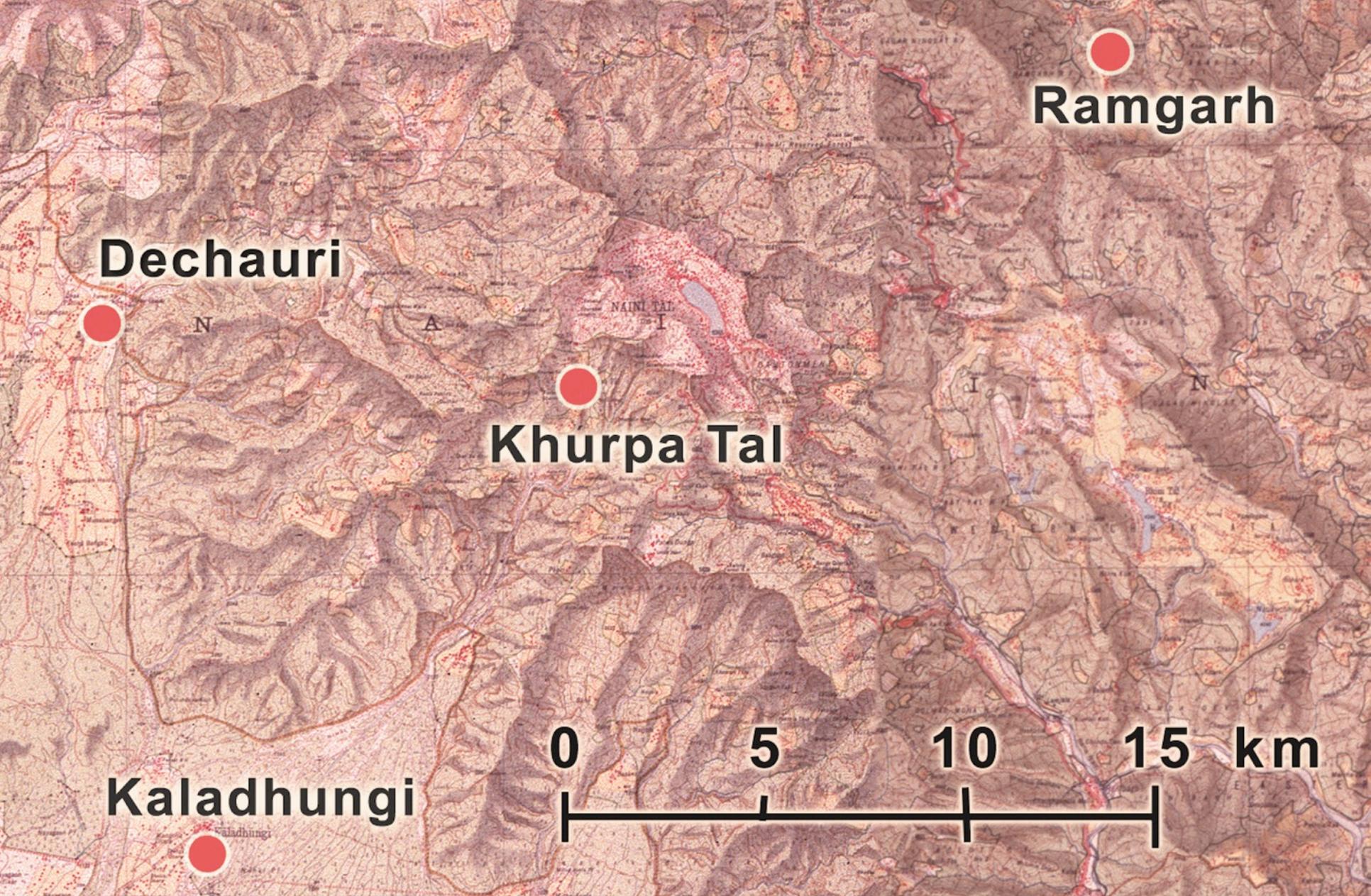
made the *fourteenth* day of October One thousand eight hundred and sixty one Between Henry Drummond a Colonel in the Bengal Army and Frederick Read Esquire Trustees of the Kumaon Iron Works in the North Western Provinces of Bengal in the East Indies by Richard



On 14 October 1861 Julius Ramsay and Colonel Richard Strachey met at the East India United Service Club on St. James' Square in London. They signed a formal contract. Ramsay was to "perform all duties consistent with and incidental to his employment as Manager of the Works of the Trustees in Kumaon or elsewhere in the Upper Provinces of Bengal." Ramsay's papers, National Museum of Science and Technology, Stockholm, Sweden.

before the twentieth day of October one thousand eight hundred and sixty one and to go to Calcutta in such manner as Lieutenant Colonel Strachey shall approve—



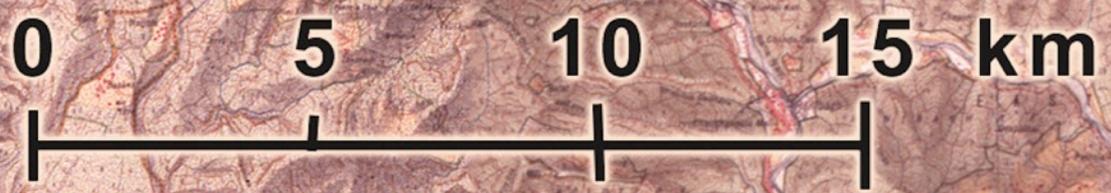


Ramgarh

Dechauri

Khurpa Tal

Kaladhungi





William Sowerby's blast furnace. Photo: Gustaf Wittenström, National Museum of Science and Technology, Stockholm, Sweden



The Engelsberg Iron Works, Sweden. A World Heritage site.







Pramod Kumar Tripathi, present farmer-owner of the ironworks area in Dechauri.

North of India Kumaon Iron Works Company, Limited.

Paid-up Capital Rs. 4,65,000 in 465 Shares of Rs. 1,000 each.

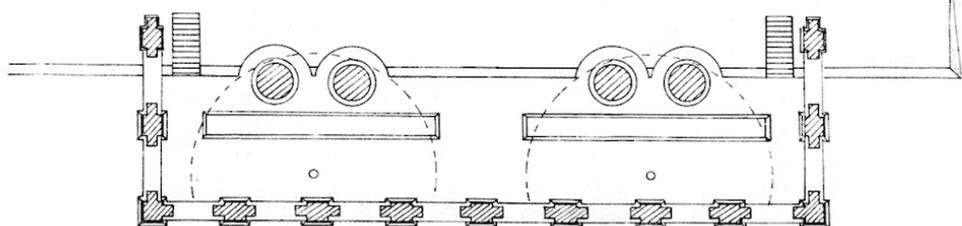
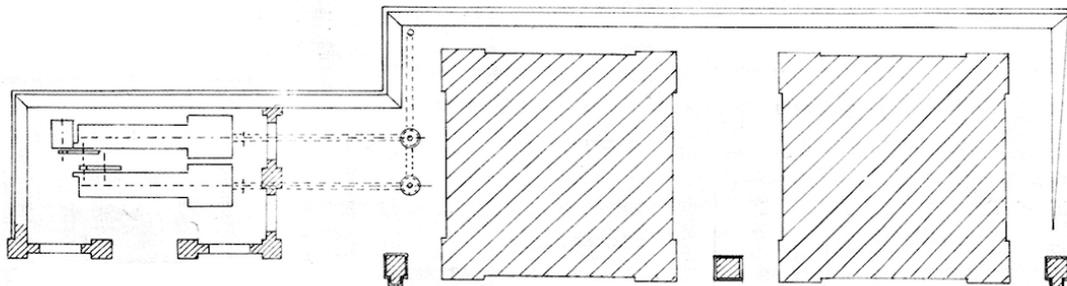
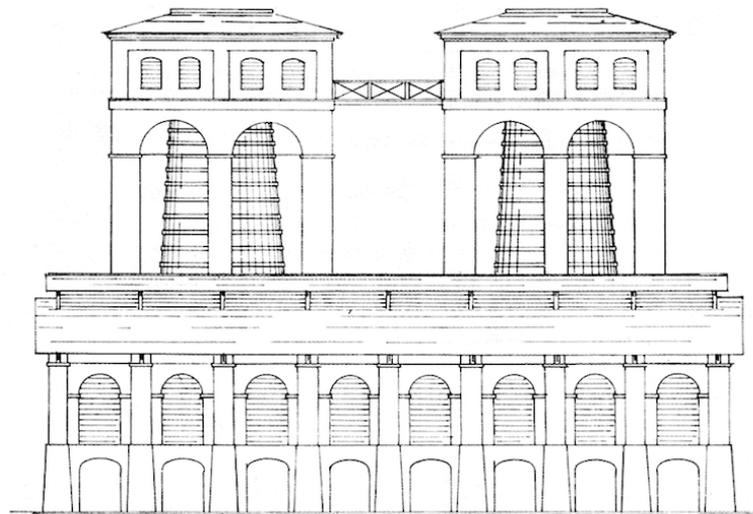
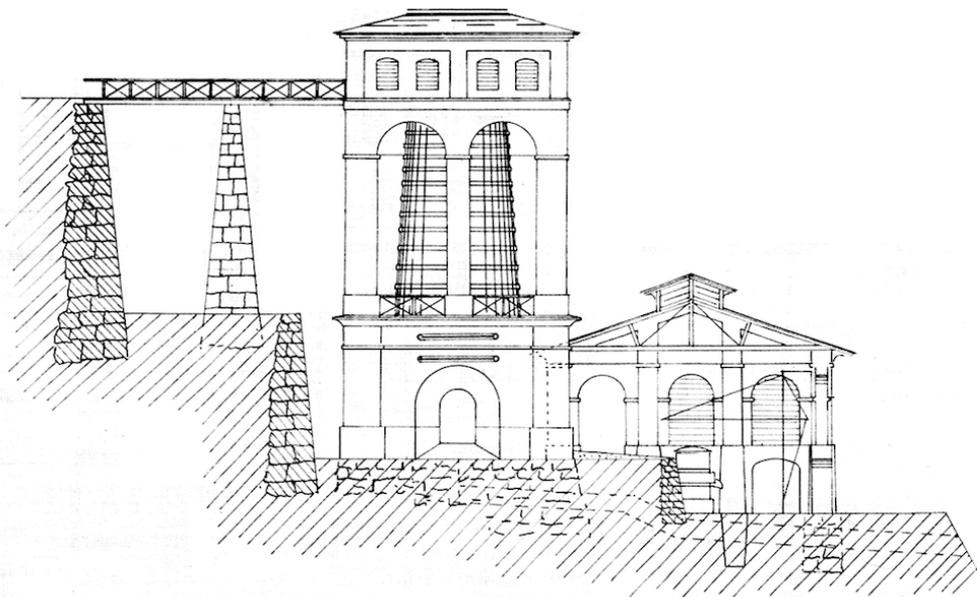
Manager,	J. W. RAMSAY, ESQ.
Asst. Manager & Accountant,			J. OLDFIELD, ESQ.
Engineer,	C. WITTENSTROM, ESQ.
Solicitors,	MESSRS. MOLLOY & DALLAS, <i>Calcutta.</i>
Bankers,		...	AGRA AND U. S. BANK, <i>Calcutta.</i>

The direction conducted by a Committee of Shareholders.

PRESENT LIST OF SHAREHOLDERS.

General J. Ramsay.	H. B. Riddell, Esq.
General H. Drummond.	Saadut Ali.
Dr. F. Pearson.	Nawab Daim Khan.
Dr. G. E. Morton.	J. Strachey, Esq., C. S.
C. Wingfield, Esq., C. S.	Dr. F. Douglas.
M. R. Gubbins, Esq., C. S.	J. Campbell Brown, Esq.
A. Ross, Esq., C. S.	Lieut. Col. D. C. Vanrenen.
A. Shakespear, Esq., C. S.	Luchmee Narain.
J. O. B. Beckett, Esq.	Raja Sheoraj Shingh.
Kumaon Mission.	Col. Clarke, C. B.
F. Read, Esq.	Major Thurburn.
Captain Baron F. Von And- lau (estate of)	Major Fitzgerald.
Captain Gray.	Captain Nisbett.
Motee Lall, of Agra.	Major F. W. Baugh.
Rees Davies, Esq.	Captain Smyth.
Motee Ram Sah.	E. G. Fraser, Esq.
Bajinauth & Gunga Pershaud.	Lieut. Col. H. D. Taylor.
P. Carnegie, Esq.	Captain Harrison.
	Captain Mylne.

Advertisement for additional capital in the summer of 1862. Ramsay's papers, National Museum of Science and Technology, Stockholm, Sweden.



KUMAON IRON WORKS

DESIGN FOR 2 BLAST-FURNACES IN

COMBINATION WITH BESSEMER-APARATUS

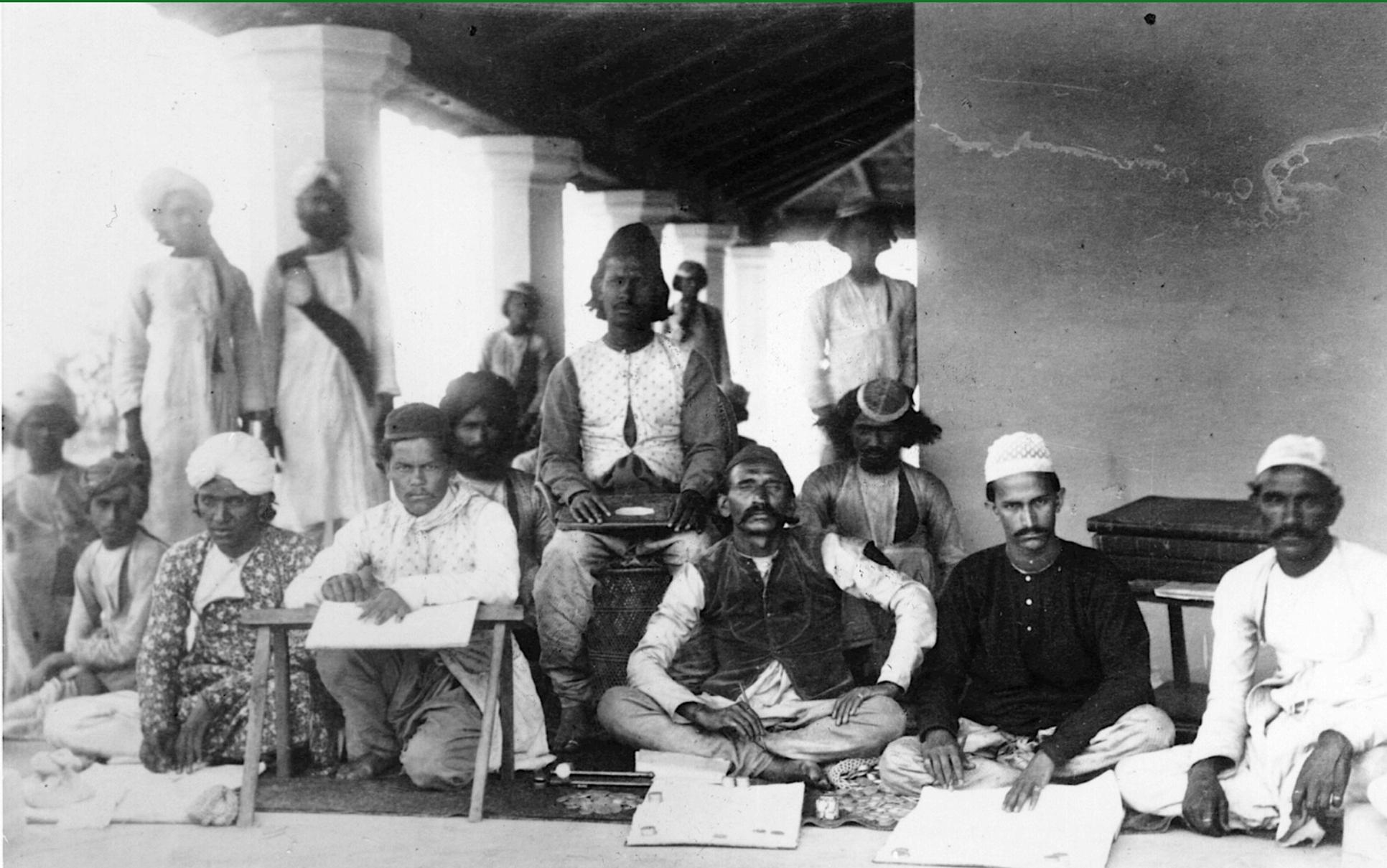
C. W. M.

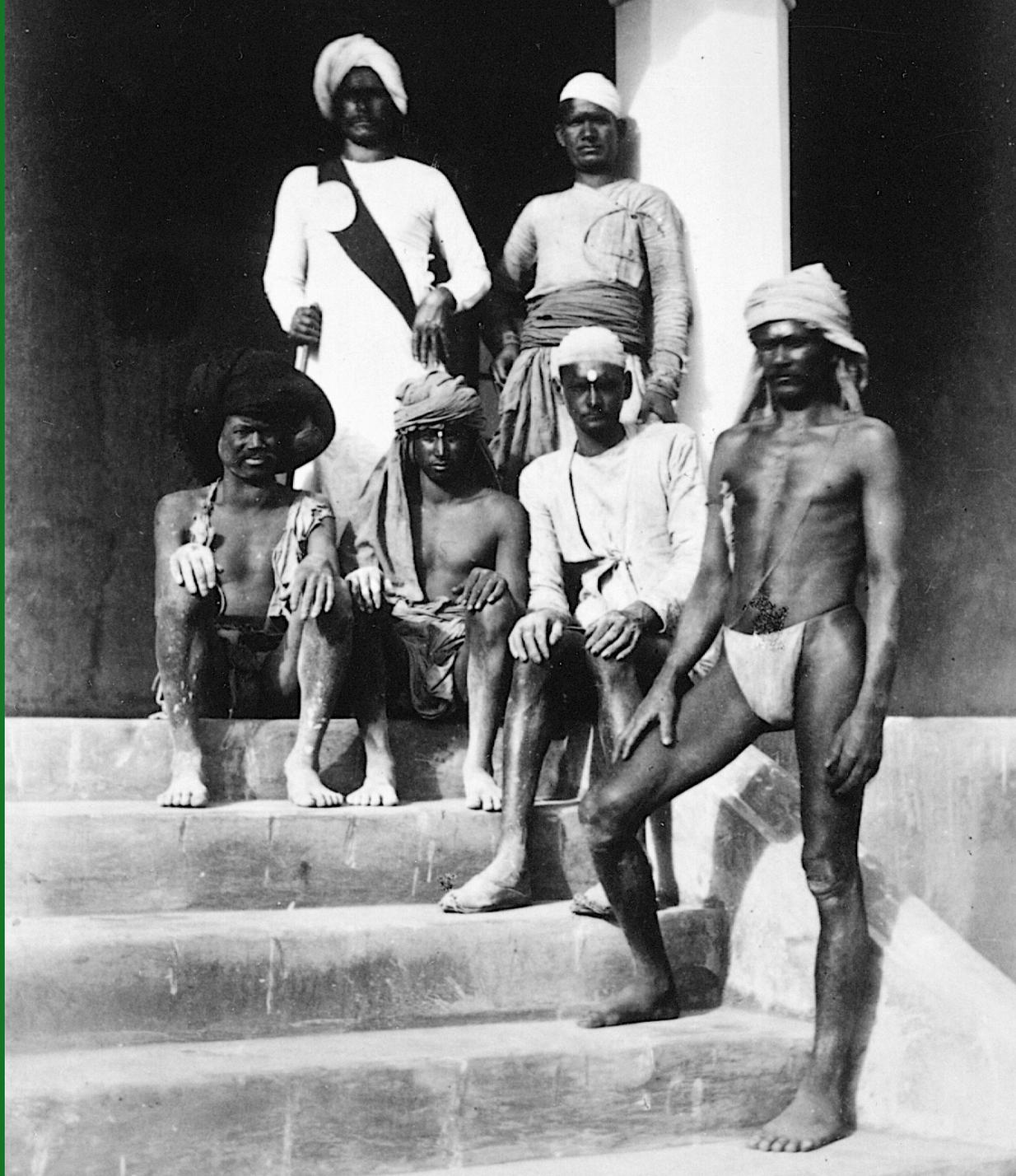


Julius Ramsay wrote “I do not believe I exaggerate, we have 2,000 workers of all kinds.” Photo: Gustaf Wittenström 1863, National Museum of Science and Technology, Stockholm, Sweden













Mr. Russell, Mr. Edwards and Mr. Louis. Photo: Wittenström.
Photo: Gustaf Wittenström, National Museum of Science
and Technology, Stockholm, Sweden

Nimar Iron Works.

INDUSTRIAL.

Nimar Iron Works.

No. 505—2998, dated 11th October 1860.

[No. 1.] From Col. Sir R. C. Shakespear, Kt., and c. B., Agent Govr. Genl. for Central India, to Offg. Secy. to Govt. of India, P. W. Dept.

I HAVE the honour to inform you that a copy of the Secretary of State's letter No. 103 of 2nd August 1860, having been forwarded by me to Major Keatinge, I have received from that Officer a letter No. 458 of date 8th instant, of which a copy is enclosed.

2. This letter is entirely regarding the new Iron Works which are about to be established in the Province of Nimar.

3. In the letter now forwarded Major Keatinge submits *four* separate propositions, regarding each of them it would appear necessary to take the orders of Government.

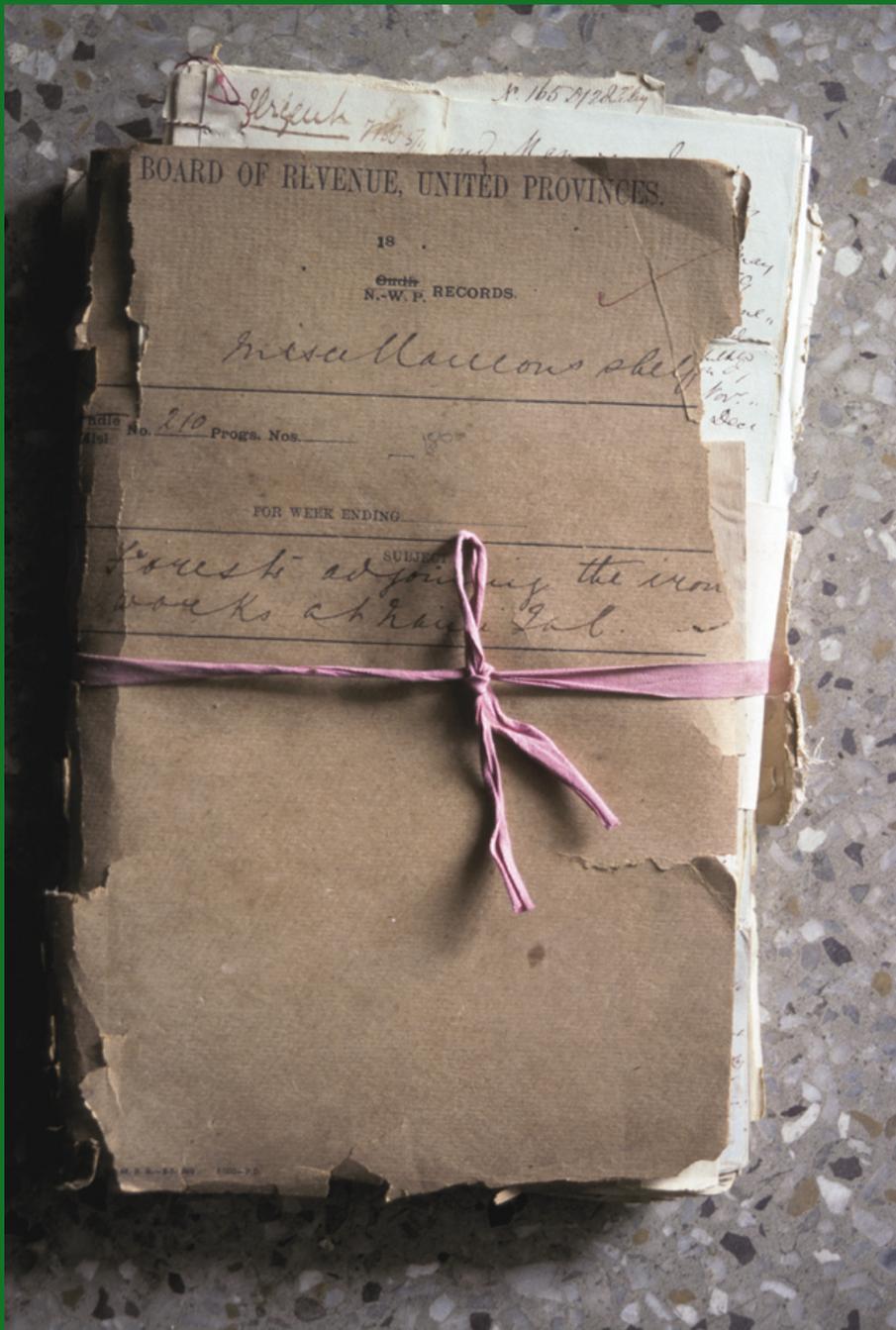
1st. The location of the works. Major Keatinge is of opinion that Burwai on the Nerbudda will be the best site, but he wishes, before actually commencing, to take the opinion of Mr. Mitander after that gentleman's arrival.

2nd. A house for Mr. Mitander and charcoal sheds ; a small Engineers and Smith's shop, and bins for ore.

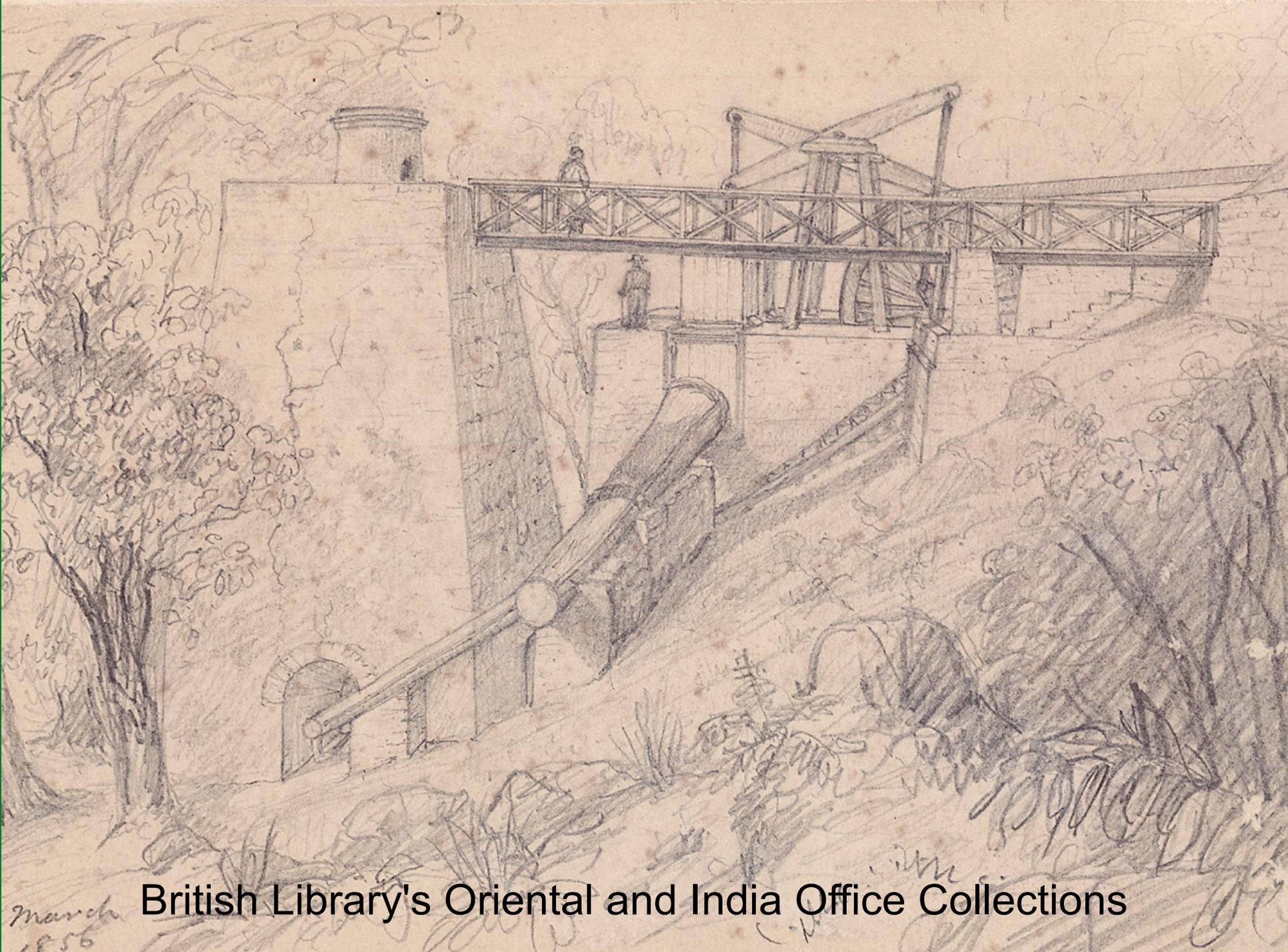
Major Keatinge proposes that the above works should at once be commenced upon at Burwai in the event of Mr. Mitander agreeing with him as to the superiority of that place.

3rd. Major Keatinge solicits orders as to how he is to report progress, and

Printed archival material. Letter of 11 October 1860 on the "Nimar Iron Works" concerning, among other things, the arrival of Mitander. PWD Proceedings, Government of India, National Archives, Delhi OR British Library Oriental and Indian Office Collection, London.



The red tape. Photo: Jan af Geijerstam. State archives Lucknow



British Library's Oriental and India Office Collections

March
1856

The Burwai Iron Works

1860.

Nov. 26. På morgonen afgik til Mandia. Doctor Mackenzie kom
nede af os afgik til Manduak. Jeg udførte betænkning
til et forslag af Malmer som at Majoren gilledes.

27. Tidligt på morgonen kom Majoren mig og afgik
til Manduak. Jeg gik til Mandia og aftenen
sufam hem til Fruen. I aften mit læst til "The
Travellers bungalow" foragad på Harrys kængsamhet
som jeg gjorde læst færdigt, uden jeg maade ligge i
bungalow første nat. Det var alt lidt trægt
at kunne sig aldeles sufam den dag.

28. Til Mandia tidligt på morgonen, da jeg kom
fann jeg mit læst Malmer i ordning da jeg kom.
de sidste i det samme og ordene mine dater efter
refan. Erhå se tidning fandt fra Majoren.

29. Besøgte Communalen gæfve og ordene der for
græfning m. m. Det efter anden som lykkedes
ludalt erhå se som midtogs hem og tog til
foragelse stætes for titet af min kær. Erhå se
sædning af bækken med diverse fra Majoren.

30. Hemme hele dagen. Harry 2^{de} traf til Majoren
og to de for Viridpelet til Mandia. Harry blev
jæde på de til degeprosp af Corundia & Commu:
for malmer.

Decemb. 1. Tidligt på morgonen afgik til Mandia og på
efter middagen til Corundia. Jeg et stat sædjan og
... ..

Nils
Mitander's
diary. The
Kinship
Centre,
Karlstad,
Sweden.

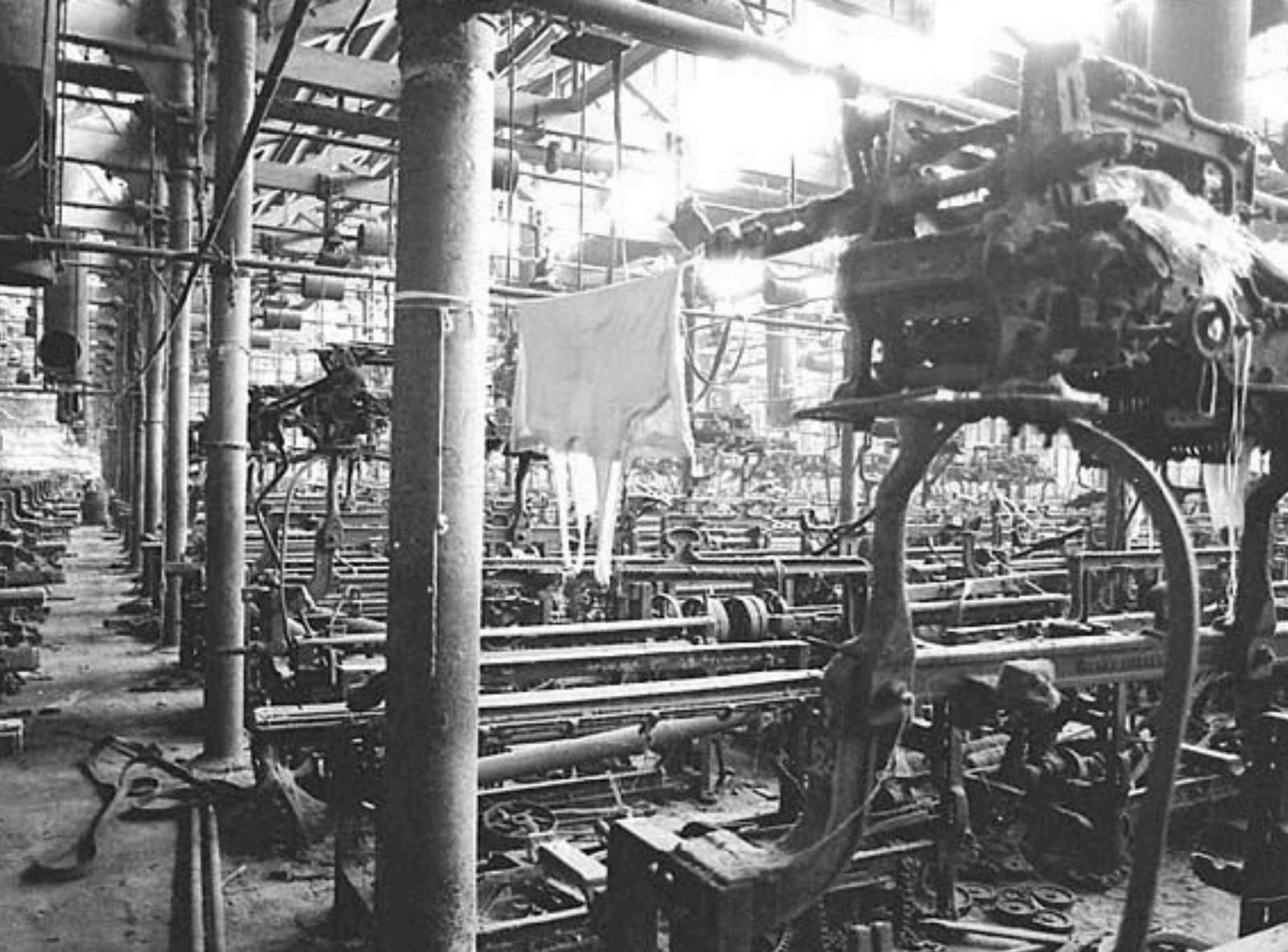


The Burwai Iron Works in 1863. Watercolour by Mr. Knight, clerk in the office of the Political Agent in Nimar. British Library's Oriental and India Office Collections, London





The shrine of Baba Chimney in 1997, incorporated in one of the chimneys. This one was probably for the boilers of the blowing machinery.







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Stockholm, Sweden
jan@geijerstam.se