This paper was read at the first Union of Burma Research Conference on 25th March 1966. Myanmar's attempt at modernizing the country is described through construction of nearly fifty factories long before the British invasion of Upper Burma. Crown Prince Nyangyan sent state scholars to India, Europe and England, then used them to develop modern industry. Foreign workers were also employed. The Prince saw the need to forestall another attack by the British. Hence the Gun factory, Iron Foundry and Ship building had priority. How the machinery was procured and the factories developed is described in detail. The British were not pleased, yet even with the assassination of the Crown Prince in 1866 the work continued. But the British ended the effort after annexation and the factories were sold for scrap.
Burma Finance and Commerce Proceedings, 1889.

"Diaries of the Political Agent, Mandalay, 1860—80" India Foreign and Political Proceedings, 1860—80.

Burma Military Proceedings, 1885-6.
Burma Foreign and Political Proceedings, 1886.
Burma Foreign Proceedings, 1886.
Upper Burma Proceedings (Finance and Commerce Department), 1886.
Upper Burma Proceedings (Revenue and Agriculture Department) 1886.
თუ ასე მიტყებით ვარდა, ამგვარად და ამგვარად მიტყების მიხედვით სწორედ ამ სახის შემთხვევაში ვარდა, სადაც იყო საშუალოა სწრაფი და გრძელი კაცულები მოჰყო. მაგალითად, თუ რამე სქოლი დაბალ ამ სახით მოჰყო, მაშინ ამ სახით ვარდა, ამ სახით ადამიანმა საშუალოა ყველაფერს მოჰყო საშუალოა და ამ სახით თავისი მოქცევის ადგილს აქვთ სწორედ ამ სახით. თუ ამ სახით არ გამოიყენება ამ სახით მოქცევი ამ სახით მიმართებულად სწორედ ამ სახით, ამ სახით არა მარტო ამ სახით არ არის უფრო მარტო ამ სახით.

...
ნახვაში არ არსებება იმ სიტყვათა ჯგუფი, რომელიც მონაწილეობდა აღკვეთილს.

...
ცრუ გამოყენება რაზეც გამოიყენება ცნობები სტუდენტთა თანამედროვე პალატობებში. ამის გაგრძელება შეიძლება იძლეოდეს გამოყენება, რათა სტუდენტებმა სწორწართხვევით შეიძლო მის გამოყენებით.

ყველაზე გამოწვევილი პროცესის დროს გამოყენება შეიძლება იქნას სტუდენტებთან შორის ათამაშებით, რათა ისიც შეიძლო კუთვნილი ამოღობით. სტუდენტთა გამოყენების სისტემა, რომლის გამოყენების სისტემა შეიძლება განხორციელდეს სტუდენტთა გამოყენების სისტემით.

არ გამოყენება რაც გამოყენება შეიძლება უხეში შეუძლია გამოყენების სისტემით.

როგორც გამოყენება შეიძლება იქნას სტუდენტთა გამოყენებით, რათა ისიც შეიძლო კუთვნილი ამოღობით.

სტუდენტთა გამოყენების სისტემი უნდა გამოიყენოს სტუდენტთა გამოყენების სისტემით.

სტუდენტთა გამოყენების სისტემი უნდა გამოიყენოს სტუდენტთა გამოყენების სისტემით.

როგორც გამოყენება შეიძლება იქნას სტუდენტთა მიერ გამოყენების სისტემით.

როგორც გამოყენება შეიძლება იქნას სტუდენტთა მიერ გამოყენების სისტემით.

როგორც გამოყენება შეიძლება იქნას სტუდენტთა მიერ გამოყენების სისტემით.
რედაქტორი გულანობით ამოღებდა ძალამოძღვრებზე მაქსიმუმ 3 წლის წარუდგენება. ჯერ კიდევ შესრულებული არის მომუშავე ძალამოძღვრები. სსრული მდგომარეობა გადატვირთული არის მაქსიმუ წარუდგენებაში. ამ შემოთავაზებით რომ ჩანს საქმიანობა და მაქსიმუმ ძალამოძღვრებში თანამედროვე ვარჯიშში საჭირო არ შეეტანს.
ყველა რომ შეიძლო თანამედროვე გაზაფხულის გამო შეცვლილა რამდენიმე თავისუფლად, რაც უფრო გამოქვეყნება მათ საქმეს შესასწავლად. მაგრამ ამ მასშტაბით არ არის უფრო მეტი. მათ იმის მიზეზი იყო უფრო დიდი ხანგრძლივობა, რაც არ იყო უფრო გამარჯვებული. ამ მსგავსად, ბრძანების უფრო ივერთი და მცხოვრები იკრძალა ბავშვები. ამას საკმაოდ მოკვლევი ვარ და არ უნდა გამოეყრდნობა ამ ფაქტი. ამიტომ ჩემთან არ იქნება რამე საბეურო გამოძახვრილობა ან გამოვიყენო რამდენიმე რიცხოვნობა.
မိန့်တွေ့ရာ ကျောင်း ကျောင်းမှာ စိုးရိမ်သောအချက် ပြုလုပ်ရန် အသွားပေးပါမည် ဖြစ်တဲ့ အပြင်းအဝင် အချက်အလက်များကို ကျောင်းသားများ မှတ်ချက်ပေးပါမည်။

စိုးရိမ်သောအချက် ပြုလုပ်ရာ အခါတွေအတွက် မိန့်တွေ့ရာ ကျောင်းသားများ ကျောင်းသား မှတ်ချက်ပေးပါမည်။

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დაკვირვით იქნებოდა, თუ ეცადებოდა ამ პროცესის სწორებით, მელტონამ დარულია გამოცდა გახდა გამოჩნდა, რაც აბრუნათ რეალური პოტენციური გამოყენების სწორებით, თუმცა ამ პროცესის თვალსაჩივნებლად სიმძლავრე არ აქვს გამოყენდილი, რომ გახსნილი იქნა ის რა გამომდინარე გახსნილი იქნა გამოჩნდა გამოყენების სწორებით. 

გამოყენების სწორებით, რეალური პოტენციური გამოყენების სწორებით, გამოჩნდა გამოყენების სწორებით არ არის ხარჯი გამოყენების სწორებით, თუმცა ამ პროცესის თვალსაჩივნებლად სიმძლავრე არ აქვს გამოყენდილი, რომ გახსნილი იქნა ის რა გამომდინარე გახსნილი იქნა გამოჩნდა გამოყენების სწორებით.
Fleming and Co., Glasgow
Smith, Glasgow
Dundas, Scotland
Cowans, Sheldon and Co., Carlisle
North, Oldham
Joseph, Harley, Manchester
Smith, Peacock and Tannet, Leeds
Gerard, Paris
Bouhey, Paris
Berry and Sons
Craven Brothers
မြန်မာဝါကျနှင့် ဝါကျတော်တော်ကြီးများ

စာမျက်နှာပြင်တွင် စားသောက်ရာတွင် အားလုံးကိုလိုအပ်သည်။ စာသီးသီးကို အားလုံးကိုလိုအပ်သည်။

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ပြည်သူများအားလုံးကို စာသီးသီးကိုလိုအပ်သည်။

ပြည်သူများအားလုံးကို စာသီးသီးကိုလိုအပ်သည်။
თავდაპირველი მანქანით აღმართულ გენერალურ დანიშვნებზე არის ღირებულები სიმულაციით ადრე მოტევარ მონათებში ნიშნობული.

აქ არ შეიძლება დაპარტიის მონაწილეობა მონათების მიერ შელით აღმოჩენილი იქნას. იმიტომ გერძებით შემორჩენილი იქნა სამები.

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მილიონი ლარი, როგორც მათი მონაწილეობის შემთხვევაში, განისაზღვრა მათი განკუთვნილება.

მომართვა და მონაცემები ერთმანეთთან თანდათანობაში მართვის ყოველდღიურ რეიტინგში შედიან. მათი განკუთვნილება სრულიად ათასობრივი მომუშავებისთვის გამოიწვია. მათი ქმენით ელექტრომოდელი შეერთების შემთხვევაში. ამოიცნოს ის მიმართულების და განათლების რეკომენდაციებს. მათი განკუთვნილება სრულიად ათასობრივი მომუშავებისთვის გამოიწვია.
ფუძების ძილი

...
ბარბერექი არძავით დაართო ძველი ადგილში.

დღეს თავის გულს ამოღრუბარო ლექსიკონი თანამშრომლობაზე.

ნაშთები დამოუკიდებლად მოექცენ სამიქნეო გული.

...
(Father Akboat did not see why Burma should be included in the number of powers the JUS GENTIUM, as we understand it, cannot be reciprocally.)
စိုက်ပျိုးမှု၏ အားကြီးစွာ အသုံးပြုသော လုပ်ငန်းများသည် အများအားဖြင့် ပြုလုပ်သော တိုက်ရိုက်များကို ပြိုလောက်နိုင်သည်။ သို့သော် သို့သော် ပထမဆုံး အဆိုတော်မှာ ထိုအချက်ထက် မိုးမိုးသော လိုင်စင်များဖြစ်သည်။ သို့သော် ပထမဆုံး အဆိုတော်မှာ ထိုအချက်ထက် မိုးမိုးသော လိုင်စင်များဖြစ်သည်။ သို့သော် ပထမဆုံး အဆိုတော်မှာ ထိုအချက်ထက် မိုးမိုးသော လိုင်စင်များဖြစ်သည်။ သို့သော် ပထမဆုံး အဆိုတော်မှာ ထိုအချက်ထက် မိုးမိုးသော လိုင်စင်များဖြစ်သည်။ သို့သော် ပထမဆုံး အဆိုတော်မှာ ထိုအချက်ထက် မိုးမိုးသော လိုင်စင်များဖြစ်သည်။ သို့သော် ပထမဆုံး အဆိုတော်မှာ ထိုအချက်ထက် မိုးမိုးသော လိုင်စင်များဖြစ်သည်။ သို့သော် ပထမဆုံး အဆိုတော်မှာ ထိုအချက်ထက် မိုးမိုးသော လိုင်စင်များဖြစ်သည်။
ფრაგმენტობა

...
LIST OF MACHINERY AND STORES AT SMALL ARM FACTORY, MANDALAY

One portable engine and boiler on wheels, by Robey and Co., with 9 inch cylinder and 14 inch stroke.

One metal screw press, weighing 1½ tons, with 5 inch screw and long levers.

One 20 horse power, horizontal, condensing engine with tappet valves, the cylinder 16 inch diameter and 3 feet stroke, quite new, not erected, made by Gebr Sulzer of Winterthur (one crankshaft lying near of the same pattern and size as shaft for this engine, belongs to engine at gun factory).

Two cylindrical single flue boilers 24 feet long, 4 3/4 feet diameter, with expansion joints, steam dome, steam receivers, two in number for each boiler, running its whole length and 19 inches diameter, double riveted, of 1/2 inch plate, and capable of bearing a working pressure of about 100 lbs per square inch, made by Gebr Sulzer, Winterthur, quite new and in good condition, for supplying steam to above named engine.

One portable engine by Ransomes, Sims and Head, used for electric lights, nearly new, has 8 inch cylinder, 12 inch stroke.

Eleven lathes, with beds 7 1/2 feet long and heads varying from 4 1/2 inches to 8 1/2 inches. These lathes are self acting, specially suited and arranged for gun and small-arms work; made by Maseva and Tarasso of Turin or Silvanti of Brissia. Petty pilfering of the brass work has taken place from most of them.

Three machines for shaping the external portions of gun barrels.

Six wheel cutting or stock shaping machines.

One gap lathe with screw cutting gear, 8 feet bed and 8 inch head, gap 12 inches by 8 inches. Incomplete.

One gap lathe with screw cutting gear, 7 feet bed and 7 inch head.

One gap lathe with screw cutting gear, 9 feet bed and 8 inch head, with gap 10 1/2 inches by 5 inches, made by Decker of Turin. Incomplete.

One gap lathe with screw cutting gear, 9 feet bed, with 10 inch head, by Decker; the gap 12 inches by 8 inches.

One gap lathe with screw cutting gear, 7 feet bed, 7 1/2 inch head, by Bouhey. Incomplete.

One gap lathe with screw cutting gear, 16 feet bed, 13 inch head, with gap 2 feet by 12 inches. Handles missing.

One screw cutting lathe, 15 feet bed, by Whitworth, with 10 inch head. Slightly incomplete.

Two double shaping machines, 7 inch stroke, with tables complete.

One drilling machine, self feeding, with raising table and single motion.

One planing machine, small, by Berry, 16 inch stroke and 12 1/2 inches between frame, to cut 12 inches high.

One slotting machine, 6 inch stroke, by Decker, 1877. Incomplete in feed gear.

One slotting machine 6 inch stroke, by Decker 1877. Complete.

Two small slotting machines with 3 1/2 inch stroke. One hand saw. Complete.

One planing machine with 10 feet table, 2 3/4 feet between frames, to cut 3 feet high.

A lot of vices.

One planing machine with 5 feet table, 22 inches between frames, to cut 2 feet high, by Decker of Turin.

One small lathe with 3 feet bed and 6 1/2 inch head.

One portable engine on wheels by "Societe Central de Construction Pantin, Seine" 12 inch stroke and 10 inch cylinder. Small gear missing.

One lot tapered rifle-barrels, unbored or turned, with all suitable forgings and casting for locks, etc., weighing about 10 tons.

One portable engine on wheels, by Young & Co., St. Leonards. 9 1/2 inch cylinder, 14 inch stroke.

One small set of rolls or mills, double acting, rolls 5 inches wide.

LIST OF MACHINERY AT GUN FACTORY, MANDALAY

One egg ended boiler, externally fired, length 15 feet, diameter 3 1/2 feet, single riveted 1/2 inch plate. Value uncertain.

One feed donkey with 5 inch cylinder, 10 inch stroke.

One steam hammer by Naylor, 1856, with anvil and block; stroke 20 inches, weight of piston 10 cwt; has double action.

Two cylindrical single flue boilers, 24 feet long, 4 3/4 feet diameter, with expansion joints, steam dome, steam receivers, two in number for each boiler, running its whole length, and 19 inches diameter, double riveted, of 1/2 inch plates, and capable of bearing a pressure of
probably 100 lbs per square inch, made by Gebr Sulzer, Wintertthur, quite new and in good condition.

One 30 horse power horizontal condensing engine, with tappet valves, the cylinder 16 inches diameter and 3 feet stroke quite new, made by Gebr Sulzer, Wintertthur, for working in connection with boilers named above. (The crank shaft of this engine lies in small arm factory, where another engine of same type is lying.)

One 80 horse power horizontal engine by Smith, Glasgow, 1868, with two 30 inch cylinders, and 4 feet stroke, and 19 feet fly wheel, weighing 16 tons or more. The caps and brasses have been partially removed.

Three boilers, cylindrical, single flue, 26 feet long, 5 3/4 feet diameter, 2 2/3 inch plates, by Cowans, Sheldon & Co., condition uncertain, but never used, set in brick work.

One portable crane, by Cowans, Sheldon & Co., Carlisle, 1868, dismantled.

One slotting machine with 18 inch table, about 10 inch stroke. Parts dismantled but lying near.

One shaping machine, 15 inch stroke, with rising table and 4 feet bed.

One screw cutting lathe, 8 feet bed with dog chuck, head 7 1/4 inches, Slightly incomplete.

Two self acting lathes, by Craven Brothers, with 19 feet beds and 18 inch head.

One self acting lathe, by Berry and Sons, 18 feet bed, 13 inch head.

One self feeding drilling machine with circular rising table. Slightly incomplete.

One 10 feet table planing machine, 2 1/2 feet between frames, to cut 3 feet high, by Dundas.

One wheel cutting or shaping machine.

One lathe for gun turning, rifling or boring, with 28 feet bed and 23 inch head.

One portable engine on wheels with 8 feet driving and fly wheel, has 12 inch cylinder, 20 inch stroke, slightly incomplete in slide valve, rod, etc. Is about 12 horse power, by Young of London. One grindstone with trough. One hand saw table.

One 19 feet lathe with 12 inch head, self acting and screw cutting, with gap and dog chuck. In good condition.

One 19 feet lathe with 26 inch head and 6 feet face plate; will take 8 feet.

One table drilling machine with spring catch for tools.

One small tooth cutting or shaping machine.

One lot of boring bars.

One horizontal 8 horse power engine with 10 inch cylinder and 30 inch stroke, by Dundas; belt or fly-wheel 6 feet diameter.

Two cupolas, each about 5 tons, with wind standards or tuyers.

One overhead traveller with 40 feet gharry and winch complete.

One carrier and moulding box.

One pug mill with pan and rollers complete.

One 14 inch boring bar 16 feet long. One lot of old wrought and cast iron, about 50 tons.

One portable engine by Ransomes, Sims, and Head, used for electric lights, nearly new, has 8 inch cylinder, 12 inch stroke with funnel.

LIST OF MACHINERY AT GUN FOUNDRY AND MINT IN PALACE

One lathe with 18 feet bed, 13 inches head, with self acting gear, by Craven Brothers.

One gap lathe with 18 feet bed, 20 inch head, 5 1/2 feet face plate. Incomplete in brasses and slide rest, by Craven Brothers.

One lathe with 20 feet bed, 18 inch head, self acting. Brasses missing, by Craven Brothers.

One double riveted boiler, 15 feet long, 5 feet diameter, 3/8 inch plates with 2 1/2 feet flue.

One 8 horse power horizontal high pressure engine with 10 inch cylinder, 2 feet stroke, by Smith of Glasgow, 1867. Dismantled; slightly damaged in feed pump.

Three self acting lathes, 20 feet beds, 18 inch head, by Craven Brothers. Brass-work missing.

One self acting lathe, 18 feet bed, 13 inch head, by Berry and Sons.

One single cylinder 10 inch portable engine and boiler, by Societe Central, Pantin, Seine. Complete.

One 8 horse power horizontal high pressure engine, by Heaton and Sons, 1864; cylinder 10 inch, stroke 2 feet, with all gear complete.

One coining press by Heaton and Sons; driven by belt.

One milling machine.

Two disc stamps. Two sets rolls shafting, etc.

LIST OF MACHINERY AT COTTON MILL, MANDALAY

One boiler by Howard, of Bedford, a patented article, with cylinders about 12 inches diameter.
One 43 horse power engine by Rothwell and Co., 1869.
Horizontal, high-pressure, fitted with expansion valve; cylinder 19 inches diameter stroke 3 1/2 feet.

Looms and spindles are by Hetherington. There are about 60 of the former and 1,500 of the latter, with all necessary shuttles, reeds, cans, devils, and gear for spinning and weaving.

Screw jack metal. In good condition.
Screw jack wood. Requires repairs.
Anvils, Smith's five in number.
Vices, bench, seven in number.
Rivet and Smith fire-hearths, iron, 12 in number. Require repairs.
Blowing fan, one in number. In good condition.
Crane; the iron work never erected, of one good swinging jib-crane of large size; probably 10 tons.

MATERIALS, OLD AND NEW, LYING ADJACENT TO THE ABOVE MACHINERY

Chain cable, 100 to 150 fathoms, 1 3/4 inch diameter. Good.
Plates, iron, new; 45 tons.
Rivets, iron, new; 5 tons.
Boiler tubes, iron, new, 5 feet 8 inches long, 2 1/2 inches diameter about 500 in number.
Angle bars, iron, about 7 tons, in good condition, quite new.
Brass and copper, old, about 2 tons. Round bar, iron, new; 3 tons.
Iron, old, of sorts, wrought and cast; 80 tons.

LIST OF SAW MILL MACHINERY AT MANDALAY

Three sets of verticle saw frames of 3 1/2, 4, and 5 feet width between frames, complete with rails, carriages, clamps, feed gear, etc. The rails extend for a length of 80 feet.
Two sets under hand circular-saw beds, benches, etc. with all necessary tables, rollers, guides, etc. for a length of 100 feet, and capable of squaring logs by a cut of 2 feet and 21 inches respectively.
Two circular bench saw tables to cut 15 inches and 9 inches respectively. One traveller carriage overhead, without winch, the winch being dismantalled and lying in shop near foundry.
One 40 horse power engine with two cylinders, each 22 inches diameter, 3 1/2 feet stroke by Abbott and Co., Newcastle, fully mounted and geared for driving the machinery, with all necessary primary and secondary shafting, cog-wheels, pulleys, etc.
Three cylindrical boilers, single riveted, of 3/8 inch plate, 27 feet long, 5 feet diameter, with single flues. Value supposed good, but
mounted in brick work, and not capable of survey at present.

One saw sharpening machine for carrying emery wheels.

LIST OF MACHINERY IN THE FOREIGN AND FOUNDRY SHOPS AND STORES NEAR SAW, MILL AT MANDALAY

Crane 15 tons or about, with wooden jib set in iron socket-pieces, to lift about 60 feet, overhang from spindle 25 feet, works either in double or single gear; chain 1\(\frac{1}{4}\) inch diameter, made by Cowans, Sheldon and Co., Carlisle is complete with the exception of crank handles.

One shingling or forging furnace with wrought iron walls 15' x 6' x 7', bricked complete in fireclay; entrance doors 3 feet square; never used. This is portable as far as ironwork is concerned.

One shingling or forging furnace with wrought iron walls 14' x 5' x 7', with doors 2 feet 4 inches by 1 foot 9 inches, portable as above. Never used.

Attached to each of the above is a cylindrical single flue boiler to receive its heat from the furnace; the boilers are 26 feet by 5 feet, and were erected to drive steam hammers, etc., in this shop. Boiler single riveted, 1/16 inch plating properly set, but never used. The steam valve brasses have been removed.

One steam hammer, probably the largest in Asia, weighing 60 tons, by Glen and Ross, of Glasgow, 1868 (no. 363); will strike about 10 tons, is on Rigby's patent, has double action, with wood bed, completely built. The steam valve is missing, but must be about the shops somewhere. The steam pipes are near the door.

One small low pressure boiler 9 feet by 3 feet with dome, apparently unused. Suitable for distilling.

One 7 feet upright boiler, 3 feet diameter 3/8 inch thick; single riveted.

Two teak logs 35 feet long and 1 foot square. Ten tons iron castings.

NEXT SHOP OR BOILER FACTORY

One rivet or bolt making machine, by Joseph Haley, Manchester. Twenty-eight boiler tubes (iron) 6 feet by 3\(\frac{1}{4}\) inches outside. One set plate rolls 14 feet long, with draw roll 16 inches diameter, by Fleming and Co., Glasgow.

Two small standard countersinking machines, by Berry, Stourbridge.

One punching and shearing machine, by Smith, Peacock, and Tannett of Leeds, with 13\(\frac{1}{2}\) inch gap. A good machine; scarcely used.

One set of draw rolls, by Bouhey of Paris, length 6\(\frac{1}{2}\) feet, diameter 7 inches.

One double acting steam hammer, by Dundas of Scotland, 16 inch stroke, and 10 cwt. hammer. Two large vices.

One tubular boiler, never used and in excellent condition, length 9 feet, diameter 4 feet, with smoke box, etc.

One lot of round iron, in bars, 6 inches diameter, about 8 feet long, weighing about 2 tons.

This shop is fitted with four Smith's brick-built forges with wind blast complete and measures 80 feet by 48 feet; the walls are of brick to a height of 8 feet from thence the framing and roofing is of wood.

Adjacent to the above shop is another in which the bulk of the machinery is situate, namely.

One fixed engine for blast of 4 horse power, 15 inch stroke, 7 inch cylinder, with piston and rod removed and lying in godown near pagoda. One wind-blast pump, by North of Oldham. One large fly-wheel for engine in godown near pagoda.

One lathe, self acting, with 20 feet bed, by Craven Brothers height of head 18 inches, face plate 3 feet, with carriage and slide rest.

One lathe, 18 feet bed, 13\(\frac{1}{2}\) inch head, by Berry and Sons.

One steam fire pump. The carriage and tank for this is in shop near pagoda.

One screwing machine. Incomplete, dics missing.

One self acting lathe, 18 feet bed, 13\(\frac{1}{2}\) inch head, by Berry.

One gap-lathe, 7 feet bed, 8 inch head, the gap being 13 inches by 9 inches, mad by Bouhey, Paris.

One gap lathe, self acting, 16 feet bed, 27 inch head, 6 feet face plate, to take 16 feet, by Berry. Slightly incomplete.

One horizontal boring machine, by Bouhey, with 10 feet bed, 12\(\frac{1}{2}\) inch head, to bore 3 feet long by 2 feet diameter.


One iron planing machine, by Craven Brothers, with fixed table, to take 6 feet wide by 6 feet high: length of bed 26 feet.

One gap-lathe, self acting, with 17 feet bed and 5 feet face plate, to take 8 feet, by Craven Brothers.
One oblique shearing and punching machine, by Bouhey, to cut to 1/2 inch thickness, with the gap 9 inches.

One gap lathe, self-acting and screw cutting, with 15 feet bed, 18 inch head, and 4 feet face plate, to take 7 feet (old pattern).

One shaping machine, by Bouhey, with 3 1/2 feet travelling table, stroke 12 inches.

One pillar drilling machine. Dismantled, by Bouhey.

One small drilling machine, by Berry, with hand feed.

One gap lathe, screw cutting, 17 feet bed, 11 inch head, with face plate, 2 feet 4 inches diameter, gap 7 inches, will take 3 feet, by Bouhey.

One slotting machine, by Berry, 18 inch stroke, with revolving table.

One 6 feet planing machine, 3 feet wide, to cut 2 1/2 feet high, by Bouhey.

Two boring bars, with screw feed 7 and 12 feet long.

One small planing machine, with movable table, 12 1/2 inches between frame, stroke 18 inches.

One overhead traveller, 27 feet long, built of wood with iron ends and strengthenings; the winch is by McClellan, Glasgow, and lies dismantled, never having been erected in the shop.

One boiler 18 feet long, 5 1/2 feet diameter, with all mountings; the boiler plate is 3/8 inch thick, for driving the shafting throughout shop.

One 14 horse power engine for driving the shafting throughout shop, 15 inch high pressure cylinder, 2 1/2 feet stroke, by Smith of Glasgow, bearing date 1867.

SHOP ADJOINING ABOVE, TO THE RIGHT OF ENTRANCE GATE, USED AS FOUNDRY

One lot of 1 1/2 inch boiler plates, generally 14 feet long by 4 feet wide, weighing 12 tons.

Two cupolas for iron, to melt from 3 to 5 tons, with wind-blast standards.

One foundry crane with wood jib to lift 5 tons, overhang 12 feet. One large pouring ladle of about 2 ton capacity. A lot of cast iron moulding boxes, etc.

A SHED ADJOINING NEAR PAGODA

One small deck-pump, iron.

Two large iron doors for covering brickwork at end of boilers.

One engine, 15 inch cylinder, stroke 28 inches, with expansion valve and mountings, horse power 20. The fly-wheel is in shop near foundry.

One slotting machine, 9 inch stroke, scarcely used, by Bouhey. Handles missing. Fire engine cart; belongs to fire engine in shop near foundry.

Ten split pulleys, quite new, varying in size from 3 1/2 to 6 feet diameter.

One circular saw bench 4 1/2 feet by 2 1/4 feet.

Two blast machines, unused.

Thirty tons good coke.

One hand saw machine with table 4 feet by 2 1/2 feet.

Ten tons angle bars varying in size from 4 inches to 3 inches.

A lot of copper piping, about 3 cwt.

A lot of iron tools, pulleys, scrap, etc., about 10 tons.

LIST OF MACHINERY AND GEAR AT SAGAING SMELTING WORKS

One set of horizontal shears for cutting rough iron, with steam engine attached, but small gear broken or removed. The knuckle through which the pin of shear passes is broken.

One set of vertical shears for rough iron, with engine attached, but metalwork removed and missing.

One steam hammer, erected, with anvil block. The piston and hammer face are missing.

One blast-fan, 2 feet diameter, with driving pulley broken.

One roll-train for bar iron, consisting of four sets of rolls, with all necessary framing and spur wheels.

One roll-train of breaking down and plate rolls, consisting of seven sets of rolls on each side of driving gear, with all necessary foundation-plates for rolls and engine attached.

One engine for driving above, horizontal, high pressure, with cylinder 26 inches diameter and four feet stroke, 60 nominal horse power; the fly-wheel is 18 feet diameter.

One steam hammer on Sturgeon’s patent, by Rothwell and Co., Bolton, about 18 inch cylinder, lying dismantled. A 2 ton hammer.

One roll-train for bar iron consisting of five sets of rolls, with all necessary foundation-plates and framing attached.

One engine for driving above, horizontal, high pressure, with 26 inch cylinder, 4 feet stroke, of 60 nominal horse power, and fly wheel 18 feet diameter.
Two smelting furnaces of plate iron, unlined with brick, 33 feet high, 18 feet diameter, standing on cast iron pillars 10 feet high and 10 inches diameter; on square plinths and brackets.

One set of 16 cast iron siphon-shaped 10 inch pipes, with connecting pieces for hot air blast to smelting furnaces, with four stop-valves.

Two vertical high-pressure blowing engines of about 3 feet diameter and 4 feet stroke, for supplying blast to smelting-furnaces, with all necessary sole plates, fluted cast-iron pillars to carry entablature fly-wheels, crank, shafts, etc.

Twelve egg-ended boilers, each 36 feet long and 5½ feet diameter, of ¾ inch plate, single riveted, by the Dallam Forge and Co., Warrington, with 24 hot-guis pipes for same.

The materials for erecting 10 paddling and shingling furnaces of good cast-iron plates; weighing about 50 tons.

One blower on Baker’s patent, 3 feet diameter, 17 inch size, with necessary pipe to test smelting furnace as built.

One lot of cast-iron piping, 3 feet inches internal bore, with exterior flanges; weighing about 5 tons.

One lot of cast-iron piping, 7 inches internal bore; weighing about 6 tons.

Six screwing machines with 3 feet beds and 7½ inch heads, by Farmer of Salford.

One lot of cast-iron pipes, 8 in number, 13 inches internal diameter, with exterior flanges; weighing about 6 tons.