

Wealden Iron

First Series No 10
1976

Bulletin of the
Wealden Iron
Research Group

WEALDEN IRON RESEARCH GROUP

BULLETIN NO. 10

CONTENTS:

Historical and Archaeological Notices of the Ironworks of the County of Sussex by Mark Antony Lower.

(Reprinted by permission of the Sussex Archaeological Society from *Sussex Archaeological Collections* 11 (1849) pp. 169 - 220).

Published by the Wealden Iron Research Group in collaboration with The East Sussex County Council Planning Department.

Hon. Secretary:

P. Willmott,

Dalewood,

Knowle Park,

Mayfield,

Sussex.

Hon. Editor:

D. W. Crossley,

Department of Economic & Social History,

The University,

Sheffield, 10.

© Copyright 1976 The Wealden Iron Research Group.

HISTORICAL AND ARCHAEOLOGICAL NOTICES
of the
IRON WORKS OF THE COUNTY OF SUSSEX *

By Mr Mark Antony Lower

169 Among the objects of archaeological research indicated in his introductory paper, by our esteemed Honorary Secretary, as worthy of the particular notice of members of this Society, were the manufactures formerly carried on in Sussex, especially that of Iron. In responding to Mr Blaauw's suggestion, I am but putting into execution a design I have long entertained of collecting materials for a memoir on that branch of industrial art in this county.

Before entering on my task it is necessary to premise that the strata which produced the iron ore lie in the central portion of the Wealden formation, in the vast beds of sandstone constituting what is provincially called the Forest Ridge, and known among geologists as the Hastings Sand. These beds extend from Hastings, inland, in a direction nearly west, and form a ridge of elevated land, the course of which will be easily indicated by naming Ashburnham, Heathfield, Crowborough, Ashdown Forest, Worth, Tilgate Forest, and St. Leonard's Forest as prominent points, the loftiest being Crowborough, which attains an elevation of 804 feet above the level of the ocean. This formation, which stretches on one hand to within a few miles of the chalk ridge known as the South Downs, and on the other, to within a similar distance of the chalk hills of Kent and Surrey, was, in the earliest periods of historical record, one vast forest, designated Coit Andred, Andred's-Wald, or the Forest of Anderida. In the still more remote periods, the investigation of which belongs to geological science, it was first
170 overflowed by the waters of an immense river, then submerged by those of a profound ocean, and lastly, elevated by successive deposits to its existing form. It was in the first of these periods that the ferruginous matter, which was afterwards to become so useful for the purposes of mankind, had its origin. In a private letter with which I have been favoured by Dr. Mantell, that distinguished geologist remarks:

"It is a very interesting fact that all our principal iron works obtained their metal from the ferruginous clays and sands of the Wealden; in other words, from iron produced by vegetable and animal decomposition in the bed and delta of a mighty river, which flowed through countries inhabited by the Iguanodon and other colossal reptiles."¹

Our western geologist, P. J. Martin, Esq., whose opinion will also be received with great respect, observes:

"It appears to me that the ore in the Forest Ridge was the clay ironstone of the 'Wealden beds'. At the western extremity of the district it is thought that the ferruginous sands of the 'Lower Greensand' were used; but in the clay country of the Weald I have found sufficient evidence of the exclusive use of a comparatively recent concretion - a kind of 'bog-iron', frequently turned up by the plough, and called iron rag. It is composed of clay, gravel, and perhaps about 25 or 30 per cent. of oxide or iron, and is a superficial and fragmentary formation - a recent 'pudding-stone'."

(* Illustrations and their captions have not been included in this edition. An asterisk denotes the objects illustrated by Lower in the original article. Ed. WIRG)

To all who are acquainted with Sussex history, there is no fact more familiar than the former existence, to a great extent, of the manufacture of iron within its limits. Of the history of the trade, little has hitherto been known, or, if known, certainly never presented to public notice. Its origin was still further shrouded in mystery, and whether it should be assigned to the fifth, the tenth, or the fifteenth century was a matter of total uncertainty; and so it might have remained for years to come, but for the archaeological acumen of a valued member of our Society. To the Rev. Edward Turner we are indebted for the discovery of the highly interesting fact, that it dates so far back as the period of the Roman dominion in Britain.

A most agreeable and important illustration of the familiar truth that archaeology is the best handmaid of history is furnished by Mr Turner's researches. The maid, indeed, has in this case been more trustworthy than her mistress, for history has transmitted us no record to show that the Romans were acquainted with the ferruginous riches of our wealds, and it was left for the inductions of archaeology to supply the omission. In the year 1844 Mr Turner observed, upon a heap of cinder,² laid ready for use by the side of the London road, a small fragment of pottery, which on examination proved to be Roman. His curiosity having been excited by so unusual a circumstance, Mr Turner ascertained, on inquiry, that the cinders had been dug upon Old Land Farm, in his own parish of Maresfield, and immediately contiguous to Buxted. He at once visited the spot, and found that the workmen engaged in the digging were exposing to view the undoubted remains of a Roman settlement.

171

The place in question is the site of one of the innumerable fields of iron scoriae marking the localities of the extinct furnaces and forges of the Sussex weald. The bed was originally of great extent, no less than six or seven acres of it (varying in depth from two to ten feet) having been already removed for the useful purpose referred to in the note. A few days previously to Mr Turner's visit, the labourers had opened, in the middle of this field, a kind of grave, about twelve feet in depth, at the bottom of which lay a considerable quantity of broken Roman pottery, evidently the remains of a regular funeral deposit. The superincumbent stratification was as follows: the ground had been excavated, first, through about one foot of earth, then through a layer of cinders, two feet in thickness, and, lastly, through about eight or nine feet of earth. The cavity had been filled up entirely with cinders.

The digging had been carried on many months previously to Mr Turner's investigations. About two years before, the foundations of a building, measuring, according to the statement of the workmen, about 30 feet by 12, were uncovered. They were very rudely constructed of stone, and lay about six feet beneath the surface. A human skeleton, in a very perfect state, was discovered at the same time, but crumbled to dust on exposure to the air.

172

Mr Barratt, the surveyor, by whom the workmen are employed, informs me that he has seen several skeletons exhumed from the cinder-bed, in which the bodies had been interred as in ordinary soil. If these were Roman interments - which can scarcely be questioned - we are led to suppose that they were made long subsequently to the original deposit of scoriae, since a recently-formed cinder-bed would have been a very unlikely spot to be selected for the burial of the dead. The fair inference from these considerations is, that the iron works at this place were carried on by the Romans during a long series of years.

So extremely numerous are the remains of Roman pottery on the spot, that scarcely a barrow-load of cinders is driven out that does not contain several fragments of it. Hardly any of the vessels have been found entire, a circumstance not to be wondered at, when we consider the fragile nature of the articles, and the great weight of the superincumbent cinders.

At the Society's annual meeting, held at Lewes in August last, I had the pleasure of exhibiting a collection of the various articles discovered during the progress of the digging; it is hardly necessary to add that many others had been overlooked, while many more had been thrown away as useless by the labourers, or sold for a trifle to casual passers-by, previously to the examination of the spot by competent observers. The objects most worthy of attention which have been rescued from destruction are

1. Coins, in first-brass, of Nero, Vespasian, and Tetricus, and a fragment, much oxidized, of one of Dioclesian. Some have undergone the action of fire, and cannot be identified. The Vespasian is of the most common occurrence.³
- 173 2. A brass fibula. Portions of other fibulae, and of armillae, were noticed by Mr Turner.
3. Fragments of coarse fictile vessels, principally domestic. The pottery of this kind is in great quantities, and of great variety as regards shape, colour, and fineness. Several fragments of the vessels known as mortaria have the potters' names boldly stamped upon them, particularly IVCVN (for Jucundus?) and EVAI.
- 4.* Fragments of fine red or Samian ware, both figured and plain. Several of these likewise bear potters' marks or stamps, particularly OF.(officina) MIRAVI, and IVAN or IVANI.
- 174 5. Fragments of glass.
- 6 Pieces of sheet-lead full of nail-holes, some of which had fragments of wood adhering to them. Much broken brick was also found.
- 7.* An implement of mixed metal, very hard; probably a stylus.

In the absence of further evidence, I am unwilling to speculate largely upon the date of the commencement of these iron works; but, from the preponderance of the coins of Vespasian, we may hazard a conjecture that it took place during the reign of that emperor, or his successor, Titus, at a time when Agricola, then governor of Britain, was successfully introducing the arts of civilisation into this island. That the works were still carried forward in Dioclesian's time is clear, from the coin of that monarch.

It is worthy of remark, that the Romans would appear, so far at least as the evidence of the discovery under notice goes, to have been but imperfectly acquainted with the art of smelting ores. The scoriae at Maresfield retain a far greater proportion of the metal than the cinders of other beds in the neighbourhood, and are, on that account, much more valuable for the purpose of road-making.

Since the discoveries at Maresfield, I have been furnished with further proofs of the fact that the Romans availed themselves of the iron of Sussex. From the information of Robert Mercer, Esq., of Sedlescombe, it appears that many Roman coins have been found in a cinder-bed in that parish, on the land of Richard Smith, Esq. They have generally been

greatly corroded, and some have evidently been burnt, as at Maresfield. All knowledge of the fact that iron works had ever existed on the spot was lost until the discovery of the cinder-bed. Roman coins have also been met with upon the site of iron works on the property of Hercules Sharpe, Esq., at Westfield, in the same neighbourhood. I am also assured that fragments of pottery, apparently Roman, were found, some years since, in a cinder-bed in the parish of Chiddingly.

It is not improbable that the iron of Sussex was wrought in times even anterior to the conquest of this island by the Romans. Previously to the advent of Caesar, the inhabitants of Britain must have made a considerable advance in the arts of civilisation. To have subjugated the horse, and to have made such proficiency in many of the details of military science as the conqueror of Gaul found to his cost that they possessed, may well assert for them a degree of refinement quite at variance with the too-generally received opinion, that they were mere savages and barbarians. If the use of iron be taken as the point at which pure barbarism ends and civilisation begins, the Ancient Britons had certainly passed that point, as the formidable scythes attached to the axles of their chariots sufficiently prove, to say nothing of the chariots themselves, which obviously were not made without the use of iron tools. Caesar mentions that the currency of the people consisted partly of iron rings, adjusted to a certain weight (*utuntur aut aere aut annulis, ad certum pondus examinatis, pro nummo*), and, as he states, in the same breath, that their brass was imported, (*aere utuntur importato*), it may reasonably be inferred that their iron was of home manufacture. And, assuming that such was the case, the iron of our wealds could hardly have escaped notice.

However great the error of Caesar is asserting that Britain produced but little iron (*Nascitur ibi martimis (regionibus) FERRUM; sed ejus exigua est copia*),⁴ his allusion is useful as proving his knowledge of the fact that the island was not destitute of this invaluable mineral. And how he became acquainted with the fact, except from the information of the Britons themselves, it would be difficult to determine. It may be further remarked that the "maritime regions" referred to by him were, in all probability, the wealds of Kent and Sussex.

The extent of the knowledge of the Romans with regard to the mineral productions of Britain in those after times when their power was well established here, is a subject worthy of a fuller investigation than has hitherto been made. Tacitus tells us that Britain produces "gold, silver, and other metals"; Pliny alludes to the smelting of iron in this province; and Solinus not only mentions the British iron, but specifies the agricultural and other implements fabricated from it in his time. The researches of modern geology and archaeology have confirmed these statements.

Sir H. T. de la Beche has found gold in the quartz formation of Gogofau, near Lampeter, in the vicinity of a traditional Roman settlement. Enormous mounds of broken and pounded quartz remain to attest the labour expended in the acquisition of the precious metal. (*Vide Thoughts on Ancient Metallurgy, &c.* by John Phillips, Esq., F.R.S., G.S. Yorkshire Philos. Soc., March, 1848). Silver is still found in Devonshire and Cornwall: and it was probably there that the silver mentioned by Tacitus was procured. The tin of Cornwall (the *album plumbum* of Caesar and Pliny) was known before the very name of Rome existed. Pigs of lead,

stamped with Roman inscriptions, have frequently been found in Derbyshire and elsewhere. Four such pigs of British lead were found at Pulborough, in this county, in 1824. Our copper, too, was well known to the Romans, and, as I believe, to the primitive Celtic race who preceded them. A due admixture of this metal with tin forms the imperishable bronze of which the instruments called "celts" are composed.

177 With regard to the seven or eight centuries which succeeded the departure of the Romans from Britain, history and archaeology seem alike silent on the subject of Sussex iron. It can scarcely be doubted, however, that the Romanized Britons retained this most useful art of smelting and working iron, and that the Anglo-Saxons, after them, continued it upon the old sites. Further examinations of our cinder-beds may hereafter bring to light Romano-British and Saxon remains, and prove for those peoples what Maresfield has proved for the Romans. In the meantime we are perhaps justified in assuming that, when so valuable and necessary a manufacture had been once introduced, it would be retained so long as the three essentials for its perpetuation, the ore, the fuel, and the flux, continued in sufficient abundance of supply, in other words, that the iron trade of Sussex was carried on uninterruptedly from Roman times till its extinction, in consequence of the failure of fuel, almost within our own recollection.

It is proper, however, to observe, that the trade, if in existence here at the date of Domesday Book, was very unimportant, since that invaluable record makes no mention of iron under the county of Sussex, though it does under those of Somerset, Hereford, Gloucester, Cheshire, and Lincoln.

Perhaps the earliest actual record of the iron trade in Sussex is contained in the murage-grant made by Henry III to the town of Lewes.⁵ This grant, which is dated 1266, empowers the inhabitants to raise tolls for the repair of the town walls after the battle.⁶ Every cart laden with iron from the neighbouring Weald, for sale, paid one penny toll, and every horse-load of iron, half that sum. From that period we have data, however slight, for the history of the manufacture.

In 1290 a payment was made for the iron work of the monument, of Henry III in Westminster Abbey, to Master Henry of Lewes.⁷ Some years previously, the name of a Master Henry of Lewes, probably the same person, appears in connection with iron work for the king's chambers.⁸

178 In 7th Edward I, iron appears to have been smelted on St. Leonard's Forest, and the works were afterwards carried on by the Crown. In 1300, according to Stowe,⁹ the ferrones, or ironmongers of London, made complaint to Elia Russell, mayor of London, that the smiths of the wealds (*fabri de waldis*) brought in irons for wheels, which were much shorter than they ought, according to custom, to be, to the great scandal and loss of the whole trade of ironmongers: and required a remedy, which was accordingly granted. From some incidental notices occurring about this period, it appears that the iron manufactured near the Sussex coast was conveyed to London by water - a proof of the impassable state of the roads in those days.

In the 13th year of Edward II, Peter de Walsham, sheriff of Surrey and Sussex, by virtue of a precept from the king's exchequer, made a provision of horse-shoes, and nails of different sorts (*providencias de ferris equorum et clavis pro eisdem, diversimonde fabrice*), for the expedition against the Scots. The number furnished on the occasion was

3000 horse-shoes and 29,000 nails, and the expense of their purchase, from various places within the sheriff's jurisdiction, and their delivery in London, by the hands of John de Norton, clerk, was £14 13s. 10d.¹⁰

The Nonae return for the parish of Lynch in Western Sussex, proves the existence of the iron trade there in 1342. It also affords an early instance of metals being subject to tithes: "Item, decima ferri ecclesiae praedictae valet per annum decem solidi." The rector likewise received ten shillings for the tithe of iron ore.¹¹

A curious specimen of the iron manufacture of the fourteenth century, and, as far as my own observation extends, the oldest existing article produced by our foundries, occurs in Burwash church. It is a cast-iron slab, with an ornamental cross, and an inscription in relief. In the opinion of several eminent antiquaries, it may be regarded as unique for the style and period. The inscription is much injured by long exposure to the attrition of human feet. The letters are Longobardic, and the legend appears, on a careful examination, to be:

ORATE P. ANNEMA JHONE COLINE (or COLLINS).

"Pray for the soul of Joan Collins".

Of the identity of the individual thus commemorated I have been unable to glean any particulars. In all probability she was a member of the ancient Sussex family of Collins, subsequently seated at Socknersh, in the adjacent parish of Brightling, where in common with many of the neighbouring gentry, they carried on the manufacture of iron, at a place still known as Socknersh Furnace.¹²

179

The manufacture probably continued to increase during the fifteenth century, though that supposition is based more upon the flourishing state in which we find the trade in the early part of the sixteenth, than upon documentary evidence or archaeological remains. A few relics of the latter portion of this period are, however, to be met with. Among these should probably be included a singular object, preserved at the archiepiscopal palace of Mayfield, to which my attention has kindly been drawn by Albert Way, Esq., who conjectures it to be a mustard-mill. It is about 9½ inches square, with a hemispherical basin, at the bottom of which is a circular hole, an inch in diameter.* It has four projections, like handles, by which it was probably worked. To this date also belong a few andirons and chimney-backs, which remain to attest the taste and skill of our local founders. One of a pair of andirons from Eastbourne is now in my possession.* From the form of the shield, upon which the sacred monogram IHS appears, it probably belongs to the reign of Edward IV. Another specimen of the same type was formerly preserved at Netherfield Toll farmhouse, in the parish of Battel. At Michelham Priory are a pair of andirons of extremely interesting character, which are believed to have formerly occupied the curious antique chimney-piece in the apartment traditionally known as the "Prior's Chamber". They terminate in a human head, and the fashion of the head-dress fixes their date not later than the reign of Henry VII.* The series of Sussex andirons ranges from the end of the fifteenth century to that of the seventeenth or later, and during the whole of that period a regular decadence in the style of their devices is strikingly observable. In many of the old farmhouses, where, either from motives of economy, or from a predilection for old manners, the good wife, like the one celebrated by Horace,

180

"Sacrum vestustis exstruat lignis focum,
Lassi sub adventum viri,"

these venerable and picturesque articles of furniture retain the post they have occupied for centuries. And could the uncouth heads, with which they are frequently decorated, open their mouths to reveal the forgotten past, how many a tale could unfold of the scenes of homely felicity and of domestic wretchedness which have transpired around them!¹³ The chimney-backs are not generally of so ancient a date as the andirons, though one or two specimens may probably be referred to the fifteenth century. Others of a later style have some details belonging to this period, proving that the founders preserved the models which had been employed by their predecessors. Thus a "back" at Buxted (belonging to Mr T. Wickens), which bears the badge and initials of Queen Elizabeth, is decorated with a band composed of grapes and vine-leaves, in a running pattern, belonging to a considerably earlier date; and I have met with similar instances elsewhere.

181 The sacred monogram IHS occurs on the shield, which is almost uniformly introduced into the design of the andirons, up to the time of the Reformation, when it is generally superseded by a coat of arms, or some other device. A pair belongs to Mr Wickens, of Buxted, and was probably cast in the early part of the sixteenth century.* At the Sergisson's Arms public-house, Haywards Heath, is a very large pair, ornamented in a rather singular manner.* The shield, which occupies the ordinary position at the insertion of the legs, bears the arms of France, a favourite device on our iron works; and above it, on another shield attached to the pillar or stem of the andiron, is the legend 'I HOLY ON'. The letters R.F. above, and the G.B.C. below, may be the initials of the founder, and of the person for whom they were made, with, perhaps, that of his place of residence. With respect to the meaning of the legend, there is much scope for conjecture: perhaps it should be read 'Jesus Holy One'.¹⁴

182 To return to the history of the manufacture; there is little doubt that ordnance was made in this county in the fifteenth century. It is believed that some of the old banded guns of wrought iron preserved in the Tower of London, and elsewhere, and dating so far back as the reign of Henry VI, were of Sussex manufacture. In the tenth volume of the "Archaeologia",¹⁵ is an engraving, from a drawing by James Lambert, jun., of a mortar, formerly at Eridge Green in the parish of Frant, and the account given of it is as follows:

"It has always been understood that this mortar was the first that was made in England (It) now lies at Eridge Green, and has served for many years for the amusement of the people on a holiday or fair-day, when they collect money to buy gunpowder to throw the shell to a hill about a mile distant. The weight of the shell sinks it so deep into the earth, that it costs no little pains to dig it out after each discharge, which is repeated as long as the money lasts. The chamber of the gun is cast-iron, the other part, as is evident, wrought."

183 From the engraving, the chamber appears to have been polygonal, and the tube to have consisted of many small bars or rods, bound together by nine hoops. This was the original method of constructing these tremendous engines of war.¹⁶ A French writer, St. Remy, says, "Qu'elles ne consistoient qu'en de fortes tables de fer qu'on dispoit à peu près cylindriquement, les serront avec de cercles de fer."¹⁷ There can be no reasonable doubt that the Eridge gun was of Sussex manufacture; and it is equally probable that many, if not most, of the pieces employed by our armies in the continental wars of the fourteenth and fifteenth centuries were the productions of our iron works.

These hooped guns were at length superseded by cannons cast in an entire piece, and bored, as at the present day. The invention of gunfounding is ascribed to the French, who appear to have used cast pieces many years before the introduction of the art into this country. The first iron cannons cast in England were manufactured at Buxted, in this county, by Ralph Hoge or Hogge, in 1543 (35 Henry VIII).¹⁸ This founder employed as his assistant, Peter Baude, a Frenchman whom he had probably brought over to teach him the improved method; and Peter Van Collet, a Flemish gunsmith, about the same time, "devised and cast mortar pieces from 11 to 19 inches bore; for the use whereof they caused to be made bombs, or certain hollow shot, of cast iron, to be stuffed with fireworks, &c. And after the king's return from Bullen, the said Peter Bawd, by himself, in 1 Edward VI, made ordnance of cast iron, of divers sorts, as fawconets, fawcons, minions, salers, and other pieces." it seems that Baude's connection with Hogge was of no long continuance; for we find that "John Johnson, covenant servant to the said P. Bawd, succeeded and exceeded his master in this his art of casting ordnance, making them cleaner and to better perfection. And his son, Thomas Johnson, a special workman, in and before the year 1595, made 42 cast pieces of great ordnance of iron, for the Earl of Cumberland, weighing 6000 lbs., or three tons a-piece."¹⁹ Whether Sussex was the scene of these operations, however, does not appear.

The family of Hogge resided at a place near Buxted Church, called, from their rebus or "name-device", still existing over the front door, the Hog-house, and now the property of the Earl of Liverpool.* They were connected with the business of gun-founding for at least three generations. About the 16th of Elizabeth (1574), Bryan Hogg held the office of Clerk of the Deliveries, with a fee of £18 5s. per annum; and his successor was George Hogg.²⁰

The name of Hogg or Hogge seems to have been confounded with that of Huggett; and there is a place on the confines of Buxted and Mayfield, called Huggett's Furnace, where, according to tradition, the first iron ordnance was cast. The traditionary distich that

MASTER HUGGETT AND HIS MAN JOHN,
THEY DID CAST THE FIRST CAN-NON,

is firmly believed in the locality.²¹

But to return: Peter Baude, the associate of Ralph Hogge, did not limit his exertions to iron pieces. Some fine specimens of brass or "gun-metal" ordnance from his hand are still extant. One John Owen, it seems, had, at a somewhat earlier date (1521 Stowe, -1535 Camden), made great brass ordnance, as cannons and culverines.²² Whether this man did not succeed, or whether he died previously to 1543, is not mentioned, but at that date Baude was busily engaged in the fabrication of brass guns, two of which still remain in the Tower of London collection. One of these is an elegant octagonal piece, adorned with the royal arms, the fleur-de-lis, and the king's initial "H", surmounted by a crown, with the date 1543, and the initial of the founder's name "B", over the touch hole.²³ The other is a very fine specimen of the "triple-chamber"²⁴ piece, which was unfortunately broken into several pieces, and otherwise mutilated, by the fire of 1841. It is 6½ feet in length, and has three bores, 2⅛ inches in diameter. Its upper surface is ornamented with the Tudor badge of the rose and crown, the latter supported by Cupids; and with the kind of arabesque device prevalent at this period. Beneath

184

185

the badge is the legend -

HENRICVS OCTAVVS
DEI GRACIA ANGLIE ET
FRANCIE REX FIDEI
DEFENSOR DNS HIBERIE:

near the muzzle,

POVR DEFENDRE:

and at the opposite end -

PETRVS . BAVDE . GALLVS . OPERIS . ARTIFEX .²⁵

186 Among the Battel Abbey Deeds²⁶ is a document called "Westalle's Book of Pannyngridge, A regni Regis Hen VIII, xxxviij"(1546). It is the account-book of some iron-master, and exhibits his expenditure in carrying on an extensive trade during the year indicated. Among the items are, payments made to the wood-cutters for 'coards' of wood, at 3d. per coard. The 'collearst, or charcoal-burners, were paid in wood, and money for coals, at the rate of 22d, per load. There are also charges for the carriage of coals out of Pannyngridge, Olyver's Wood and Asyldey, at 4d. and 6d. a load; and for the "moyne digged out of Pannyngridge." 'Moyne' was, of course, the iron ore, still called 'iron-mine', and giving name to many spots, as 'Mine-pit Field', 'Mine-pit Shaw', &c. The price of digging was 7d. per load; and many payments to "Black Jack", and others, occur in these accounts. Several sums are paid to Warnet, the founder and to Anthony, the 'filler'. One entry shows the locality where these operations were carried on;

"For carying lodes of sand from Pannyngridge unto my forge at Robertsbridge, at xvjd. the lode".

There are further sums paid to Mr Chancellor for the form of his woods at Pannyngridge, and to the parson of Penherst for the farm of the phurner (furnace) pond there, and for tithe. Also for the hewing and felling of timber, "for drawing of timbre to the saw-stage", &c. The accounts close with an entry of vs. vd. paid "for a wrytte and a warrant for Jackson, the carpenter."²⁷

The manufacture of heavy ordnance gave a great impulse to the iron trade. Many foreigners were brought over to carry on the works. This perhaps may account for the number of Frenchmen and Germans whose names appear in our parish registers about the middle of the sixteenth century. New works were established, and ultimately almost every landed proprietor in the districts where ore was found became an iron-master. Among the persons engaged in the trade at this period was Richard Woodman, one of the ten Protestant martyrs burnt at Lewes in 1557. He was a native of Buxted, where he probably learned the business. At the time of his apprehension, at the beginning of Queen Mary's reign, he resided at Warbleton, and carried on an extensive trade. In one of his examinations before the Bishop of Winchester, he says, "Let me go home, I pray you, to my wife and children, to see them kept, and other poore folke that I would set aworke, by the helpe of God. I have set aworke a hundred persons, ere this, all the yeare together."²⁸ Several Sussex families, enriched by the iron manufacture, assumed the rank of gentry about this time.

187 This rapid growth of the trade in the wealds of Sussex and Kent was viewed with disfavour by many. Archbishop Parker, writing to Queen Elizabeth, in 1570, says, "Sir Richard Sackville intends, as I was credibly informed, in this wood (Longbeech Wood, in Westwell, Kent) to erect up certain iron mills, which plague, if it shall come into the country, I fear it will breed much grudge and desolation."²⁹

About 1572 much ordnance was exported, in consequence of the Lord Admiral having granted a licence for that purpose to Sir Thomas Leighton, who had made use of one Garret Smith to obtain it of the admiral, and who was, in return for his intervention, to enjoy the deputyship, with a fourth part of the profits:³⁰ "but the merchants of London, knowing how this might furnish the enemies' ships to obstruct their trade, and bring other great damages upon the queen and her subjects, petitioned her, in a great body, to withdraw this license." The petition was not presented ("whether it were shuffled off by some about the queen"): however, they petitioned again, and in Sept. 1572, a proclamation strictly restrained all transport of iron and brass ordnance, and forbade the owners of all iron works, furnaces or forges, to make any kind of ordnance larger than a minion.

In defiance of these measures, however, the surreptitious exportation of Sussex cannon went on for some years longer. In 1587, the Earl of Warwick, master of the ordnance, dispatched "a gentleman of his, one Mr Blincoc," into Sussex to summon all the gun-founders of the county up to London, to understand his pleasure respecting their further continuance of the manufacture. "Henry Nevel, and the rest of that occupation," obeyed the summons, and the matter was referred to the arrangement of Mr Hockenal, the deputy-master of the ordnance, and Mr Blincoc. The result was, that a fixed quantity of cannon should be cast annually, for the necessary provision of our own navigation; a certain proportion being allowed to each founder. It was also stipulated that no ordnance should be sold except in the city, and not even there but to such merchants "as my lord or his deputy should name."³¹

The bonds, into which the iron-masters entered on this occasion, seem to have been little regarded by them; for, on August 8, 1589, Thomas Lord Buckhurst wrote a letter to the justices of Lewes Rape, complaining of their neglect. "Their lordshypps doe see the little regard the owners of furnaces and the makers of these peeces have of their bondes, and how yt importeth the state that the enemy of her majesty should not be furnished oute of the lande with ordnance to annoy us." The lord-treasurer goes on to direct magistrates to enforce the provisions of the master of the ordnance. Another letter, from the same officer to the justices of the three eastern rapes, dated 6th October, 1590, directs them as to "straighter restraint of making shotte and ordnance", and to take bonds of £1000 each of every furnace-owner and farmer; and also to forward their bonds and a list of their names, to him with all convenient speed.³²

To return to the archaeology of our subject: the eastern division of Sussex still abounds with specimens of the workmanship of the sixteenth century, particularly andirons and chimney-backs. Some of these are decorated with fanciful devices, and others with armorial bearings. The royal arms and badges are of the most usual occurrence. A chimney-back at Riverhall, in the parish of Wadhurst, exhibits one of the former class. It probably belongs to the early part of this century. Besides the royal arms - France and England quarterly, with supporters - and the Tudor badge of the rose and crown four times repeated, it exhibits a crowned shield, charged with the initials E.H., probably those of the original proprietor, and ten human figures, with monkey or dog-like heads (perhaps intended for 'mummers'), and two swords. The back is of large dimensions, and the figures which make up its fanciful device were evidently impressed separately in the sand from the same models. According to tradition,

188

188

this curious article was cast at a furnace on the estate. Mr Brooke's etching* represents two other "backs" of this century. The first, much mutilated, has the royal arms, supported by a dragon and a greyhound, with the initials E.R., probably for Edward VI. The side ornaments are a dragon's head, the rose-en-soleil and the double rose. The orthography of the royal motto, DV ET MOVN DR-, and that of the garter, HONY SOYT QVE MAL Y PAVNC, bespeak it the work of an unlettered artisan, and the inscription beneath the shield exhibits the name of the founder, IN SUSSEX-BY JOHN HAWS (or Hawo-, perhaps intended for Haworth, but incomplete for want of room). The second back has the badge and supporters of Queen Elizabeth, and the legend -

"THOMAS VNSTEAD, ISFIELD, AND DINIS
HIS WIF, ANO DOMINO, 1582"

Many of the andirons of this period have the arms of the families for whom they were cast embossed upon their shields. One is in the possession of Mr Marchant of Hurstpierpoint.* It was brought from Slaugham Place, the seat of the Coverts, whose arms and a quartering appear upon it, with the date 1583, and the initials of Walter Covert. It will be observed that this specimen has nothing of the "Gothic" or medieval character of the earlier examples. The founders uniformly imitated the architectural details of their respective eras.

190 Another is at Rowfant, in the parish of Worth. The date is 1591. The arms are those of the family of Ashburnham and the ornament* upon the pillar is a rude attempt at their punning crest - an ash tree springing from a ducal coronet. This is doubtless a production of the Ashburnham furnace. There is a mutilated andiron at the Crow and Gate public house, near Crowborough, and is ornamented with emblems of the smith or farrier's occupation displayed upon the shield.*

The great extent which the manufacture had now reached threatened an evil which had to be warded off by legislative enactments - I mean the annihilation of timber in the Weald. Up to a certain period the destruction of trees and underwood had been beneficial in clearing the land for agricultural purposes:³³ but so early as the reign of Henry VIII (1543), it became necessary to enact - that no wood shall be converted into pasture - that in cutting coppice woods at twenty-four years' growth, or under, there shall be left standing and unfelled, for every acres, twelve standils or storers of oak, or in default of so many, then of elm, ash, asp, or beech - and that if the coppice be under fourteen years' growth, it shall be inclosed from cattle for six years; "provided always, &c., that this act do not extend or be prejudicial to any of the lords or owners of the woods, underwoods, or woodlands growing or being within any of the towns, parishes, or places commonly called or known to be within the Wilds of the counties of Kent, Surrey, and Sussex, other than to the common woods growing and being within any of the said Wilds," &c.³⁴

191 A series of enactments of similar character succeeded. The act 1 Elizabeth, cap. 15, provides that no person shall convert into coal or other fuel for the making of iron, "any timber-trees of oak, beech, or ash of the breadth of one foot square at the stub," within fourteen miles of the sea, or the rivers Thames, Severn &c., or any other navigable river. The county of Sussex, the Weild of Kent, and the parishes of Charlewood, Newdigate, and Leigh, in the Weild of Surrey, were, however, excepted from the operation of this act.

The act of 23 Elizabeth, cap. 5 (1581), declares that "by reason of the late erection of sundry iron-mills in divers places," near London, and "not far distant from the Downs and seacoasts of Sussex," decay of timber hath ensued; and forbids, therefore, the converting "to coal or other fewel, for the making of iron-metal in any iron-mill, furnace or hammers," any wood within twenty-two miles of London, or within four miles of the foot of the hills called the Downs, betwixt Arundel and Pemsey, or within four miles of the towns of Winchelsey and Rye, or within two miles of the town of Pemsey, or within three miles of the town of Hastings, under a penalty of forty shillings for every load of wood so employed. "provided always, that this act shall not extend to any woods growing or to grow in the weilds of Surrey, Sussex, and Kent," if eighteen miles from London, and eight from the Thames. It also forbids the erection of any new iron-works within twenty-two miles of London, or four miles of the Downs, or of the towns of Pemsey, Winchelsey, Hastings, and Rye, upon pain of £10. The woods of Christopher Darrell, gentleman, at Newdigate, in Surrey, are exempted from the force of this enactment, on the ground of their having been preserved and coppiced for the especial use of his iron-works in those parts. The act 27 Elizabeth, cap. 19 (1585) rehearses, "Whereas by the over great

192

negligence or number of iron works which have been and yet are in the weilds of Sussex, Surrey, and Kent, it is thought that the great plenty of timber which hath grown in those parts hath been greatly decayed and spoiled, and will in short time be utterly consumed and wasted, if some convenient remedy be not timely provided," and therefore forbids the erection of any manner of iron-mills, furnace, finary, or blomary,³⁵ for the making or working of any manner of iron or iron-metal," except upon ancient sites.

The highways of Sussex were, at that time, as well as at a much more recent date, proverbially bad, wherefore the act above cited enjoins upon all persons carrying charcoal, mines, and iron, between October and May, "for every six loads of coals or mine, or for every ton of iron, to carry one usual cartload of cinder, gravel, stone, sand, or chalk, meet for the repairing or amending of the said highways."

In spite of the enactments for the preservation of wood, the waste still continued. John Norden, in his 'Surveyor's Dialogue'³⁶ after referring to the statute of 35 Henry VIII, says, "but mee thinks this statute is deluded and the meaning, abused; for I have scene in many places at the fals, where indeed they leave the number of standils and more; but in stead they cut downe them that were preserved before, and at the next fall them that were left to answer the statute, and yong left againe in their steads; so that there can be no increase of timber-trees." "But," he adds, "some countries are yet well stored, and for the abundance of timber and wood were excepted in the statute, as the welds of Kent, Sussex, and Surry, which were all anciently comprehended under the name of Holmesdale . . . and yet he that well observes it, and hath known the welds of Sussex, Surry, and Kent, the grand nursery of those kind of trees, especially oake and beech, shal find such an alteration within lesse then 30 yeres, as may well strike a feare, lest few yeeres more, as pestilent as the former, will leave fewe good trees standing in those welds. Such a heate issueth out of the many forges and furnaces for the making of iron, and out of the glasse kilnes, as hath devoured many famous woods within the welds; as about Burningfold, Lopwood Greene (Loxwood), the Minns, Kirdford, Petworth parkes, Ebernowe, Wassals, Rusper, Balcombe, Dallington, the Dyker, and some forests, and other places infinite.

193

'Tantum aevi longinqua valet mutare vetustas.'

The force of time and men's inclination make greater changes in mightie things. But the crophe of this commodious fruit, which nature itself doth sowe, being thus reaped and cut downe by the sickle of time, hath been in some plentiful places, in regard of the superfluous abundance, rather held a hurtfull weed than a profitable fruit, and therefore the wasting of it held providence, to the end that corne, a more profitable increase, might be brought in, in stead of it But it is to be feared that posterities will find want, where now they think is too much."

To this the Baylie, one of the interlocutors of the dialogue, replies: "It is no mervaile, if Sussex, and other places you speak off, be deprived of this benefit; for I have heard, there are or lately were in Sussex neere 140 hammers and furnaces for iron³⁷ and in it and Surry adjoining three or four glasse-houses:³⁸ the hammers and furnaces spend, each of them in every 24 houres, two, three, or foure loades of charcoale, which in a yeere amounteth to an infinit quantitie, as you can better account by your arethmetique, than I."

194 The surveyor rejoins: "That which you say is true; but they worke not all the yeere, for many of them lacke water in the summer to blowe their bellows. And to say truth, the consuming of much of these in the weld is no such great prejudice to the weale publike, as is the overthrow of wood and timber in places where there is no great quantitie, for I have observed that the clensing of many of these weld grounds hath redounded rather to the benefit then to the hurt of the country; for where woods did grow in superfluous abundwace there was lacke of pasture for kine, and of arable land for corne, without which a country, or country farme, cannot stand, or be releevd but by neighbour helpes, as the Downes have their wood from the weld. Beside, people bred amongst woods are naturally more stubborne and uncivil, then in the champion countries!"³⁹

The quietness of our beautiful Weald at the present day offers a striking contrast to the ceaseless activity and the bustle which characterised it in its Iron Age, the days of the Tudors and Stuarts. Camden, speaking of Sussex, says: "Full of iron mines it is in sundry places, where, for the making and founding thereof, there be furnaces on every side, and a huge deal of wood is yearly burnt; to which purpose divers brooks in many places are brought to run in one channel, and sundry meadows turned into pools and waters, that they might be of power sufficient to drive hammer-mills, which beating upon the iron, resound all over the places adjoining." A later edition of the *Britannia* (edit. 1722) gives a more graphic account: "A great deal of meadow ground is turned into ponds and pools for the driving of mills by the flashes, which, beating with hammers upon the iron, fill the neighbourhood round about, night and day, with continual noise."

"Yet," adds our great antiquary, "the iron here wrought is not in every place of like goodness; but generally more brittle than the Spanish whether it be by nature, or tincture and temper thereof. Howbeit commodious enough to iron maisters, who cast much great ordnance thereof, and other things to their no small gain. Now whether it be as gainful and profitable to the commonwealth may be doubted; but the age ensuing will be better able to tell you."

195 That some of the iron wrought here was of the first quality there can be no doubt. The Ashburnham iron particularly excelled in the quality of toughness, and I have been assured by smiths who have used it, that it was

in no wise inferior to the Swedish metal, generally accounted the best in the world. Camden's remark respecting the superior texture of Spanish iron is scarcely reconcilable with the remark of Fuller: "It is almost incredible how many great guns are made of the iron in this county. Count Gondomer (the Spanish ambassador) well knew their goodness, when of King James he so often begged the boon to transport them."⁴⁰

This extract brings us to the seventeenth century, a period in which the Sussex iron trade reached its greatest extent. The number of mills and furnaces had increased yearly in spite of the statutes limiting their extension, and the waste of timber was again brought before the notice of government. In 1636, Charles I granted a commission to Sir David Cuningham, Bart., Christopher Lewknow, Esq., and others for its better preservation. "Whereas several offences have been heretofore and still are done and committed by ... maisters, owners, and occupiers of iron works, forges, furnaces, or hammers, for melting and making of iron," by felling, cutting, and converting of timmer trees (sic) and woods into coals for the melting and making of the said iron, &c ... and by felling the said trees and underwood at unseasonable parts of the year, whereby the bark thereof hath been lost; and by ingrossing of iron and iron works, &c., and thereby inhancing the prices of iron, &c., contrary to our laws and proclamations made for the preservation of timber and woods." It appears that there were several suits touching these offences pending in the court of Star Chamber, and the duty imposed on the commissioners was "to treat and compound with" the offenders, and to levy, for the king's use, such sums as they should see fit. The commission was dated at Canbury, 19th August, 1636.⁴¹ On the 14th of October following, an office, "to be for ever continued," was erected for the better management of the iron trade, and the king appointed "John Cupper and Grimbald Pauncefoote, gentlemen, surveyors of all iron works, and of all woods to be used and employed thereat, and for the surveying and marking of iron with divers stamps or marks distinguishing the several kinds." On the 29th July, 1637, by an order in council these regulations were put in force, and very stringent methods were adopted for the rectification of the evils complained of.⁴²

196

The founders of this century did not limit their operations to iron. I am not aware that bronze cannon continued to be made, but the casting of brass was extensively carried on. Bell-founding was successfully practised. The churchwardens' accounts at Eastbourne show that a new peal for their church was cast at Chiddingly. The following extracts are interesting:

DISBURSEMENTS, A.D. 1651

	£	s	d
"Item, to the Bell-ffounder, John Lulham, for casting the bells by composition	7	0	0
"Item, to John Lulham, for addition of belmettall, and for six daies labour about the bells, besides the remaininge mettall after the castinge	2	5	0
"Item, for carrying the bells and belmettall to Chittingly, and from Chittingly, June the 5th and July the 8th	1	10	0
"Item, to Mr ffrench (of Chiddingly) and the fforger, for the treble clapper		8	0
"Item, to J.L. for his dyet and horsemeate, 3 daies		3	0
There are many other entries relating to expenses about the bells.			

"Item, to Richard Miller, of Chittingly, for two brasse
potts, weighing 36li, at 5d. the pound

0 15 0⁴³

The third bell at Chiddingly bears the inscription - "ROBERT TAPSELL
MADE ME," and the name of this person appears in the parish register as
a resident there.

In the register of Berwick is this entry: "Nov., 1690. The little
bell was new cast at Alfriston."

At Ripe, there is a tradition that some of the bells of that church
were cast on the waste close to the churchyard.

Many of the culinary articles called skillets were also manufactured
between the years 1625 and 1670. Some of them bear the name of Rummins.
Tradition states that a family of this name, natives of Lamberhurst,
travelled about the country with these articles, which they cast at the
various foundries of the district, as occasion required.⁴⁴

197

Steel was also manufactured in several places; particularly at
Warbleton, where there is a place still called the Steel Forge land, and
at Robertsbridge. In 1609, John Hawes held the site of the abbey of
Robertsbridge with the buildings, &c., "lying between two fresh-water
rivers, abutting at the great stone bridge at the Forge Pond," and
including various buildings for the steel-makers, among which were eight
steel forges; "also one great gatehouse, called the West Gate, built of
lime and stone, and used in part as a dove-house, and in part for the
steelmakers; also a great gate called the East Gate, employed as a
storehouse for iron, with a house attached to it for James Lamye, the
hammer-man."

Drayton in his 'Polyolbion', published in the year 1612, makes the
Sussex woods complain of the injury done them by the iron works, in the
following passage, which may be regarded as one of the finest in that
noble, though singular and laborious, topographical poem:

"These forests, as I say, the daughters of the Weald,
(That in their heavy breasts had long their griefs concealed)
Foreseeing their decay each hour so fast come on,
Under the axe's stroke, fetched many a grievous groan,
When as the anvil's weight, and hammer's dreadful sound,
Even rend the hollow woods and shook the queachy ground;
So that the trembling nymphs oppress'd through ghastly fear,
Ran madding to the Downs with loose dishevell'd hair.
The Sylvans that about the neighbouring woods did dwell
Both in the tufty frith and in the mossy fell,
Forsook their gloomy bowers, and wonderld far abroad,
Expell'd their quiet seats, and place of their abode,
When labouring carts they saw to hold their daily trade,
Where they in summer wont to sport them in the shade.
Could we, say they, suppose, that any would us cherish,
Which suffer (every day) the holiest things to perish?
Or to our daily want to minister supply?
These Iron Times breed none, that mind posterity.
'Tis but in vain to tell what we before have been,
Or changes of the world that we in time have seen;
When, not devising how to spend our wealth with waste,
We to the savage swine let fall our larding mast.
But now, alas! ourselves we have not to sustain,
Nor can our tops suffice to shield our roots from rain;

Jove's oak, the warlike ash, vein'd elm, the softer beech,
Short hazel, maple plain, light asp, the bending wych,
Tough holly, and smooth birch must altogether burn
What should the builder serve, supplies the forger's turn;
When under public good base private gain takes hold,
And we, poor woful woods, to ruin lastly sold." - Polyolbion, Song XVII.

The relics of the iron trade during this century are very abundant, particularly andirons, of almost every imaginable pattern. I lately purchased of a dealer in old iron, at Lewes, an andiron ornamented with the arms of the family of Thatcher, and this was probably cast for the hall of their fine old mansion, Priesthawes, in the parish of Westham.* One of a pair is in the possession of Mr William Harvey.*⁴⁵ The upper portion of the andiron is a demy human figure, in the costume of temp. James I, holding a tobacco-pipe in the right hand, and in the left a jug or tankard. The bird on the shield is perhaps intended for a phoenix. One* (which may belong to the close of the preceding century) is at Hammond's Place, Clayton, the property of Colonel Elwood. This house was a seat of the Michelbornes, but the initials I.T. upon the andirons prove them to have belonged to some other family; perhaps the Turners of Old Land, in the same district. Belonging to Mr Hassell, of Waldron, is a remarkably clean and delicate piece of casting.* It bears the date of 1640, and a coat of arms, which I have not been able to appropriate. It is traditionally reported to have been cast in the parish of Waldron. A pair of monster andirons,* of about the same date, is in the possession of Mr A. Playsted, of Wadhurst. They are 39 inches in height, and their style is Egyptian. The heraldic bearing, which is much defaced, appears to be "a cross between four martlets".

The chimney-backs of the seventeenth century are likewise exceedingly various in point of design. Many of them exhibit the royal arms, and the arms of noble and other families belonging to the county; others, classical stories, as Venus and Adonis, the Thief and Dog, from Aesop, &c.; some are ornamented with Scripture histories, particularly Abraham offering up Isaac, the Queen of Sheba, Christ and the woman of Samaria, &c. On a back at Maresfield is an equestrian figure of Charles I, with the initials C.R.; and Mr Ashby of East Dean, possesses a very curious one, adorned with an oak tree bearing acorns, and the same initials. Among the branches are three crowns, and on a scroll surrounding the trunk the words "THE ROYAL OAK" allusive to the incident of Charles II, the possessor of three crowns, taking refuge in the oak at Boscobel.

From the early part of the seventeenth century, down to the extinction of the manufacture, our foundries produced numbers of monumental slabs, which are still remaining in the churches of East Sussex. At Wadhurst there are no less than thirty examples, ranging between the years 1625 and 1799. The inscriptions and armorial decorations are in general of very rude workmanship, and, as the slabs lie upon the pavement of the nave and aisles, in somewhat inconveniently bold relief. The persons commemorated by them comprise individuals of the families of Bucher, Porter, Fowle, Dunmoll, Berham, Luck, Atwells, Braban, Holland, Saunders, Bengel, and Playsted, many of whom were connected with the trade in this parish. The annexed anastat of the slab of John Barham, a distinguished iron-master, represents one of the most interesting of the series.*

In 1643, after the taking of Chichester and Arundel by the Parliament's forces, the iron works belonging to the crown and to royalists, in the western division of Sussex, were destroyed by a detachment of the army commanded by Sir William Waller.⁴⁶

The mode of making iron in Sussex in the seventeenth century is detailed by John Ray, the celebrated naturalist, in two papers appended to his 'Collection of English Words'. "This account of the whole process of the iron work," he says, "I had from one of the chief iron-masters of Sussex, my honoured friend, Walter Burrell, of Cuckfield, Esq., deceased." The particulars of the modus operandi of the manufacture, furnished from so authentic a source, are of sufficient value to warrant their introduction in this place.

"THE MANNER OF THE IRON WORK AT THE FURNACE.'

"The iron-mine lies sometimes deeper, sometimes shallower, in the earth, from four to forty (feet) and upward.

"There are several sorts of mine, some hard, some gentle, some rich, some coarser. The iron-masters always mix different sorts of mine together, otherwise they will not melt to advantage.

"When the mine is brought in, they take small-coal (charcoal) and lay a row of it, and upon that a row of mine, and so alternately S.S.S., one above another, and setting the coals on fire, therewith burn the mine.

"The use of this burning is to mollify it, that so it may be broke in small pieces; otherwise, if it should be put into the furnace, as it comes out of the earth, it would not melt, but come away whole.

201

"Care also must be taken that it be not too much burned, for then it will loop, i.e. melt and run together in a mass. After it is burnt, they beat it into small pieces with an iron sledge, and then put it into the furnace (which is before charged with coals), casting it upon the top of the coals, where it melts and falls into the hearth, in the space of about twelve hours, more or less, and then it runs into a sow.

The hearth, or bottom of the furnace, is made of a sandstone, and the sides round, to the height of a yard, or thereabout; the rest of the furnace is lined up to the top with brick.

"When they begin upon a new furnace, they put fire for a day or two before they begin to blow.

"Then they blow gently, and encrease by degrees till they come to the height, in ten weeks or more.

"Every six days they call a founday, in which space they make eight tun of iron, if you divide the whole sum of iron made by the foundays: for at first they make less in a founday, at last more.

"The hearth, by the force of the fire, continually blown grows wider and wider, so that at first it contains so much as will make a sow of six or seven hundred pound weight, at last it will contain so much as will make a sow of two thousand pound. The lesser pieces, of one thousand pound, or under they call pigs.

"Of twenty-four loads of coals, they expect eight tun of sows: to every load of coals, which consists of eleven quarters, they put a load of mine, which contains eighteen bushels.

"A hearth ordinarily, if made of good stone, will last forty foundays, that is, forty weeks, during which time the fire is never let go out. They never blow twice upon one hearth, though they go upon it not above five or six foundays.

"The cinder, like scum, swims upon the melted metal in the hearth, and is let out once or twice before a sow is cast.

"THE MANNER OF WORKING THE IRON AT THE FORGE OR HAMMER.

"In every forge or hammer there are two fires at least; the one they call the finery, the other the chafery.

"At the finery, by the working of the hammer, they bring it into blooms and anconies, thus:

202

"The sow they, at first, roll into the fire, and melt off a piece of about three-fourths of a hundred-weight, which, so soon as it is broken off, is called a loop.

"This loop they take out with their shingling-tongs, and beat it with iron sledges upon an iron plate near the fire, that so it may not fall in pieces, but be in a capacity to be carried under the hammer. Under which they, then removing it, and drawing a little water, beat it with the hammer very gently, which forces cinder and dross out of the matter; afterwards, by degrees, drawing more water, they beat it thicker and stronger till they bring it to a bloom, which is a four-square mass of about two feet long. This operation they call singling the loop.

"This done, they immediately return it to the finery again, and after two or three heats and workings, they bring it to an ancony, the figure whereof is, in the middle, a bar about three feet long, of that shape they intend the whole bar to be made of it; at both ends a square piece left rough to be wrought at the chafery.⁴⁷

"Note. At the finery three load of the biggest coals go to make one tun of iron.

"At the chafery they only draw out the two ends suitable to what was drawn out at the finery in the middle, and so finish the bar.

"Note 1. One load of the smaller coals will draw out one tun of iron at the chafery.

"2. They expect that one man and a boy at the finery should make two tuns of iron in a week: two men at the chafery should take up, i.e. make or work, five to six tun in a week.

"3. if into the hearth where they work the iron sows (whether in the chafery or the finery) you cast upon the iron a piece of brass, it will hinder the metal from working, causing it to spatter about, so that it cannot be brought into a solid piece".⁴⁸

203

The greatest existing remains of Sussex iron are the balustrades which surround St. Paul's cathedral. They were cast at Lamberhurst furnace, and their weight, including the seven gates, is above 200 tons. Their cost, according to the account-books kept at the furnace, was £11,202, 0s. 6d.⁴⁹ It may be mentioned that the annual consumption of wood at this furnace was about 200,000 cords!

The ironfounders to King Charles II were Alexander Courthope, Esq., of Horsmonden, co. Kent, and George Brown, Esq., of Buckland, co. Surrey:

their foundries were at Ashburnham, Hawkhurst, Horsmonden, Barden and Embden. Their correspondence, contracts with the commissioners of ordnance, &c., are in the possession of G. Courthope, Esq., of Whiligh.⁵⁰

The manufacture continued to flourish with almost unabated vigour through the seventeenth century, and even in 1724 it was considered the chief interest of the county. In that year was published Budgen's Map of Sussex, a very useful document, as showing the sites of the still existing works. The ornaments surrounding the title of it consist of emblems of the trade, Vulcan with Venus and Cupid, Cyclops at the anvil and forge, &c.

We owe many of our finest sheets of water to the iron manufacture. In other instances, the meadows which were converted into "ponds and pools", have again been drained, and restored to their former use, or appropriated as hop-gardens and osier-beds. The sites of many of the "hammers" are now occupied by corn-mills.

204 In choosing sites for the works, our iron-masters of course sought spots which were at once contiguous to the beds of ore and to some convenient water power. The places chosen for artificial ponds were generally the vales through which streams and rivulets flowed. Across these were thrown great dams of earth, usually known as "pond-bays", with a convenient outlet of masonry for the supply of water, by means of which the wheel connected with the machinery of the "hammers" or the furnace was set in motion. A valley of moderate width was generally selected, as the narrow ravine and the broad level were equally objectionable, the former requiring too lofty, and the latter too long and expensive a pond bay. All the Sussex rivers, and their tributary streams within the first few miles of their course, are well adapted by nature for this useful purpose.

Upon the "decline and fall" of the trade few words are necessary. The amazing consumption of wood rendered the production of iron in this district more expensive than in those localities where the coal mines and the ferruginous strata are in close proximity to each other. Upon Sir Roderick Murchison's authority, our wealds still contain a much greater quantity of iron-ore, and that of richer quality than many of the coal fields of England; but for the reason alluded to, competition with those districts was hopeless. In spite, however, of the invention of "charking" sea-coal, alluded to as a desideratum by Fuller;⁵¹ Sussex still maintained its position as a seat of the iron trade long after the establishment of that process; and many families were enriched by the alchemy of transmuting iron to gold, so lately as the middle of the last century. Conspicuous among these was that of Legas, one of whose members, John Legas, Gent., "by his industry and diligence in the iron works of this county, acquired a handsome fortune, with great credit and reputation. He died the 22nd May, 1752, aged 62 years."⁵² Even in the days of our grandfathers, cannon continued to be cast in some places, and the great hammer's "occupation" was not wholly "gone". By degrees, however, the glare of the furnace faded, the din of the hammer was hushed, the last blast was blown, and the wood nymphs, after a long exile, returned in peace to their beloved retreats! Fernhurst in Western, and Ashburnham, in Eastern Sussex, witnessed the total extinction of the manufacture.

205 At the Lewes meeting I exhibited, as a matter of curiosity, an iron bar, a portion of the latest produce of the Ashburnham forge.⁵³

It may be interesting to state, that the day may not be far distant when Sussex iron shall again be called into use. If anthracite fuel were

brought to our coast, and some of the richer veins of ore near the eastern extremity of the county were reopened, it is calculated that the smelting might be advantageously and profitably carried on here. Within the last few months, the attention of more than one gentleman, practically connected with the iron trade in distant parts of the island, has been directed to this subject.

SITES OF THE SUSSEX IRON WORKS.

With Brief Notices of Their Proprietors.
Alphabetically Arranged Under Parishes

The following list has been collected partly from personal investigations in the respective localities, partly from the obliging communications of intelligent correspondents, and partly from local publications. I would offer an apology for its incompleteness, were it not quite obvious that a perfect list of sites and proprietors could not reasonably be hoped for; and I would add, that however meagre the result of my inquiries may appear, it has been obtained by an amount of labour which none but those who have been engaged in similar investigations can properly estimate.

ASHBURNHAM. The iron works of this parish were of considerable extent. The furnace and forge were worked by the late Lord Ashburnham until about the year 1825. Much of the ore formerly smelted here was, within memory, brought from Warbleton and other places. Messrs. Courthope and Brown carried on a foundry here, temp. Charles II; probably as lessees under the Ashburnham family.

The following extract from Arthur Young's 'Agricultural Survey of Sussex', edit. 1793, though familiar to many, will probably be new to more, and may be appropriately introduced in this place.

(p.13. Of the Weald.) "Respecting the soil of this district, I shall set down a short account of what I had a more immediate opportunity of seeing, by observing the gradation in the surface-earth and mineral beds for above a hundred feet under ground at Ashburnham Furnace. The soil of Penhurst is gravelly to an indeterminate depth. At the bottom of the Earl of Ashburnham's park, sandstone is found, solid enough for the purposes of masonry. Advancing up the hill, the sand rock is twenty-one feet in thickness, but so friable as easily to be reduced to powder. On this a marl immediately sets on, in the different depths of which the ironstone comes on regularly in all the various sorts as follows:

1. Small balls. Provincially called the twelve foots, because so many feet distant from the first to the last bed.
2. Grey Limestone What is used as a flux.
3. Foxes
4. Riggitt
5. Bulls
6. Caballa balls.

7. Whiteburn What Tripoli, properly calcined and treated, is made of.
8. Glouts
9. Pity

"This is the order in which the different ores are found. Advancing on, I crossed a valley where the mineral bed seems entirely broken, and the sandstone sets on. At the distance of something above a mile, the ironstone is again seen ... another intervention of sand; and then, at low water, when the tide goes out, the beds of ironstone appear regularly on the shore - an indisputable proof that, however the appearances of the surface may vary, the substrata continue the same, there being no material irregularity of surface that does not partake of sandstone, marl, ironstone, and sand again at the top The limestone and ironstone generally rise very near the surface, often within three feet The appearance of the ironstone above forty feet under the surface is different; certainly not so good, being coarser. The fact certainly is, that ironstone diminishes in goodness from depth."

ASHDOWNE FOREST. The only furnace shown for this district in Budgen's map is "New Furnace". The Roman works at Maresfield were immediately continuous to the forest.

BALCOMBE. Norden mentions this place in his enumeration of the woods destroyed by the furnaces. There is, near the railway tunnel, a place called Cinder Banks, consisting of an immense deposit of scoriae.

207 **BATTEL.** Budgen's map shows Beach Furnace, near Netherfield, in this parish. There were probably other works towards Sedlescombe. The public house at Netherfield is called "The Gun", a somewhat common sign in the iron district.

BECKLEY. The works were situated near the road leading to Brede. The cannon and chimney-backs made here were principally exported from Rye. From the information of W. Holloway, Esq., it appears that a person now living, aged seventy-four, perfectly remembers having seen, when a boy, the hammer and bellows of Beckley furnace only remaining.

BOLNEY. The iron stone in this parish is of excellent quality; and upon the surface I have observed fragments of the "iron-rag", or pudding-stone, which had been exposed by the operation of the plough. Several large and beautiful sheets of water remain upon the presumed sites of the iron mills; and Colwood or Coalwood Street marks the locality of extensive charcoal works for the use of the neighbouring furnaces.

BREDE. The furnace here belonged, in the seventeenth century, to the Sackvilles, and afterwards to John Browne, Esq. This gentleman, about 1693, sold it to the Westerns of Essex. The works ceased about the year 1766, and a few years subsequently powder-mills were erected on the site. These existed till 1825, when the extensive ponds were drained.⁵⁴ A hop-garden occupies their bed. Immense quantities of cinders have been taken from this spot for the repair of the neighbouring roads, and many more still remain. The cannon and other articles made here were principally exported from Rye.

BRIGHTLING. The works were carried on by the Fuller family⁵⁵ about the year 1700 and subsequently, at Brightling Forge. About a mile west of the Observatory stood Glazier's Forge. Socknersh Furnace was worked by the Collins Family. Darvel Furnace, in, or bordering upon, this parish was an extensive establishment.

BURWASH. Budgen's map mentions a forge here. On Goodsoal Farm was an air-furnace; and one of the woods is still called Furnace Wood.

BUXTED. The first iron cannon were cast here by Hogge and Baude, *vide* p.183. Cannon-balls and other relics of the manufacture are frequently dug up near the "Hog-house", the residence of Hogge. "Pope's Furnace", in the manor of Framfield, was probably on the Hendall estate, in this parish, the residence of the Pope family. "Hubornell (now Howbourne) forge and hammer were also in this parish. The hammer-post,* an interesting relic, remains, in situ, near the extremity of the now drained pond, which occupied many acres. It is a ponderous oak tree, in remarkably fine preservation, and if not wantonly injured, may stand for many years longer. Its height above ground is 9½ feet. "Buxted Little Forge" stood, I am told, upon the stream higher up than Howbourne.

CHAILEY. Much ironstone has been excavated on the North Common. Cinder Hill, on the road to Newick, has vestiges of iron works.

CHIDDINGLY. Stream Furnace, in this parish, was worked by the Frenches, who were yeomen in the sixteenth century, and gentry in the seventeenth. The latter rank they acquired by their iron works. The pond, whose waters impelled the machinery, still remains, and is about twenty acres in extent. A flour-mill, the property of Mr R. Reeves, occupies the site, and here probably stood the mill mentioned in Doomsday Book, which was valued, with the miller, at four shillings per annum.

Great quantities of cinders occur in the woods in the northern part of the parish, and among them pottery, presumed to be Roman, has been discovered. Norden mentions the Dyker (Dicker) principally in this parish, as one of the districts which had been disafforested by the iron works of the vicinity.

CHITHURST. There is a hammer-pond near Coppet Hall, half a mile north of the church.

CUCKFIELD. The Burrells had great iron works in this and the adjacent parishes. *Vide* Ray's account of the manufacture, at p.200.

DALLINGTON. The destruction of the once extensive "Chase" of Dallington, formerly belonging to the Pelhams, is attributable to the iron works. The Ashburnham works extended into this parish.

EASEBOURNE. There were works on the Cowdray estate, and many chimney-backs in the farmhouses belonging to it still bear the Montague arms.

The sand in this district is so impregnated with iron, that if a common handkerchief be shaken over with it and then exposed to a shower of rain, it will be found to be covered with thousands of minute ironmoulds.⁵⁶

EAST GRINSTEAD. Hammerwood, in this parish, seems to have derived its name from some neighbouring "hammer".

FERNHURST. A large foundry, "anciently established here," was carried on by the family of Butler.(Dallaway.) It was employed by government, about 1770, for the casting of cannon. It was the last in the western division.

FLETCHING. Traces of iron works appear in this parish.

FRAMFIELD. In the reign of Elizabeth, certain articles of inquiry, delivered to Richard Leche, concerning the consumption of wood by the iron works in the manor of Framfield (which extends into several adjacent

parishes), were answered as follows:

"First, there are three iron furnaces that have wood, and have wood most years of the common woods, and these are they, viz: Pounsley Furnace, Huborne Forge, and Huggett's Furnace.

210

"There is no iron work that all the whole woods may be brought to it within three miles, not yet within four miles; but there are within three miles of some one of the woods these remaining works, viz: Pounsley Wood, Eching Wood, of Ralph Leg's Furnace, and two hammers in Pope's Furnace, Little Bucksted Hammer, Huborne Hammer, Huggett's Furnace and Pounsley Furnace; and there is more within three miles of Langhurst Wood and Barnet Wood, John Frenche's Hammer, and Waldron Furnace." (Horsfield - who does not mention whence he obtained the document.)

Pounsley Furnace was worked by the Hodgsons in the seventeenth century. On Little Streele farm is a "Cinder Field". Fields called the "Iron Latches" on Bentley farm, seem to point out sites of iron works. This name is of frequent occurrence in the Weald.

FRANT. Vestiges of several iron works still remain in this parish. Budgen's map shows a forge westward of Eridge Park. This probably belonged to H. Neville (also owner of iron works at Mayfield), who was considered the chief and representative of the Sussex iron-masters in 1587.

There were also a furnace and forge within the existing park pale; the furnace pond still remains. "Steel Bridge", on the Rotherfield road, indicates another site of the manufacture.

HEATHFIELD. About a mile below the church is the site of the furnace worked by the Fullers, which "formerly, in all its departments, kept nearly half the population (of the parish) in constant employ." (Horsfield) The works have been discontinued above half a century. The buildings are now destroyed. The proof-banks, where the ordnance was tried, are still pointed out. The cannon made here (many of which, within the memory of man, were shipped from Newhaven) are asserted to have been of better metal, and capable of higher charges, than those of any other foundry in the kingdom. From the following somewhat interesting little incident, it would appear that they were occasionally exported to our Asiatic colonies. When the late Major Fuller entered on his first campaign in India, he was surprised to observe some of the artillery inscribed with the name of his native village, "Heathfield"! According to the information of the Rev. E. Turner, the ponds for the iron works upon a branch of the river Cuckmere, formed a continuous chain nearly three miles in length.⁵⁷

211

HORSHAM. In 6th Edw.VI, 1552, a bill "to avoid iron mills near Horsham, in Sussex," was brought into the House of Commons, Feb. 23. March 16, it was ordered "that the suitors against the Horsham bill shall appear here to-morrow, with their counsel, at 8 o'clock. March 17. Mr Foscue, with his counsel, Mr Catline, exhibited certain articles in writing against the bill. March 24. "Ordered, that the bill for Horsham be engrossed". (Journ. H. Com. vol.i, pp.18 et seq.)

HORSTED KEYNES. The ponds which supplied the works still remain. "Furnace Field," "Furnace Wood," and "Forge Field" point out the localities. On "Cinder Hill" farm, great quantities of scoriae have been dug; and many andirons, and other articles preserved here, are traditionally reported to have been manufactured in the parish.

IFIELD. The site of the corn-mill at this place was formerly occupied by iron works, where government ordnance was cast. They were destroyed by a detachment of Sir William Waller's troops in 1643, after the siege of Arundel; and were probably not rebuilt, as the old flour-mill was erected in 1683. The large hammer-ponds still remain.

KIRDFORD. Norden mentions the destruction of woods at Kirdford, and at Ebernowe, also in this parish, by the furnaces. In the 'Customs of Schillinglee' (Shillinglee, in Kirdford), 1608, it is stated that "one Blackwell hath lately demised there certain iron workes." (Dallaway.) The ordnance map shows the site of a furnace at Shillinglee. At Ebernoe, the property of the Rev. J. Peachey, are many traces of iron works. Cinders from the ancient pond are still used for the making of roads. "There is also a great quantity of coarse, vitreous matter from the glass-works, which seem to have been carried simultaneously with the iron furnaces in this part of the Weald."⁵⁸ At Barkfold, in this parish, there is a large hammer-pond. 212

LAMBERHURST. Gloucester Furnace, the largest iron manufactory in Sussex, was principally in this parish, though partly in Wadhurst. Its occupiers were residents in Wadhurst, and intimately connected with that parish. Three centuries since, it was worked by the Barhams, of Butts. (See under Wadhurst.) William Benge, Esq., of Faircrouch, in Wadhurst, rebuilt the works, and made them the most extensive of any in this part of the kingdom. Just at the time of their completion, they were honoured with a visit from the Princess (afterwards Queen) Anne and the Duke of Gloucester, who were sojourning at Tunbridge Wells; from which circumstance the name was derived. The undertaking was not successful to Mr Benge, who had no sooner brought it to perfection than he failed.⁵⁹ The property then passed into the hands of Mr Gott, and was let to Messrs. Legas and Harrison, who carried on the works with great vigour and success. Cannon were cast here for the service of the navy. Mr Legas amassed a fortune to the amount, it is said, of £30,000, and died in 1752. He was succeeded by Mr Richard Tapsell, who had married his niece. This gentleman sunk the money acquired by his uncle, became bankrupt in 1765, and died in indigence about twelve years after. He was the last iron-founder connected with Wadhurst. The foundations of the furnace are still traceable, and near them is the proof-bank. The soil, for some distance round, abounds with cinders. 213

If we may credit the general report of the parish, the cannon cast at Gloucester Furnace were not always employed for the use of the British navy, but were conveyed by smugglers to the coast, and there shipped for the service of French privateers, in the war then waged against England. This villainy was detected, and the parties engaged in it were fined a large amount. The government contracts were of course withdrawn; and from this period we may date the decline of the works.⁶⁰

LINCHMERE. On the land of Hasler Hollist, Esq., in this parish, and about three miles south-west of Haslemere, there are considerable vestiges of iron works. There are several acres of slag or cinders, and an osier bed occupies the place of the head of water, by means of which the forges were worked. Some good masonry, by which the water was confined and directed, still remains. The works here were among the last in the western division which experienced the impossibility of competing with the coal-producing districts of the North, and were not abandoned until the year 1776.⁶¹ 214

214 **LINDFIELD.** At Freshfield, in this parish, is a "Hammer Wood," probably indicating the site of an iron work.

LYNCH. There were works here as early as 1342. (Nonae.)

MARESFIELD. Roman iron works at Old Land. Maresfield Forge, according to Budgen's map, was at work in 1724, and probably much later. Park Forge, was situated about half a mile westward of the church, and Old Forge upwards of a mile north-east of it.

MAYFIELD. This parish was famous for its iron. There were considerable works upon the archiepiscopal estate at an early period. At the palace are several interesting relics of the manufacture, particularly the massive iron hand-rail of the grand staircase. The hammer, anvil, and tongs of St. Dunstan, preserved here,* seem to refer as much to the iron trade, so famous in these parts, as to the alleged proficiency of the saint in the craft of a blacksmith. The anvil and tongs are of no great antiquity, but the hammer, with its iron handle, may be considered a medieval relic. Traces of the iron works are still visible on the estate; and here, in all probability, were made the copings of Rochester bridge, presented to that city early in the sixteenth century by Archbishop Warham.⁶² In an old map of the estate, yet extant, the three ponds for the use of these works measure respectively 3a. 1r. 4p: 3a. 3r. 6p: and 1a. 3r.

At Hawksden, in Bibleham quarter, there was a forge worked by the Morleys of Glynde. Thomas Morley, Esq., who died in 1553, worked an iron-mill and a furnace at the place, from which his daughter's jointure was levied. His great-grandson, Herbert Morley, the regicide, died possessed of these works, which descended to his sons. There was also a forge at Bibleham, in the same quarter.

215 The family of Baker, who ranked high as iron-masters, worked Bungehurst Furnace and Forge, and many others in this vicinity. They were originally of Battel, and are believed to have removed hither (about the beginning of the seventeenth century) for the purpose of carrying on the iron trade.⁶³ They also had extensive works in Withyham, where they possessed land, temp. Henry VIII, and subsequently.

Huggett's Furnace is in the western district of this parish.

Coushossly Furnace, upon Stonehouse Farm, on the boundary stream between this parish and Wadhurst, belonged to the Penkhurst family, and afterwards to the Dykes. It was at work in 1707. Cinder-heaps and other traces of works are visible on the Lower-House estate, the property of the Bakers, and on the farms called Twits and Merriams, in Five-ash quarter.⁶⁴

NEWICK. A quantity of cinders has been found in this parish, and there is a tradition of iron works having been carried on near Fonthill, at the foot of which there was a great pond, on land now the property of W. H. Blaauw, Esq.

NORTH CHAPEL. A government charcoal manufactory was carried on here not many years since. At Frith, about three quarters of a mile north-east of the village, is a farm called Furnace House, with traces of a large furnace pond.⁶⁵ A nonagenarian resident remembers having been employed, in his youth, in the removal of the masonry connected with the pond on the site of the works.

PENHURST. A considerable furnace.

PETWORTH. Norden mentions "Petworth parkes" among the "famous woods" devoured by the furnaces. There is a string of ponds in the northern division of the park (known as the "Stag Park"), on which anciently stood iron works. Some of them have been drained and planted with osiers; others remain as fish-ponds. "The Minns", mentioned by Norden is a wild, though partially inclosed, district, about four miles north-east of Petworth, and is now called "The Menns".

ROTHERFIELD. Many traces of iron works. Hamsell Forge was worked by the Bakers. The Fowles were great iron-masters, and are presumed to have had works upon their estate at Welches, in this parish. At Brookhouse there are cinder-banks.

216

SALEHURST. There were great iron and steel works at Robertsbridge Abbey, already mentioned. In 1623, Robert Sidney, Earl of Leicester, assigned a lease of Udiham iron-house, in the manor of Robertsbridge, to John Culpeper and Henry English, with power to dig for iron in any of his lordship's lands in Salehurst, Ewhurst, Watlinge, and Watlington. In 1707, Elizabeth, Countess-dowager of Leicester, and John Sidney, her son, Earl of Leicester, leased the Robertsbridge Furnace for eleven years, to Thomas Snapp, sen., and Thomas Snapp, the younger, his son and heir.⁶⁶

The cannon cast at Robertsbridge were floated down the Rother to Rye. In order to effect this, there were put into the river "shuts", a contrivance something in the nature of locks. When the bed of the Rother from Rye to Bodiham was cleansed, a few years ago, several of the remains of these "shuts" were brought to light, and removed.⁶⁷

ST. LEONARD'S FOREST. *Vide* (p.200). The works here were the most considerable in West Sussex. In 44 Elizabeth, the whole forest was leased by the Crown to Sir John Caryll. "In this lease, the various forges, and all the instruments belonging to them, are enumerated." (Cartwright). They were afterwards employed "for military stores for the use of government, and so remained till 1643, when Chichester and Arundel were taken by Sir William Waller. A part of his army was dispatched for the purpose of totally destroying these and other iron works belonging to the Crown, or to royalists, which have never since been restored." (Dallaway.)

There are many traces of the works remaining, particularly extensive hammer-ponds and cinder-beds, on the southern borders of the forest.

SEDLSCOMBE. Traces of works carried on in this parish in Roman times. In the seventeenth century the Farndens of Brickwall were great ironmasters. A co-heiress married John Baker, Esq., of Mayfield, who died in 1723, and by whose family the works were afterwards carried forward. In the church is a cast-iron slab for the family of Bishop of Great Sanders. These slabs generally, if not uniformly, indicate iron-masters.

217

SHIPLEY. A large hammer-pond still remains at Bayntons in Shipley. The works here are presumed to have belonged to the Apsleys, of Apsley, in Thakeham.⁶⁸ The initials I.A. (for John Apsley?) occur upon many articles of Sussex manufacture. At Apsley House there was, a few years since, a massive pair of andirons so marked, and among the chimneybacks produced by the same eminent iron-master are two very singular specimens, one of which is figured in Mr Brooke's etching (opposite a former page), date 1582; the other, which was brought from this locality, is now in the possession of Captain Richardson, of Sutton Hurst. It is ornamented with the badge and supporters of Queen Elizabeth, and the

legend, "THES . IS . FOR . IAMES . HIDE . AND . ION . HIS . MIF . 1582." it may perhaps have been a wedding present. These and many other examples of Sussex iron are stamped with the fleur-de-lis, which leads to the supposition that Frenchmen were much employed in our foundries. Knepp Pond, the largest piece of water in Sussex, was, according to the Rev. E. Turner, formerly a hammer-pond.

SLAUGHAM. The extensive works which existed in this parish are commemorated by the names of Hammer-pond, Furnace-pond, and Cinder-bank, still remaining.⁶⁹ The Covert family were great iron-masters.

SLINDFOLD. About 1½ mile north of this village is a place called Furnace Farm.⁷⁰

TICEHURST. Several vestiges; particularly traces of great ponds, and a farm called "Cinder-banks".

TWINEHAM. Iron works are said to have existed here, although (as in the case of several other parishes) I am unprepared with any other evidence than that of common report.

WADHURST. This parish was especially celebrated for its iron works. The following particulars relating to them have been obligingly communicated by William Courthope, Esq., Rouge Croix:

218

At Riverhall, in Faircrouch quarter, there were a furnace and a forge worked by the Fowles, a family of considerable note,⁷¹ whose prosperity rose and fell with the iron manufacture. Nicholas Fowle, who carried on these works, built in 1591 the fine mansion of Riverhall, which still exhibits traces of its former grandeur. His son, William Fowle, had a grant of free warren from King James, over his numerous manors and lands in Wadhurst, Frant, Rotherfield, and Mayfield. The fourth in descent, and heir male of this personage, left Riverhall, and kept the turnpike-gate in Wadhurst. His grandson, Nicholas Fowle, a day-labourer, emigrated to America in 1839, with his son John Fowle, a wheelwright, and a numerous young family, carrying with them as a family relic the royal grant of free-warren given to their ancestor.

Brookland Forge and Ferredge Forge, on the borders of Frant, at or near Bartley Mill, or Little Shoemiths, were worked by the Barhams, of Butts and Shoemiths. John Barham of Butts, in Wadhurst, second son of a younger son of Henry Barham, Esq., lord of Barham, &c., co. Kent, a descendant (according to the Kentish historian and genealogist, Philipot) from Robert de Berham, son of Richard Fitz-Urse, and brother of the murderer of Thomas à Becket, was the founder of several branches of the Barhams inhabiting the mansions of Great Butts and Shoemiths, the former of which has disappeared and been replaced by a miserable little house. His descendant, John Barham, resided there till about 1713, when he sold the remnants of his paternal inheritance. He died in obscurity in 1732, aged seventy-five. John Barham, grandson of the above-named John Barham of Great Butts, erected or rebuilt, about 1630, the beautifully-situated and spacious mansion of Shoemiths, and worked Bartley Mill and Brookland Forges. See his monumental slab opposite page 200. His grandson was the high-sheriff of the county 14 William III, but at his decease his family fell into obscurity.

Scragoak works were formerly carried on by the Mansers, and afterwards by the Barhams; and Snape Furnace, the property of the Barhams, was worked by the Culpeper family about the middle of the seventeenth

century. David Barham built the greater portion of the present house at Snape about 1617. He died in 1643, and is interred in the south aisle of Wadhurst Church, beneath an iron slab of very curious workmanship. This estate afterwards passed to the Barhams of Scragoak, who worked the furnace there, and this line of the Barhams terminated with Nicholas Barham, who died in the workhouse in 1788, aged eighty-two. The representative of these once distinguished families, now resident in Wadhurst, is Nicholas Barham, a wheelwright. 219

The family of Maunser, who were also iron-masters in Wadhurst, used Scragoak Furnace in the early part of the seventeenth century. Their residence was at High Town, which, upon the death of Nicholas Maunser in 1679, passed into other hands.

Gloucester Furnace was partly in this parish, but principally in Lamberhurst.

WALDRON. Extensive works were carried on in this parish by the Fuller family, who are believed to have materially enriched themselves by them. A descendant, the late John Fuller, Esq., of Rose Hill, in Brightling, adopted, in allusion to that circumstance, the motto, "Carbone et forcipibus." It is scarcely necessary to confute the foolish tradition of the vicinity, that the founder of this respectable family gained his wealth by hawking nails about the county of Sussex upon the backs of donkeys! as the authentic family pedigree of the Fullers commences early in the sixteenth century with the name of John Fulwer or Fuller, citizen of London.

The furnace here was at work in the last century, and the neighbourhood abounds with specimens of its productions. Small chimneybacks, embellished with the lion of England, and the national badges, of the rose, thistle, &c., so common in farmhouses and cottages for miles round, were cast at these works.

WARBLETON. The site of Richard Woodman's works is still pointed out. Cralle Furnace and Forge, upon the same stream which supplied Heathfield Furnace, belomed to the family of Cheney. Near Beeston's Farm was a steel forge. Adjacent to Rushlake Green is a field called "Furnace Field".

WESTFIELD. Roman coins have been found among cinders in this parish.

WEST HOATHLY. There was a furnace in this parish. (Horsfield.) 220

WISBOROUGH GREEN. There was a furnace at Pallingham Farm in this parish. The pond connected with it was very large, but it is now drained and converted into a meadow of unusual fertility.

WITHYHAM. The Baker family, who had possessions here as early as temp. Henry VIII, were owners of Stoneland in the seventeenth century, and had iron works, 'the machinery of which was impelled by a chain of ponds still existing below the house.

WORTH. The works here were very considerable. A piece of water, called the Furnace-pond, is connected. by a rivulet with another just over the boundary of the county of Surrey, called the Forge-pond, about half a mile distant. Cannon have been cast here and conveyed to London within the last seventy years.⁷²

NOTES

1. Dr. Mantell adds: "The great coal-field of Hanover is in the Wealden formation. What a pity that the forests of the Iguanodon country which furnished the materials of those carboniferous strata drifted so far north! Had it not been so, we should have had abundance of coal in our Wealds, and Sussex might have furnished rivals to Manchester and Birmingham."
2. The scoriae of the disused furnaces are called cinder, and are much employed for the repair of turnpike and other roads. That they have long borne this somewhat improper name appears not only from documents of ancient date, but from the designations of many localities in the iron district, as Cinderford, Cinderhill, Cindersgill, &c.
3. The coins which I have inspected are as follows:
Nero (AD54 - 68), two
Vespasian (69 - 79), about eight or ten
Tetricus (circ. 274), one
Dioclesian (284 - 286), one or two.
Of those which cannot be appropriated, some may belong to the intervening emperors. Until recently, the labourers have regarded these valuable relics as "old halfpence"; and, according to their own unsophisticated statement, "chucked" them away, "because the letters on 'em was pretty near rubbed out."
4. De Bell. Gall. lib. v. cap. 12
5. A letter, written between the years 1233-1244 to Ralph, Bishop of Chichester, by his steward, Simon de Senliz, appears to militate against the existence of the iron trade, at least in the western part of the county, at that period. It relates to an order from the bishop to one H. de Kynards for the purchase of iron ("x marcas de minuto ferro, si inveniri potest, sive autem, v marcas de grosso, et v marcas de minuto ferro") to be procured in the neighbourhood of Gloucester, and thence conveyed to the domus hospitis at Winchester; an order which would scarcely have been necessary, if the iron works which in the next century we find within a few miles of Chichester, had then been in operation. The letter is among the Tower MSS., No. 677. Transcribed by W. H. Blaauw, Esq.
6. Blaauw's Baron's War. Horsfield's Lewes.
7. Househ. Exp. Rot. Mis. 56, 17.
8. Devon's Issues of Excheq.
9. Survey of Lond.
10. Wardrobe Account, Edward II. Carlton Ride MSS., transcribed by W. H. Blaauw, Esq.
11. Dallaway's Rape of Chichester, p.300
12. At the Lewes meeting, in August last, I had the pleasure of exhibiting a drawing of this interesting relic, where it excited much attention. I was subsequently applied to by

- our member, the Rev. C. Boutell, M.A., of Downham Market, for a loan of the drawing, and that gentleman deemed it of sufficient interest for an engraving in his work on sepulchral monuments. (This clearly cannot belong to the fourteenth century. Ed. W.I.R.G.)
13. I employ the word Andiron as a term generally known. The Promptorium Parvulorum has "Awnderne, Awndyryn, Awndyrn". See Way's Prompt. Parv. Camd. Soc. in voc. The etymology is uncertain. In Sussex, the word more generally employed is either Brand-dogs, or Brand-irons, the latter from the Anglo-Saxon "Brandisen," or "Brand-iren"; an interesting example of the local retention of an ancient word which has grown out of general use.
 14. (A comment on the origins of the IHS monogram has been omitted.Ed.)
 15. Page 472 (June 1790).
 16. For a very able and interesting account of ancient ordnance see a paper by C. D. Archibald, Esq., F.R.A.S., &c., in *Archaeologia*, vol xxviii, p.373. Our historians generally assert that cannon were first employed at the battle of Crecy, in 1346; but Mr Archibald adduces strong reasons for the belief that they had been previously used by Edward III in his expedition against the Scots in 1327.
 17. *Artillerie*, 1, viii, quoted in *Archaeologia*, vol. xxviii, p.380.
 18. Holinshed, ii, 960. - "Bucksteed".
 19. Hayley's MSS., British Museum.
 20. Strype's *Stowe's London*, vol. i, p.107
 21. As an instance of the tenacity with which families sometimes adhere to a particular vocation, it may be mentioned that many persons of the name of Huggett still carry on the trade of blacksmiths in East Sussex.
 22. "There are now at Woolwich several guns lately recovered from the wreck of the 'Mary Rose', which was sunk at Spithead in 1545; and among them two large brass cannons, the one a 68, the other a 24 pounder, which, in beauty of design and workmanship, are equal to anything that could be produced in the present day." *Archaeologia* (ut supra).
 23. Hewitt's *History of the Tower*, 12mo, 1841.
 24. A chamber-piece is a gun which, instead of receiving its charge at the muzzle, has an opening or chamber near the opposite extremity, in which the powder and ball, properly secured, were deposited. It is worthy of mention here, that the ancient family of De la Chambre or Chambers (of Chambers' Court, in Laughton, temp. Edw. II, of Chambers' Court, in Littlington, temp. Henry VIII, and of Hall Place, in Rodmill, temp. Car.I), bore three "chamber-pieces" in their arms, in allusion to their name.
 25. I would suggest the desirableness of an accurate engraving of this gun, with a more minute description of it, in a future volume of the "Collections."
 26. Formerly in the possession of the Webster family, now in that of Sir Thomas Phillipps of Middle Hill; a most valuable collection of Sussex MSS., bound in 97 folio volumes.

27. *Vide Thorpe's Descriptive Catalogue of the Muniments of Battel Abbey*, 8vo, London, 1835.
28. John Foxe, *Acts and Mon.*, Ed. 1570, p.2192.
29. *Strype's Life of Archbishop Parker*, p.315.
30. *Strype's Stowe*, vol. ii, p.293.
31. *Strype's Stowe*, vol. i, p.108.
32. These letters are printed in full, in *Horsfield's Lewes*, i, 192.
33. In illustration of this remark it may be mentioned, that in 30 Edward III, one Robert de Dole died possessed, inter alia, of sixty acres of land at Billingshurst, which was declared to be worth only 10s. per annum, or 2d. per acre, because the land was barren and lay in the Weald (let jacet in Wealdall), and was of no value to sow, on account of the quantity of wood ("propter magnitudinem bosci.") - Inq. post. Mort.
34. *Statutes of the Realm*, 35 Hen. VIII, cap.17. This act was passed for seven years, but made perpetual by 13 Eliz. c.25.
35. For the meaning of these expressions see Ray's account of the manufacture, in a subsequent page. I may add, here, that the phrase *bloma ferri* occurs several times in *Doomsday Book*. "Bloma," a Saxon word, is defined by Bosworth as "metal, a mass, lump" "*Isenes-bloma, massa ferri, bloom of iron.*" - (First Report of Record Commiss., p.416.)
36. *London*, 1607, p.213.
37. It is a somewhat singular coincidence that the number of corn-mills in Sussex, at the time of the *Doomsday survey* (finished in 1086), was 148; and that of iron-mills, about five centuries later, 140. A great proportion of the latter probably occupied the sites of the former, which the introduction of windmills had caused to be deserted.
38. The dearth of information regarding the glass manufacture in Sussex is much to be regretted. The Rev. E. Turner conjectures that one of the "glasse-houses" was at Maresfield, near the site of the Roman iron works. The scoriae found there differ considerably in character from those of the ordinary iron works, having a more vitreous appearance. This, however, may result from some peculiarity in the flux.
39. *Vide "Certificate concerning Sussex Justices"*, p.60 of this volume.
40. *Fuller's Worthies, Sussex*, iii, 241. edit. 1840.
41. *Rymer*, xx, 68.
42. *Rymer*, xx, 161. Both the foregoing instruments were revoked by a proclamation, "given at York" in 1639. *Rymer*, xx, 340.
43. Ex orig. olim penes Lt Col. J. H. Willard.
44. Ex inf. Rev. E. Turner.
45. I avail myself of this opportunity of acknowledging the kind assistance of Mr Harvey, in calling my attention to the Burwash slab, and to many of the other productions of the Sussex furnaces, which illustrate this paper.

46. Dallaway's *Western Sussex*.
47. The definition of ancony, given in this paragraph, is adopted by Bailey in his *Dictionary* (folio, 1730). In common with several terms employed in anatomy and architecture, it seems to be derived from the Greek word *'αγκων'*.
48. Ray's *English Words* not generally used (originally published in 1672), 4th edit., printed in 1768, p.134, et seq.
49. Topog. Libr. Sussex.
50. Ex inf. W. Courthope, Esq., Rouge Croix.
51. *Worthies*, vol iii, p.53, ed. 1840.
52. Mon. Inscr. in Wadhurst Church, *vide infra*.
53. The Rev. T. D. Willis has, with a laudable view to preserve a memorial of the now extinct iron trade of Sussex, caused several similar bars to be employed as fastenings for the entrances of his recently erected church at Elsted.
54. Horsfield's *Sussex*, Val. i, p.514.
55. They also worked Heathfield and Waldron Furnaces, &c.
56. Ex inf. Hasler Hollist, Esq.
57. According to our most eminent geologists, the Weald of Sussex is destitute of native coal, unless the seams of fibrous lignite, occasionally met with, be entitled to that appellation. The following statements, whose tendency is in some degree to controvert that opinion, may interest the reader. They were communicated by Mr Sylvan Harmer, of Heathfield, to the Brighton Guardian in June, 1830. The person to whose experience the facts occurred, was the late Jonathan Harmer, whose words I quote: - "In the month of December 1801, I was employed to survey some woodlands in the parishes of Heathfield and Waldron, and whilst in the act of taking offsets across a stream which separates parishes, I accidentally saw a kind of black stratum which the water had laid bare. Struck with its polished appearance, I took up several pieces, and soon discovered it to be coal of some description. This induced me to go the next day with mattock and spade and some assistants, and we soon laid open a block of black and pure coal of the Kendal species, nearly resembling the size of a stout man; being a portion of a bed receding from the stream under a rising ground behind. I therefore resolved acquaint the proprietor, John Fuller, Esq., of Rose hill, circumstance, but first waited on Francis Newbery, Esq., then proprietor of Heathfield Park, who desired me to pack up and send them to Mr Fuller, in London, which I did in two boxes with a description of the circumstances.
 "This induced Mr Fuller to send for a gentleman of the name of Ward, from Derbyshire, a professed miner, who came and explored the affair, and gave the highest opinion as to a successful result, should a shaft be sunk, saying, in my hearing, that all the signs and appearances were sufficient to inspire any miner with the greatest hopes. Moreover, the neighbourhood being on the alert with these reports, a person of the name of Page, with other labourers, went to explore in their own fashion, when, digging

in the bed of the stream, they first threw up broken coal mixed with blue clay, which, as they dug deeper, became apparently more co-mixed with coal, until the whole became one black slub. About the same time Mr Cater Rand, of Lewes, came and explored the appearances, and pronounced favourably thereon. A miner also, from Derbyshire, waited upon Mr Newbery, offering to bear half the expenses of boring in his park, merely to clear all doubts as to the existence of a coal-bed, saying that the neighbourhood abounded with indications of its existence; and although the specimen already produced was of the Kendal kind, that was not conclusive as to the real nature of the bed. Be that as it may, the day after I laid open the aforementioned beds for the inspection of Mr Ward, a blacksmith, whose shop was at hand, took away enough of the uncovered beds to suffice him for a fortnight; and he declared that he never worked more pleasantly, or with a better fire. It burnt with a short, strong blue flame. Several persons also tried it at the grate with similar satisfaction. A labourer of Mr Newbury's, in digging post-holes about the same time, threw up a great quantity of coal, in pieces about the size of a man's fist; and in sinking wells at Heathfield, the like specimens have been found.

"Brown's Lane, in Waldron, has long produced ample specimens, insomuch that a travelling tinker, named Lindsey, often replenished there his exhausted stock, until he fancied that the smell affected his head, as it happened to be overladen with sulphur or the like.

"From what cause Mr Fuller abandoned the pursuit I know not. I only know that some threats of legal action were thrown out against the undertaking; and a fellow of the name of Farey wrote largely, in a ridiculing style, against the idea of finding coal in Sussex. His ignorance and abuse will be best seen by a reference to the Lewes Journal, in the year 1808, or before.

"There are hundreds of eye-witnesses, now living in the neighbourhood, who could vouch for the facts, and the whole might be repeated, by the permission of Mr Fuller and others to explore."

Mr S. Harmer himself explored the spot so lately as 1830, with a similar result. With an implement so simple as a mole-spade, he dug out coal of an excellent quality, burning with a peculiarly vivid flame, and answering admirably for the purposes of the forge.

58. Ex inf. A.E. Knox, Esq., M.A., &c. author of a very interesting contribution to the natural history of the county - 'Ornithological Rambles in Sussex.' London, 1849.
59. The Kemps, of Great Pell, in Wadhurst, were founders here at some period in the early part of the eighteenth century.
60. Ex inf. W. Courthope, Esq., Rouge Croix.
61. Ex inf. Hasler Hollist, Esq.
62. Ex inf. W. Courthope, Esq., Rouge Croix.
63. Ex inf. J. B. Baker, Esq., a descendant.
64. Ex inf. W. Courthope, Esq.
65. Ex inf. A. E. Knox, Esq.

66. Thorpe' s *Battel Abbey Deeds*, pp.201, 202.
67. Ex inf. V. Holloway, Esq.,
68. Ex inf. P. J. Martin, Esq.
66. Ex inf. Mr Thomas Wells.
70. Ex inf. A. E. Knox, Esq.
71. They were descended from a brother of Bartholomew Fowle, alias Linsted, last prior of St. Mary Overie, in Southwark.
72. Ex inf. Mr W. Figg.