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CLAY SMOKING PIPES RECOVERED FROM THE SUNKEN CITY OF PORT ROYAL: OCTOBER 1, 1967 - MARCH 31, 1968 ROBERT F. MARX

JAMAICA NATIONAL TRUST COMMISSION KINGSTON, JAMAICA

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CONTENTS

I.	INTRODUCTION

- II. PREFACE
- III. HISTORY OF THE SITE
- IV. EXCAVATION OF THE SITE
- V. OBSERVATIONS ON THE CLAY PIPES
- VI. REFERENCES
- VII. APPENDICES
 - A. White Clay Pipes with markings
 - B. Ornamental Stems of White Clay Pipes
 - C. Red Clay Pipes

1. INTRODUCTION TO PORT ROYAL PIPES

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Much has been written on tobacco pipes but it is only in the last twenty years that they have become a vital tool in the hands of the archaeologist wishing to date sites post 1600 A.D. This statement applies to white clay pipes of British origin (1). Prior to the last wer regional studies of tresc pipes had been made for Hull. Broseley, Bristol and London, but these suffered from the lack of a general typology and in some cases from faulty identification of pipemarks with makers. The evolution of a typology by the writer arcse from post war excavations in the nevastated City of London. discovery of vast quantities of artifacts which at that time were difficult to date by themselves, failing coin evidence, called for an easily-used reliable dating tool. It seemed possible that clay tobacco pipes which were found in almost every context might, by reason of their short life, due to fragility appears to the context might. short life, due to fragility, supply such a need. These had an additional savantuge that a proportion, very small in the 17th century, were signed with makers' initials. Unfortunately the records of the Pipemakers Company had disappeared in the mid nineteenth century and there was no comprehensive list of makers available. Nevertheless by 1951 the writer was able to publish a typology, based in the main on London tipes. This typology with three revisions had stood the test in its essentials and provides basic dating to within about 30 years over the past three centuries. Naturally there have been additions and improvements by others. One may instance the study of Broseley pipes by the writer and R.E. James (2), and the methods of dating from the bores of the stems evolved by Harrington and Binfold (5), which when used with caution have proved useful. In 1900 the writer was able to publish a list of makers (4) which Parsons has supplemented for North Eastern England (5) and Atkinson for Sussex and Marlborougn. Regional developments and styles are at present the subject of much fieldwork in Britain. American studies have been pioneered by Omwake, Hume and Walker (b).

> Such is the outline of archaeological devolorment in this field which has particular value in the study of New World sites. Now the By reason of the discoveries at Port Royal open fresh horizons. earthquake of 1692 much of the material recovered must be earlier in date than the disaster. From an archaeologist's stand point it is unfortunate that there was continued occupation after this date. will be seen that from the point of view of pipe identification the intensity of deposit before and after 1092 is much the same. greatest interest provided by the pipes is the picture they give of trade from Europe to Port Royal.

A note of caution must be sounded here. In Britain the records of the piremakers of Bristol are probably minety per cent complete, by virtue of the survival of Freemens admissions and apprenticeship rolls, over a period from the early 17th century to the mid mineteenth. For the other centres records provide only partial coverage. Hence the identification of marks on pipes with makers is much easier and more correct for Bristol than anywhere else. Even so such identification, lacking other factors is always liable to error by reason of the numbers of identical initials. Fortunately in the case of Port Royal the style of the pipes and the marks is of considerable assistance in identification. First the pipe with no spur or hecl is a considerable rarity in Britain outside those discovered in the excavation of Bristol kiln sites (7). Similarly the relief mark on the side of the bowl is a Bristol characteristic and to a lesser extent the initials impressed separately on the back. The crowned mark on the heel seems to have been mainly of London origin (8). Clearly Bristol had the bulk of the trace with some loss of ground as time passed. The London position may well be underestimated (9).

II. PREFACE

The following is a preliminary report on the clay emoking pipes recovered from the Sunken City of Port Royal in Jamaica during the period of October 1, 1907 and March 31, 1908, when the programme of excavation came to a halt for an indefinite period of time. The excavation of the site began on May 1, 1900, and I have published an earlier re ort on the clay pipes recovered from the site during the period of May 1, 1900 and September 30, 1967.

I make no claims of being an expert of clay smoking pipes and my only objective in publishing this report is to provide those who are experts in this field, with all of the information I have obtained during the course of our excavation, with the hope that it will prove useful to them in their future studies of the clay smoking pipes.

Without the assistance of Mr. Adrian Oswald of England, I would not have been able to write this or my previous report on the clay smoking pipes. For more than two years ne has assisted me in dating and identifying the makers' marks of the numerous ripes recovered on the site. I also owe a great deal of thanks to Dr. Ivor Noel Hume, Director of the Department of Archaeology of Colonial Williamsburg, in Virginia for the valuable information he has provided on the red clay smoking pipes. Also I would like to thank Miss Louise Judge and Mr. Walter McFarlane for their assistance in making the drawings of the pipe shapes and their markings.

III. HISTORY OF THE SITE

Port Royal and the large harbour it protects, although one of the finest in the West Indies, had little importance in the history of Spanish Jamaica, since the Spanish Colonists had scarcely any commerce to speak of. They had a small port, called Puerto de Caguaya, at the mouth of the Rio Cobre on the north-western shore of the harbour. Port Royal itself was called Cayo de Carena (Careening Cay) by the Spaniards, and used only, as the name suggests, as a place for careeing and refitting the occasional ship that visited the virtually forgotten colony. (10).

After the English had captured Jamaica in 1655, they immediately recognized the commercial and strategic value of Port Royal. The Royal Navy first made use of Port Royal for the invocing fleet, and after the successful invasion, the Navy was soon followed by the Army, which stationed troops there and quickly began to fortify the site. Port Royal played a vital role in the early history of English Jamaica as a base for a series of naval operations that contributed so heavily to England's ultimate success in establishing a permanent colony in Jamaica. In the years 1655-1660, the Royal Navy carried out a number of successful attacks on nearby Spanish Colonies, which prevented the Spaniards from organizing any effective force to recapture the island. Then, when the monarcry was restored in England in 1660, all the navel forces and most of the military in Jamaica were recalled, and the task of defending the struggling colony - by intimidating the Spaniards - fell to the pirates, or privateers, since most of them did, in fact, note royal commissions.

During the next decade (1660-1670) Port Royal served as the most important buccaneering base in the West Indies. Henry Morgan was only the most successful of a long list of privateers who brought immense riches in plunder from their raids on Spanish settlements and shipping. Then in 1670 Spain and England signed a peace treaty in which England's claim to Jamaica was formally recognized, and in return the English Crown ordered the withdrawal of all privateering commissions and the

and no more than ten acres of land remained out of the water by the end of the day: Port Royal was once again a cay, separated from the Palisadoes. More than 2,000 lives were lost that day, and within a month an additional 3,000 persons died in epidemics that followed the disaster.

Except for a number of men who immediately began carrying out salvage operations on the sucaerged buildings in hopes of recovering some of the great amount of wealth which went down with the buildings, the majority of the survivors moved across the harbour and found the town of Kingston. However, within a few months after the disaster, some of Port Royal's former inhabitants moved back to the cay again and begam to rebuild the town, but it was never again to regain a degree of its former glory. In 1702 when the town was just starting to flourish somewhat, a fire consumed the whole town. In 1712 and again in 1722 the town was levelled to the ground by disasterous hurricanes. Throughout the eighteenth and nineteenth centuries Port Royal mainly served as an important base for the British Navy and, during periods of war, for privateers.

IV. EXCAVATION OF THE SITE

The site itself is far from being an archaeologists 's dream. Over the centuries since the initial disaster, the site has been seriously disturbed by both nature and men. Subsequent earthquakes as well as many different hurricanes, have greatly altered the sea floor. Probably the most serious disturbance has been caused by the hundreds of ships which have anchored over the site and, in dragging their anchors, have plowed up a great part of the sea floor. During the course of my preliminary survey of the site (Jamary - April 1966) and subsequent excevations we have discovered that the stratigraphical context of the site left a great deal to be desired. occasions nineteenth and twentieth centuries items have been found underneath artifacts dating from period of the 1692 disaster. Furthermore, the site has been used, and is still being used, as a refuge dump, which has made dating of the artifacts recovered more difficult. Except in cases where artifacts are found under fallen walls of the buildings which sank in the 1692 disaster - and this is not always foolproof either, since many walls of the old buildings were still collapsing as late as the 1907 earthquake - we have had to rely almost entirely on hallmarks and touchmarks on silver and pewterware and cross reference with already dated artifacts from other sites, for dating and identifying artifacts recovered on our site. This also . applies to clay smoking pipes, which, with the exception of ceramic shreds and bones, constitute the largest number of any single type of artifacts found on the site. (12).

Other factors which make dating artifacts recovered on the site difficult are the almost total lack of under eater visibility and the manner in which the site has to be excavated. At the best, the underwater visibility at the beginning of each day's excavation is rarely more than three or four feet, and once the excavation is in, progress, visibility is either nil, or only a few inches. The sediment on the site consists on the average of one to three feet of fine silt below which there is between turee to five feet of very hard-packed mud, which is almost impossible to penetrate with our excavation tool an airlift - unless it is first broken up in small pieces. Below the mud we find loose black sand and gravel, which like the silt, is easy to pump to the surface up the airlift tube. We have found from long experience that the best method of excavation on our site is to pump in the levels of the sand and gravel, which undermine the nard-packed strata of mud and causes it to fall desper in the hole, which also results in the mud breaking apart and making it possible to excavate. Naturally this causes artifacts lying at higher levels in the sediment to fall deeper, making stratigraphical dating of these artifacts an impossibility. However, unless another more practical method of excavation can be developed we have no other choice but to excavate in this menner. If we were first to pump the silt to the surface and

believo.

The total number of pipes recovered during the period covered in this report was: 577 unmarked white clay pipes, bul marked white clay pipes, and 191 red clay pipes or a total of 869 pipes. The total number covered in my previous report was 6,264 and the total for both reports is 7,133. In neither of these reports have I included drawings or information concerning the unmarked white clay pipes. I intend to I intend to write a report on these pipes in the near future.

Since my previous reports on clay pipes has been published, Mr. Adrian Oswald and I have been contacted by various experts who have furnished us with additional information and several obvious errors that should be corrected. All of these corrections concern the marked white clay pipes white clay pipes.

#23. Date should be 1690-1730

Date should be 1680-1710

#26. Pire made in Hull, probably by William Best who was apprenticed to Francis Wood in 1691.

#40. A London made pipe

Should be changed to a Lordon made pipe, maker unknown. #41 Lluellin Evans was still working in looy, so these pipes could have been made by him.

Hume suggests a much later dated ripe, perhaps Joseph Estands, #60. Bristol, Freeman 1774.

#62. Date should rend 1680-1720

Date shoul read 1700-40 弁りろ。

Date should read 1680-1720 #71.

#79. Correct to English, c. 1680-1720 Date should rend 1680-1730

#78.

#87. This pipe may also have been made in London.

#95 & 96. Change to Devereux Jones I, Bristol, Freeman 1691. There are a number of citf rent possible makers with #98.

surnames beginning with 'K'.

Probably made in London

Change to Thomas Owen, Bristol, Freeman 1698 #107.

#117. Should read: RP emoossed on R. & L.H.S. of heel

#118. Should read: TP incised on center of bowl

#152. Change to Dutch pipe

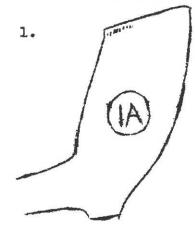
Since my previous report was published, Dr. Ivor Noel Hume has been in contact with Mr. Adrion Oswald concerning the origin of the red clay pipes and Mr. Oswald now agrees with Dr. Hume that these ripes were probably made in the Caribbean, and most likely right at Port Royal. Mr. Michael Pawson of Jamaica has turned up additional evidence which suggests that these pires were made on Jamaica. He had the Jamaican Geological Survey Department make an analysis of the clay used in those The analysis revealed that the clay has a typical Montmorillonite composition in its major constituents of silicone and alumina, and that the ratio of alumina to iron oxide suggests that it could possible be the parent clay from which Jamaica bauxite was derived. Dr. Hume has also pointed out an oversight on my part, as on page 504 of the Taylor Document (16) there is a mention of a woman with "a red tobacco rige" in her mouth at Port Royal several years before the 1692 disaster. hand-writing of this menuscript is not very legible and the typist I had copy this cocurent misread the word 'red' and thus the reason for this oversight.

Appendix A contains 160 drawings of white clay ripes with different maker's morks, or with distinct shapes though similar makers' marks, and ripe bowls of special designs or morkings. The information below each ripe bowl, such as the date range when each pipe was most commonly in use, the maker's identity and place of manufacture, has all been The first set of numerals in the obtained from Mr. Adrian Oswald. purenthesis is the stem bore dismeter and the second numeral or numerals indicate the number of pipe bowls of this particular type recovered during the period covered in this report. The stem bore of each pipe was measured, and whenever examples of the same type of bowl have

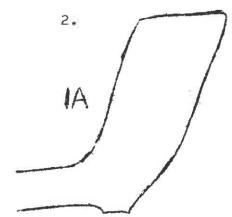
VI. REFERENCES

- (1) Similar work is proceeding in Holland. For a general Dutch bibliography see Brongars, G.A. <u>Nicotiona Tebacum</u>. Amsterdam 1964.
- (2) Oswald A.H. and James R.E. Broseley Pipes. 1955. Arch. Newsletter V. 10. 11.
- (3) Harrington, J.C. Dating stem fragments of 17th and 18th century tobacco pipes. Bull. Arch. Soc. Virginia V.4.1954. Binford L.H. A new method of calculating dates from Kaolin Pipe stem samples. S.E. Arch. Conference Newsletter, IX. 1. 1962. Cambridge. Mass.
- (4) Oswald A.H. Archaeological and Economic History of English Clay Tobacco rives. Brit. Arch. Ass. Journ. XXIII. 1960. reprinted 1967 with an additional bibliography.
- (5) Parsons J.E. Archaeology of the Clay Tobacco Pipe in N.E. England. Arch. Ael. 4th Ser. XLII. 1964.
- (6) See the biblicgraphy of (4) above.
- (7) These kilns have been excevated by Messrs. Reco and Marochan and await publication.
- (8) Atkinson D.R. Maker's Marks on Clay Topacco Pipes found in London. Arch. Newsletter VII. 8. 11. gives lists of such marks.
- (9) For a general study of the subject see Oswald A.H. on Topacco Pipes. Connoisseur Encyclopedia of Antiques. Vol. IV pp. 201-209. London 1959.
- (10) For more information regarding the history of the site see: Marx, R.F. 1967, PIRATE PORT: THE STORY OF THE SUNKEN CITY OF PORT ROYAL.
- (11) John Taylor, 'Multum in Parvo or Parvum in Multo. Taylor's second part of the history of his life and Travels in America....' 1688.
- (12) For more information concerning our methods of excavation and the work accomplished during 1966 see: Marx R.F. 'Excavation of the Sunken City of Port Royal: December 1965 December 1966,' March 1967, Institute of Jamaica, Kingston, Jamaica.
- (13) For more information concerning the work accomplished throughout the overall excavation see: Marx, R.F. 'Excavation of the Sunken City of Port Royal, January 1967 March 1966, 'May 1968, January National Trust Commission, Kingston, Jamaica.
- (14) Harrington, J.C. 1954, 'Dating stem fragments of seventcenth and eighteenth century clay tobacco pipes, 'Bulletin Arch. Soc. Virginia, IX, 1.
- (15) Chalkley, J.F. 1955, 'A critique and rebuttal of the paper dating stem fragments of seventeenth and eighteenth century clay tobacco pipes by J.C. Harrington,' Quaterly Bulletin, Arch. Soc. of Virginia, IX, 4. Also: Omwake, H.G., 1956, 'Date-bore dismeter correlation in English white knolin pipe stems, yes or no?', Bulletin, Arch. Soc. Virginia, XI, 1.
- (16) See: John Taylor, 'Multum in Parvo.....' 1688.

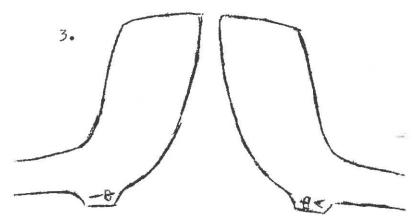
APPENDIX A WHITE CLAY PIPES WITH MARKINGS.



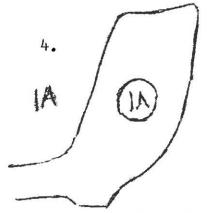
IA Embossed - R.H.S. of Bowl c. 1700-40. Many different possible Bristol makers. (5/64"-6)



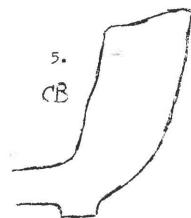
IA Incised - center of bowl. c. 1700-40. Many different possible Bristol makers. (5/64" - 2 and 3/32" - 1)



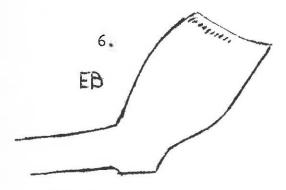
IA Embossed on R. and L. side of heel. c. 1700-40. Many different possible Bristol makers. (5/64" - 1).



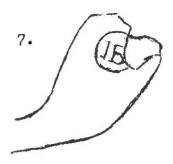
IA Incised on center of bowl.
IA Embossed on R.H.S. of bowl.
c.1700-40. Many different possible
Bristol makers. (5/64" - 3)



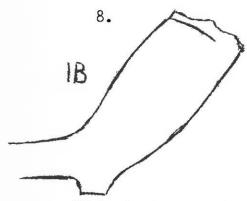
CB Incised on center of bowl. c.1680-1730. Charles Buckley, Bristol, Freeman, 1713, Polls 1722 (5/64" - 1)



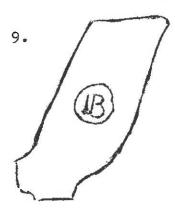
EB embossed on base of heel. c.1700. Many different possibilities. (7/64" - 1)



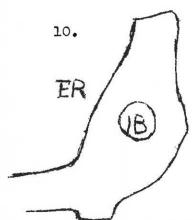
IB embossed on R.H.S. of bowl. c.1690. Many different possible Bristol makers. This shape of pipe very common in America. (5/64"-1)



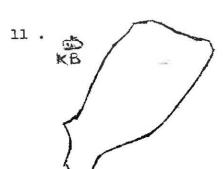
IB incised on center of bowl. c. 1680-1710. Many different possible Bristol makers. (3/32" - 1).



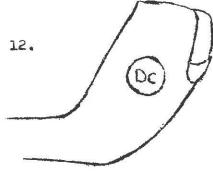
IB embossed on R.H.S. of bowl. c. 1690-1740. Many different possible Bristol makers. (5/64" - 1).



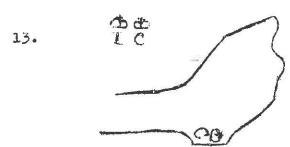
IB embossed on R.H. S. of bowl. Er incised on center of bowl. c.1700-1740. Many different possible Bristol makers. (3/32" - 1)



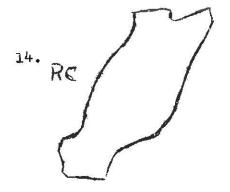
KB embossed on base of heel. c. 1680-1720. Maker unknown. Probably Dutch. (3/32" - 1)



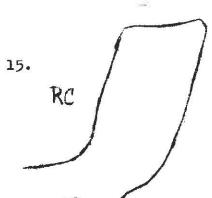
DC embossed R.H.S. of bowl. c. 1700-30. Daniel Chilton, Bristol, Polls 1722. (5/64" - 1)



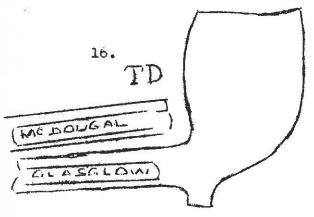
I.C. embossed on R. & L.H.S. of heel.
c. 1700? Possibly James Chapman, London,
Freedom 1662.
(5/64" - 1)



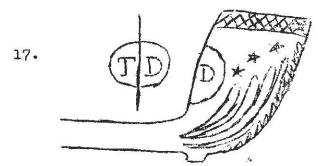
RC incised on center of bowl.
c. 1080 - 1740. Several different possible Bristol makers.
(1/16" - 1 and 5/04" - 1 4



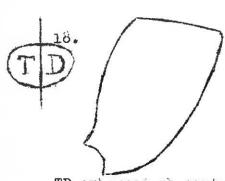
RC incised on center of bowl. c. 1700 - 1740. Several different possible Bristol makors.
(5/64" - 2)



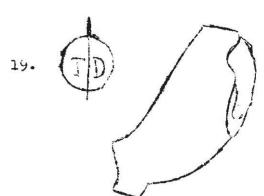
TD incised on center of bowl. c.
Late 19th- early 20th century.
McDougalls of Glasgow making TD
pipes in 1900. See Walker, TD pipes,
Bull. Arch. Soc. Virginia, Vol. 20
No. 4. (5/04" - 3)



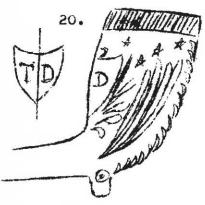
TD embossed in center of bowl. c. Post 1820. See number #16. (5/64" - 1)



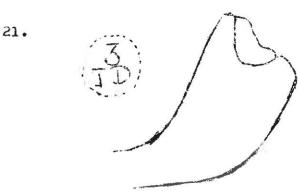
TD embossed ob center of boul. c. ? Possibly Themes Dennis, Bristol, Freeman 1754. (? - 1.)



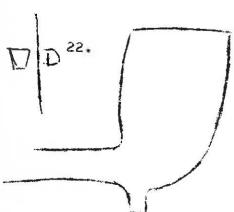
TD incised on center of bowl.
c. ? Possibly Themas Dennis,
Bristol, Freeman 1734.
(5/64" - 1)



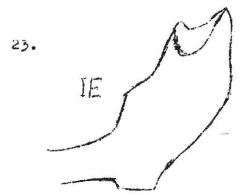
TD embossed on center of beal. c. Post 1820. See number #16. (1/16" - 1)



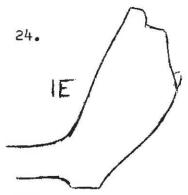
Mark incises on center of bowl. c. 1730-60. See number #16. (5/64" - 1)



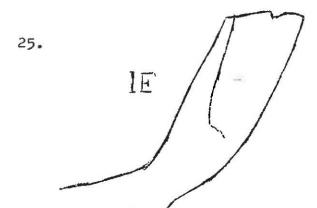
Mark empossed on contar of bowl. c. Pernaps 19th contury. (5/64" - 1)



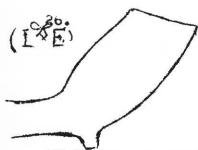
IE incised on base of heel.
c. 1690-1740. Either Issue Evans,
Bristol, Freeman 1699; or James
Edwards, Bristol, Freeman 1722.
(5/52" - 5)



IE incised on center of bowl. c. 1690-1740. Protobly Issac Evans, Bristol, Freeman 1699. (3/52" - 3)



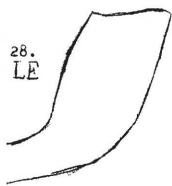
IE incised on center of bowl. c. 1680-1720. Probably Issac Evons, Bristol, Freeman 1699.



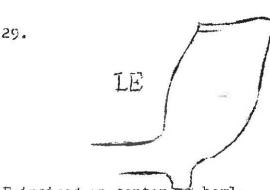
LE incised on center of bowl. c. 1080-1700. Lluellin Evens, Bristol, Freeman lool. (1/8" - 1)



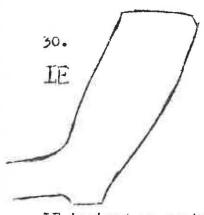
LE incised on center of bowl.
c. 1690-1700. Lluellin Evans;
Bristol, Freeman 1661. He was
still known to be making pipes
in 1689. (7/64" - 4)



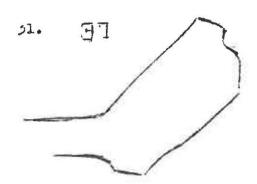
LE incised on center of bowl.
c. 1060-1690. Lluslin Evans,
Bristol, Freeman 1661.
(7/04" - 1)



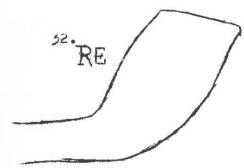
LE incised on center of bowl.
c. 1680-1730. Lluellin Evans.
Bristel, Freeman lool. (7/64" - 5 and 1/6" - 2)



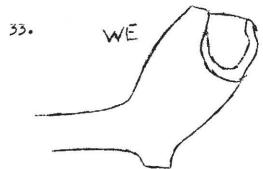
LE incised on center of bewl.
c. 1700-40. Lluellin Evans, Bristel,
Freeman 1661.
(3/32" - 5 and 7/64" - 9)



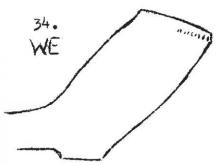
Mark incised on center of bowl. c. 1680-1720. Lluellin Evans, Bristol, Freeman 1661. (7/64" - 1)



RE incised on center og bowl. c. 1700-30. Edward Randell II. Bristol, Freeman 1699. (7/64" - 1)



WE incised on conter of bowl.
c. 1680-1730. Either Walter Evans.
Bristol, apprenticed 1060; or
William Evans, Bristol, Freeman
1600. (1/6" - 2)



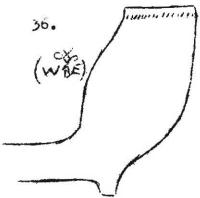
WE incised on center of bowl.
c. 1070-90. William Evens,
Bristol, Freemen 1660.
(7/64" - 1)



WE incised on center of bowl.
c. 1680-1730. Either Walter Evens,
Bristol, apprenticed 1660; or
William Evens, Bristol, Freem n 1000.
(7/64" - 1)

39.

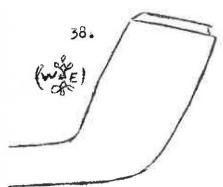
41.



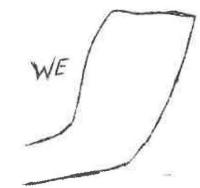
WE incised on center of bowl.
c. 1680-1710. Either Walter
Evans, Bristol, apprenticed
1660; or William Evans,
Bristol, Freedon 1660.
(7/64" - 2)



WE incised on center of bool.
c. 1680-1710. Either Walter Evans,
Bristel, apprenticed 1660; or
William Evans, Bristel, Freeman
1660. (7/64" - 3 and 1/6" - 3)



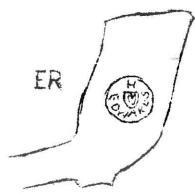
WE incised on center of bowl.
c. 1700-40. Either Walter
Evans, Bristol, apprenticed 1660;
or William Evans, Bristol,
Freeman 1660. (7/64" - 1)



WE incised on center of bowl. c. 1680-1730. Either Walter Evens, Bristol, apprenticed 1660; or William Evans, Bristol Freezen 1000. (7/64" - 1)



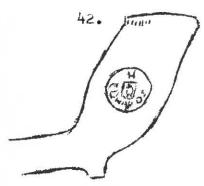
H. Edwards embossed on R.H.S. of bowl. c. 1500-1720. Henry Edwards, Bristol, Freeman 1699, Polls 1715. (5/64" - 3 and 3/32" - 2)



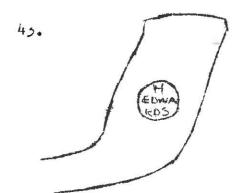
ER incised on center of bowl.

H. Edvers embossed on R.H.S.
of bowl. c. 1700-40. Henry Edwards,
Bristel, Freeman 1699, Polls 1715.

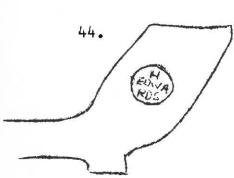
Presumedly in pertnership with
either Edward Randell, Bristel,
Freeman 1699; or Edward Reed,
Bristel, Freeman 1700, Polls 1722.
(5/64" - 3)



H. Edwards embossed on R.H.S. of pawl. c. 1650-1730. Henry Edwards, Bristol, Frieman 1699, Polls 1715.



H. Edwards embossads on R.H.S. of bowl. c. 1680-1730. Henry Edwards, Bristol, Freeman 1699, Polls 1715. (5/64" - 1)

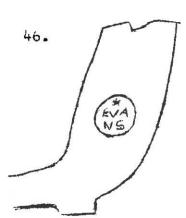


H. Edwards embossed on R.H.S. of bowl. c. 1080-1750. Henry Edwards, Bristol, Freeman 1099, Polls 1715.

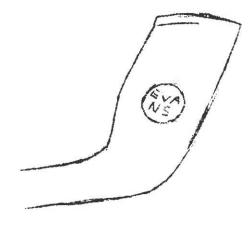


47.

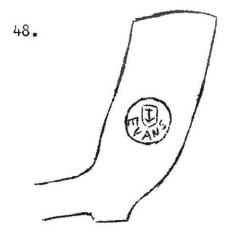
H. Edwards embossed on R.H.S. of bowl. c. 1680-1730. Henry Edwards, Bristol, Freeman 1699, Polls 1715. (? - 1)



Evans embossed on R.H.S. of bowl. c. 1680-1730. Issue Evans, Bristol, Freeman 1699. (5/64" 2 and 3/32" - 2)



Evans embossed on R.H.S. of bowl. c. 1080-1750. Issac Evans, Bristol, Freeman 1699. (5/c4" - 2 and 3/32" - 3)

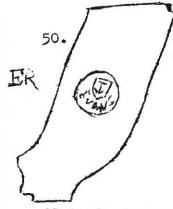


Evens embossed on R.H.S. of bowl. c. 1080-1710. Issac Evens, Bristol, Freeman 1699 (1/10" - 5 and 5/64" - 3)

49.

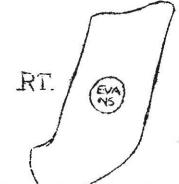


Evens embessed on R.H.S. of bowl. c. 1670-1730. Issac Evans, Bristol, Freeman 1699. (5/64" - 1)



ER incised on center of bowl. Evens embossed on R.H.S. of bowl. c. 1690-1740. Issac Evens, Bristol, Freeman 1699; in partnership with either one of two Edward Randalls of Bristol, Freeman in 1661 and 1699; or Edward Reed, Bristol, Freeman 1706. (5/64" - 1)

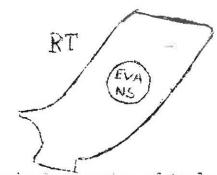
51.



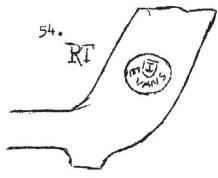
Evans omboused on R.H.S. of bowl.
RT inicsed on center of bowl. c.
1686-1780. Issue Evans, Bristol,
Freeman 1699; in partnership with
tRobert Tippett III, Bristol, Freeman
1713. (5/64" - 1)



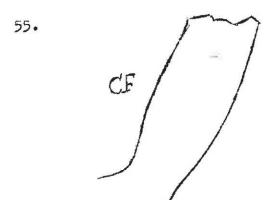
RT incised on center of bowl. Evans embossed on R.H.S. of bowl. c. 1000-1740. Issac Evans, Bristol, Freeman 1699; in partnership with Robert Tippett III, Bristol, Freeman 1715. (? - 1) 53.



RT incised on center of bowl. Evans emporsed R.H.S. of bowl. c. 1090-1720. Same as number #52. (?-1)



RT incises on center of bowl. Evans embossed on R.H.S. of bowl. c. 1700-40. Same as number #52. (5/64" - 1)



CF incised on center of bowl. c. 1700-30. Several different possible makers. (7/64" - 1)

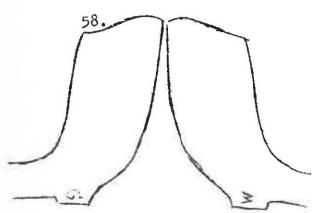


WF incised on center of bowl. c. 1080-1750. Probably William Foord, Bristol, Freeman 1755. (5/64" - 1)

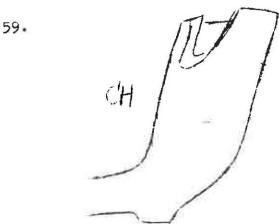


Mark embessee on herl.

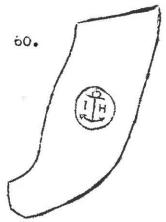
c. 1000-90. Maker net known.
(1/8" - 1)



WG embosseá on R & L side of heel. c. 1660-1700. Many different possible makers. (3/52" - 1)

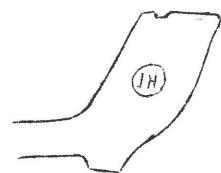


CH incised on center of bowl. c. 1690-1740. Christian Hunt, Bristol, Freeman 1689. (3/32" - 1)

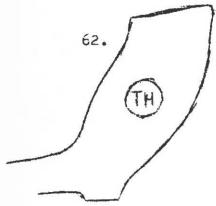


IH embossed on R.H.S. of bowl. c. loy0-1740. Many different gos isle makers. (5/64" - 2)



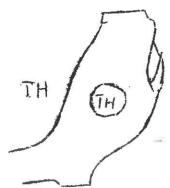


IH embossec on R.H.S. of bov1.
c. 1710-50. Many different possible makers. (3/32" - 1)



TH embossed on R.H.S. of bowl. c. 1700-1740. Several different possible Bristol makers. (5/64" - 1)

63.



TH incised on center of bowl.

TH embossed on R.H.S. of bowl.

c. 1700-30. Thomas Hill, Bristel,

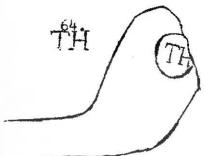
Freeman 1676; or Thomas Harvey,

Bristol, Freeman 1700, Polls 1722.

Also possible that both were in

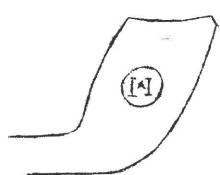
partnership together.

(5/04" - 1)



TH incised on center of towl.
TH empossed on R.H.S. of
bowl. c. 1700-40. Possibly
Thomas Hill, Bristol, Freenan
1676; in partnership with Thomas
Harvey, Bristol, Freenan 1700,
Polls 1722. (5/64" - 1)

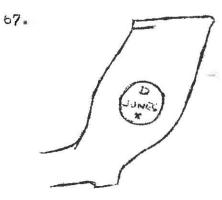
65.



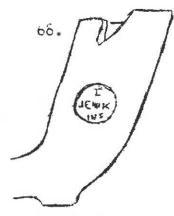
I.I. embossed on R.H.S. of bowl c. 1700-40. English pipe, but maker unknown. (5/64" - 1)



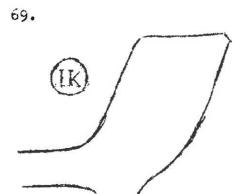
WI empossed on R.H.S. of box1. c. 1710-1760. William James, Bristol, Freeman 1756. (5/64" - 6)



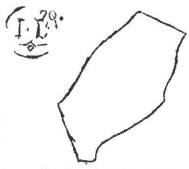
D. Jones emposed on R.H.S. of bowl. c. 1660-1760. Deveroux Jones I, Bristol, Freezen, 1691.



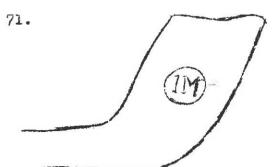
I. Jerkins embassed on R.H.S. of bowl. c. 1680-1740. Probably James Jenkins, Bristol, Freeman 1707, Polls 1759. (5/64" - 1)



IK incised on center of beal.
c. 1000-1740. Either John King,
Bristol, Freeman 1759; or John
King, Lynn, Freeman 1695.
(5/043 - 2)

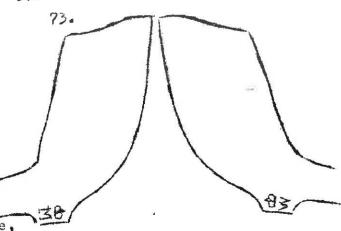


L. L. incised on center of onwl. c. 1080-1700. Perhaps John Lewis, Bristol, Freeman 1 1009. (? - 1)

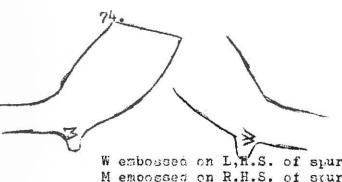


IM embossed on R.H.S. of borl. c. 1500-1750. John Mase, Bristel, Freeman 1700. (5/64" - 1)

IM embossed on R.H.S. of bowl. c. 1700-40. John Mase, Bristol, Freeman 1700. (5/64" - 1)



WM embossed on R & _ side of heel.
c. 1700-30. Probably a London maker.
(1/16" - 1)

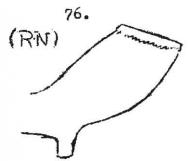


W embossed on L.H.S. of spur. M emoossed on R.H.S. of spur. c. 1600-90. Perhaps William Manbe of St. Betolrn. Aldgate, London, who was married in 1687 at the age of 48. (5/84" - 1)

75.



RN incised on center of bowl. c. 1070-90. Richard Nunney, Bristol. Freeman 1655, Polls 1699. (? - 1)

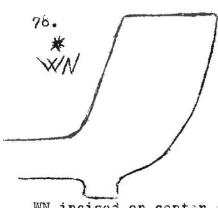


RN incised on center of bowl. c. 1c60-80. Richard Nunney, Bristol, Freenan 1655, Polls 1699. (? - 1)

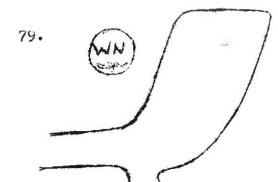
77.

No senter of a

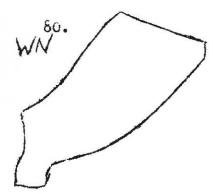
WN incised on center of bowl.
c. 1740-86. Possibly William Nicheles,
Bristol, Fraeman 1750, Polls 1770.
(1/16" - 1)



WN incised on center of bowl. c. 1740-80. William Nicheles, Bristol, Freeman 1730, Polls 1770. (5/64" - 1)

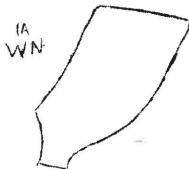


WN incised onscenter of be 1. c. 1700-40. Either William Nicholas, Bristel, Freeman 1730, Polls 1770; or William Naylor, Bristol, Frances 1722. (5/64" - 1)

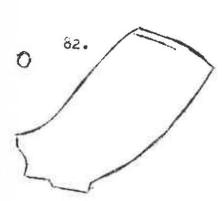


Wn incised on center of bowl. c. 1690-1710. Maker unknown.
(? - 1)

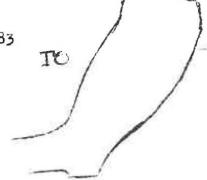
ol.



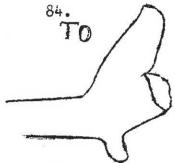
Marks on capter of powl. c. 1720-50. Partnership between two Bristol makers, one of which w s probably William Nichol s. Bristol, Freezen 1750, Polls 1770.



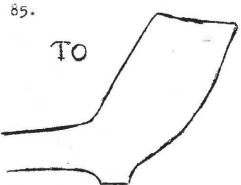
O incised on center of bowl. c. 1690-1700. Many different possible makers. (5/04" - 1) 83



TO incised on center of bowl. c. 1700-40. Several different possible Bristol and Chestor adkers. (5/64" - 1, 5/32" - 3 and 7/64" - 1)



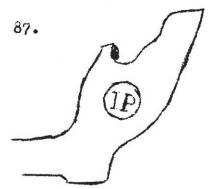
TO incised on center of bowl. c. 1680-1710. Pessibly Thomas Owen, Bristel, Freedom 1698. (3/32" - 1)



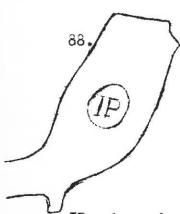
TO incised on center of bowl. c. 1700-40. Several different possible Bristol and Chester makers. (3/52" - 1)



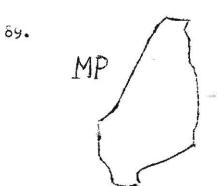
GP embossed on R.H.S. of bowl c. 1680-1730. George Pritchard, Bristol, Fraeman 1696. (5/64" - 6)



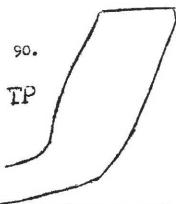
IP empossed on R.H.S. of bowl. c. 1700-40. Many rossible Bristel makers. (5/64" - 1)



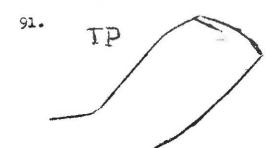
IP embossed on R.H.S. of bowl. c. 1090-1720. Several possible Bristol makers. (5/64" - 1)



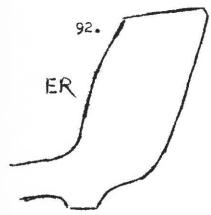
MP incised on center of bowl. c. 1600-1750 ? Morris Phillips, Bristol, Fracman 1721. (? - 1)



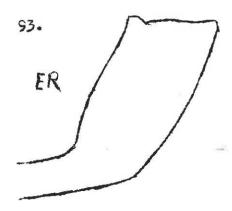
TP incised on center of bowl.
c. 1680-1750. A Bristol type.
Thomas Poick, Poyce, or Foyte,
Bristol, Freeman 1656 seems
the only possibility.
(7/64"-1)



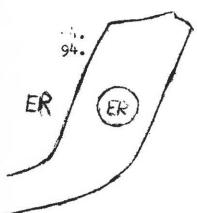
TP incised on center of bo.1. c. 1080-1700. A Bristel type. Thomas Poick, Poyce or Poyte, Bristol, Freezan 1656 seem the only ressibility. (7/64" - 1)



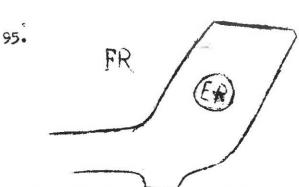
ER incised on center of bowl.
c. 1700-40. Either Edward
Randall II, Bristol, Fraeman
1699; or the same of London,
Freeman 1719; or Edward Reed,
Bristol, Freeman 1700, Polls
1722. (5/64" - 2)



ER incised on center of bowl. c. 1700-50. Edward Rengall II, Bristol, Fraeman 1099. (5/64" - 1)



ER incised on conter of bowl. Er embessed on R.H.S. of bowl c. 1700-30. Edward Randvill II. Bristol, Freeman 1699.



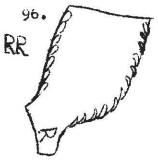
FR incised on center of bowl.

ER embossed on R.H.S. of bowl.

c. 1700-40. Partnership between

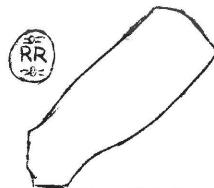
Francis Russell II, Bristol, Freedom
1698 and Edward Randall II, Bristol,

Freeman 1699. (5/64" - 1)

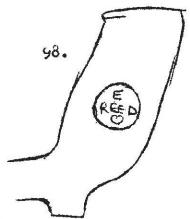


R embossed on L.H.S. of spur.
R. embossed on R.H.S. of spur.
c. 19th century. Perhaps Ring and Company of Bristol
working 1868, or Richard Ring
Bristol, working in 1022.
(?-1)

97.



RR embossed on center of bowl.
c. 1000-1720. Possibly Richard
Richards, Bristol, Freeman 1713,
(5/64" - 1)

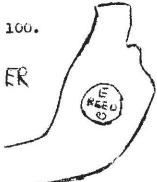


E. Reed embossed on R.H.S. of bowl. c. 1680-1730. Edward Reed, Bristol, Freedom 1706, Polls 1722. (5/64" - 1)

99.



E. Read embossed on R.H.S. of bowl, c. 1680-1730. The same maker as no. 98. (5/64" - 1)



ER incised on center of bowl.

E. Reed embossed on R.H.S.
of bowl. c. 1680-1730. Same
maker as no. 98.
(5/64" - 1)

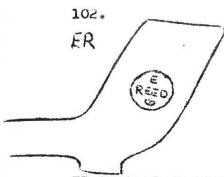
101.



ER incised on center of bowl.

E. Reed empossed on R.H.S. of bowl.

c. 1680-1730. Edward Reed, Bristol,
Freedom 1706, Polls 1722. (? - 1)



ER incised on center of bowl.

E. Reed embossed on R.H.S.

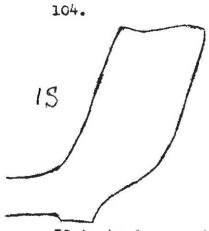
of bowl. c. 1680-1730. Same

as number # 101. (5/64" - 1)

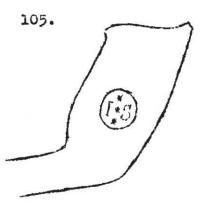


S incised on center of bowl.

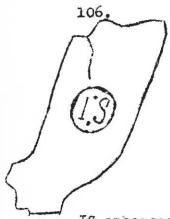
c. 1070-1760. Probably a Bristol
maker. (3/32" - 1)



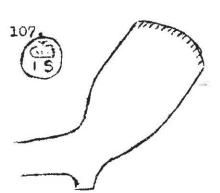
IS incised on center of bowl. c. 1700-40. Many possible Bristol makers. $(2/2^n - 1)$



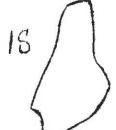
IS embossed on R.H.S. of bord.
c. 1700-40. Many possible Bristol
makers. (5/52" - 1)



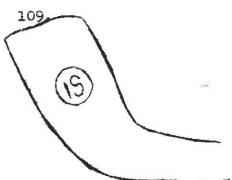
IS embossed on R.H.S. of bowl c. 1700-30. Several possible Bristol makers. (5/64" - 6 and 5/32" - 4)



IS embossed on base of heel. c. 1690-1720. A Dutch pipe. (5/64" - 2) 108.



IS incised on center of bowl c.? Many possible makers. (?-1)



IS embossed on L.H.S. of bowl. c. 1690-1750. Many different possible, Bristol makers.

(5/64" - 1)

110.



c. 1700-40. Many resible Bristol makers. (5/64" - 1)

111.

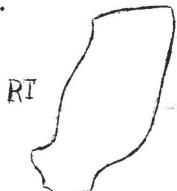


MS incised on center of bowl. c. 1690-1720. Possibly Michael Simpson, London, Freeman 1694. (5/64" - 1)

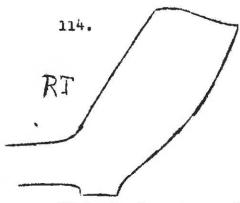
112.



RT embossed on bottom of heel. c. 1740. Robert Tirrett III. Bristol, Freedom 1713. (? - 1) 113.

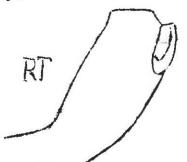


RT incised on center of bowl.
c. 1040-ôu. Rebort Tippett II,
Bristol, Freedom 1076. (5/32" - 1)

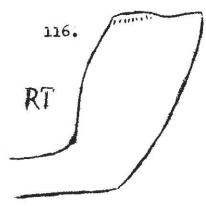


RT incised on brue of heel.
c. 1090-1740. Either Robert
Tippett II, Bristol, Freedom
1678; or Robert Tippett III,
Bristol, Freedom 1713.
(3/32" - 3 and 7/64" - 2)

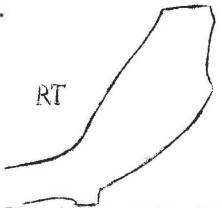
115.



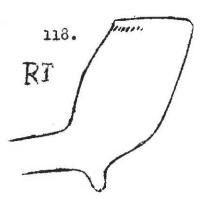
RT incised on center of bowl.
c. 1000-1740. Either Rebert Tippett
II, or III. (5/32" - 1)



RT incised on center of bowl. c. 1660-1750. Robert Tippett II, Bristol, Freeman 1678. (5/64" - 2 and 5/32" 1) 117.

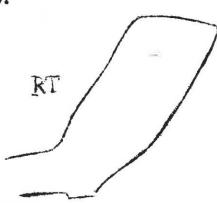


RT incised on center of cowl. c. 1080-1720. Same maker as no 116. (3/32" - 4)

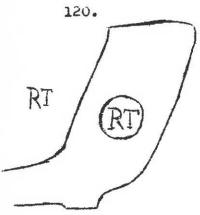


RT incised on center of bowl.
c. 1650-80. Robert Tippett I,
Bristol, Freeman 1660.
(5/64" - 1)

119.



RT incised on center of box1. c. 1700-40. Robert Tippett II, or III. (5/04" - 5. 3/52" - 2 and 7/04" - 4)

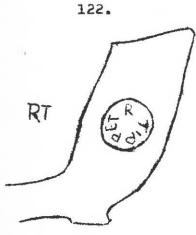


RT incised on center of bowl c. 1700-40. Either Robert Tiprett II or III. (5/64" - 1)

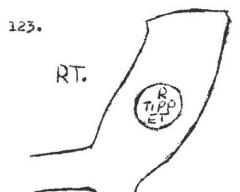




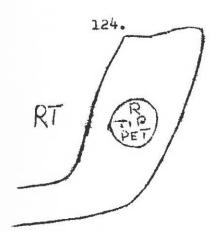
HH incised on center of bowl. R. Tippet on R.H.S. of bowl c. 1000-1710. Fartnership between Henry Hoare or Hare, Bristol, Freedom 1699, Polls 1722; and Robert Tippett II, Bristol, Freedom 1678. (5/04" - 1)



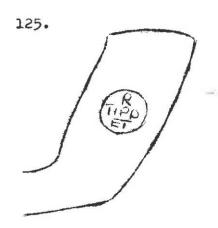
RT incised on center of bowl. R. Teppet embossed on R.H.S. of bowl. c. 1760-40. Robert Tippett II. (5/04" - 2)



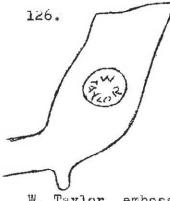
RT incised on center of bowl. R. Tippet embossed on R.H.S. of bool. c. 1700-40. Either Robert Tirrett II or III. (5/64" - 1)



RT incised on center of bowl. R. Tippet empossed on R.H.S. of bowl. c. 1080-1730. Robert Tiprett II. (5/64" - 4 and 3/32" - 2)

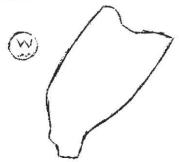


R. Tippet embosses on R.H.S. of bowl. c. 1680-1730. Robert Tippett II. (5/64" - 3)

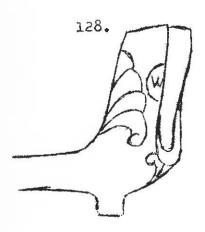


W. Taylor embossed on R.H.S. of bowl. c. 1680-1730.
William Taylor, Bristol,
Freeman 1086. (5/64" - 1)

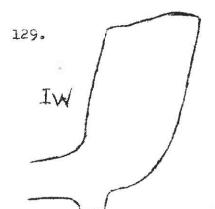




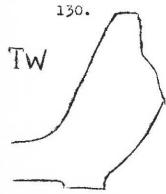
W embossed on bottom of heel. c.?. Uncertain. (?-1)



Marks embossed around complete bowl with W on R.H.S. of bowl. c. 1850. Maker unknown. (1/16" - 1)

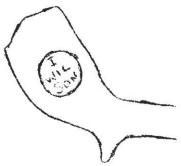


IW incised on center of bowl.
c. 1720-70. Many different possible
English makers. (5/64" - 1)

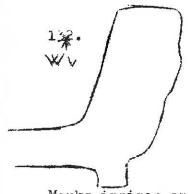


TW incises on coster of bowl.
c. 1050-1750. Precisely Themas
Watts, Bristel, Freeman 1075,
Polis 1715. (3/52" - 1)

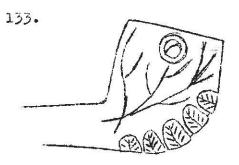




I. Wilson empossed on L.H.S. of bowl.c. 1670-1720. John Wilson, Bristol, Freeman 1707.
(3/32" - 1)



Marks incises on center of bowl.
c. 1090-1730. Maker unknown.
(1/10"-1)



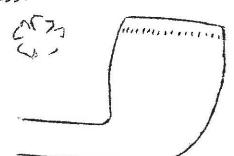
Marks empossed on both sizes. of both. c. 1850. Maker unknown. (3/52"-1)

154.



Markings embossed on both sides of bowl. c. post 1850. Maker unknown. (5/64" - 2)

135.



Mark incised on center of bowl.
c. post 1050. Shamrock indicates an Irish made ripe, but similar ones were also made in England.
(1/16"-1)

136.

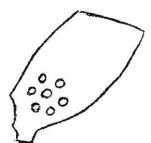
Mark embassed on base of spur. c. ? Perhaps a Dutch ripe. (? - 1)

137.



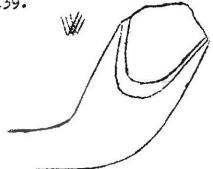
Mork incises on center of bowl. c. 1670-1720. Bristol ripe, but maker unknown. (? - 1)





Marks embassed on ooth sides of bowl. c. 1070-1766. A Dutch ripe. (?-1)





Mork incised on center of bool.
c. 18th century. Several different possible Bristol makers.
(5/64" - 1)

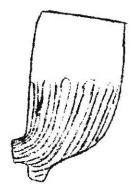
140.



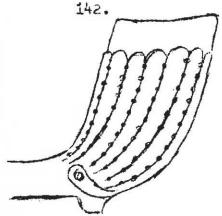


Mark embossed on base of heel. c. 1690-1710. English pipe. (? - 1)

141.

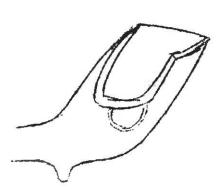


Markings empossed on both sides of bowl. c. post 1850. English pipe. (5/64" - 1)

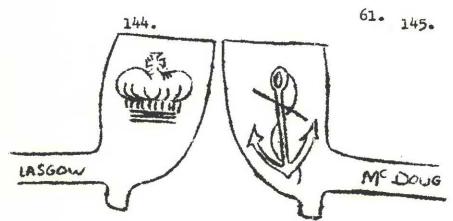


Markings embossed on both sices of the cowl. c. post 1850. English pire. (5/64" - 1)

143.



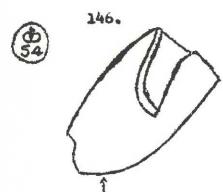
Plain circle encossed on R.H.S. of bowl. c. 1090-1720. English gire. (5/64" - 1)



Markings embossed on both sides of bowl. c. post 1850. See number #16. (5/64" - 1)

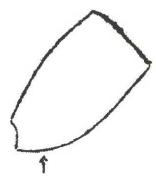


Mark embossed on base of heel.c. 1700. Probably a Dutch pipe. (5/64" - 1)



Mark embossed on bottom of bowl. c. 1080-1710. Unknown London maker. (? - 1)



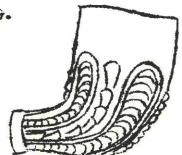


Mark embossed at bottom of bowl. c. 1700. Probably a Dutch pipe. (? - 1)

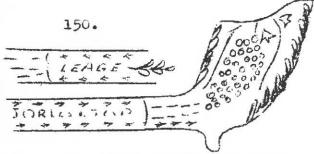


Markings embossed around complete bowl. c. post 1650. (?-1)



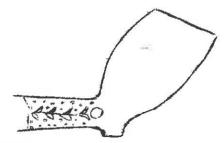


Embossed around complete bowl. A reed pipe. c. post 1850. One example found.

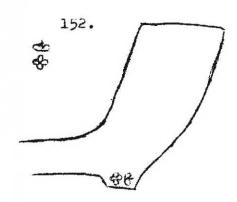


Identical markings on both sides of bowl. Markings not clear on stom, but it should probably read LEACH on L.H.S. of stem and SHOREDITCH on R.H.S. of stem James Leach of Shoreditch, London working in 1852.



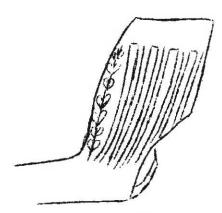


Markings emcossed on both sides of stem. c. 1070-90. Probably of Dutch pipe. (5/64" - 1)



Identical mark on both sides of heel. c. 1700-30. London made pipe. (5/64" - 1)

153.



Markings embossed around the complete bowl. c. 19th century. Maker unknown. (5/64" - 1)

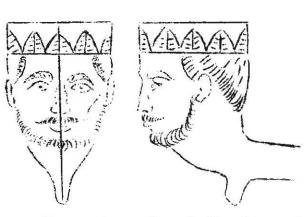
154.



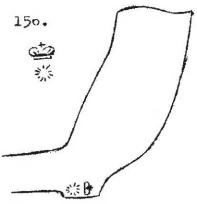


Face embcsscd ob both sides of bowl. c. 1350. Flace and name of maker unknown.
(?-1)

156.



Face embossed on both sides of bowl. McDOUGAL incised on L.H.S. of stem and GLASGOW incised on R.H.S. of stem. c. 1650.

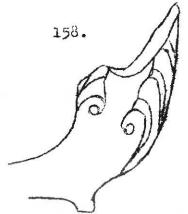


Embossed on L. & R.H.S. of heel. c. 1700-40. An English riro. (5/64" - 2)



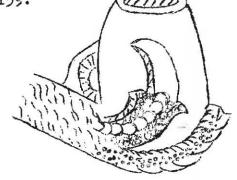


Embossed on heel. c. ? Probably a Duter pixe. (7/64" - 1)



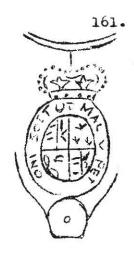
Embossed on R. & L.H.S. of bowl. c. ? An English pipe. (1/16" - 1)

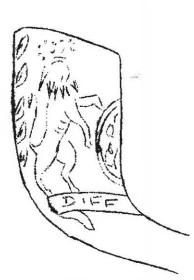




Embossed on R. & L.H.S. of bowl. c. post 1840. A English ripe. (1/16" - 1)







Embossed on R.H.S. of bowl. Embossed

Embossed on L.H.S. of bowl.

c. 18th century. One of the London armorial ripes. These were made by various makers and bear the Royal Arms from William III, onwards. These are the Hanoverian Arms from 1714-1801. (1/16" - 2)

STEPS OF WHITE CLAY PIPES APPENDIX B 67. 1 .. RHS LHS MC DOUGALL GLASGOW. Incised on R. & L.H.S. of stem. c. post 1850. (1/16"-1)2. -Incised on both sides Incised on both sides of stem. c. ? $(3/32^n - 2)$ of stem. c. ?. (7/644 - 2) 5. sides of Incised on both sides of stem. c.?. (5/64stem. c. ?. $(1/8^n - 1)$ 2HS LHS. 6. GLASGOW. WHITE Incised on L. & R.H.S. of stem. c. post 1850. $(5/64^{\circ} - 8)$ Incised on R.H.S. of stem. Incised on both sides of stem. c. ?. $(1/8^{n} - 1)$ c. 1680-1707 Either Walter Evens, Bristol, apprenticed 1660. or Wm. Evans, Bristol, Freeman 1660. 10.

Incised on R.H.S. of stem. c. 1660-1700. Probably Lluellin Evans, Bristol, Freeman 1661. (7/64" - 3)

Incised on R.H.S. of stem. Probably same as number #7. $(1/8^n - 2)$

11.

Incised on both sides of stem. c. ?. $(1/8^{n} - 4)$

Incised on both sides of stem. Probably same as number #9. (7/64" - 2)

12.

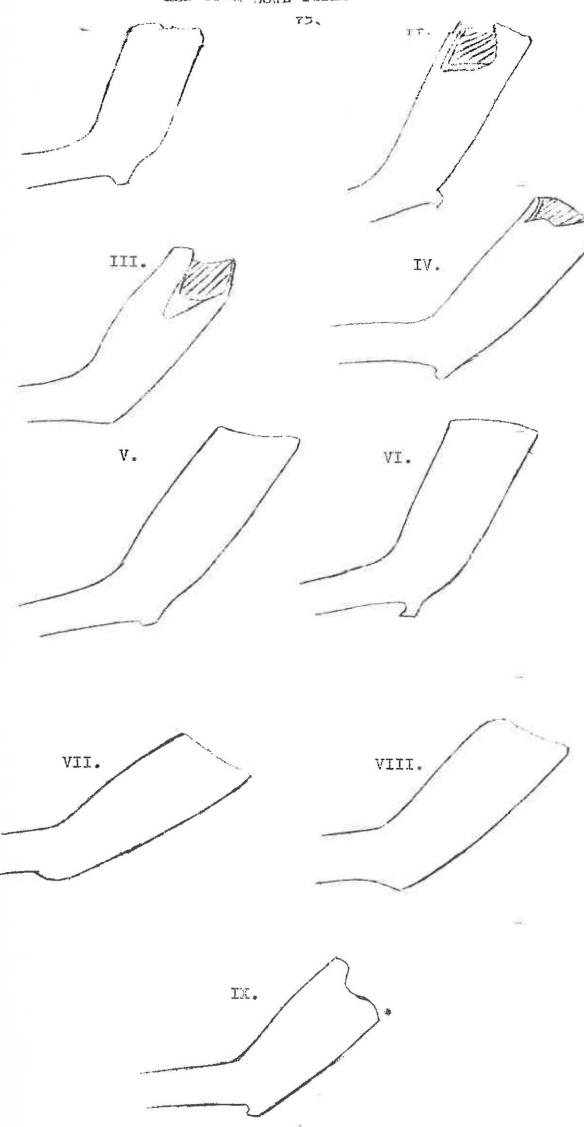
14. 13. WE WE and other markings incised Embossed around stem. c. ? around stem. c. 1680-1700. (3/32" - 1)Probably same as number #7. $(1/8^{\circ} - 2)$ 15. 16. Incised around stem. Incised around stem. c.? (1/8"-1)c. ? $(5/64^{\circ} - 1)$ 17. LHS. RHS. 73 AA WHITE ASGOW Incised on L. & R.H.S. of stem. c. post 1850 (5/64" - 1) LHS RHS. 18. 114 LIVERPOOL IL.H Incised on L. & R.H.S. of stem. c. post 1800. $(7/64^{11}-1)$ 19. LHS RHS 丁 70 W.WH COTLAND Incised on L. & R.H.S. of stem. c. post 1800 (5/64" - 1) 20. 21. Incised & embossed around stem. c. ? ($3/32^n - 1$) Incised on 22. stem. c. 1680-1710. (5/64"-1) Incised on stem. Wark incised on base of beel c. 1680-1720 (5/64"-1) 24. 23. Incised on stem. c. 1680-1730. (5/64" - 4) Incised on stem. c. 1650-1700 (5/64" - 1)

APPENDIX C RED CLAY PIPES

45. > > >

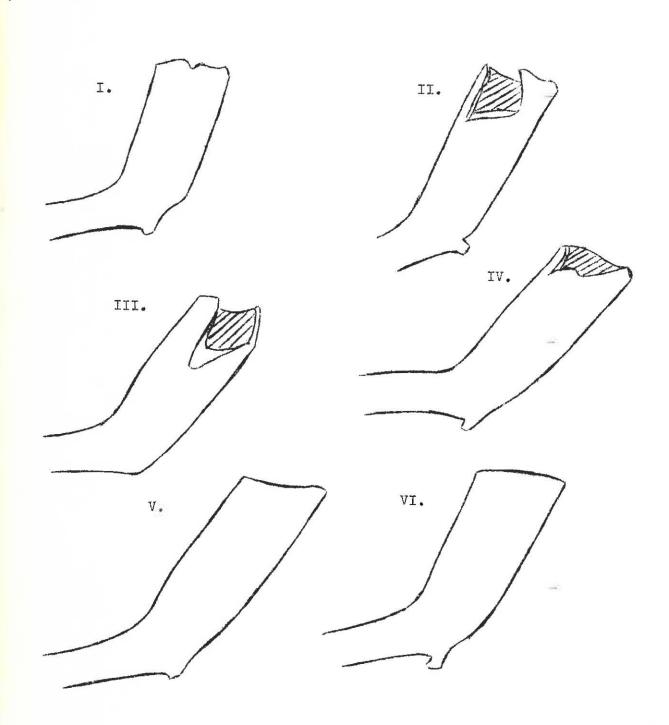
(7/64" - VI - 1)

(1/0" - III - 7)

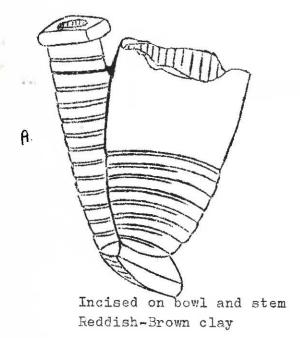


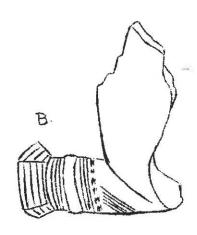
39.

3 marks incised on stem
(7/64" - ? - 1)

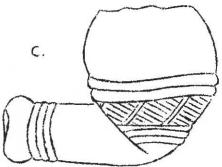


ORNAMENTAL REED PIPES





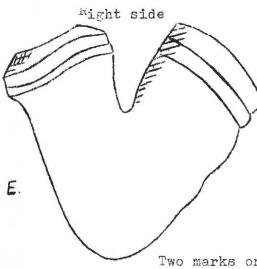
Red clay Incised on stem

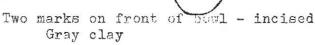


Incised on bowl and stem Beige clay pipe

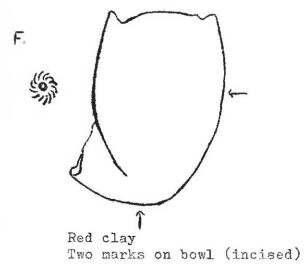


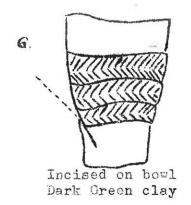
Red clay Incised on bowl and stem

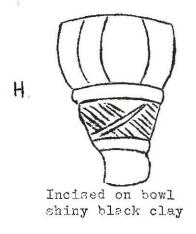


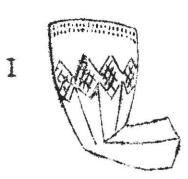


Front









Incised on N. & L.H.S. of bowl.