

1971

The Manufacture of Dutch Clay Tobacco-Pipes

Iain C. Walker

Follow this and additional works at: <http://orb.binghamton.edu/neha>



Part of the [Archaeological Anthropology Commons](#)

Recommended Citation

Walker, Iain C. (1971) "The Manufacture of Dutch Clay Tobacco-Pipes," *Northeast Historical Archaeology*: Vol. 1 1, Article 2.
<https://doi.org/10.22191/neha/vol1/iss1/2> Available at: <http://orb.binghamton.edu/neha/vol1/iss1/2>

This Article is brought to you for free and open access by The Open Repository @ Binghamton (The ORB). It has been accepted for inclusion in Northeast Historical Archaeology by an authorized editor of The Open Repository @ Binghamton (The ORB). For more information, please contact ORB@binghamton.edu.

This paper describes for the first time in English the methods used to produce clay pipes at Gouda in The Netherlands. Comparisons are made with an account of Gouda pipemaking published in 1771 and with the English pipemaking industry, from which the Gouda industry derived at the beginning of the 17th century. Though only two Dutch pipemaking factories, both in Gouda, are left they still produce the superior products for which they were famous 300 years ago.

Iain C. Walker was educated at Daniel Stewart's College, Edinburgh, and the Universities of Edinburgh, where he studied European prehistory, and Bath, where he did research on clay tobacco pipes with a Canada Council Fellowship and educational leave from the Canadian government. He is the author of a number of papers on clay pipes and on the theory of historical archaeology in British, Canadian, American, and African publications as well as on the prehistory of NE Scotland. In 1965 he was the Society of Antiquaries of Scotland Chalmers-Jervise prizewinner. He was Staff Archaeologist at Louisbourg from 1962 to 1966 and with the National Historic Sites Service from 1966 to 1970, when he assumed his present position as Head of Artefact Research with the Service.

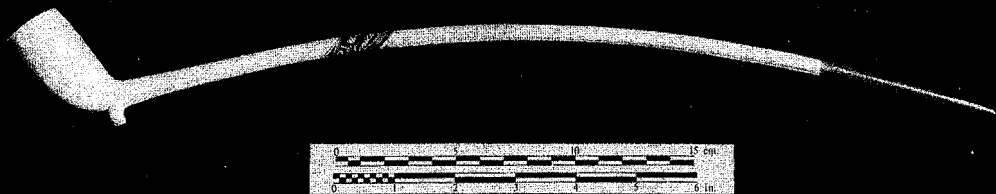


Fig. 1— Pipe produced by the Gouda firm of Van der Want. The paper band round the stem carries the maker's name and place of manufacture; it replaces the same information formerly impressed on the stem with a small, flat metal plate.

THE MANUFACTURE OF DUTCH CLAY TOBACCO-PIPES¹

by

Iain C. Walker

Pipe-making was brought to The Netherlands from England at the beginning of the 17th century by religious refugees and soldiers-of-fortune. The earliest known reference to a pipemaker in The Netherlands is in 1611 when an English pipemaker in Amsterdam took legal action against another pipemaker. The first well-known Gouda pipemaker, and the generally accepted father of the Gouda industry, was another Englishman who commenced business in 1617. Gouda quickly became the centre of the Dutch pipemaking industry, and English pipe-makers remained predominant there until 1637.²

Before the end of the 17th century Gouda pipes had achieved a reputation for superiority they have maintained ever since. An English observer writing in 1696 and commenting on a small number of imported Dutch pipes said, "truly [they] are very fine. If there comes no more they'll do us no great hurt," and went on to urge they be used as an example to English makers.³

Clay pipes are still manufactured by two Gouda firms.⁴ In April 1969 the writer and his wife visited one of these, the Zenith Plateelbakkerij en Pijpenfabriek (Zenith Delftware Pottery and Pipe Factory) owned by the Van der Want family which has made pipes since 1749,⁵ and were able to record the manufacturing process used there and to compare it with a description published in 1771.⁶ The present two workers—twins, then 18 years old—had been taught by their grandfather who was 91 in 1968 and had made pipes for the firm for 60 years, and another former employee who had made pipes for 40 years. The present method is thus the better part of a century old at least.

Nowadays the elaborate horse-driven mill used to mix the clay has been replaced by a mechanical pug-mill, but clay still comes from the Liege area of eastern Belgium as it did 200 years ago.⁷ Alternate layers of *scrables* or *schrobblen* ("spew" in the English pipemaking industry—scraps of broken unfired pipes and pipe-trimmings) and freshly soaked clay are laid down to form the *soken* ("pill" in the English industry) which is then mixed by the pug-mill. This clay is delivered to the pipemaker in blocks, and from it a lump called a *muis* (mouse, also heel of the hand; "nip" in English) is taken from which the pipe will be formed. Its size depends on that of the pipe to be made, and like many other features of the trade comes from experience; from it the *rolle* (roll), the blank from which the pipe will be made, is formed. In the present-day attenuated version of the industry all the phases of work needed to produce the pipe as far as its finished but unfired state are done by one person; formerly the person specializing in making the rolls was

called a *rollder* (the equivalent English term would be "roller", but this term has probably been lost in the decline of the British industry, for it does not appear to be known).

The roll is started with one hand rolling the *mujs* to and fro on a *rollenbank* (roll-bench; the terms shanking or smoothing board were known in 17th century England) to elongate it, and as the roll lengthens both hands are used (Fig. 2). This differs from the present British method where each hand makes a roll simultaneously, but it was certainly being used in The Netherlands over 200 years ago, as shown by an engraving of 1735.⁸ The rolls are placed three deep, 18 together, in a *bosje rollen* (literally, roll-bunch) on a paddle-shaped *rollenplank* (Fig. 2) (called variously a "bench", a "dozening board", or a "bunch board" in English, though these are simple rectangular boards and not paddle-shaped). The three rows of rolls comprise seven, six, and five rolls respectively (Fig. 3). The paddle end of the board is to hold the heads of the rolls, which take up more room than do the narrow stems. The stem ends are cut off with a *mesje* (literally, little knife or blade) or nipped off with the fingers, and the stems set aside to dry (Fig. 3) to the right consistency, which is judged by experience, for the next stage.

The next stage is the wiring, which makes the bore through the stem, and the moulding, which shapes the pipe and forms the bowl. The roll is laid in a small turnable trough on a stand, called a *gootje* (Fig. 4) (literally, little gutter). This is apparently a peculiarly Dutch invention, for it is unknown in England or indeed elsewhere. It too was in use by 1735.⁹ The end of the *weijer* (wire in English; the term is a phoneticized loan-word—the terms shanking or moulding wire were known in 17th century England), a long piece of wire with a wooden handle (Fig. 5) and a blunted and slightly widened tip which makes it easier to insert into and withdraw from the clay and also makes for a cleaner hole into the bowl. The end is dipped in a dish of oil and the roll pulled over it to a point just short of the head of the roll (Fig. 4). The wire is never pushed into the roll as it would tend to break through the side of the stem. The bronze bipartite *vorm* (Figs. 5 and 6) (mould) is then cleaned of pieces of clay left from the previous moulding and oiled with the fingers from an oily rag, not from the dish of oil, which is used only for tools. The wired roll is placed in the mould (Fig. 7), which is closed and placed in the *schroef* ("chest" in English—literally, screw, for the use of which term in English there is evidence in the 17th century). A wad of paper cushions the mould in the chest—the wad is called a "slot" in English, though no special Dutch term is known for it. The chest is closed by a handle, which is held tight with the knee. Simultaneously, the thumb is pressed into the mouth of the mould (Fig. 8). The *stopper* (same word in English), a symmetrical, acorn-shaped, steel finger with a flange mounted in a wooden T-handle (Fig. 5), is then dipped in the dish of oil and rammed into the mould mouth by hand with a twisting motion, several times, the excess clay being

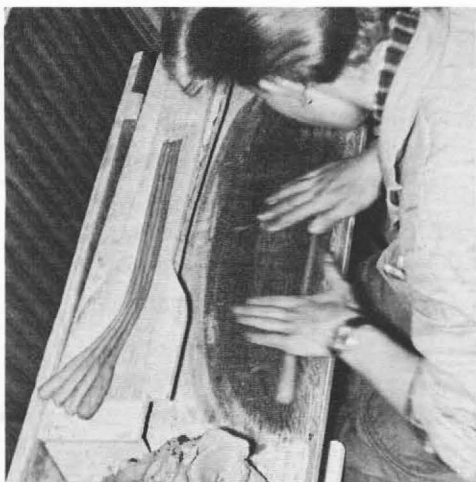


Fig. 2— Rolls being made: the *muis* is taken from the prepared clay at the bottom of the picture, rolled on the *rollenbank* first with one, then with two hands, and the finished *rolle* stacked on the paddle-shaped *rollenplanke*, left.

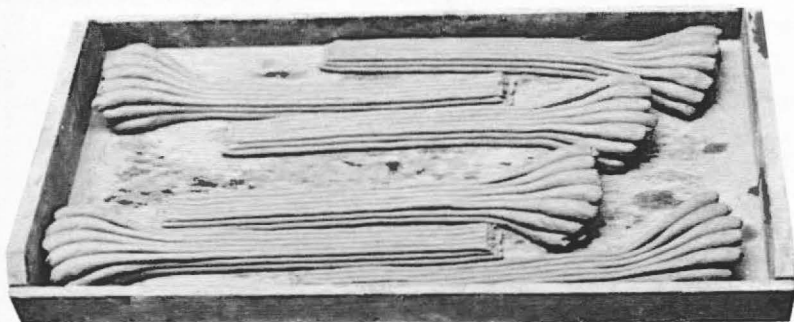
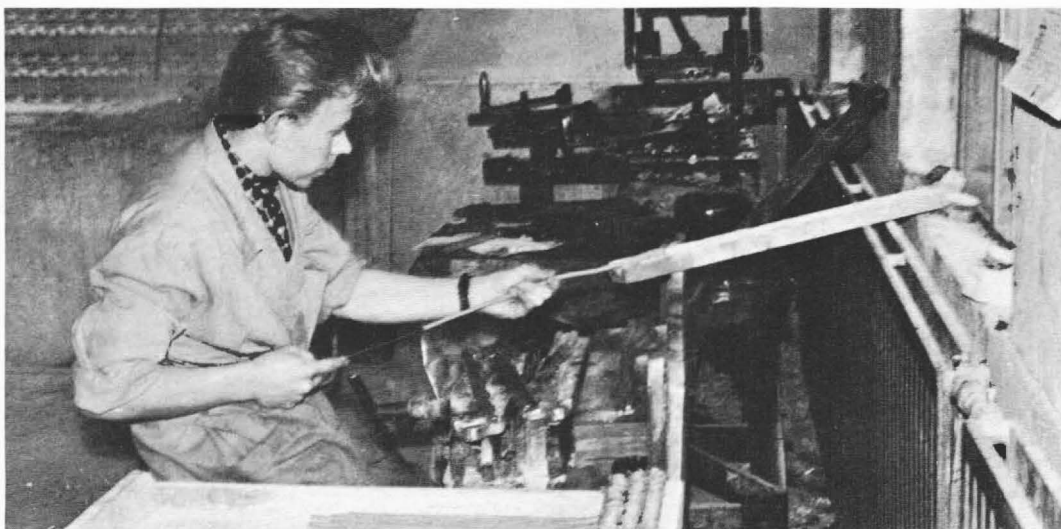


Fig. 3— *Bosjes rollen* of 18 rolls laid out to dry.

Fig. 4— Wiring the roll, the head of which is lying in the *gootje*.



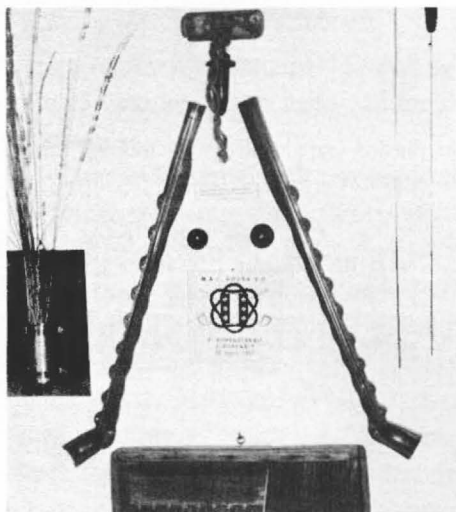


Fig. 5— A display of pipemaking equipment: at top, with piece of rope attached, a *stopper*; centre, two halves of a bronze *vorm* with two *botters* lying between them; below, a grooved wooden drying-tray; upper right, two *weijers*.

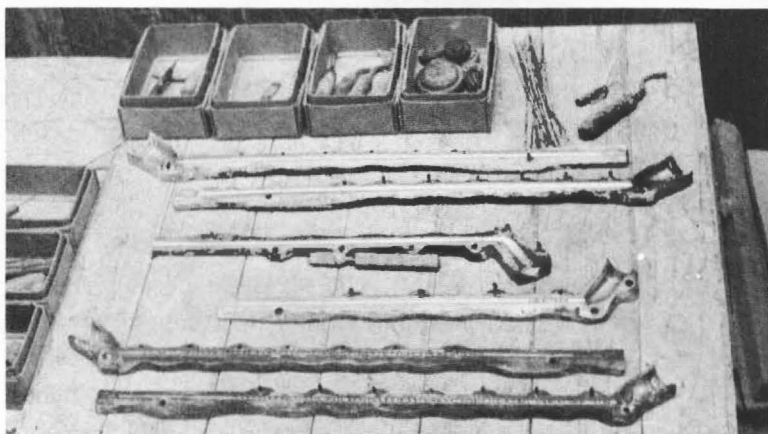


Fig. 6— Pipemaking tools: centre, three pairs of bronze *vormen*; upper right, a *schenkertje* (the smaller tool) and the sickle-bladed *smoier*; in the right-hand box at top, a selection of *botters*.



Fig. 7— Placing the wired roll in the *vorm*.

forced out the mouth (Fig. 9).

This part of the process is simpler than that described in 1771, where an index-finger was inserted into the mould mouth and clay from the bottom smeared round the mould wall before the stopper was used; in all probability this change was to effect higher output and is a concession to mass production. The process is less streamlined than that in Britain, however, where an asymmetric, finger-shaped stopper is inserted by a lever attached to a block on one side of the chest. This apparatus, called a "gin" or "head and handle", was known before 1700 in England. Latex casts of the inside of mid-18th century Dutch bowls confirm the 1771 description, the circular striations from the turning stopper being visible. Unfortunately no 17th century Dutch bowls have so far been available for study in this manner, but casts from English bowls show vertical striations and the asymmetric finger shape of English stoppers going back to the beginning of the industry, indicating English stoppers must always have been inserted by a direct thrust. This suggests the Dutch invented their own stopper, perhaps to give the thinner-walled bowls and superior quality for which their pipes were famous.

The excess clay forced out the top of the mould is called the *directie*, or *diereksie* in the local Gouda dialect (the word means board or management; the origin of its use in this context is uncertain⁹). This remains on until the final trimming process. Dutch moulds, unlike British ones, are invariably of bronze (iron moulds have been used in England since at least the early 18th century though bronze ones are noted in the late 17th century) and do not have the slot near the top of the bowl into which a knife is pushed, after the stopper has been withdrawn, to remove the excess clay and give a flat top to the bowl lip: Dutch moulds simply carry on an inch or so beyond the top of the bowl outlined in the mould. Examination of English pipes suggests trimming off the rim with a knife was not done until c. 1700— pipes after this date sometimes reveal striations across the rim caused by the knife.

Following the use of the stopper the wire is pushed home to complete the bore, this being checked by looking inside the newly formed bowl. The piece of clay pushed into the bowl by the wire and known in English as the "pep" or "dottle" is not removed, nor is any special term known for it in Dutch. (This non-removal is a departure from the 1771 description, again probably a concession to higher output.) The mould is then removed from the chest and the pipe from the mould, a finger often being put in the bowl to assist the removal (Fig. 10).

When the industry was larger and there were workers concentrating on particular parts of the manufacturing process, the person doing the moulding— the "moulder" in English— was called the *kaster*. (This term is particularly interesting, for it derives from the English "to cast", and must represent the noun "caster": this, however, is the only surviving evidence for such a term in English pipemaking,

so it must have been replaced by "moulder" at an early date.) However, as the 1771 account also indicates, the *kaster* did part of the trimming— the process of cleaning off the pipe in readiness for drying and firing— for part of this process is done immediately the pipe is taken from the mould, whereas in Britain the pipe is set aside to dry to a certain consistency before any trimming. At present the gross excess is removed by the fingers; the *schenkertje* (literally, little shanker), an implement with a blade set in the side of a wooden handle and a wire with a semi-circular bend towards its end fitted into one end of the handle (Fig. 11), is used to trim off the rest of the excess stem clay. In this particular operation (Fig. 12) only the curved wire of the *schenkertje* is used. (The *schenkertje* appears to be a Dutch invention, for it is unknown in this form in Britain; its appearance in the Westerwald pipe industry in Germany, where it is called a *Schenker*, and in the Andenne industry in eastern Belgium known to have been started by a Westerwalder in 1768, where it is called a *schinque*, is one of the pieces of evidence indicating the spread of pipemaking from The Netherlands. The term "shanker" is known in English from literary sources describing pipemaking, and the term "shank" for the stem of the pipe is still used, but the tool was apparently simply a bar with two grooves in it to smooth off the stem after trimming, a larger one for the bowl, a smaller for the stem, and was thus only another name for the "smoother".)

Following this the fingers are again used, this time to smooth the stem. (The 1771 account illustrates smoothers the same as the British ones noted above, but the text is in French, and Dutch technical terms are not given. No items such as these now appear to be known.) The blade of the *schenkertje* is then used to remove the end of the stem. All this time the wire is used to hold the pipe— the *schenkertje* blade cuts the stem round the wire. The wire is removed and the pipes stacked in trays to dry to the correct consistency for further trimming. For very long pipes a *schenker* was used to trim the stem: this differs from the *schenkertje* in being much larger and not having a blade set in the handle. Why a tool differing in these respects should have been reserved for very long pipes is unknown, and in fact it is no longer used.

When the pipes are leather-hard the *directie* is removed with an ordinary kitchen paring knife, the stem being rested on the shoulder during this process (Fig. 13). Formerly this was done by women known as *tremmers* or *tremsters* (trimmers — the Dutch terms are loan-words from English). The pipe is then held vertically by the bowl and the mould-lines on the bowl pared off with the same knife (Fig. 14). Formerly the bowl was smoothed by a *smoier* (Fig. 6) ("smoother", but not the same as the English smoother noted above), a tool similar to a *schenker* but with a sickle-shaped piece of flat-edged metal, but this is no longer used. Finally, the rim is smoothed with the *botter* (Figs. 5 and 6) (button), a wooden disk with a smaller circular projection, which is fitted into the bowl and turned (Fig. 15).

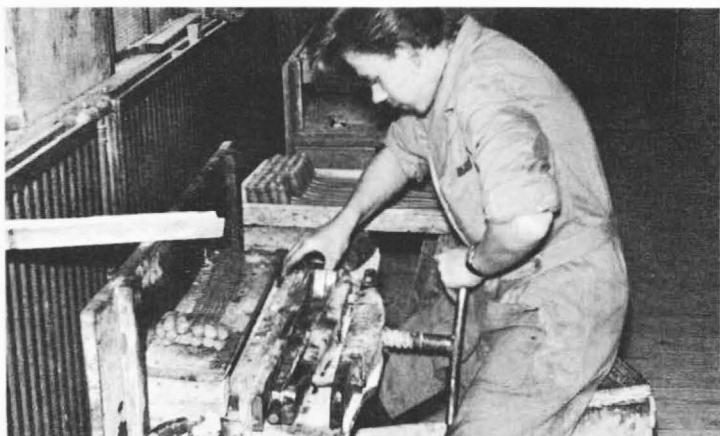


Fig. 8— Moulding the pipe by clamping the *vorm* in the *schroef* and inserting the thumb into the mould mouth.

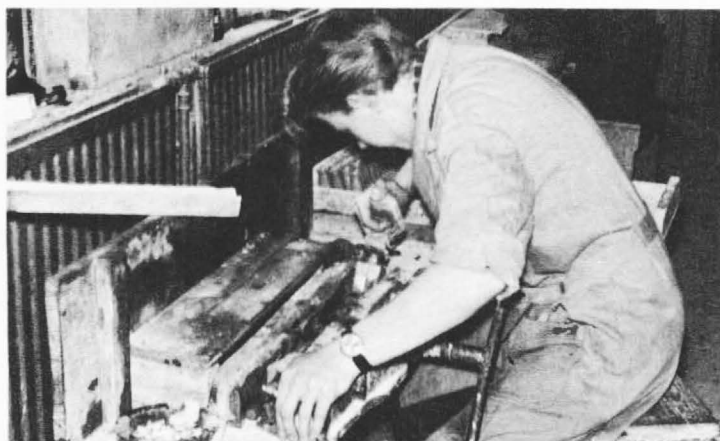


Fig. 9— Forming the bowl by ramming the *stopper* into the mould mouth.



Fig. 10— Removing the moulded pipe from the *vorm*.

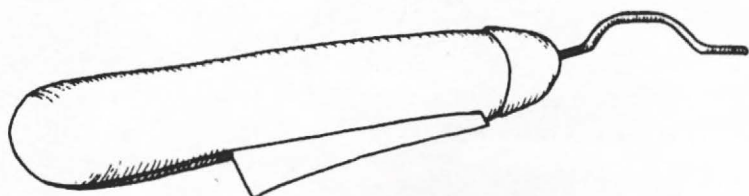


Fig. 11— The *schenkertje*.



Fig. 12— Trimming off the stem mould-lines with the *schenkertje*.



Fig. 13— Trimming off the *directie* with a paring knife, the pipe stem being held on the shoulder.

(This tool no longer survives in Britain, though it was certainly used until the end of the 17th century: presumably it disappeared when the knife-finishing to the rim noted earlier was introduced c. 1700.)

A comparison between this account and that of 1771 again shows a streamlining of the process in the interests of mass-production. The initial trimming by the *kaster* with the *schenkertje* remains unaltered, but the work of the *tremster* has been considerably curtailed. Instead of the specialized knife with the semi-circular notch on the blade to trim the stem, the denticulation on the back of the blade to mark the bowl rim, and the hook at the other end of the handle to remove the pep, a simple knife is used. The pep, as noted earlier, is not removed, and the denticulation no longer applied. The trimming and smoothing formerly effected to the stem by the notched blade of the knife and the curved *smoier* have likewise been dropped.

The pipes are then further dried before firing. This process, "stoving" in English, is called *drogen* (to dry) or *te drogen zetten* (put to dry). Pipes which are to have curved stems are placed on the grooves of a curved, corrugated zinc tray with alternate bowls hanging downwards over the sides (Fig. 16). The stem ends are put into metal loops set alternately at the end of the grooves, and three planks are laid across them to further keep them in place. Straight-stemmed pipes are dried in grooved wooden trays. In one half of the tray the bowls are at one end, in the other half at the other end, each groove being progressively angled to the previous to accommodate the bowl (Figs. 17 and 5). Pipes made of poorer clay are dried with a *naald* (wire—literally, needle) in their stem to prevent warping. This again shows the Gouda preoccupation with perfecting a superior product, for English curved-stemmed pipes are put in simple trays supported only by two ridges at their extremes, with boards placed across them to reduce warping.

When pipes were burnished this was done with a *glaaspin* or *glaassteen*, a conical "pencil" of agate set in a handle; the person doing this, when it was a specialized part of the finishing, was a *glaaster*. In former times, after firing, the pipes were dipped in *zeepsop* (soap solution), a mixture of Spanish soap and white wax put in boiling water and allowed to cool for half an hour, on being removed from the kiln, and polished with a *snollap* (polishing-cloth), the process being called *snollen*. *Lap* in *snollap* is a cloth; the origin of the root *snol-* is unknown.¹⁰ In Brandenburg in the mid-18th century this word, clearly deriving from the Dutch, had had an interesting change, appearing as *Schnolle* and meaning the *zeepsop*.¹¹ The mixture is known from English literary sources though it does not appear to have been commonly used; pipes dating to the period c. 1650-1700 in England are sometimes stroke-burnished in the manner noted above, but the process appears to have been rare otherwise and the English name of the tool is unknown.

Nowadays, the Gouda pipes are laid on open fireclay tile stacks arranged as

shelves and fired in an electric kiln to a temperature of $1,000^{\circ}\text{C}$. Firing was formerly done in elaborate *pijpenpotten* (saggars—literally, pipe-pots), though the more general term for sagger, *kapsel*, is also known. These were of fireclay and basically cylindrical in shape but with the top wider than the bottom. They had conical caps and stood on small feet. In the sagger was placed a *trompette* (literally, trumpet), a hollow tube with vertical slits in the sides, an expanded foot, and grooves round the upper part in which were placed the stems of the pipes to be fired, the bowls pointing outwards at the bottom. This process, known as "potting" in the British trade, was called *het potten*. The pipes were built up to the height of the sagger lid, then ground fired pipeclay known as *gruis* (literally, grit) was poured down the *trompette*, where it ran through the vertical slits and among the pipes, thus bedding them down firmly. The caps were then fitted to the saggars with a clay strapping, or sealing, and the saggars placed in peat-fired kilns for 50 to 60 hours.

The painstaking care in bedding the pipes with the *gruis* to minimize further warping again emphasizes the Gouda concern with producing the best possible pipe. Parallels to this use of ground fired pipeclay in Britain are rare, and there is no evidence for the elaborate process using the *trompette*. British saggars varied with the firm and the size of pipe made, but none are known similar to those used at Gouda. British pipes were and are fired to temperatures of *c.* $940\text{--}975^{\circ}\text{C}$.; the higher Gouda temperature probably makes the pipes stronger though it also makes them less porous and therefore they give a hotter smoke. Nowadays at least, coal is the standard fuel used to fire British kilns; the time taken varies with conditions such as wind direction or an incompletely cleared flue, but is normally about seven hours. The unusually long time taken to fire Gouda pipes was probably connected with the use of peat, though there is evidence that Gouda pipemakers, like many craftsmen who have evolved empiric rules and traditions, had a complex and rigid "mystery" with their trade. (Peat incidentally has advantages for kiln firing: it produces an extremely long flame and at the same time has a lower firebed temperature than other fuels, thus reducing the danger of overfiring material near the fuel and giving a more even distribution of heat. Disadvantages are its calorific value, which is about half that of steam coal, and its density, also about half that of coal.)

Next time a clay pipe fragment turns up on an excavation, consider the skill and tradition which went into its manufacture. No one is a fully-qualified archaeologist until he has some knowledge of the making of the artefacts he finds.

1. As originally given, the paper covered pipemaking in Great Britain, The Netherlands, and the Westerwald in Germany. For reasons of space it is impossible to summarize the whole paper here so the section dealing with Dutch pipemaking, which has not been published before, was selected for this article. The Westerwald industry has yet to be published, but for a description of pipemaking at the now-closed Glasgow, Scotland, factory of D. McDougall and Co. see I. C. and L. de S. Walker, "McDougall's Clay Pipe Factory, Glasgow", *Industrial Archaeology*, vol. 6, no. 2 (May 1969), pp. 132-6, 139-41, 145-6.
2. G. C. Helbers and D. A. Goedewaagen, *Goudsche Pijpen*, N.V. Uitgevers-Mij Atlantic, Amsterdam, 1942, p. 1; G. A. Brongers *Nicotiana Tabacum*, Theodorus Niemeyer N.V., Groningen, 1964, pp. 31-3.
3. J. Houghton, *A Collection for Improvement of Husbandry and Trade*, vol. 8, no. 189, 13 March 1695/6, p. 1, col. 1.
4. For a note on a pipe produced by the other Gouda firm, that of Goedewaagen, bought in 1965 and bearing the same maker's mark as a Gouda pipe excavated in a 1758 context at Louisbourg, Nova Scotia, Canada, see I. C. Walker, "A Pipemaker's Mark from Gouda, The Netherlands— Then and Now", *American Antiquity*, vol. 31, no. 5, pt. 1 (July 1966), pp. 747-8.
5. H. A. J. Tempelman and L. Roest, *Zeven generaties Van der Want*, Mededelingenblad 46 Vrienden van de nederlandse ceramiek, Amsterdam, maart 1967.
6. H. -L. Duhamel du Monceau, *L'art de faire les pipes a fumer le tabac*, L. -F. Delatour, Paris, 1771, pp. 18-25, 29-33, pls. VIII-X.
7. From before 1771 the best clay came from Andenne, on the Meuse between Liege and Namur, lesser quantities coming from the Westerwald. When the writer visited Andenne in September 1969, however, the last pipemaker there said there was no longer suitable Andenne clay and that he got his from Germany, presumably the Westerwald. Unfortunately both he and Van der Want obtained their clay through middlemen and were unable to say whence exactly it came. The cliffs all along the Meuse valley from Liege to Namur are full of clay mines.
8. Helbers and Goedewaagen, *op. cit.*, plaat XV.
9. *Ibid.*
10. Two unpublished references available to the writer, one of 1734 the other of 1761, use *directie* quite clearly to mean the mark on the mould which showed the amount of excess clay to be cut off the wired roll with the *schenkertje* (see p. 8). In both references the length of the stem when measured was to be the distance between the heel— the projection below the bowl— to the *directie*. The 1734 reference also indicates an alternative term to *directie* was *knoop* (knot or button). At the pipemaking exhibition at Douwe Egberts tobacco, tea, and coffee firm in Utrecht, the excess clay at the top of the bowl is called the *huisje* (little house). Possibly the original meaning of *directie* has been transferred from the mark on the mould at which the stem end was cut off to the cut-off stem end itself, and thence to any piece of cut-off clay.
11. *Snollen* is a slang word for women of dubious repute and is also used, though rarely, to indicate endearment; it also occurs in the expression *in de snol* meaning mixed up or tangled up. In the southern Dutch-speaking area it is also a verb meaning to sniff or to snuffle.
12. P. N. Sprengel, *Handwerke und Kunste in Tabellen*, neunte Sammlung, fortgesetzt von Ol L. Hartwig; Realschulbuchhandlung, Berlin, 1772, p. 301.

ACKNOWLEDGEMENTS

All illustrations with the exception of Figs. 1 and 11 were taken by my wife Sansoucy Walker, who provided much other invaluable help during a study tour of Belgian, Dutch, German, and French museums and pipe-factories. Fig. 1 was taken by Georges Lupien of the National Historic Sites Service of Canada, who also made all the prints, and Fig. 11 was drawn by Mrs. Jane Moussette of the same Service. Miss E. A. Wylie of the Service made the experiments with latex moulds of the insides of Dutch and English bowls. Mr. P. Barkema of the Foreign Languages Division, Department of Secretary of State, was of considerable help with Dutch terminology. My wife and I would like to express our warmest thanks to Mr. and Mrs. Dirk van der Want for all their help and hospitality during our visit to Gouda. The research described here is part of my Ph.D. thesis at present in progress for the University of Bath, England.



Fig. 14— Trimming off the bowl mould lines.



Fig. 15— Smoothing off the bowl rim with the *botter*.

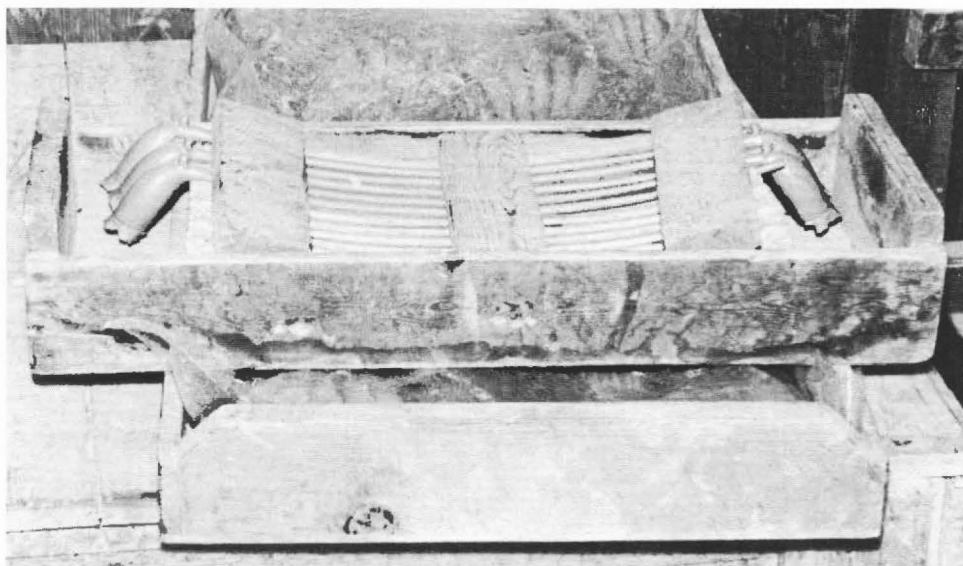


Fig. 16— Curved-stemmed pipes being stoved on a corrugated zinc tray: the pipes are laid alternately with bowls hanging over each edge and the stem ends are inserted under loops over alternate grooves. Three boards are placed over the pipes. (The pipes here still have their *directie*; this is because the pipes available to illustrate the use of the tray were in fact ones at an earlier stage in the manufacturing process, awaiting the removal of the *directie*.)

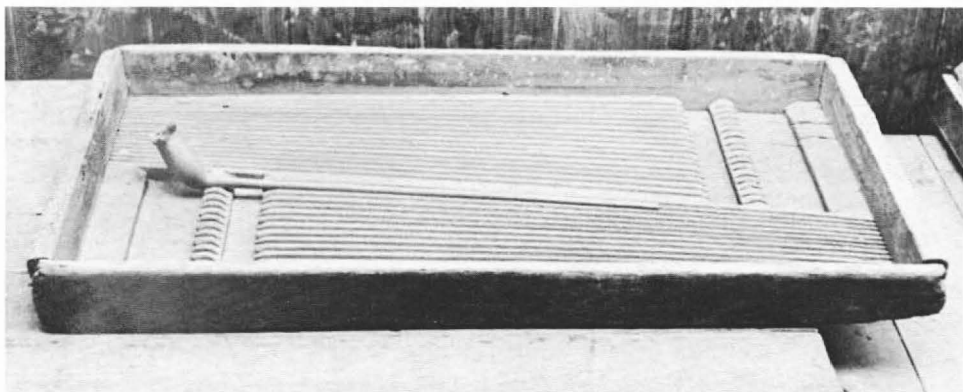


Fig. 17— Tray for stoving straight-stemmed pipes. (The pipe illustrated still has its *directie*, for the same reason as in Fig. 16, above.)