BRICK WORK

Laurie Baker

FOREWORD

The common burnt brick is one of man's great inventions. Five thousand years ago bricks were made in many different shapes and sizes but, one by one, the less satisfactory ones were discarded. Now, all over the world, with only a few exceptions, nearly all bricks are roughly the same shape and size - that is about 9 x 4.5 x 3 inches. This is neither accidental nor coincidence but the result of five thousand years of what we now call R & D - research and development.

This common brick contains just that amount of mud, which you can pick up and hold in your two hands without dropping any of it. If you pick up less mud, your brick will be too smell. A wall will be too thin and you will have to use more mortar. (Perhaps this is why the "Metric Brick" - 20 x10 x 5 cm has not been acceptable). If you make a larger brick and use more than one scoop of mud, you will have to bend down twice to pick up enough mud. When this big brick is burned it is likely to warp, bend and crack. It will be too heavy and too big to pick up with one hand. You will have to put down your tools and use both hands to manhandle the brick. But our standard brick avoids all these problems. It is just the right size to hold in the palm of one hand. It can be thrown by one man and caught in one hand by another man. You can keep your trowel in one hand while you place the brick with the other. It has been burned right through and it has not twisted or cracked with the heat.

This common burnt brick is usually pleasing to look at with warm colours ranging from cream, through orange sandy colours to brown and even blue brown. When built into a wall, pleasing and interesting simple patterns appear. Like people who all have one nose, one mouth, two ears and two eyes but no two look exactly the same, so each brick, although so simple in shape, has its own individuality. Of course, there are always some people who prefer absolute

uniformity so, at double the cost, they have invented the wire cut machine made brick so that even brick looks as dull as its neighbour (God help us if this had happened with His creations!). Fortunately most of us cannot afford these soulless wire cut bricks!

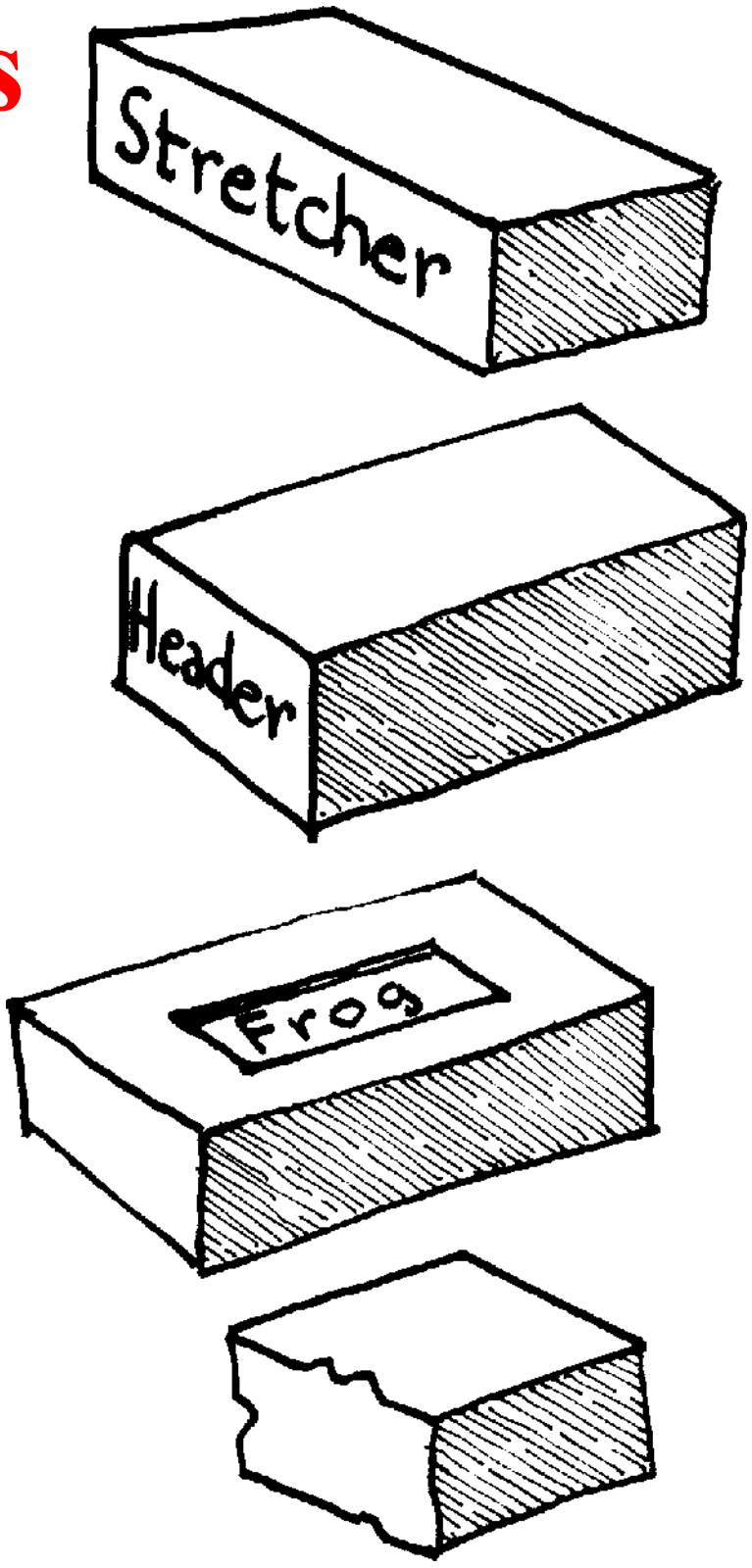
This small book is about the best ways of using this common burnt brick, the simplest and least complicated of all our inventions. We are at liberty to use materials in whatever way we wish, but this book is for those who want to build with brick effectively, acceptably, strongly and with as little expenditure as possible. Experience shows that them are good, (and in this present context cost effective) ways of using bricks and there are also bad ways of using them so that the special benefits of this simple and ingenious item are lost or wasted.

Working and building with bricks is not only an interesting occupation but it is also very satisfying. Even a plain simple wall is full of pattern and colour. Within minutes you can see the fruits of your labours and you can stand back and admire what you have done with your own hands. There are a number of well known famous world personages (Sir Winston Churchill was one of them!). who built brick walls as a hobby and as an occupation for relaxation and pleasure when other worldly pressures were too great.

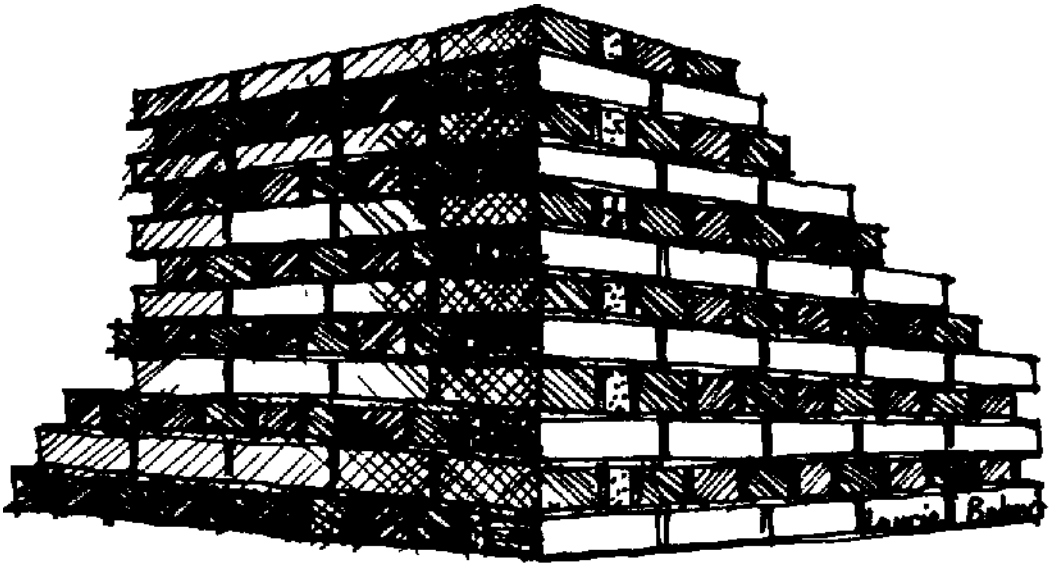
Unfortunately the final word about this common burnt brick, is to point out to you that it is made of mud, which is more or less cost-less - but to make it "strong and durable" and "colourful" we burn or bake it in the fire. This 'firing" process is not only costly, but in many parts of the country wood is used for this burning of the bricks. Not only is timber getting mote and more costly (so brick manufacturers are tempted to use lees wood end so produce an inferior brick) but we are plundering our forests end bringing upon ourselves many ills and calamities. This means mat we should not use brick as freely as we have been used to and we must turn to other materials for our walls. Alas! we have all too often turned to concrete and cement blocks, which use even more energy (fuel) in their manufacturing process. We should in fact be seeking out and using energy free materials such as stone and mud. Mud is dealt with separately in another COSTFORD book, but most of the contents of this book apply not only to the use of burnt bricks, but of mud bricks or sun dried mud bricks.

Over a period of fifty years, and more, I have had a lot of enjoyment with bricks. This book is only about a few simple Do's and Don'ts. Like most good things in life you have to get down to it and do it yourself to get real enjoyment and satisfaction.

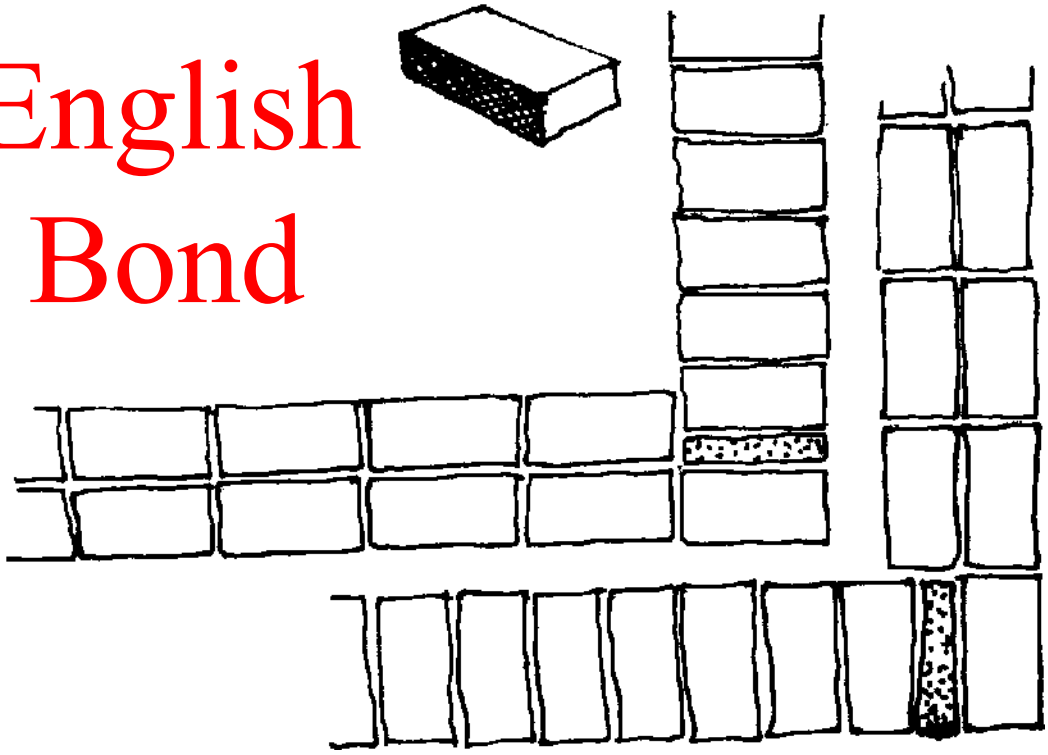
Names Of Parts Of a Brick

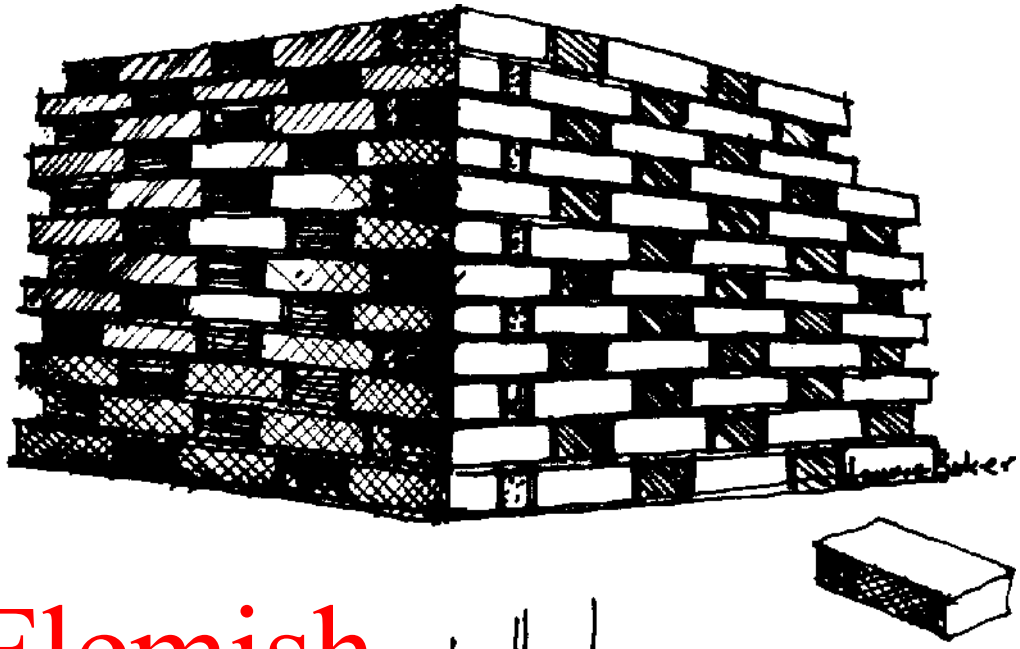


A BRICK BAT

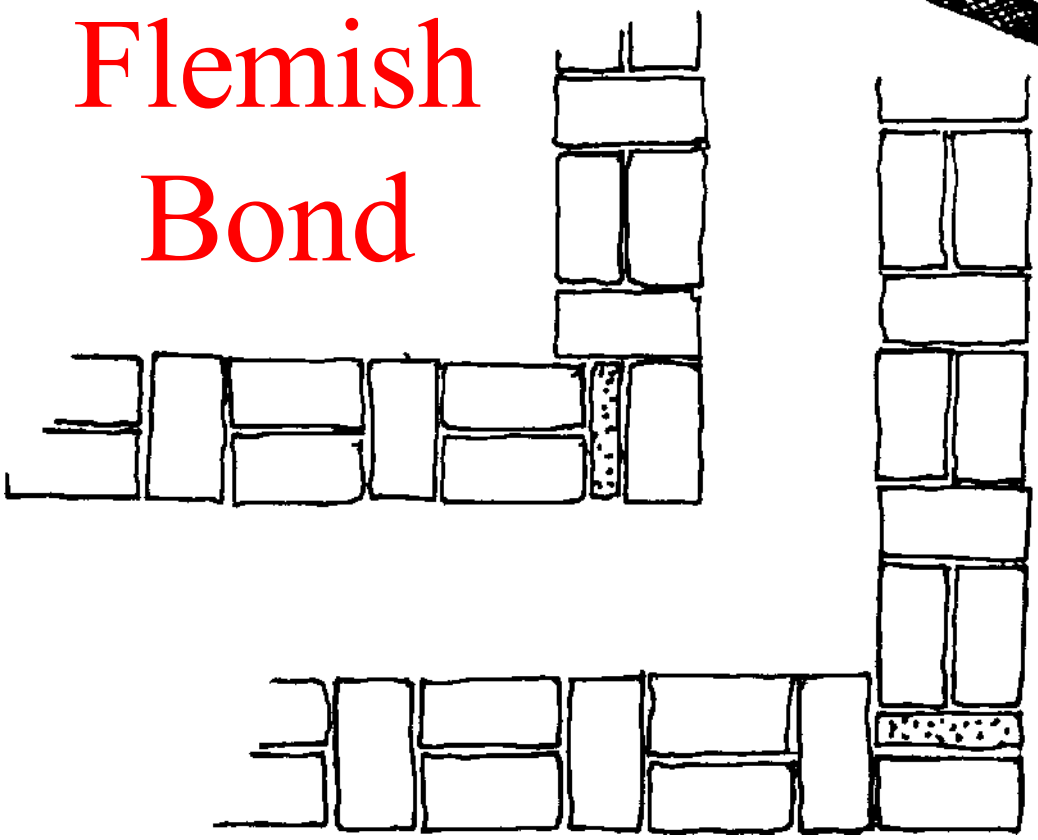


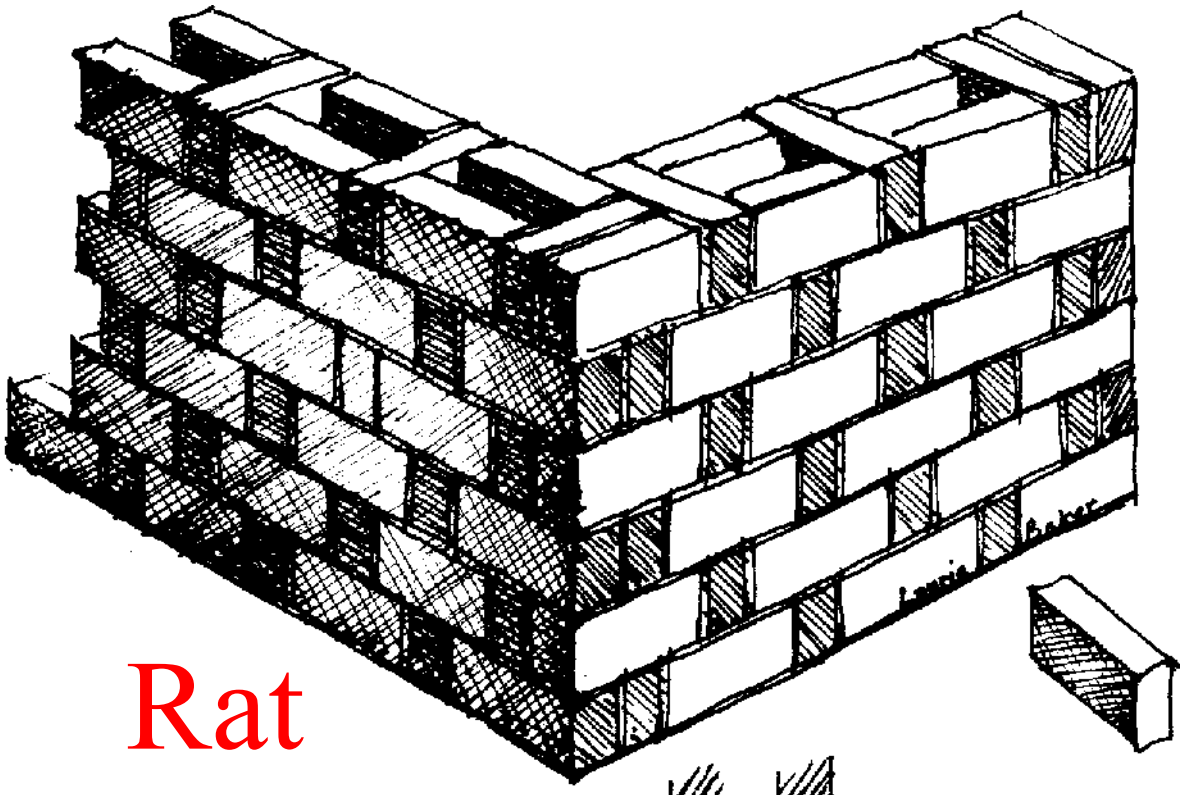
English Bond



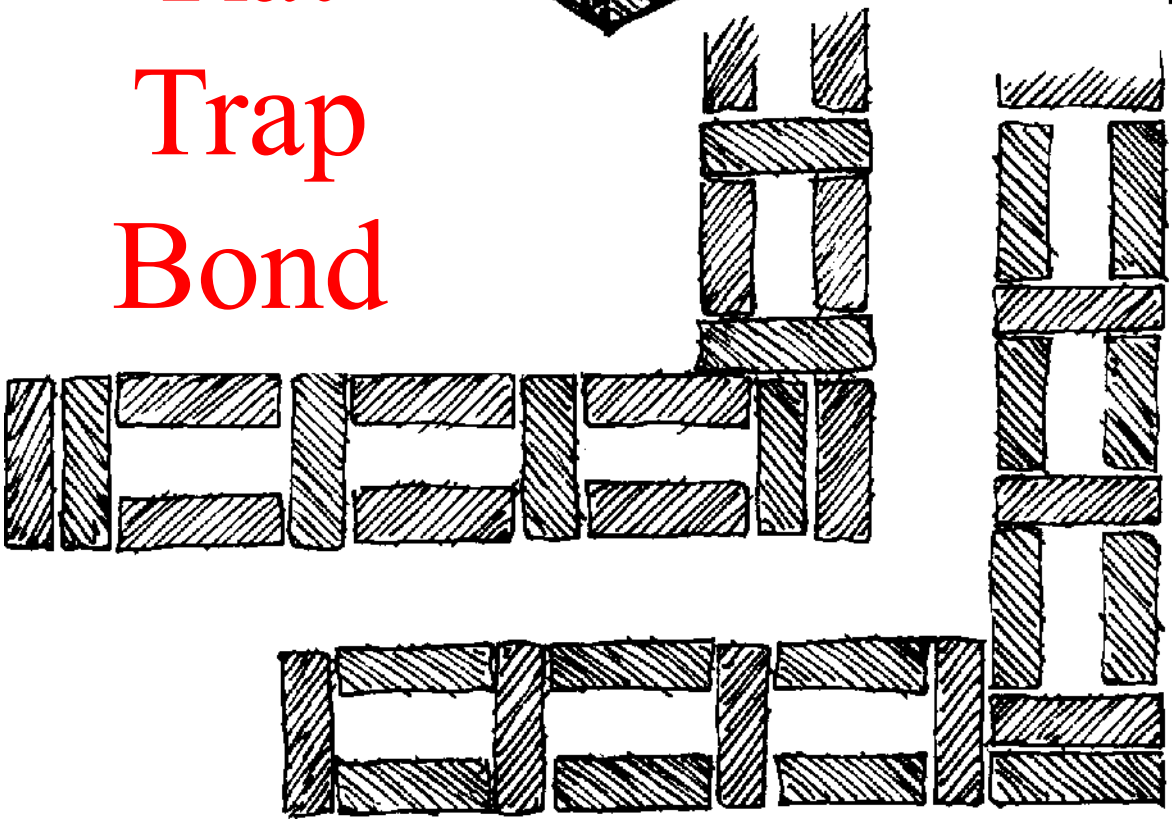


Flemish Bond

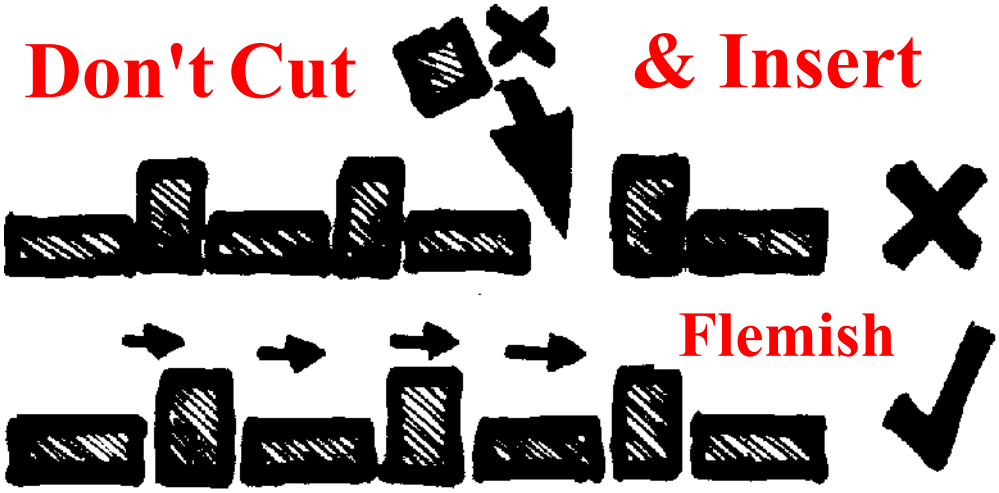




Rat Trap Bond



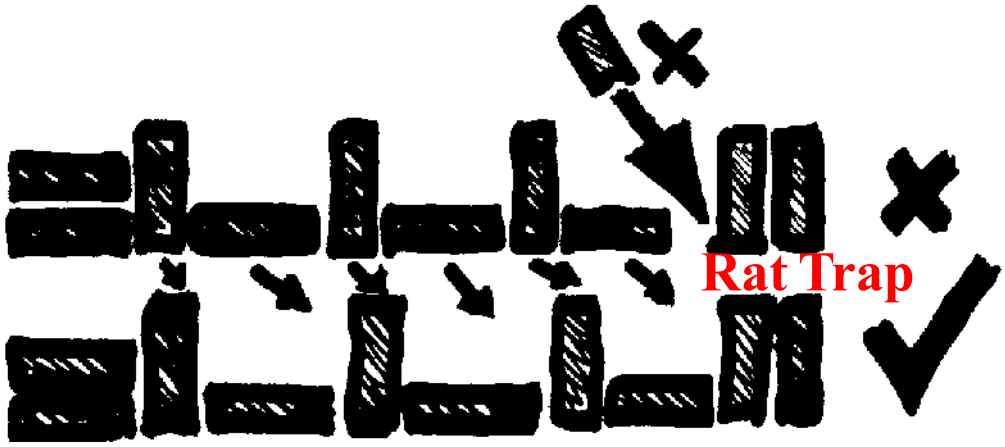
Don't Cut & Insert



Flemish

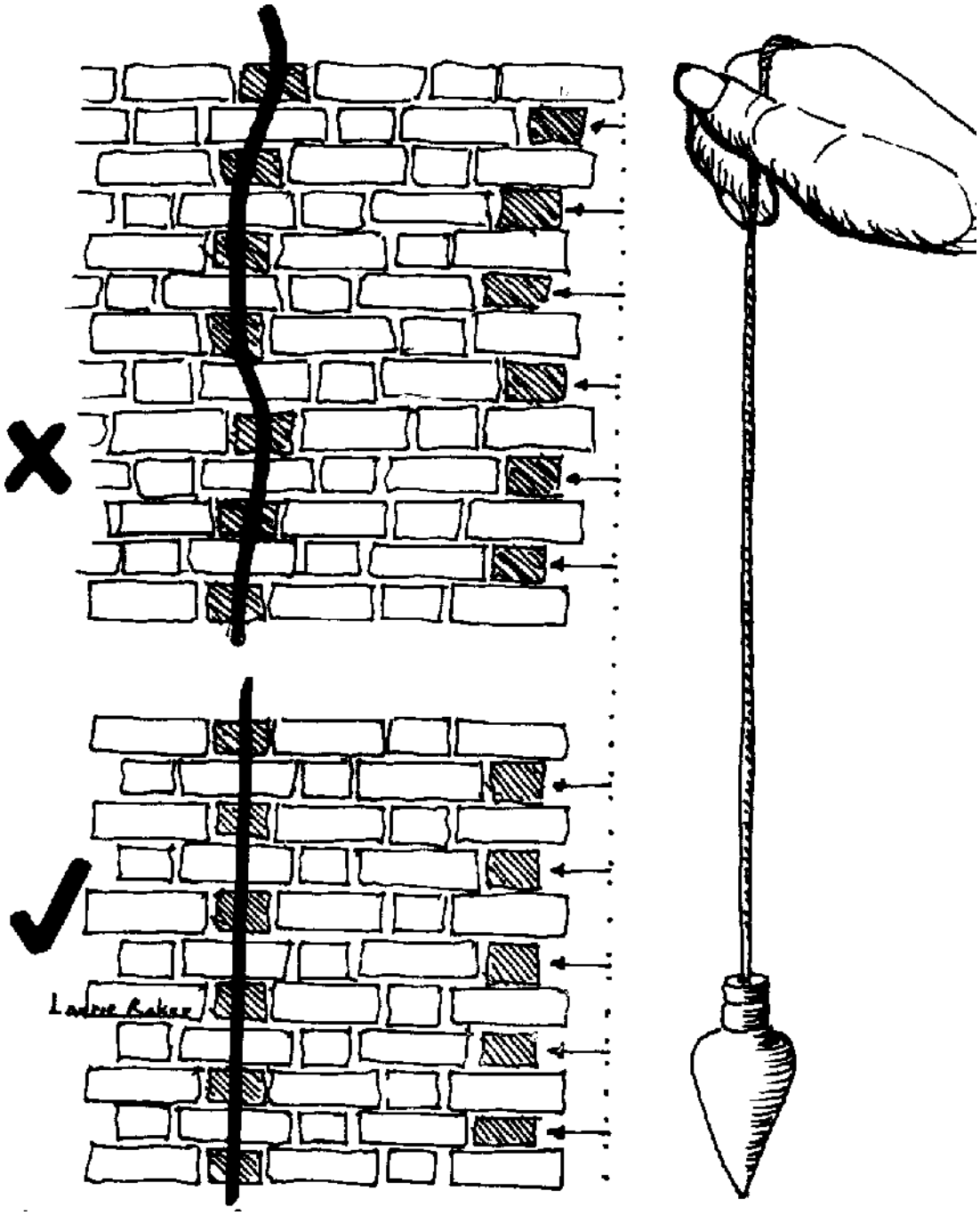
Adjust

English



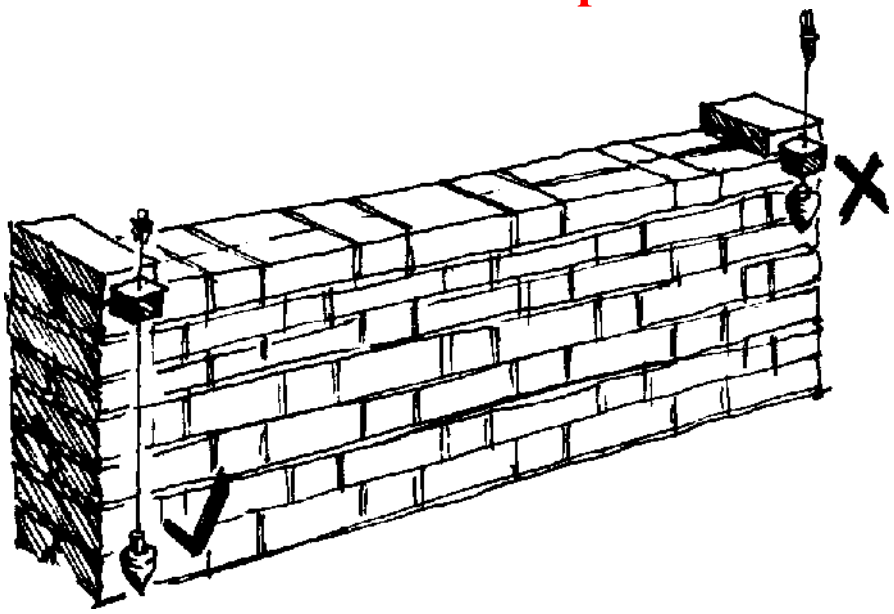
Rat Trap

Get the first course right



Keep the brick pattern STRAIGHT and VERTICAL

DAMAGED BRICKS can be used in internal walls that will be plastered.



The **PLUMB LINE** need only be used at the ends of walls and then use a string to get a straight wall between. The plumb line should always fall to the bottom course, not to the brick immediately below.

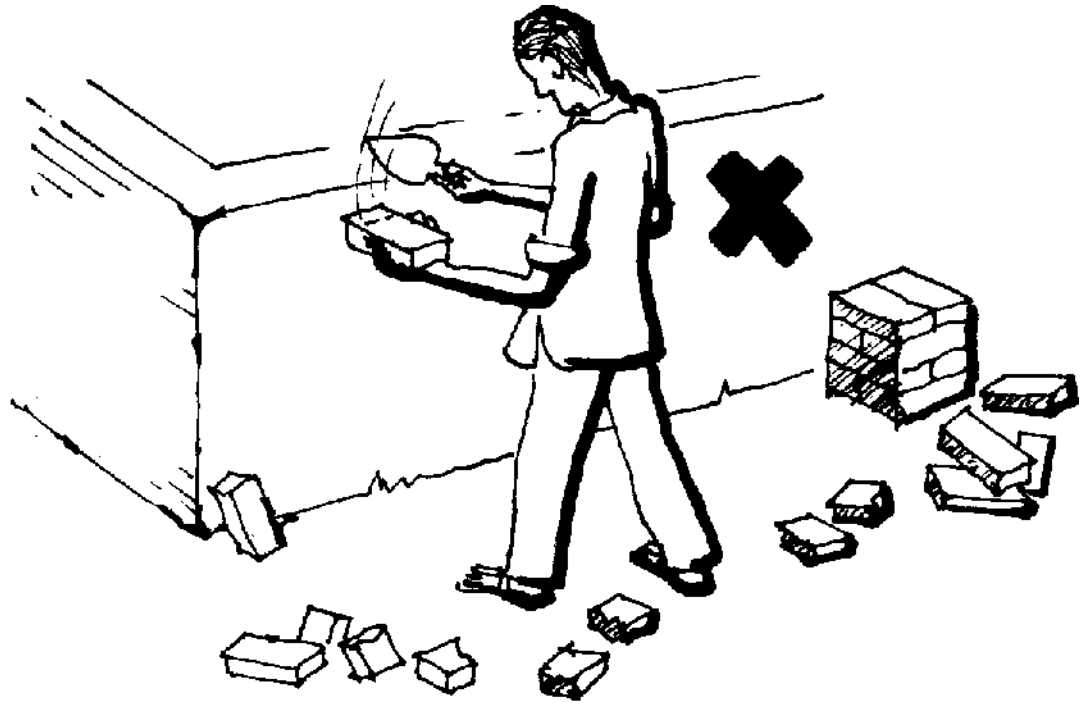
For Ordinary Small Houses

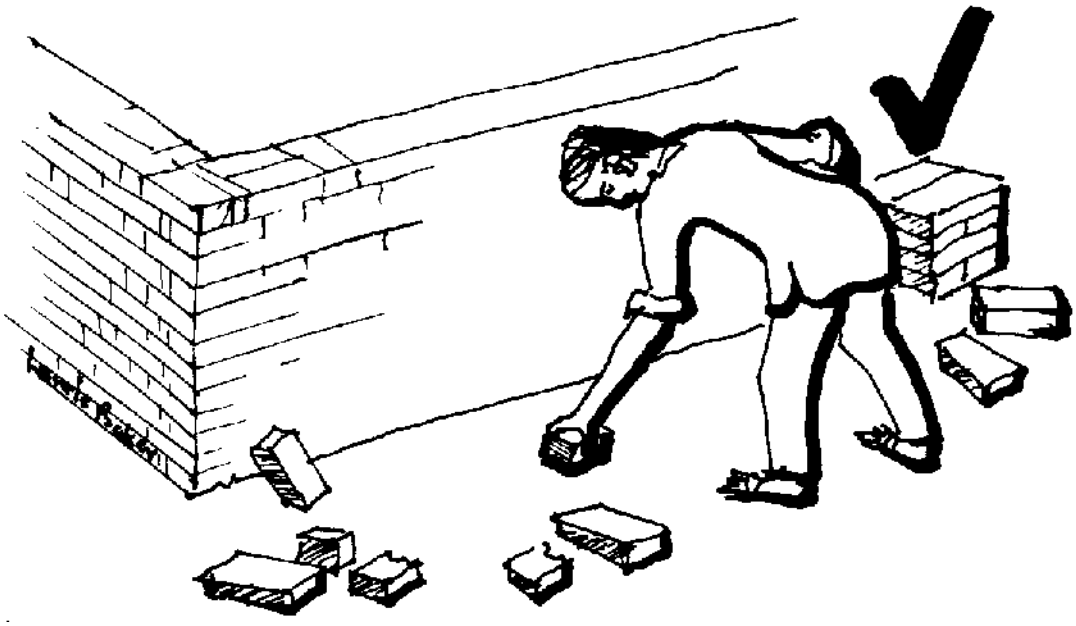
4.5 - inch brick walls can be used for short stretches of walls.

9 - inch brick walls are adequate for almost all walls.

13.5 - inch brick walls are very rarely necessary.

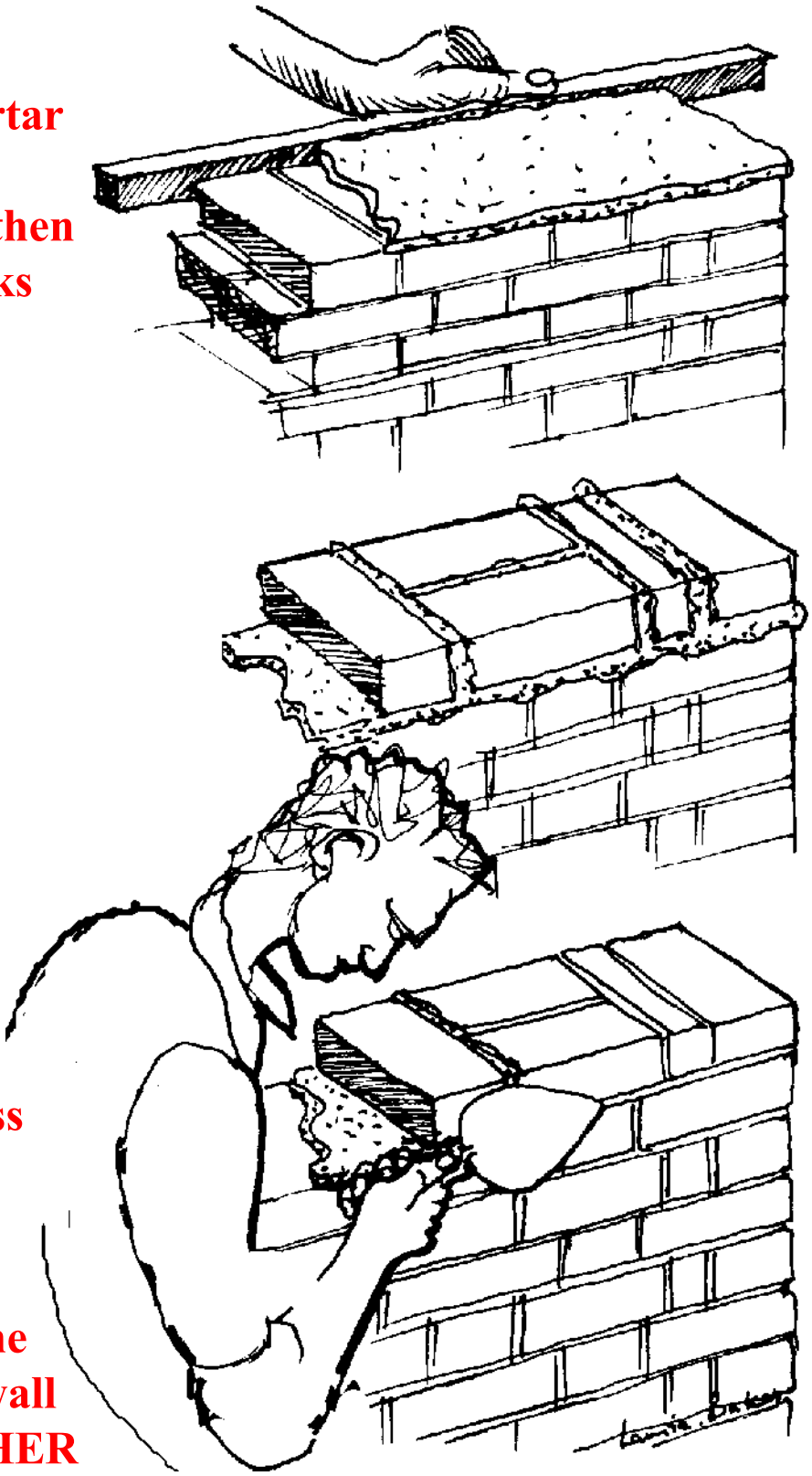
If you need half a brick
DONT waste
Bricks, Time
Money and Energy
Cutting a whole
Brick into two pieces





Bend down and pick up
A waste half brick bat.

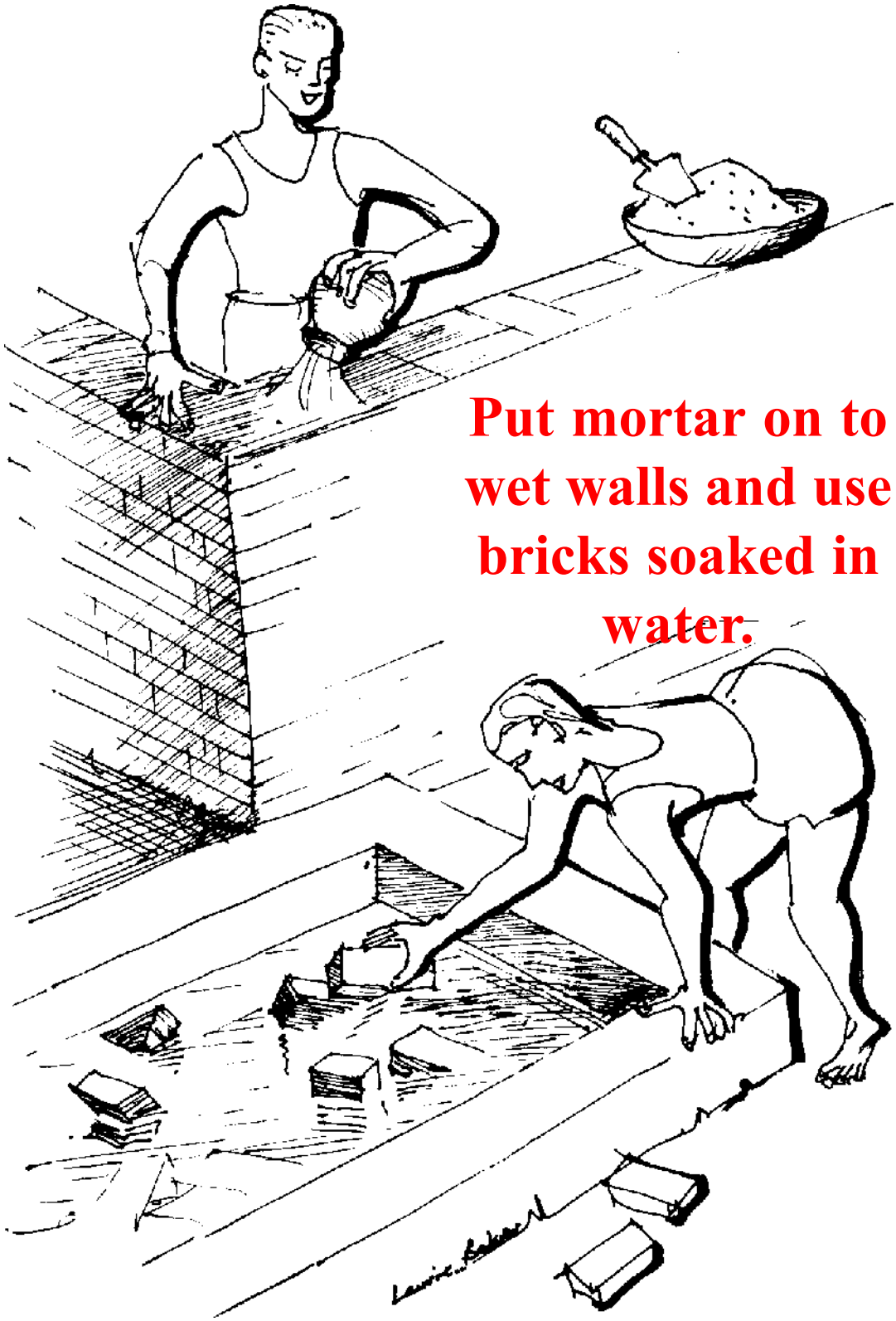
Lay the mortar to cover the bricks and then lay the bricks carefully in position.



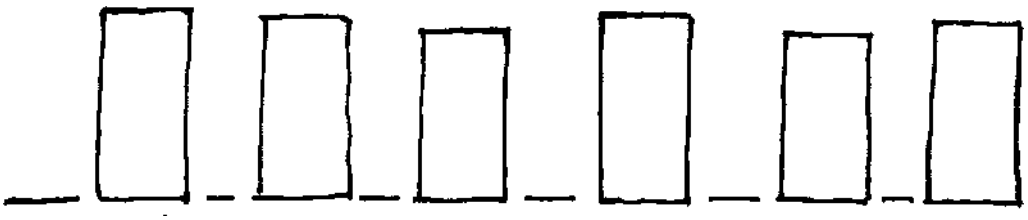
Finally press the bulging mortar in firmly to be level with the face of the wall NO FURTHER POINTING IS NECESSARY.

Rat Trap Bond Mortar laying.

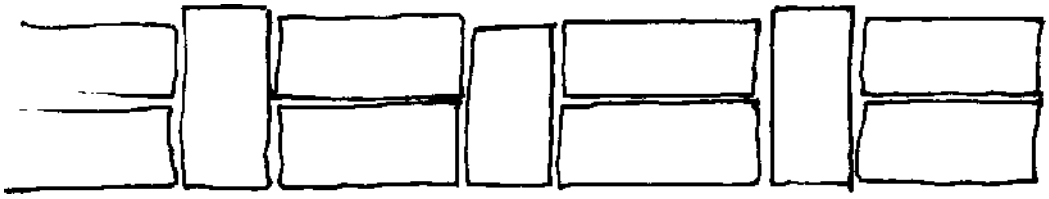
If mortar is placed carefully on the bricks some of it will fall into the cavities and be wasted. This can be avoided by holding a piece of wood about 3-feet x 3-inches x 3/4-inch over the middle of the wall to cover the cavities while applying the mortar.



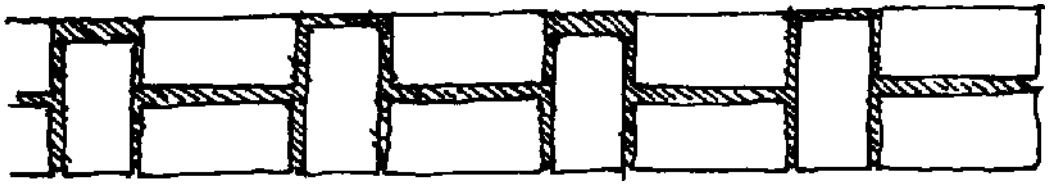
Put mortar on to wet walls and use bricks soaked in water.



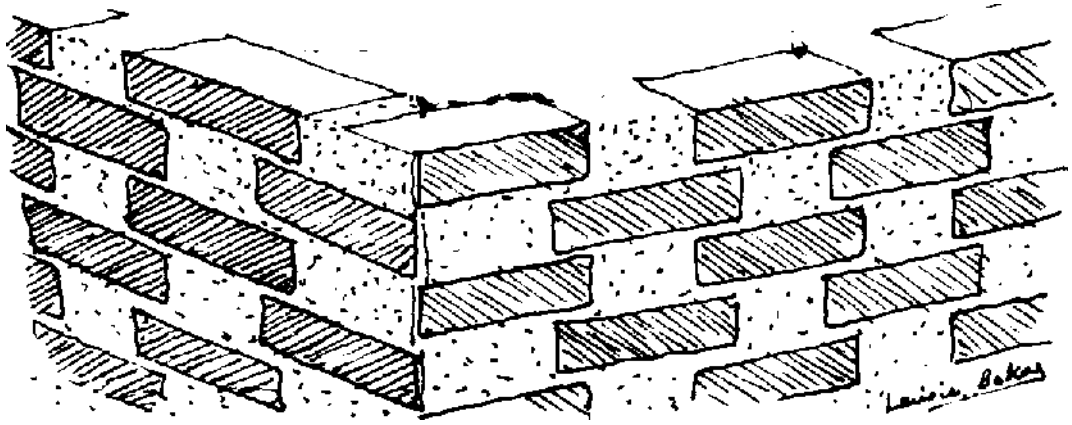
Bricks all vary slightly in length so only one side of the wall can be level.



To get a "fair face" on both sides you must bring the second row of "stretchers" forward and "in line".

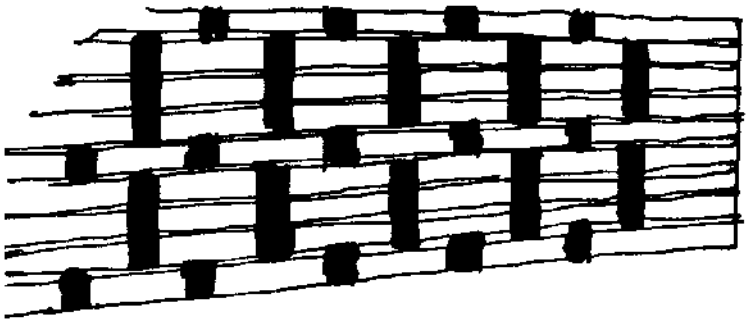


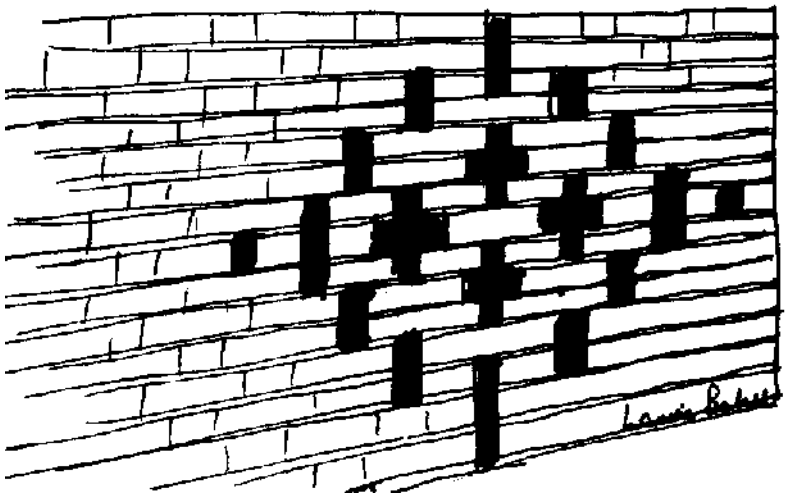
And then fill in the hollows with mortar.
This gives a pleasing pattern.

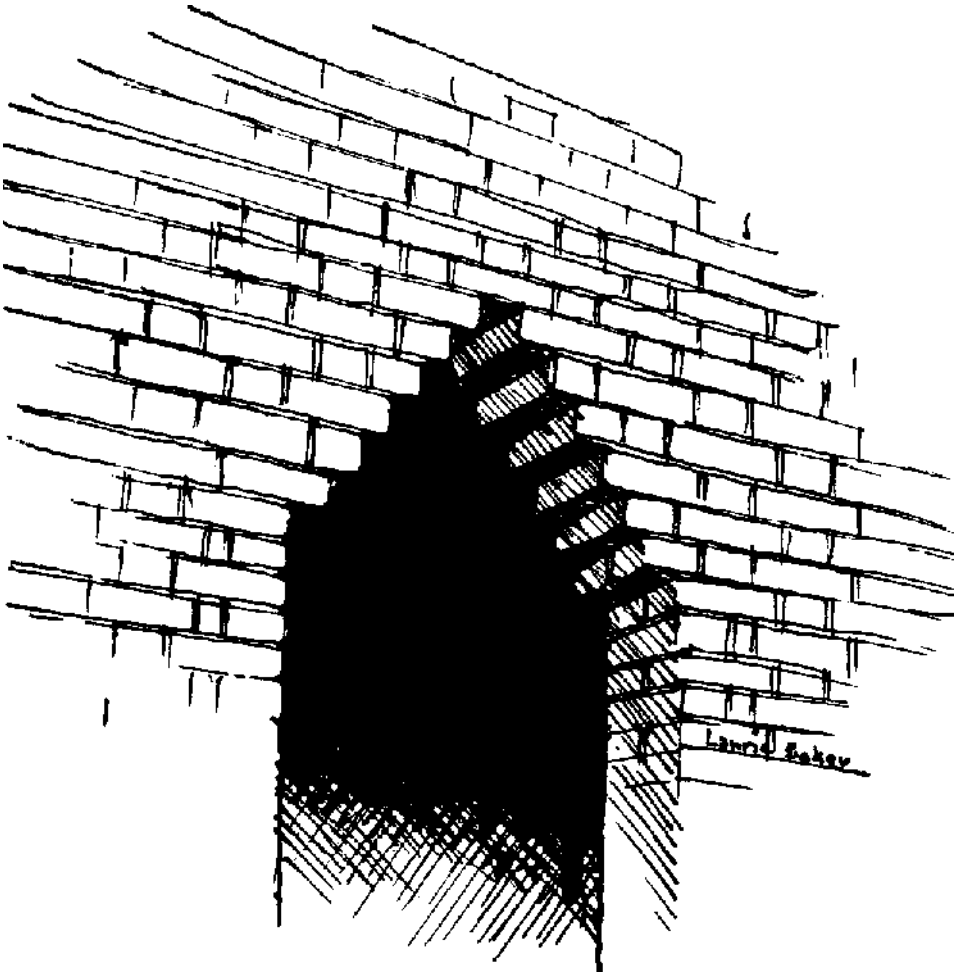


BRICK JALI

Widen and leave open the vertical joints and patterns and ventilation holes can take the place of windows.







You do not require staging or form work to construct a simple CORBEL ARCH.

ARCHES

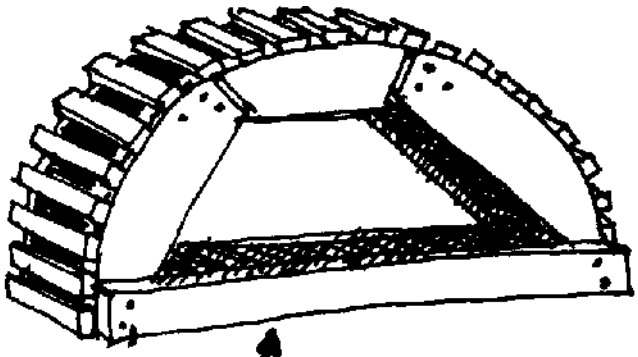
Can be flat

Or Segmental

Or Semi-circular

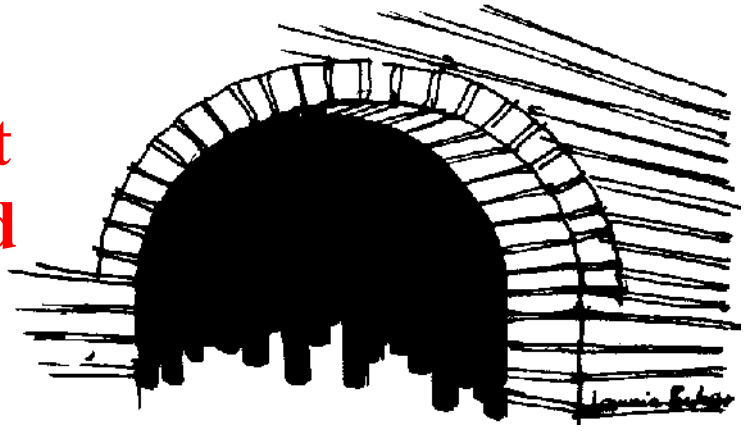
Or Even pointed.

It is easier to build an arch over the frame like this.

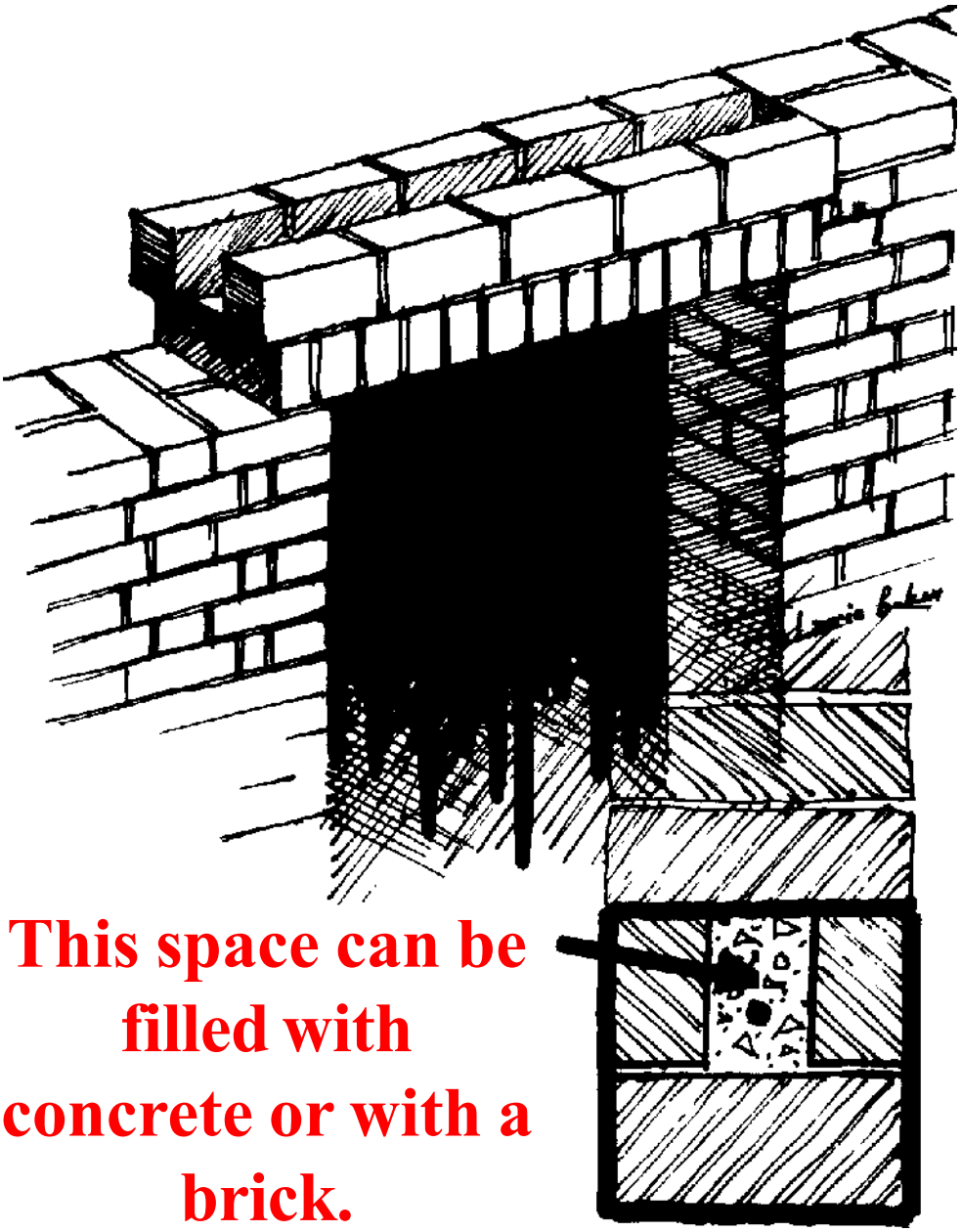


The brickwork is built over the frame.

But the frame must be removed as soon as the arch is completed.

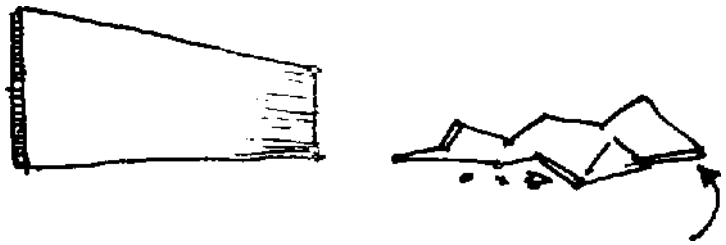


LINTELS

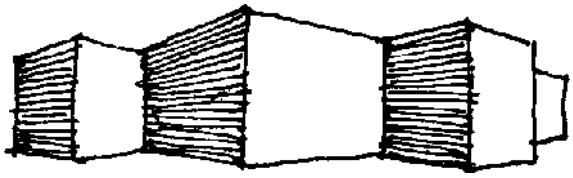


This space can be filled with concrete or with a brick.

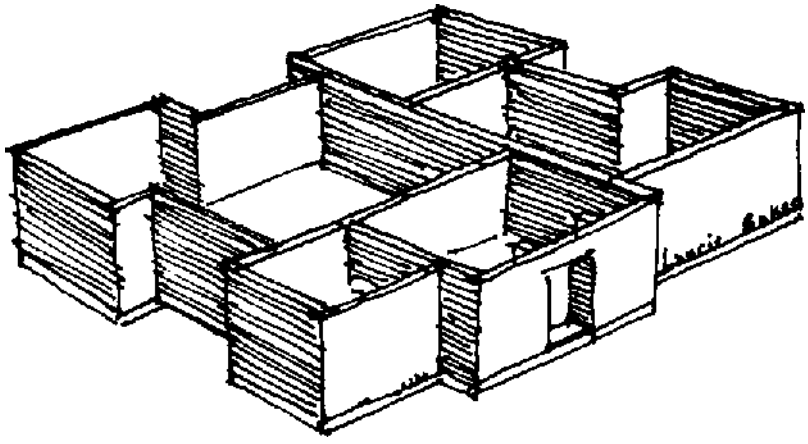
You can build a 4.5 - inch brick wall.



If the wall is too long and too high - it will fall over.



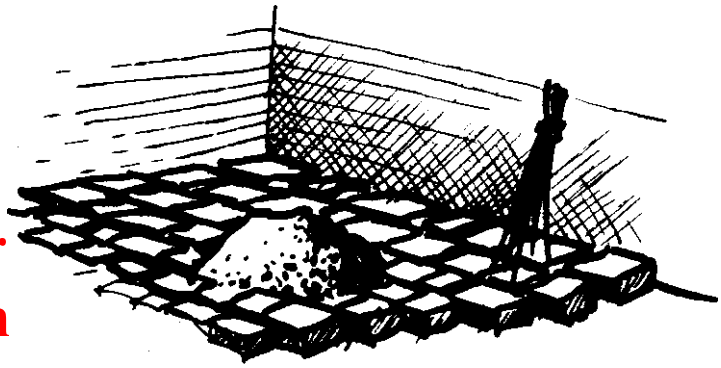
But if the lengths of the wall are shorter, they will support and strengthen adjoining walls and not fall over.



So a house with walls that go in and out like this will be strong, will not fall over, and can carry the weight of a roof.

BRICK BATS

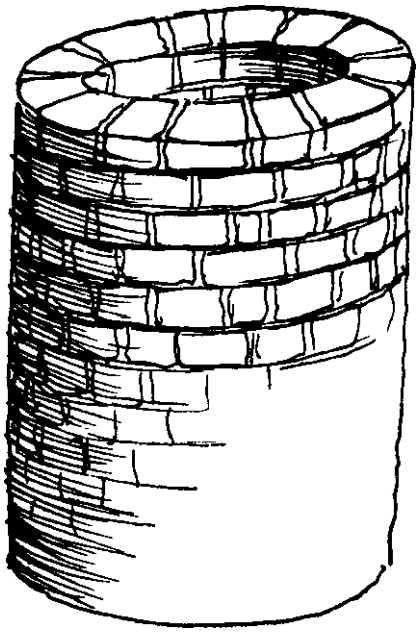
Use them for under-flooring



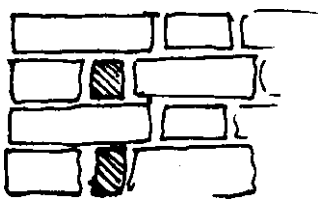
Lay them dry without mortar in rows tight together on a rammed earth infilling.

Then mix a heap of lime mortar and brush it all over the floor. This gives a good base for all types of flooring.

They are very useful for all sorts of curved or rounded walls such as for gate posts, spiral staircases etc. If a string of vertical joints is avoided such walls are very strong.



And of course you always need them for orthodox bonding.



MORTARS

A.	CEMENT and sand 1 part of Cement : 8 parts of sand They set quickly. Use cement only if nothing else is available.
B.	LIME and sand 1 part of Lime : 3 parts of sand This sets slowly but is strong. This can be used for all types of brickwork.
C.	LIME CEMENT 1 part Cement : 4 parts Lime : 14 parts Sand This sets nearly as quickly as Cement. Use this if you need the mortar. It sets more quickly than lime.
D.	LIME - SURKHI and SAND 1 part Lime : 2 parts Surkhi : 6 parts Sand This sets more quickly than lime. This is slightly stronger than pure lime and sets more quickly.
E.	LIME - SURKHI - CEMENT and sand 1 part Cement : 2 parts Lime : 4 parts Surkhi : 20 Sand This sets almost as quickly as Cement. This gets good results more quickly than all except cement.
F.	MUD and WATER Use the same mud, sifted, as used for mud blocks with enough water to make it plastic and usable. This can be used for all 9-inch walls if protected.

ALWAYS MIX THE DRY INGREDIENTS
TOGETHER BEFORE ADDING THE WATER

Mix the ingredients until no patches or streaks of white or grey are visible.
Then add the water.