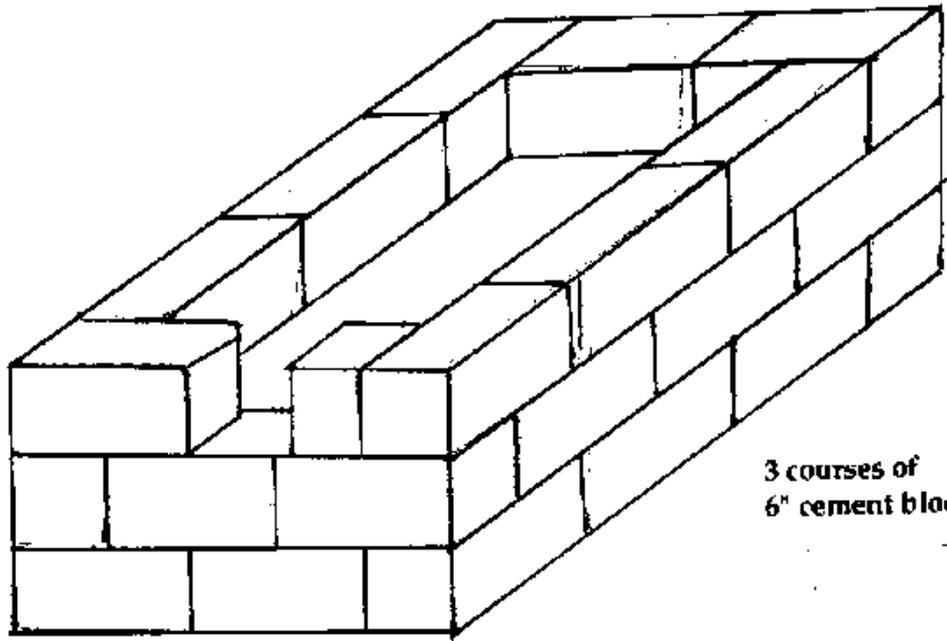


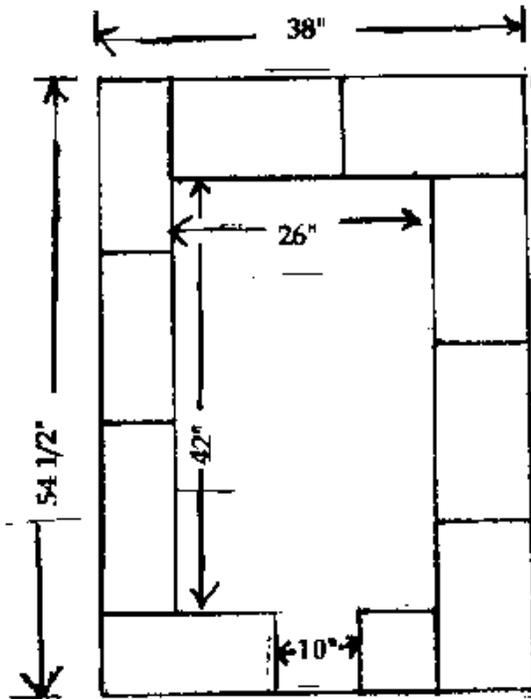
## Building Masonry Cookstoves

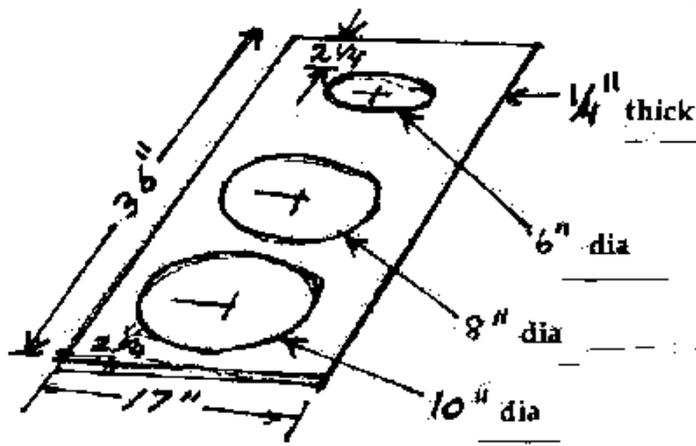
- 1 Determine the location, making sure there is no obstruction for the stovepipe. The family must be involved with this decision. Level the ground on which the stove will be built on. After being sick from breathing too much smoke, I always insist that they move their cooking fire outside while we are working inside.
- 2 Ideally members of the family will carry the materials and water, do the mixing, sift the gravel, fill the bottom 2/3 of the stove, and even cut and lay blocks if they have those skills. The more they are involved with building the stove the better. Mix a large batch of 1 part Portland to three parts sifted gravel and lay the first course of blocks on a bed of mortar. Wet each block first.
- 3 Carefully lay the next course beginning sure that all joints are overlapped.
- 4 Fill the center area with fill, ideally pumice but if not available, dirt.
- 5 Lay the top course of blocks leaving an opening in the front for the door. Fill the block cavities with dry wood ashes.
- 6 Mortar in the door and lay the bricks for the walls of the firebox. The top of the bricks should end up about 1½ inches higher than the concrete blocks. Soak each brick first in salt water. Use a mix of 1 Portland, one lime, to two sand.
- 7 Lay the brick floor dry; wood ashes will fill any gaps between the bricks.
- 8 Mortar in the door. With a couple of extra bricks and some wood or folded paper shims, place a piece of board (which will later be removed) to support the concrete over the doorway.

- 9 Set the Plancha (stovetop) in place on top of the brick walls. Then mix up a batch of 1 Portland to 3 sifted gravel to pour the top. Be sure to imbed four pieces of rebar over the door opening. The 3 sections of stovepipe need to be installed at this time. The bottom pipe goes through the concrete top, flanged at the bottom and supported by bricks. A hole needs to be cut through the roof directly above. Sometimes we have found that the roofing is not nailed down, if this is the case then it needs to be now. Use a plumb bob to locate the hole through the steel roof. I have found a leatherman tool extremely useful for punching a hole through the steel roofing and making small holes through the pipe for wiring the sombrero on. The sombrero (rain cap) needs to be wired on. The concrete top needs to be worked to a smooth finish. Central American masons will sprinkle pure Portland onto the top, making a paste that they work smooth. They use their bare hands, which are scarred from the caustic cement. If you value your hands, use gloves.
- 10 With a mix of 1 lime to 2 fine sand, parge the outside walls. The proper mix will stick to the block walls when buttered on with a steel trowel. Use a wood float to obtain a smooth finish. This step and obtaining a smooth finish on the top, takes considerable skill but only with practice can you learn.
- 11 At this point you can congratulate yourself and the family members whom have been helping. Their living conditions have been dramatically improved. It is important that they know not to use the new stove for two weeks to let the cement cure. It is helpful if they keep the concrete top wet for the next two days by sprinkling it with water whenever it looks dry. With a nail you can hang the lid lifter close by.

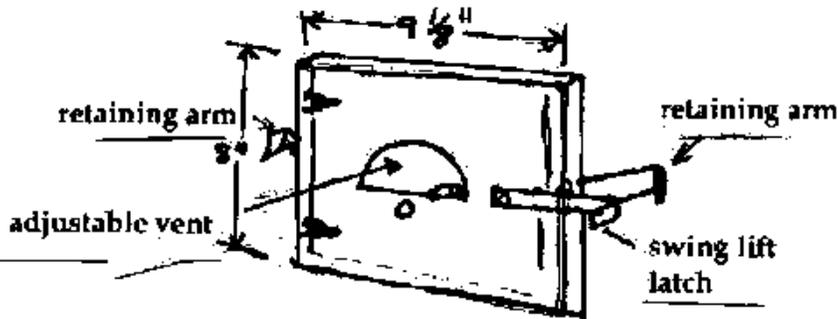


3 courses of  
6" cement block



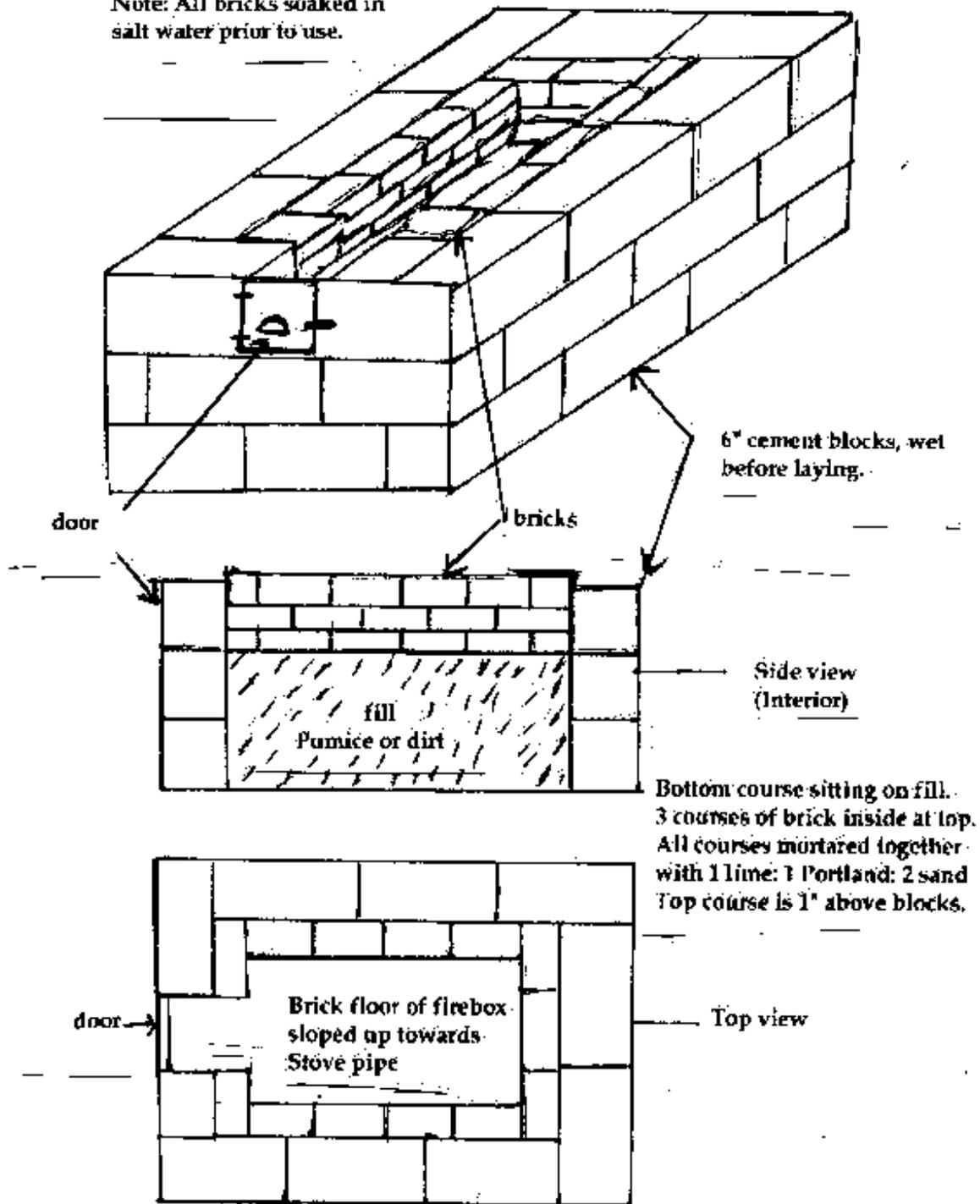


1" angle iron frame  
welded to underside  
of top (plancha)



To fasten the doors, the cinderblocks on either side  
to accept the retaining arms. The arms are then mortared  
into place making the door a permanent installation.  
The bottom and sides of the door are sealed with mortar.

Note: All bricks soaked in salt water prior to use.



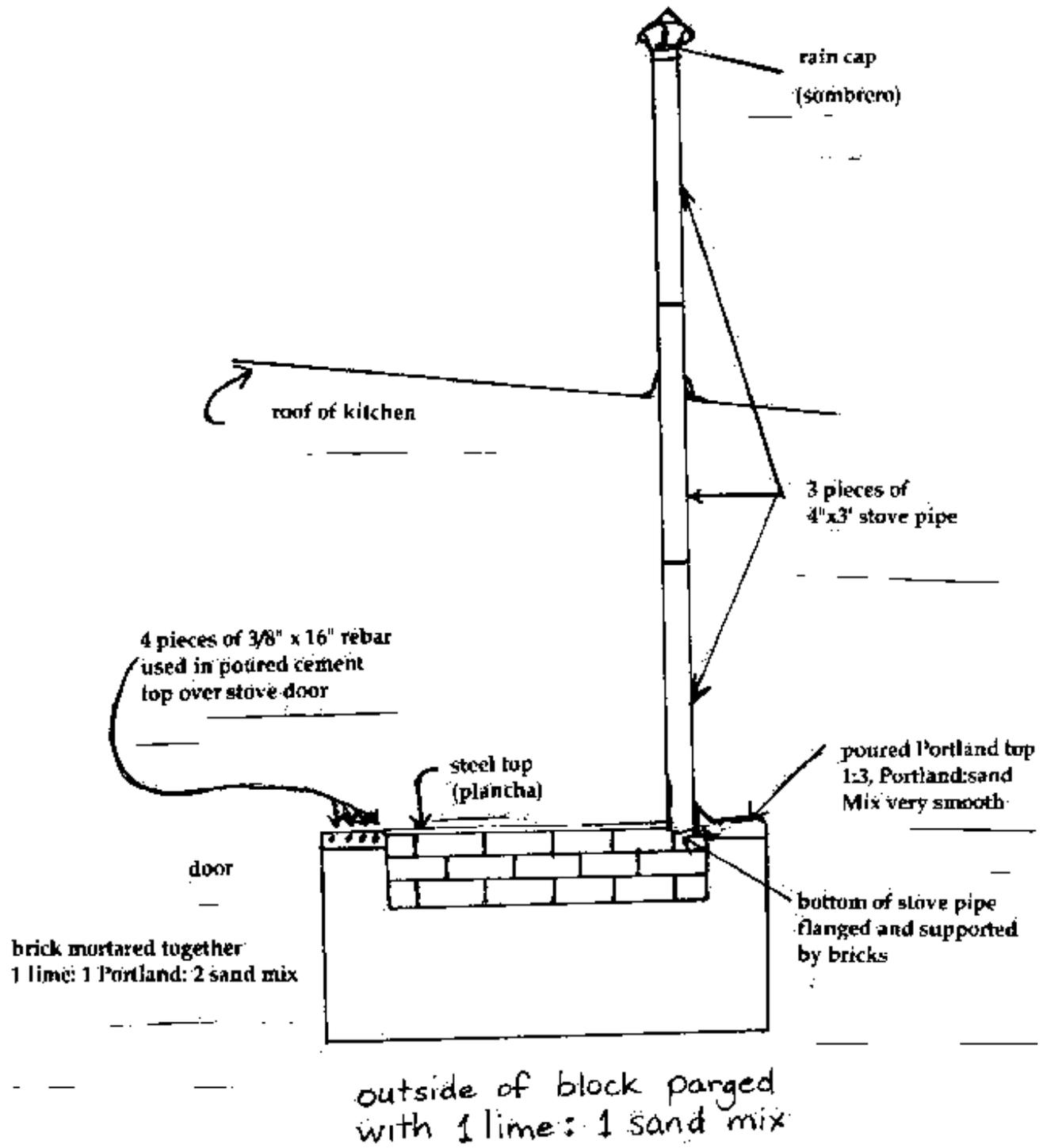


Figure 1