

Construction of sod houses

Section 2, Pages 31 - 60

This collection consists of correspondence, plans, and specifications on the construction of sod houses. In 1932, the Kansas State Historical Society put out a call for information about and instructions on constructing a sod house, in order to create one in the museum when it was located at the Memorial Building in Topeka. The collection includes all correspondence received from this request, handwritten and typed reminiscences from around the country from men who built and lived in sod houses, as well as some of the standardized responses sent by the Society's secretary.

Date: 1932

Callnumber: Kansas State Historical Society, Sod Houses, Plans and Specifications on Construction, Boxes 1-2

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Item Identifier: 228755

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KANSAS HISTORICAL SOCIETY





Construction of sod houses

March 15th 1932. Gridley, Kansas.

Dear Sir:

In recent Capital I note you are looking for information on the building of a sod house, and also some information on the old "dug-out" of the early day. When a boy I came to the West from Vermont and lived a greater part of the first year in a "dugout", and sod houses were a plenty and when a youth I helped to build one.

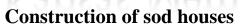
A tough sod, from a tough clay soil is best to build Size of sod usually depended upon the size of the homesteader's breaking plow, and the depth of the plowing determined, of course, the thickness of the sod. The strength of the team on the plow usually determined the depth of plowing. The homesteader having a 12 inch plow built with sod approximately 12 inches wide, and a sommon depth of plowing such sod was from 4 to 5 inches. The 14 inch plow purned a sod about 14 inches in width, etc.

A few built a double wall, but most were built as a single wall. The bachelor homesteader usually built his either 10 by 14 or 12 by 14, the man of family larger and with two or more Gable ends were of sod but the rafters were by two by fours covered with cheap boards a foot or more in width, then tar paper over this held down by a few lath. The stove pipe went directly through the roof. Inside of walls were plastered with a sort of blue clay that was procurable in a few places along a certain stream. In my locality, and remained quite hard. Sometimes newspapers, as they came usually at the rate of one a week were plasted overer



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HH-2 this crude plastering, from which place they were read and read again by visitors. I may be in Topeka in a few days, at which time I will endeavor to step in for a short chat with you, as I had the pleasure of doing a year ago. Could build you a sod house, the exact counterpart of the ones many of our neighbors lived in, and in which I spent many happy hours during my youth. Sincerely yours, Henry Hatch.





Anoka, Minnesota. April 11th 1932.

Dear Sir:

Note piece in tribune today about your wanting to build a Sod House, been wondering if it is a joke or a real fact that you want a sod house and nobody knows how to build one, so thought I would drop a line just for the fun of the thing and see.

I was with my father when he homesteaded in South Dakota in 1892, and lived in a good sod house two years and can assure you it was warm in the winter and cool in summer. The house was about 20 X 16 with a four square roof of single, the walls were about 24 inches at the ground and drawn in to about 18 inches at the top or ears with the tope all on the outside so as to lean. The inside start up and down which caould be plastered on to studing and lath or covered with lumber wall board. The windows were made by putting in a casing made of 2 X 12 plank when you get high enough with the wall to place casing, then sod up to i on each side and over it when getting to the top, then a 2 X 6 or 8 feet on top of sod to rest your roofs on like a plate or a house door was made the same way a 2 X 12 as a casing then the regular door casing to fit into These sod houses could be built in any shape by joining your Ells on to the main wall or laying them all up together. sod was cut in long lengths for the wall, 12 inches wide to go length ways of the wall with short cuts to go and inside and outside every other tier or layer of sod, these short sods which would be 24 inches would act as Binders to keep the lengths from spreading apart the same as mis matching stone or brick to hold the wall together; on a small sod house the walls would not have to be so thick in order to



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H.T-2 stand good but on a house the size I speak of 24 inches at the bottom and 18 at the top on a 9 or 10 foot wall would'nt be to thick, in A good tough sod cut about 2 1/2 inches thick of most any tough rooted grass would make a good laying sod, and cut any time after the roots are well started growing, say June, probably earlier. In your state, that far south the wild grass sods, in S. Dakota at that time were sure tough as you could pick uo a 10 feet length by each end and handle it fine if you have the round hard heads stones as we used to call them. In S. Dakota a nice fire place built of them would make it look like old time places. I am sure with the right kind of help and good sod I could build a good one, either outside or inside and one that would stand up for years. Well I wont waste any more of your time as probably this is more or less of a joke anyway, but wishing you luck with it if you build, I am respectfully yours, a Reader. H.T.



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Lyons, Kansas. March 13, 1932.

Dear Sir:

An article in todays "Capital" asking about sod houses.

They were built various sizes, if there was a large family were built larger. Some had a ridge pole. Poles were laid from wall to center pole and brush put on and a covering of sod for a roof.

Blue stem grass was the best as it was tougher than buffalo grass sod. As to furniture there was style what ever we had. Some were plastered and had board floors.

If you care to know can tell you more.

Yours,

L. G. Lowrey.



Construction of sod houses

Agenda, Kansas. March 20th 1932.

Dear Sir:

Some time ago, I saw an item in the Topeka Capital saying that you were wanting directions for building Sod Buses.

As I helped to build a lot of them in the early days in Western Kansas, I thought I would give the main requirements as we used them at that time.

The best sod for building there was Buffalo Grass sod, it was tougher, and stood the weather better than Blue stem. The house usually built with walls 24 to 28 inches in width, the sod being plowed 14 to 16 inches wide, and about three to four inches in thickness. The ground was first levelled off where the wall was to be built, and the sod laid two sod wide, with the joints missmatched, as in bricklaying, then the surface of that layer was cut down level, and the cracks between the sods filled with the loose dirt, then we started the next layer, laying the sods crossways of the wall, and levelled them up as was done with the first layer, and so on until the wall was as high as was wanted. The window, and door openings were left open as the wall was built, and when the right height was reached, there was usually split poles laid across the top, sometimes we had plank, but not often.

In finishing the windows the doors, the openings were cut to fit the frames, and the frames were nailed in to pins driven into the wall at the right points for fastening. The roof was usually made by getting a log for a ridge log and poles for rafters spaced to the right distance apart for whatever was used for a covering.



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R.T.-2

If the claim was close to a stream, they used small straight willows for the covering of the rafters, a layer of about three inches, then sod was laid on the willows as close joined as possible and then over the sod there was thrown a couple of inches of dirt, or if it was obtainable, native lime was used in place of the dirt.

The walls were kept trimmed smooth and straight as they were built, and when the roof was on, the walls were plastered with native lime mortar, some called it magnesia, some lime blossom, but it was all the same material, and made a fine finished wall, just as good as real lime if you kept the rain off.

The roof varied too, from the one described to a shingled roof, just depended on how much money the settler had to put in a house, and you would be surprised at the small amount some of the people had when they first settled the west.

We settled in Graham County in 1879, and that is the way we built our sod houses at that time. I suppose the same general description would cover the whole West at that time.

Hoping what I have written will help you out,

I am, Yours respectfully, Tomanzo Thompson.



Construction of sod houses

(No Address) April 24, 1932.

My dear sir:

I saw in the Tribune today where you wanted to build a sod house and could not find how. There surely must be some thousands of people yet in Kansas who can tell you. In my early life, I am now going on 68, I dug wells around McPherson, Kansas. We bored them with a horse and made casing for them out of cedar strips some of the wells were deep. We worked in a Mennonite Settlement and they all lived in sod houses, Some of which were spacious, we slept on buffalo grass beds and Buffalo robes. I also worked for a Ranchman near Pawnee Rock, Kansas. He lived Take any tough sod, cut in strips as long as you in a sod house. can handle . Cut about 16 inches wide, clean off and level for your foundation. Then start a wall of sod, dirt side down for the first layer, then grass side down until wall is high as wanted. About every three or four layers, cut your sod in sixteen inch strips and lay cross ways. Plaster with mud. The roofs were made of cottonwood poles and brush covered with sod. The doors were regular board doors and frames for windows generally the same. Any kind of tough sod is good, cut it 3 or 4 inches thick, cut it in the time of year you want to build your house if the ground is not frozen or too dry. I was in Kansas in November and passed through Pawnee Rock. It was fifty two or fifty three years since I helped lay the foundation for Pawnee Rock's first depot, was helper for the stone mason. He was an old Englishman, was good to He had a very few words to say. Somewhere between Great Bend



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G.F.T .- 2

and Ellinwood there used to be a big curve in the Rail Road track,

I was close to that curve one night when a colored man passed out
at the end of a lariet, a good sized black horse was fastened to
the other end of the rope. The Coon could'nt run as fast as the
horse could. He had killed a pool hall keeper at Great pend.

When I last saw Topeka before last fall the old white stone part
of the Depot was all there was of it, I got off a train there last
Fall to send a message and saw a wonderful change in half a century.

Returning to the sod house some people put a layer of mud between the layers of sod in the walls. I have seen the walls whitewashed, however the sod house was only a makeshift. roofing over basement to live in until able to build a house. I saw many such basements in Southwest Kansas, last Fall. felt like it I could write much about Hutchinson, McPherson, Emporia, Newton, Wichita, Dodge, Coolidge and Wellington. I will say there was some cattle out there fifty two years ago. across the river from Wichita a great band of Indians from the Indian Territory were camped, they were being taken to the North west by the Army before Oklahoma was opened for settlement. were resting them there. Wichita was a small city, very new at There was a big hide yard across the river for drying that time. hides on willow frames built for that purpose. Ricks of buffalo bones everywhere and windows of cattle bones where they had perished in storms. If physically able I would like nothing better than to drive a car over the old stamping ground this summer. (no chance) Now I hope you can build your sod house.

Truly yours,

George F. Taber.



Construction of sod houses

Gove Kansas.
April 18th 1932.

Dear Sir:

I do not feel qualified to talk as an expert on sod house building, but I lived in one for many years and believe I could build one if I had to.

As I see it, the important things to remember are to tie the walls so they won't separate; have good, strong sod---buffalo or bluestem; and imputting on the roof use plateboard securely tied in with sod, cut to the slope of your roof as this will prevent snow and dust from blowing up under the caves of your roof; walls should have about six inches additional height to allow for settling.

Native lime is best for plastering the inside of sod houses. Tar paper over flat roof boards, covered by a layer of sod with a light coat of magnesia lime, makes a roof that rarely leaks and one that provides a house which is cool in the summer and warm in winter.

Am sure you will have other readers who know more about building sod houses than I do. Will be looking with interest for their letters.

Geo. F. Turner.



Construction of sod houses

Chicago, Ill.
April 11, 1932.

Dear Sir:

My daughter sent me the enclosed clipping from North Carolina. Doubtless you have had many to tell you how to build a sod house, which seems very simple to the writer, who has helped to build them in Dakota Territory. You might, by the way, be interested in my book "Breaking Sod on the Prairies," Published by the World Book Co., N. Y.

As I remember it we broke sod anytime in the summer, perhaps late summer might be better. We plowed deeply, so that the sod was at least four to six inches thick. Then we cut the sod in lengths of three to four foot strips. Sod with wire grass in it is the best, as the grass roots helped to hold the dirt together. The sod should not be too dry as it crumbles, if cut in strips too long it breaks in handling. As cut, the sod was laid on a wagon bed, or better on boards laid upon the truck without the wagon-box. It was piled criss-cross so as to barry well.



Construction of sod houses

C.W.T-2

Boards were laid across the top, at alsoping angle for the roof. If the structure was large enough, scantling was rested upon the walls, and covered with the boards. The roof was then covered with tar paper, and often used for the support of the roof, the space between the scantling was filled with sod. The floor which of most of the sod houses was hard pan from the surface soil had been removed. Rarely, a settler white washed the inner walls with some lime mixture. Often a frame shack built for summer use, was later completely enclosed with sod, which gave a much better interior. In some cases a wooden floor was laid.

This is as I remember it, when as a boy I built such a house, and lived in it all alone during a very long winter. Stakes were driven into the walls and supported for a bed. I had a kitchen stove, with a stove pipe running up through the roof.

My fuel was Buffalo Chips, or the dried manure of the buffalo.

Wire grass or bunch grass was the best sod.

Sincerely yours,

C. W. Taber.





Construction of sod houses

Jackson Michigan,
April 4th 1932.

Dear Sir:

Supplementing my letter of yesterday, copy attached I overlookwd mentioning that the shanties were built on about a two foot dugout; where there were floors as in most of them, the floor would be less than two foot below the ground level.

There were two steps leading out of Mother's shanty made of boards. Two steps were outistee of the shanty.

The windows were built as high as possible so the eaves would not interfere. Mother's shanty faced the north, one window was on the east and one on the south side, making a cross light. The door was on the north and gave more light when opened.

The roof boards were placed snugly together as there was no plaster above the ceiling. Mother's shanty had the pointed roof, the more desirable and popular roof. The weight of the sod kept the roof and shanty in place. The sod easily bends around the peak.

The plaster went to the floor, and plain soil holding it beyond the sod.

By building the shanties on the corner of the claims, four shanties could be near which was the practice.

Large hares were numerous and were caught with snares for meat together with prairie chickens. The common or barnyard chicken was raised by the pioneer for eggs and meat. Cows were staked out with long ropes so they could not wander away, mother had two. The winters being mild grass was available



Construction of sod houses

Mrs. R.C.C-2

most of the year or all of of the year. Vegetables also were raised and grain.

Dried buffal chips and cattle chips furnished the fuel.

I have tried to give you a little of the pioneer life aside from the construction of the home. Land speculation was the motive of many but my parents were seeking a home as well as wealth, though my father was appointed land commissioner by the federal government in 1887 over a large district in Kansas beforeleaving Michigan, 1928. He would be remembered by many pioneers that may survive. Father was followed to Kansas by brothers and a sister, the brothers still having children residing there to whom father's estate was sold when he returned to Michigan on account of Mother's health.

You have mother's permission to use their shanty for your model of the Kansas original home together with their names if you may wish to be realistic.

Kindly,

Mrs. R. C. Carroll.



Construction of sod houses

Jackson Michigan
April 3, 1932.

Dear Sir:

Referring to the attached clipping from the Jackson Citizen Patriot of Jackson Michigan, would state that my Mother, Henrietta Stone, relates the following in detail this morning:

She was married to Frederick Stone in February 1887,

They immediately departed for Finney County, Kansas to take
up claims. A sod shanty was built in the Spring of the year
on their arrival. They found a place where the grass appeared
to be very thick and plowed it. The pieces of sod are about
10 inches wide, or furrow width. This makes all pieces the
same. They are longer than wide and are laid like brick,
pressing together tightly.

By building one side higher than the other a slant roof is made by laying boards across and covering with sod. The roof is not laid like shingles but is pushed up tightly so it will not leak. Some of the shanties had the pointed roof.

Door and window jams are made of boards. Glass is
placed in the windows and plain board doors were made. Mother's
shanty had two small windows and one door. They later built
a sod shanty having two rooms, most shanties have but one.



Construction of sod houses

Mrs. R.C.C .- 2

When the sod is dry it is combed on the inside, leaving dried root surface to which plaster clings. Mother's shanty was plastered. Boards were nailed to joist for the floor though some had plain earth floors, the soil having a packing nature.

She had a new rag carpet on the floor and pictures on the wall and has often mentioned its being one of the better shanties. Her bed and table were made of plain lumber. On the bed was a fluffy feather tick and straw tick. The cupboard was made from along drygoods box in which shelves were placed. This was covered with a figured ckoth curtain.

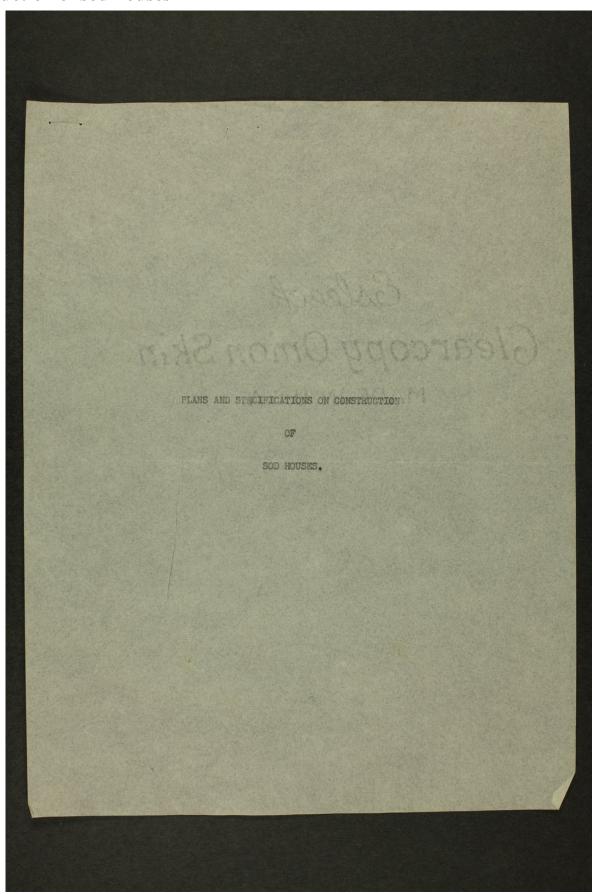
Will be glad to answer any further information.

Yours very truly,

Mrs. R. C. Carroll.

Many men earned their livelihood in other parts while the women occupied the shanties to prove their claims. Father was a musician and in the city most of the time. Thus many of the shanties were temporary homes.







SOD	(How to cut sod)	
	ow with wide mould board usus od over and cut strips with :	
WIDTH.	LENGTH.	THICKNESS.
12 inches	24 inches	4 or 5 inches
10 "	12 1/2 "	2 "
1	12 "	4 "
12 "	24 "	-
18 "	24 "	3 "
	(1) L 124 (n C V	4 "
10 "	24 "	3 "
12 "	24 or 36"	2 to 2 1/2"
12 to 14"	12 "	2 to 2 1/2"
12 to 16"	24 to 26"	4 or 5 inches
14 inches	14	2 to 3 "
		3 "
12 "	36 inches	3 "
12 "		3 "
		3 "
		2 1/2 to 3"
	24 to 36"	3 to 4 inches
12 "		2 1/2 "
12 "	12 or 24"	2 "
14 "	18 "	4 1/2 "

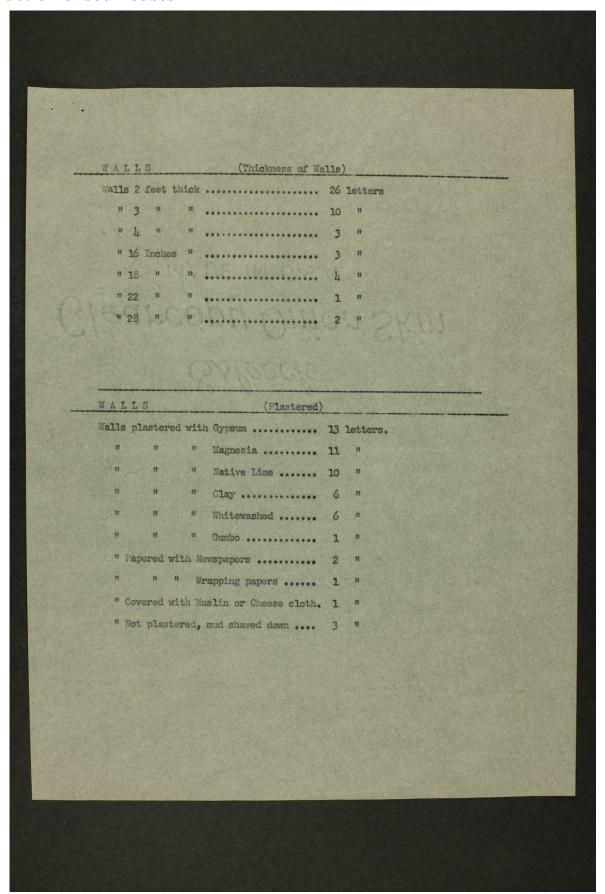


вор	(How to cut sod) Continued	1.
WIDTH	LENGTH	THICKNESS
	24 inches.	3 to 4 inches
12 inches	24 "	3 "
18 "	16 "	3 1/2 "
<u>기</u> , "	16 "	3 "
	24 to 36"	3 "
12 "	24 inches	3 "
	24 "	4 "
12 "	24 "	4 "
12 "	24 "	4 "
13 or 14"	26 to 28"	3 to 4 "
8 inches	18 inches	2 "
	24 to 36"	
14 to 16"		3 or 4 "
16 inches		3 or 4 "
η [†] "	18 inches	3 "
12 "		3 to 4 "
15 "	18 "	
12 or 14"	36 "	3 "
14 inches	32/11/19/7	
	24 "	3 "
12 "	24 "	3. "
Sod cut in slabs 12 in	nches square and the thickness	ess of 2 common bricks.
	THEY SALE	
Lay sods from each con	ener meeting about center of	wall, lay last two
sods on edge so t	they will form a triangle, g	rassy side down,
smooth with spade	e. Break joints with every	layer of sod.



SOD (Kind of Sod)
Buffalo
Bluestem
Prairie grass 9 "
Bluestem and Buffalo (mixed) 2 "
Wire grass 2 "
Wire grass, partly buffalo and grama 1 "
Salt grass 1 "
Alkali 2 "
Nigger wool 1 "
Any tough sod 1 "
SOD (Time to Cut)
Spring 10 letters
Spring 10 letters No special season 3 "
Spring 10 letters No special season 3 " When frost is out of ground 2 "
Spring
Spring 10 letters No special season 3 " When frost is out of ground 2 " Either April, May or June then September or October 1 " February 1 " May 2 " June 2 " July or August 2 " Either Spring or Autumn 1 "
Spring
Spring

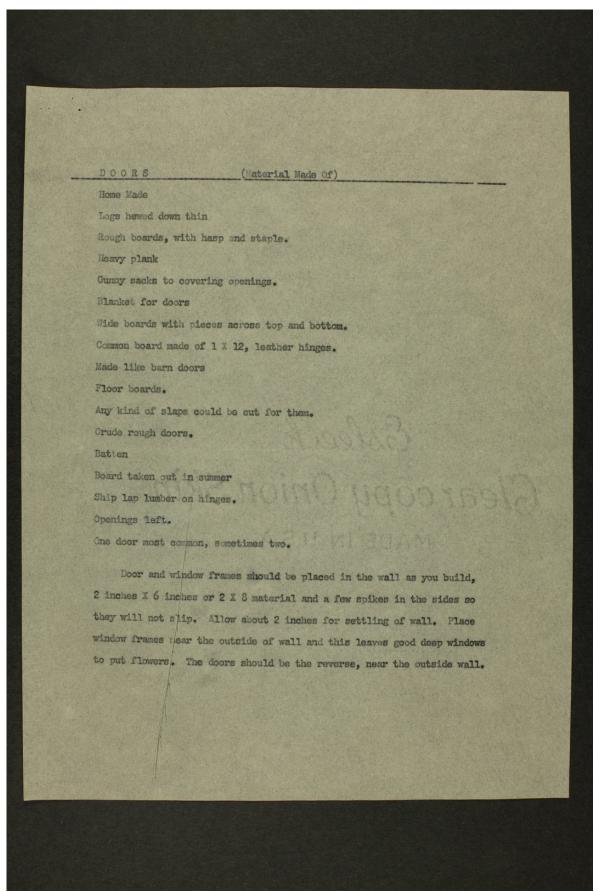






-	FLOORS (Made of)
	Dirt
	Board 12 " Sand 1 "
	Clay 2 "
	Cement 1 - "
	Hard Pan 1 "
	Carpet over straw 3 "
	Puncheon or plastered with gumbo 1 "
_	ROOMS (Number of Rooms)
	One room 8 letters
	Тwo " 6 "
	Two or three 2 "
	Two or four 1 " Five rooms 1 "
	rive rooms 1 "
	Most of the rooms were divided only by cloth partitions, in some in-
	stances sod was used.







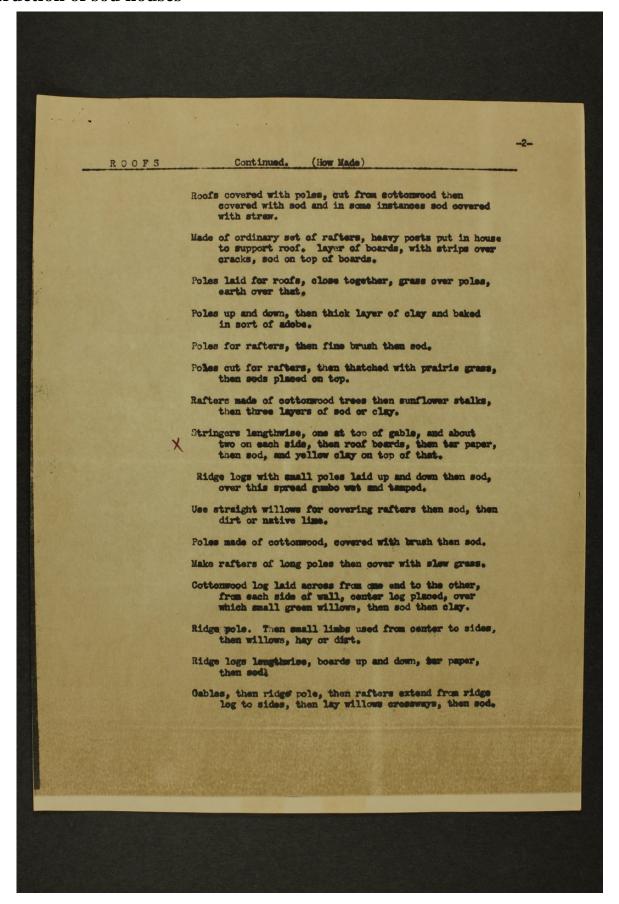
Construction of sod houses

(Material made of) Holes left in walls for air and light. Greased paper for windows. No glass-thin cloth greased to keep out wind. Willows for frames and cheese cloth for window panes. Glass with shutters like doors. Wooden shutters. Windows raised up and down held with stick. Sheep skin for windows. 1/2 sash windows Two windows with 4 panes of glass 2 Sash windows 1 Sash windows with 4 lights. No windows. Very small windows. Two feet square. Windows built in wall with ledge at least 2 feet deep. Window and door frames set up and built around same as brick.

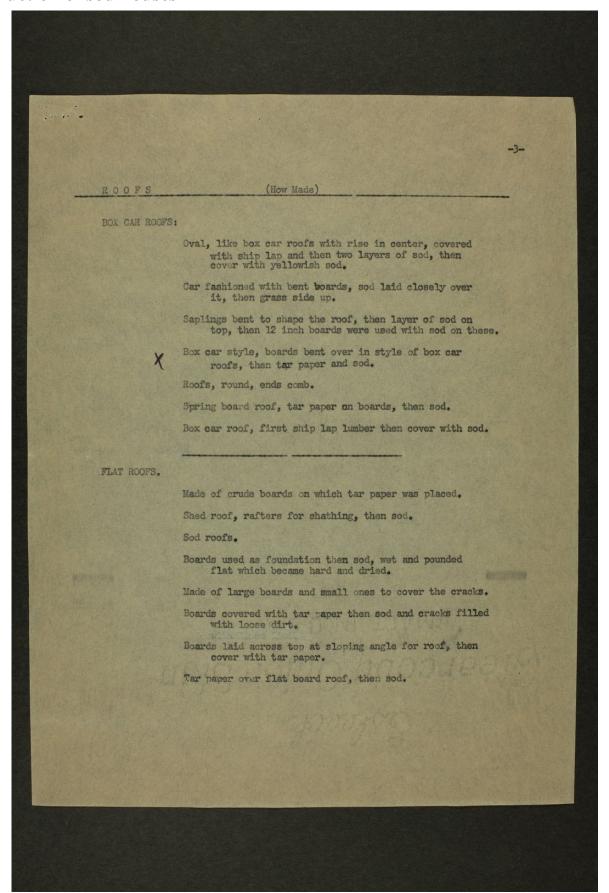


		~l-
ROOFS	(How Made)	
RIDGE POLE		
	Pole or scantling with tar paper then sod.	
	Cottonwood pole long enough to reach from gable to gable on either side, then brush, hay and then sod.	
	Rafter of small trees 3 to h inches thick, covered with grass or hay then sod.	
	Three strong poles; one in center, one midway between center and side walls, then corn stalks across poles 10 to 12 inches, then layer of sod, grass side up.	
	Beams laid across from wall to wall, spread brush wood, then layer hay then earth for water proof.	
	Ridge pole, length of house, rafters made from small willow branches, then coarse straw, then 2 layers of sod. Cracks filled with crumbled sod.	
	Ridge pole thru center about 2 or 3 on each side, covered with sheeting lumber made from native timber, then sod.	
	Ridge pole held by forks of heavy timber at each end, then poles from wall to ridge covered with thicket willows, then layer of sod.	
	Set fork at each end of wall, ridge pole in forks. Use one pole on floor to ridge pole as support. Gover top with small brush or poles for rafters then grass or hay, then sod. Fill spaces with gravel or dirt.	
	Poles, layer of brush, then sod.	
	Put layer of thick dwarf willows on stringers, then layer of sod, 3 inches of dirt afterwards.	
	Gable ends of sod, rafters 2 % hs cover with cheap boards then tar paper held down by lath.	
	Beams across center which roofs supports rested. Stringers were fitted into the sod, then rough boards over which a layer or two of tar paper, then fastened by lath, then layer of sod.	
	Ridge pole, pieces of timber from ridge pole down to walls of house for rafters, then cover these with willows, then magnesia over the willows.	
	Stringers or supports of roof made of saplings. Center sup ort plank. Sod is laid on top.	
	Ridge log in center. Elevated walls at each end. Smaller logs used as rafters, then brush and soil.	

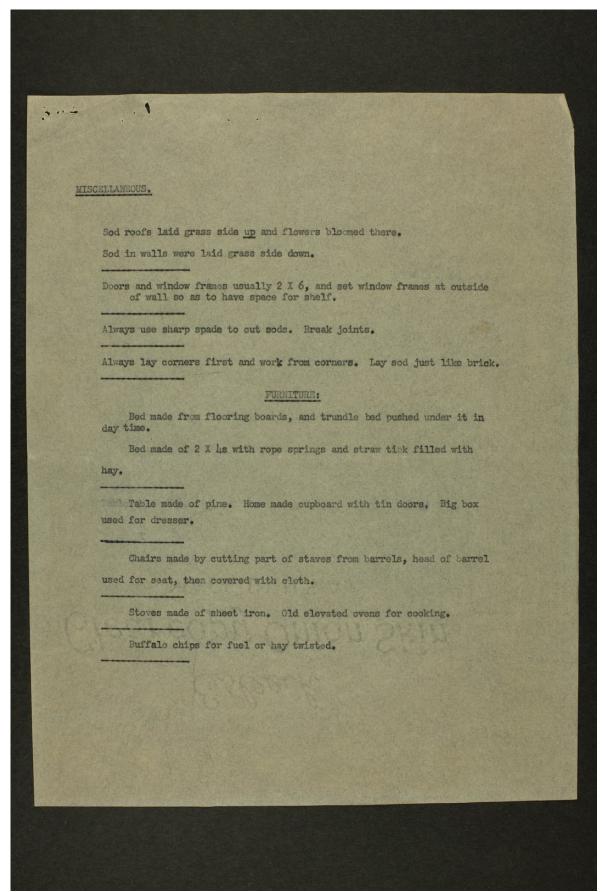




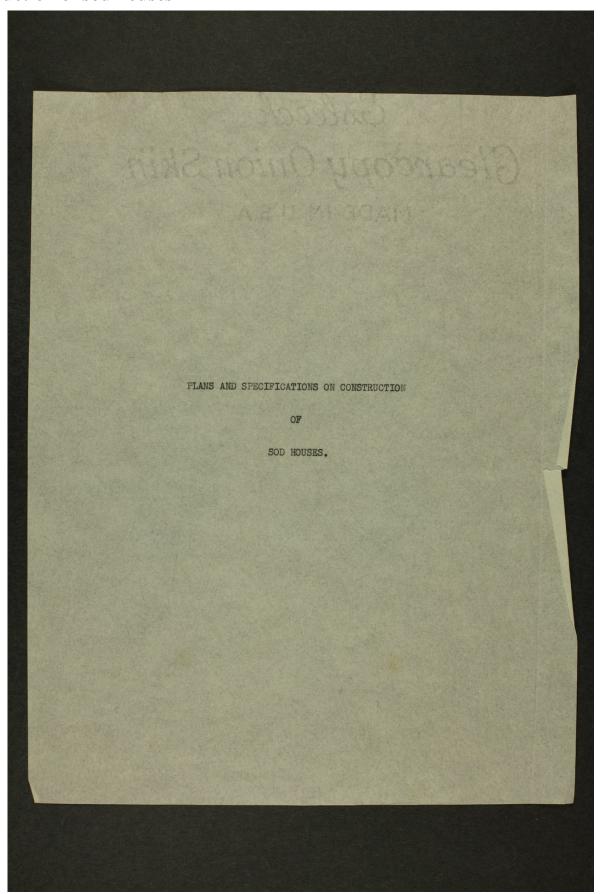














s o D	(How to cut sod)	
	low with wide mould board usu	
or more, then turn s	sod over and cut strips with	sharpe spade or ax.
WIDTH.	LENGTH.	MITOVIDES
	maidin,	THICKNESS.
12 inches	24 inches	4 or 5 inches
10 "	12 1/2 "	2 "
	12 "	4 "
12 "	214 "	
18 "	214 "	3 "
- 100 mm	24 "	4 "
10 "	214 "	3 "
12 "	24 or 36"	2 to 2 1/2"
12 to 14"	12 "	2 to 2 1/2"
12 to 16"	24 to 26"	4 or 5 inches
14 inches	14	2 to 3 "
		3 "
12 "	36 inches	3 "
12 "	14-14-14 - 14-16-16-16-16-16-16-16-16-16-16-16-16-16-	3 "
		3 "
A COLOR OF THE	intellmine	2 1/2 to 3"
	24 to 36"	3 to 4 inches
12 "		2 1/2 "
12 "	12 or 24"	2 "
14 "	18 "	4 1/2 "