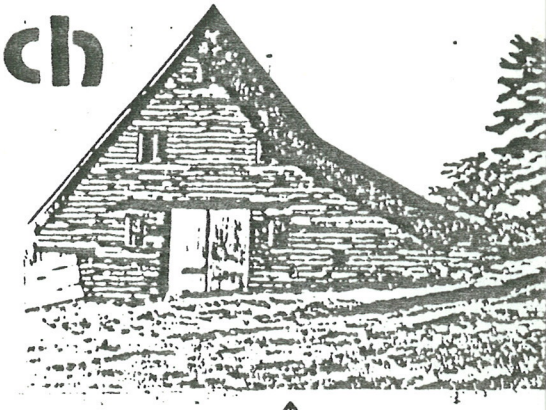
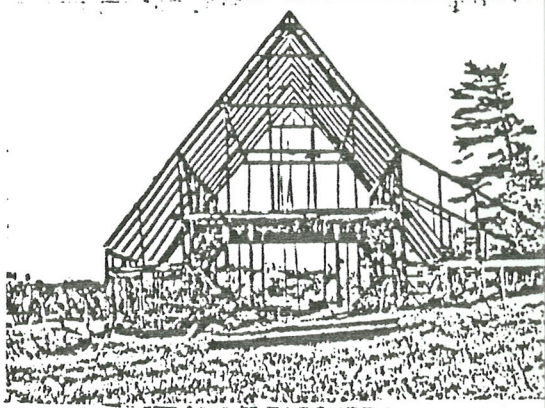
# Dutch Barn Research Miscellany

# Vol.2 No.2, 1989





The TELLER/SCHERMERHORN BARN
Schermerhorn Road, Schonowe,
Rotterdam, SCHENECTADY, N.Y.
1701-1948.

This publication is planned to provide more information than can be included in the NEWS LETTER of the society. The papers are based on the research activities, historical archives, field trips and collections of members and others interested in Dutch Barns. They are presented as unedited copy.

It is hoped that this information will lead to a better understanding of the chronology, the builders, and the utilization of these unique structures and the role they played during theearly settlement of Northeastern America.

The "MISCELLANY" will be compiled, reproduced and distributed at random times dependent on the accumulation of useful data.

Please send copy to Vincent Schaefer.

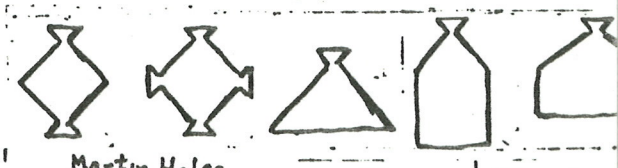
A publication of the Dutch Barn Preservation Society, P.O. Box 176, Rensselaer, N.Y. 12144.

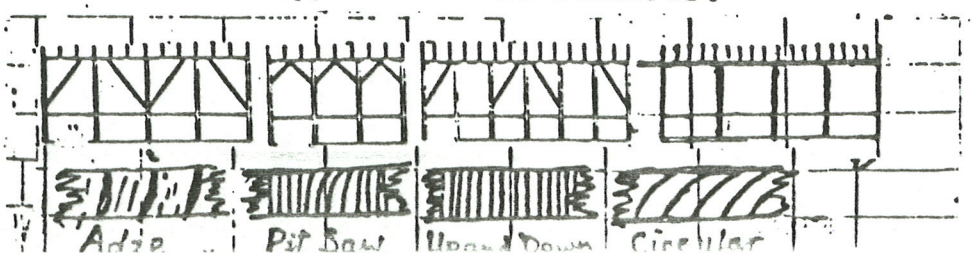
Available to all SUPPORTING MEMBERS interested in research

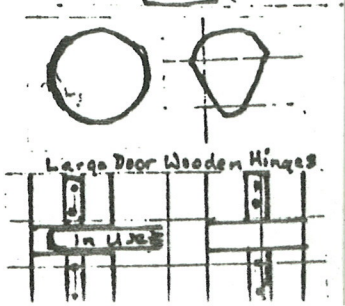
Membership- $20.00 per year.

The MISCELLANY is prepared

Vincent J.Schaefer
R.D.#3 187 Schermerhorn Road
Schenectady, N.Y. 12306



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## Volume II Number 2 Pages 31-60, 1989

Introduction

From the mid 1600's until about 1840 a very distinctive barn appeared on the rich fertile bottom lands along the Hudson, Mohawk and Schoharie Valleys of eastern New York. The first of these barns were fairly close to the edge of the rivers but by the turn of the century in the first part of the 1700's, farmsteads began to appear along the secondary streams such as the Catskill, the NormansKill, the Roeloff Jansen Kill, the Wall Kill, the Esopus, the Oniskethau and similar streams which were bordered with rich, fertile flood plains and flats formed during the latter phase of post glacial Lake Albany about 10,000 years ago.

Although the control of these lands was wrested from the original Dutch pioneers in 1674, this political move did little to change the cultural and traditional life of the mostly Dutch inhabitants. Thus, their behavior reflected the innate conservatism of these early settlers from the Netherlands and within Europe.

Their barns were located on land above the flood plain of the streams and rivers, fairly close to the house site and almost always near running water, be it a spring, a small stream or the river itself. We have no evidence that the barn was used as a dwelling place as was frequently the case in Europe between 1550 and 1700 but it is likely that the large barns had first priority in construction when a settler acquired a piece of land. The first house constructed was generally tiny and only sufficient for occupancy for a few years or so while the farmer was becoming established. As the family proliferated (as many as six to a dozen children being of common occurrence), a larger more substantial house was added onto the original home. This sometimes occurred in several stages as the farmer prospered.

While the large barn timbers from the surrounding forests were being fabricated and seasoned, simple hay barracks like those still in use in parts of Europe and Canada were constructed to protect the hay and grain from the weather. Some of these had elevated floors and thus provided some degree of shelter from rain and winter sleet and snow for livestock and fowl.

The basic difference between the Dutch Barn and those that followed was their entryway and the manner in which the roof was supported. With the Dutch Barn the roof rested entirely on an H-frame which supported the purlin plate on which were placed the roof rafters. None of the weight of the roof was supported by the barn walls. Entry was from the gable end. The Dutch Barn was square.

On the other hand, the later barns had roof rafters supported primarily by wall timbers. If the wall collapsed, so did the roof of the barn. Entry of such barns was from the side and the floor plan was rectangular.

In this essay I propose to sum up my impressions of the factors involved in the of occurrence, design and development of Dutch Barns on the farmsteads of the Hudson, Mohawk and Schoharie Valleys of New York State. These observations are based on the examination of nearly a hundred of these barns by me during the past sixty-five years. Quite a few of these are gone -- the victims of fire, removal or neglect.

Most of the loss by fire has occurred due to spontaneous combustion from the storage of wet hay although arson and carelessness have also claimed some of them. Removal from one farm site to another occurred up until about 1940 and generally destroys the basic integrity of their structures. In more recent years such barns in increasing numbers have vanished from the region. A few of these have been reerected as working or museum type structures though many have been converted to second homes by wealthy urbanites. Neglect has also been a powerful force in the disappearance of these noble structures. A leaky roof in this part of the country introduces moisture

which quickly nurtures fungal spores that rot the large timbers. It is a sad thing to see the rapid deterioration which follows such neglect. Occasionally, the powder post beetle destroys the timbers. This happens occasionally in barns with intact roofs.

Despite the early political move which wrested the control of the Dutch possessions of New York by the English in the mid 1600's, the very conservative Dutch inhabitants of the farms and villages of the region continued to live and perpetuate their Dutch culture for more than a hundred years after the takeover. On the farms this conservatism continued to control the design and construction of many of the buildings. Even after the Revolution, the replacement of the many barns burned during the 1780 raids of Sir John Johnson with his English troops, Tory neighbors and Iroquois Indians, continued to be built in the Dutch manner though the quality and beauty of these replacement barns were not equal to the earlier ones.

Compared to the more recent barns built from the mid 1800's to the present time, the Dutch Barn has a unique design. Its roof is supported by rafters which in turn rest near their center on purlin plates which extend the length of the barn. These, in turn, rest on top of massive posts which are held together with anchor beams which extend across the center of the barn to make an H frame. All of the barn roof, rafters, sheathing and shingles is supported on these purlin plates. Thus, the side walls of the barn are "curtain walls" and can be completely removed without in any way affecting the barn's stability or roof structure.

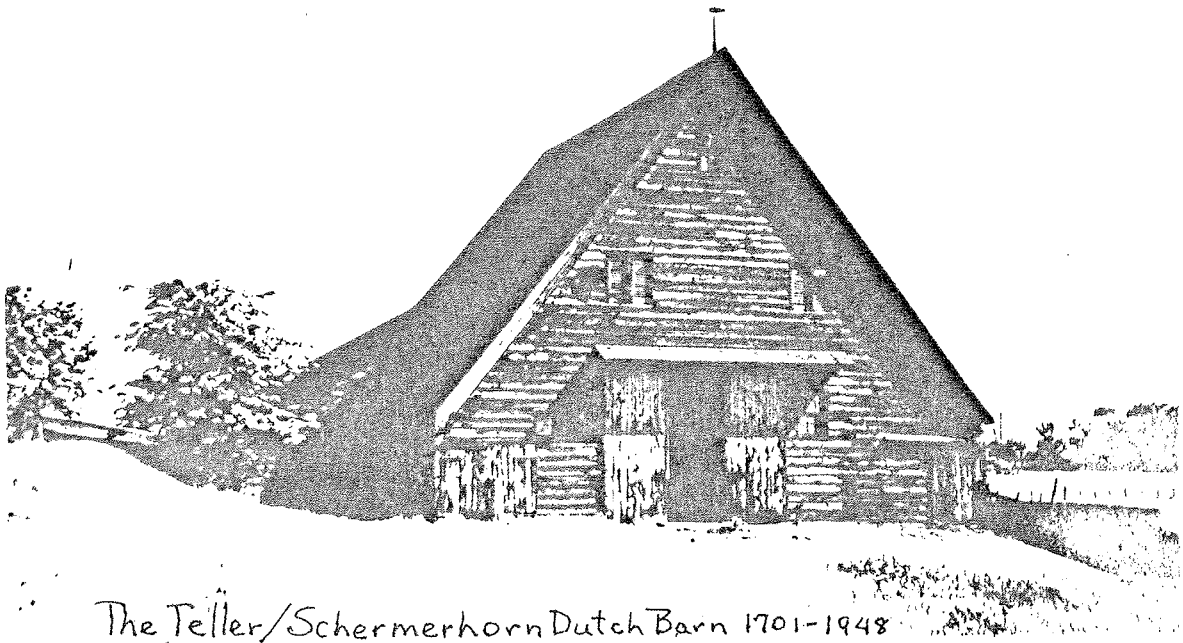
The anchor beams, especially those in the earlier barns built before the Revolution, are the showpieces of the barn. They are sometimes 35 feet long with large tenons which extend through mortises and project a foot or more beyond the back side of the posts which support them. In most Dutch Barns the wide area spanned by these tremendous beams (sometimes 23" deep, 12" wide and 35 feet long) are above a threshing floor where wheat and other grain seeds are extracted with flails or by driving a cow, mule, horse or oxen around and around a post that is positioned in the center of the area. This is supported by sockets in the floor and on the anchor beam above.

The first barns were massive structures resembling the tithe barns of Europe. The Dutch master builders must have gloried in the tremendous pine and oak trees available to them that grew in the surrounding forests. They must have recognized the importance of proper seasoning before assembling the main timbers with mortise and tenons joints. These builders were probably shipwrights since many of the joints and shapes they utilized resemble those used in the construction of wooden sailing ships.

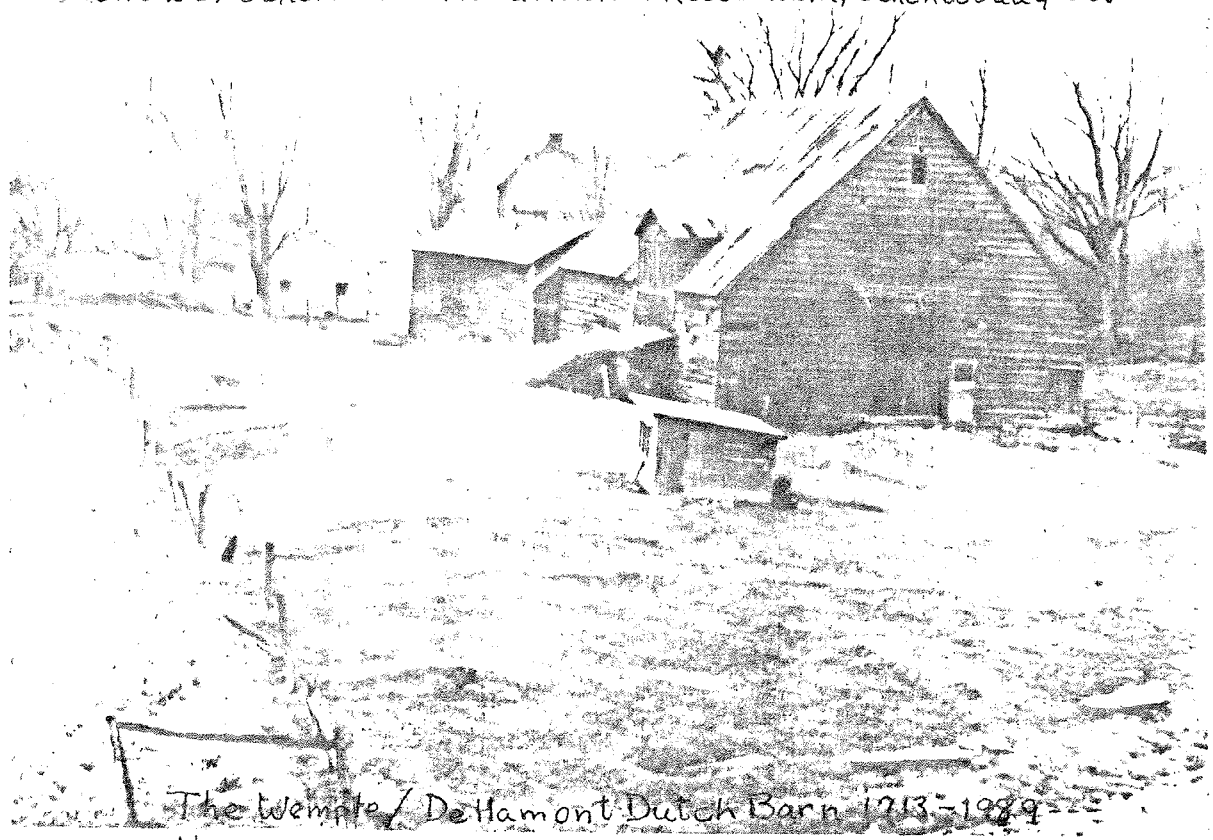
It is likely that the first hay and grain protectors prior to the erection of the barn were hay barracks such as are still used in some parts of Canada and Europe. These consist of adjustable roofs which are twelve to twenty feet across guided by a set of poles piercing the roof at its edges. Sometimes the bottom of the hay or grain stack was suspended 3 to 6 feet above the ground to provide protection for small farm animals and domestic fowl. The roof was adjusted to be a foot or so above the pike of hay or grain and was supported by pegs that projected thru holes drilled about a foot apart along the length of the barrack poles which in turn were 20-30 feet long.

Nearly all of the early Dutch Barns were square and ranged from 35 to 50 or more feet on a side. The earlier ones had large wagon doors in both of the gable ends. These swing inward and were supported by large wooden hinges. Most of these doors consisted of one solid door and a double "Dutch" door. The upper half was often left open to enhance ventilation while the lower half remained closed. The wooden hinges often were made of hickory or oak and spanned the width of each door. Sockets were cut in the end door framing posts to guide the hinges which were retained by round dowels that fit into a groove cut above and below the socket. On the "Dutch Door"

side the middle socket had a double length to accommodate the two hinges. These hinges were so well hung that after more than 200 years they still swing true. In most instances the inward swinging doors have been replaced by doors that swing outward or slide parallel to the barn siding being hung on iron tracks. In a number of instances the gable end doors were replaced by doors that provided egress from the side. These later barns had side walls fourteen to sixteen feet high The earlier barns on the other hand, had lower walls. These ranged in height from seven to ten feet.



The Teller/Schermerhorn Dutch Barn 1701-1948
Schonowee, Schermerhorn Rd. Town of Rotterdam, Schenectady Co.



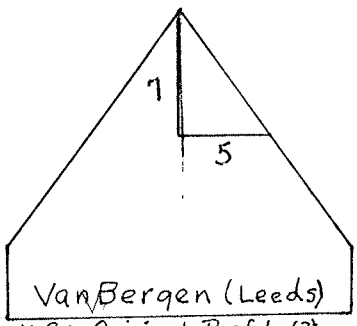
The Wemple/Dellamont Dutch Barn 1713-1989
Normanskill, Wemple Rd. Town of Rotterdam, Schenectady Co.

## The Roof Angle

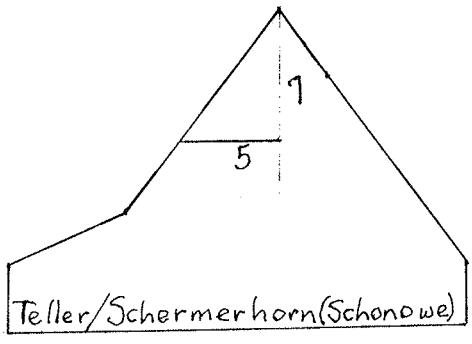
**The Dutch Barn had a distinctive roof line. It had a steeper slope which was longer than possessed by later barns. In fact, its profile is so distinctive that a Dutch Barn enthusiast can generally spot them a mile away.**

**The included angle of these barns tended to fit into three categories. The oldest ones were the steepest, having an angle of around 80°. After about 1760 as the side walls became higher, this angle approached 100°. The latest ones built after the Revolution to replace those burned by the British raiders and their allies or lost in some other manner had included angles of 105°-110°. Despite these differences, the Dutch Barn had a distinctive appearance and added greatly to the aesthetics of the countryside vistas.**

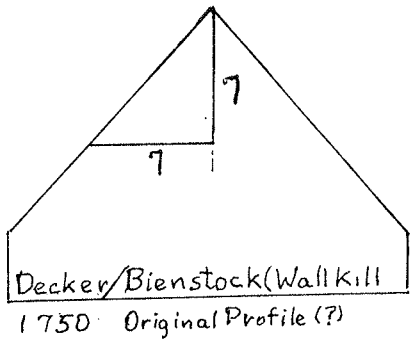
My Amsterdam Holland correspondent, Jaan Schipper, pointed out to me in his letter of September 1989 that it is likely the Master Builders of the Seventeenth Century probably used the age old procedure of figuring and fashioning the slope of the roof of a Dutch Barn using proportionality. Thus the slope of the Teller Schermerhorn Barn had a ratio of 1 to 1, that is, for every foot in elevation the builder would measure one foot horizontally. In this manner the slope of the Teller Schermerhorn Dutch Barn, which I had to dismantle in 1947-48 due to rotted roof and purlin plates, was constructed 1:1 a classic slope similar to many in Holland. The slant of half of the western roof which had a lesser slope was 5:3. This was also similar to the roof of a house/barn combination reported to be in structures in Holland built in 1548 and 1650.



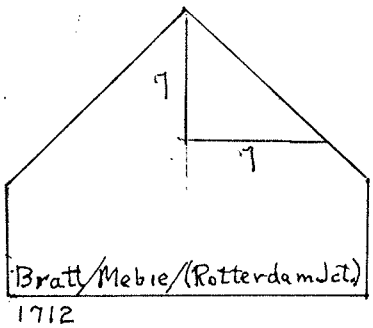
Van Bergen (Leeds)
1680 Original Profile (?)



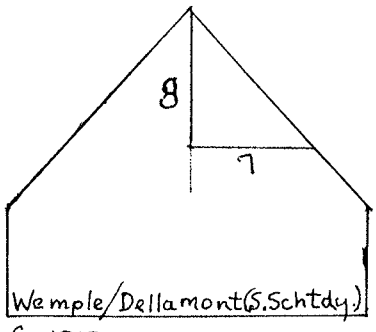
Teller/Schermerhorn (Schonowe)
1701



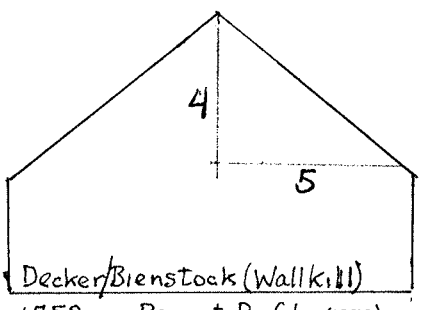
Decker/Bienstock (Wallkill
1750 Original Profile (?)



Bratt/Mebie/(Rotterdam Jct.)
1712



Wemple/Dellamont (S. Schtdy.)
Ca. 1713

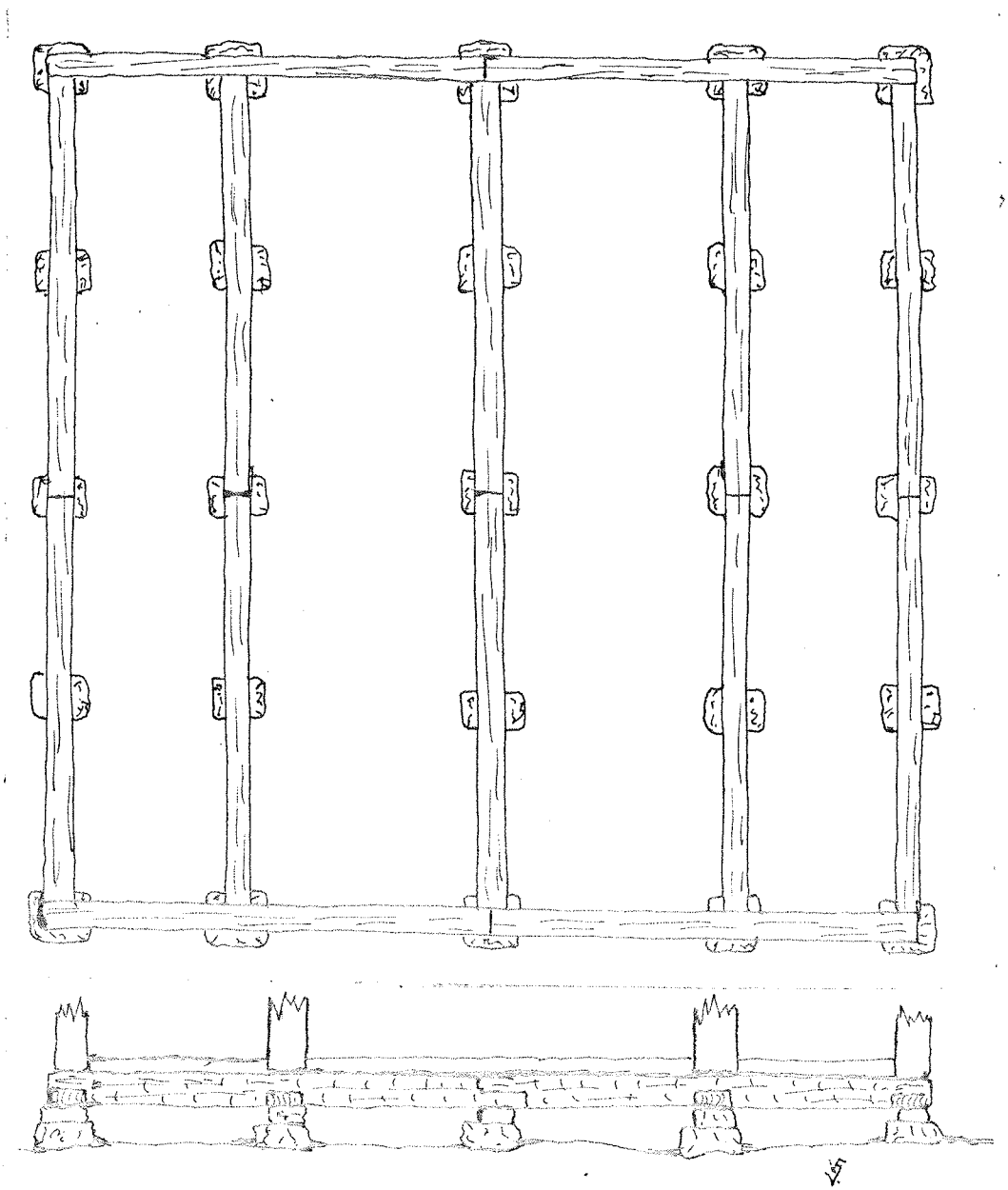


Decker/Bienstock (Wallkill)
1750 Present Profile (1989)

Foundation

The basic pattern of the foundation of the Dutch Barn consisted of piles of flat or semiflat stones arranged to support the sills of the barn and located so as to be at strategic spots around the periphery and to be under the posts held together with the anchor beams. Thus, the floor of the barn was held several feet above the ground so as to permit adequate air circulation beneath the barn floor. In some instances if the barn must be located on a moderate slope, a solid dry wall was built so that the sills were level. This never interfered with good ventilation. The sills were massive, frequently 12" x 12" in cross sections and originally in single pieces. With large barns there was a median sill running the full length of the barn from gable end to gable end and used to utilize floor planks of a bit less than half the width of the threshing floor.

The stone piers used to support the sills were generally of native sandstone or limestone which frequently split into convenient thicknesses to provide excellent stability. Since the ground beneath the barns was dry, problems with frost heaving were of no consequence.

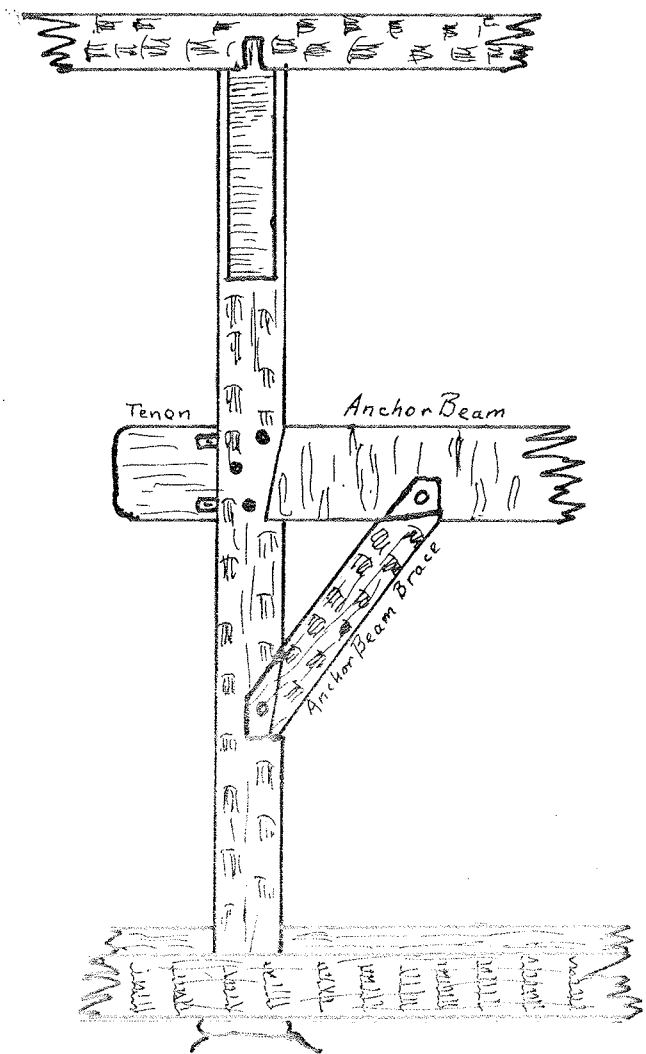


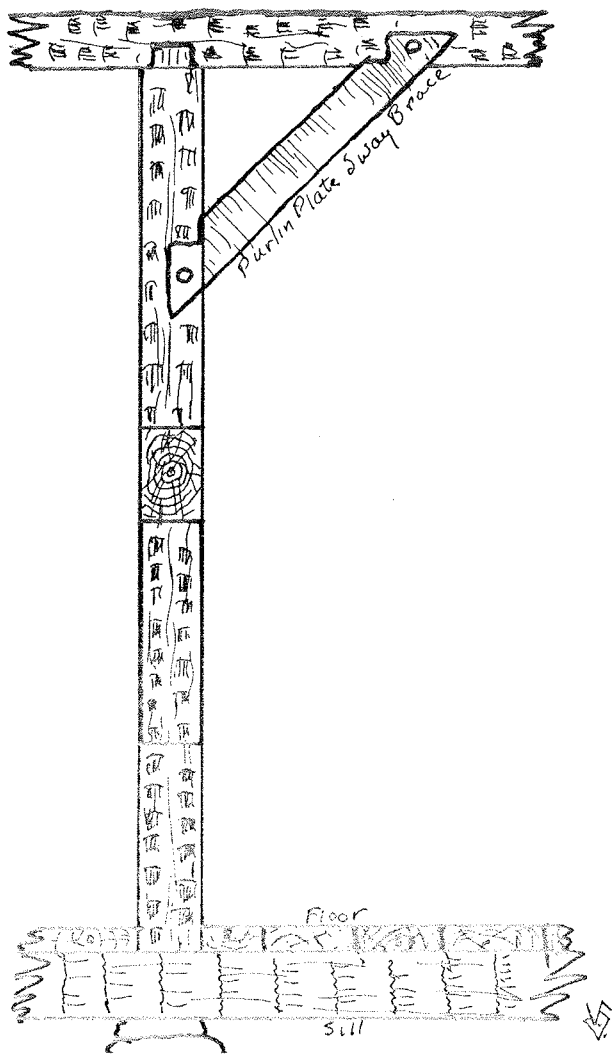
## The Anchor Beam Posts

The vertical posts making up each bay in the three to six bay Dutch Barns were generally of massive size. They had cross sections of 10 to 14 inches and were either square or might be slightly rectangular by one or two inches. They were frequently made of oak or pitch (yellow) pine. The upper end generally had a tenon to accommodate a mortise cut into the purlin plate which rested there.

Depending on the height of the side walls, these posts extended five to ten feet above the top of the anchor beam which was supported by these posts. The rectangular hole constituting the mortise for the large anchor beam tenon was made to the same vertical dimension of it. This mortise ranged in size from 3 to 4 inches wide to a depth of 16 to 23 1/2 inches. At the base of this rectangular hole the post was recessed one to two inches so that the bottom of the anchor beam rested on the massive post. Thus the weight of the anchor beam was supported by the post rather than having its weight dependent on the strength of the tenon. This step recess supporting the anchor beam was at the bottom of a slanting cut in the anchor beam post which began at the top of the beam and ended at its base. Similarly, the anchor beam was also fashioned so that when assembled all joints were snug and perfect. That is timber assembly at its finest.

Other mortises were cut into the anchor beam posts to accommodate the anchor beam brace and the timber spacers between adjacent bents (bays) and the side aisle wall posts. In addition, other mortises were cut to carry the sway braces extending from either side of the posts to the under surface of the purlin plate.

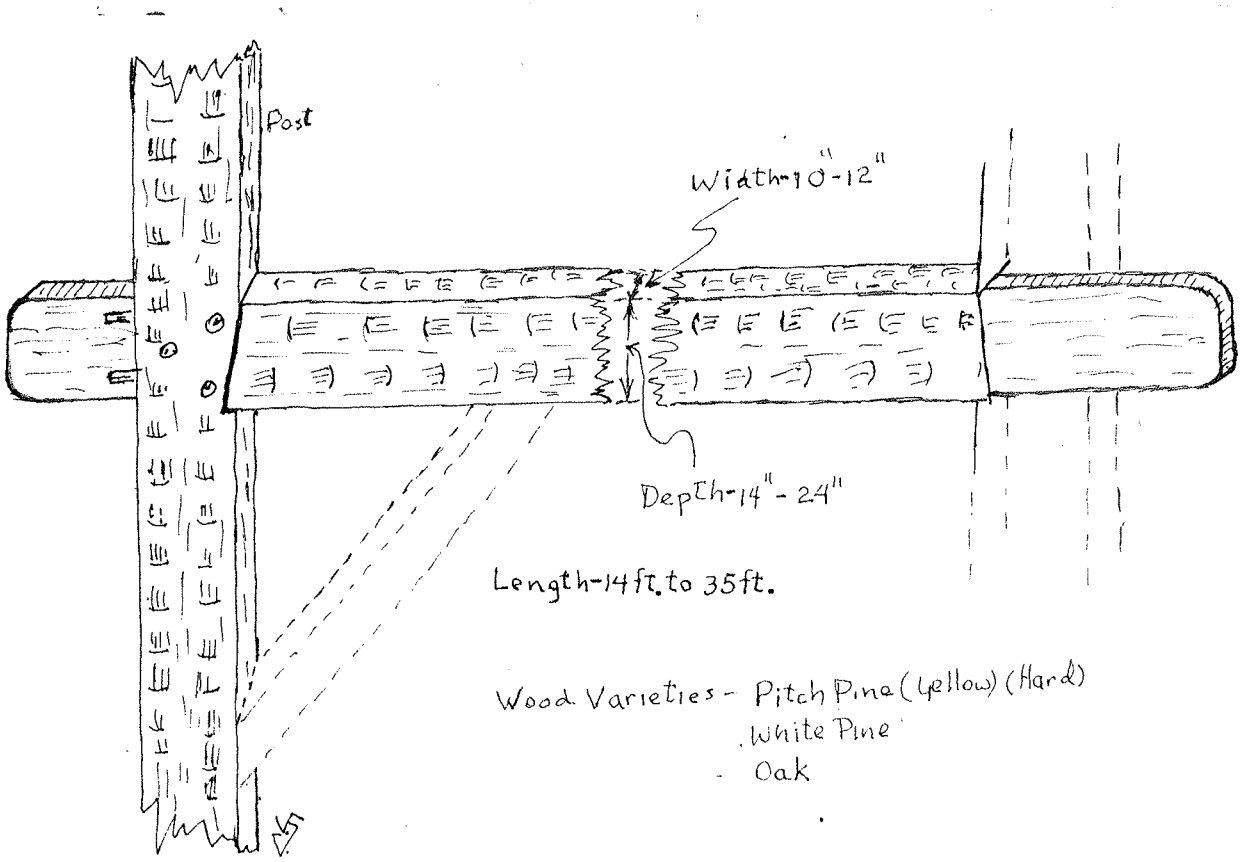


## The Anchor Beams

These hewn members of the Dutch Barn, the anchor beams, were the "show pieces" of the structure. They were made mostly of either white pine or pitch (yellow) (hard) pine. Over the several centuries of their existence the white pine members developed a beautiful brownish patina. The earlier, more massive beams in addition to being roughed out with broad axe were often "finished" with a very sharp adze. The best ones looked almost as though they had been finished in a planing mill. When pitch pine was used, the patina from aging was not as beautiful as that of the white pine though they had their own type of beauty in the contrast between the dark, pitch containing growth of the annual rings compared to the lighter spring wood. When oak was used in places like the mid-Hudson Valley and New Jersey, the barns I have seen are all of a later vintage dating from about 1760 and later. Presumably, these areas did not possess the virgin pine forests of the more northern region. It is likely that the Pine Plains which extended from Albany to Schenectady the ancient sandy post-glacial bed of Lake Albany was a ready source of massive virgin trees of pitch and white pines. Since these earlier barns were along the edges of the highly fertile flood plains of the rivers and streams of the region and the sandy terraces left by the glacier these huge trees provided a rich source of timber.

Anchor beams ranged in cross section from 16"-24" deep by 11-12" wide and from twenty to thirty-six feet long. Three to four feet of this length served to form the massive tenons which projected through the posts. Two rectangular wedges made of oak or hickory snugged the anchor beams against the supporting posts. The reason for the foot or so long projection of the tenon beyond the rear of the anchor beam posts was **to provide adequate back-up protection against splitting when the assembly was completed.**



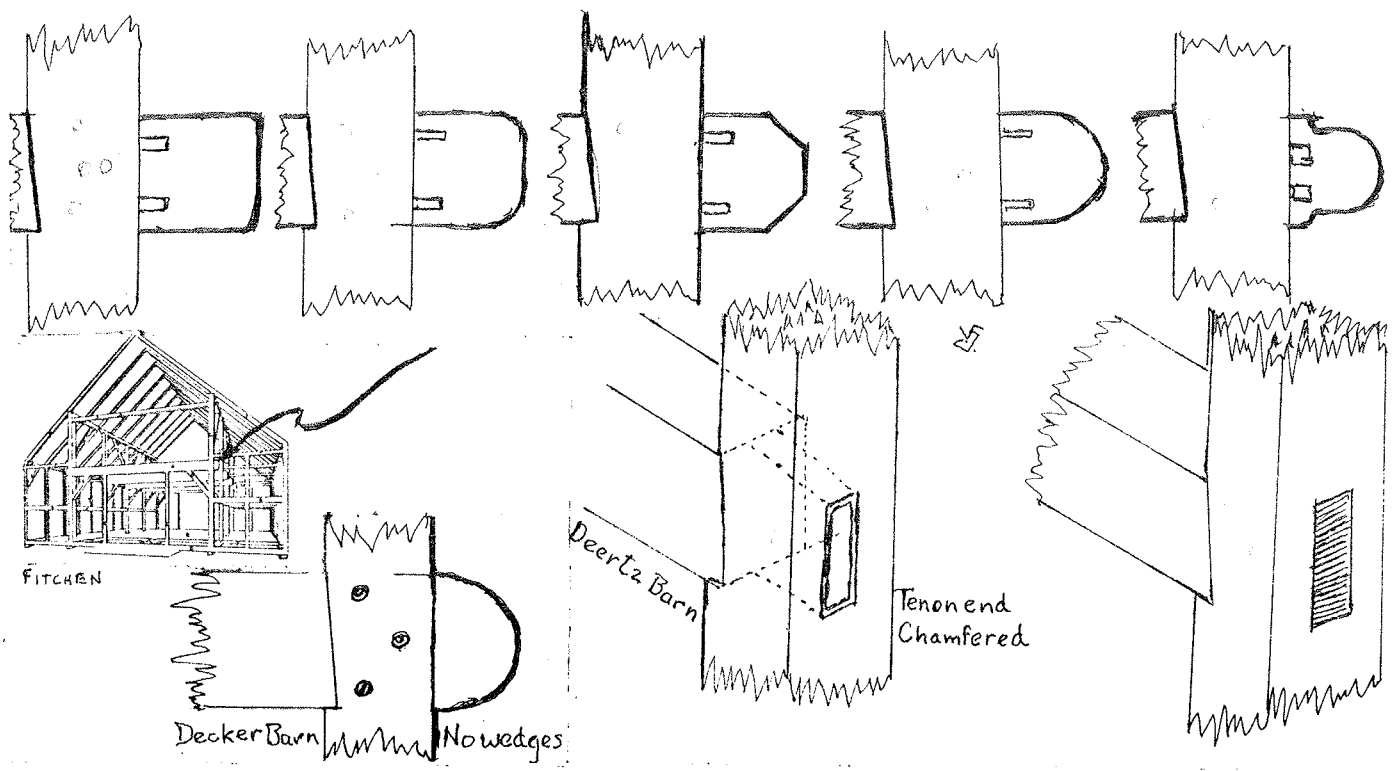
The Anchor Beam Tenons

A highly distinctive feature of the Dutch Barns of our region is the anchor beam tenons. A quick glimpse into a barn reveals it as a "Dutch" barn if the tenons project beyond the rear side of the massive posts which support the purlin plate which in turn carry the roof rafters. A few barns exist where the tenons are only flush with the rear side of the posts. In some instances the tenons have been cut off for some senseless reason but in a few cases (such as the Deertz Barn recently moved to Ancram, N.Y., from the Schoharie Valley near Middleburg), the tenons were cut to be flush with the back surface of the post. This is proven by the presence of chamfered edges on the tenons.

In most instances the tenon is three to four inches wide, the full depth of the anchor beam, and projects from ten to twelve inches beyond the back surface of the supporting post. In most instances these tenons have been nicely made, fit into mortises in the post with very little clearance and have two rectangular holes on the rear side of the posts to accommodate slightly tapered hickory or oak wedges which snug the anchor beam to intimate contact with the post and the braces. This joinery reveals the nature of the barn builder. When properly fashioned these joints are a joy to behold. Even after more than two centuries a well built barn has joints that are still in perfect condition.

The outer profile of the projecting tenon reveals a number of variations. Some are still square ended but the majority have their corners rounded, cut at 45 degrees or made circular. In addition to the two (rarely one) tapered wedges, two or three hickory or oak pins are inserted on the side of the posts in a staggered array. These are generally smoothed off flush on both sides of the post.

The reason for the projecting tenon is to provide backup substance to prevent the splitting of the tenon when the joints are assembled and "snugged home."

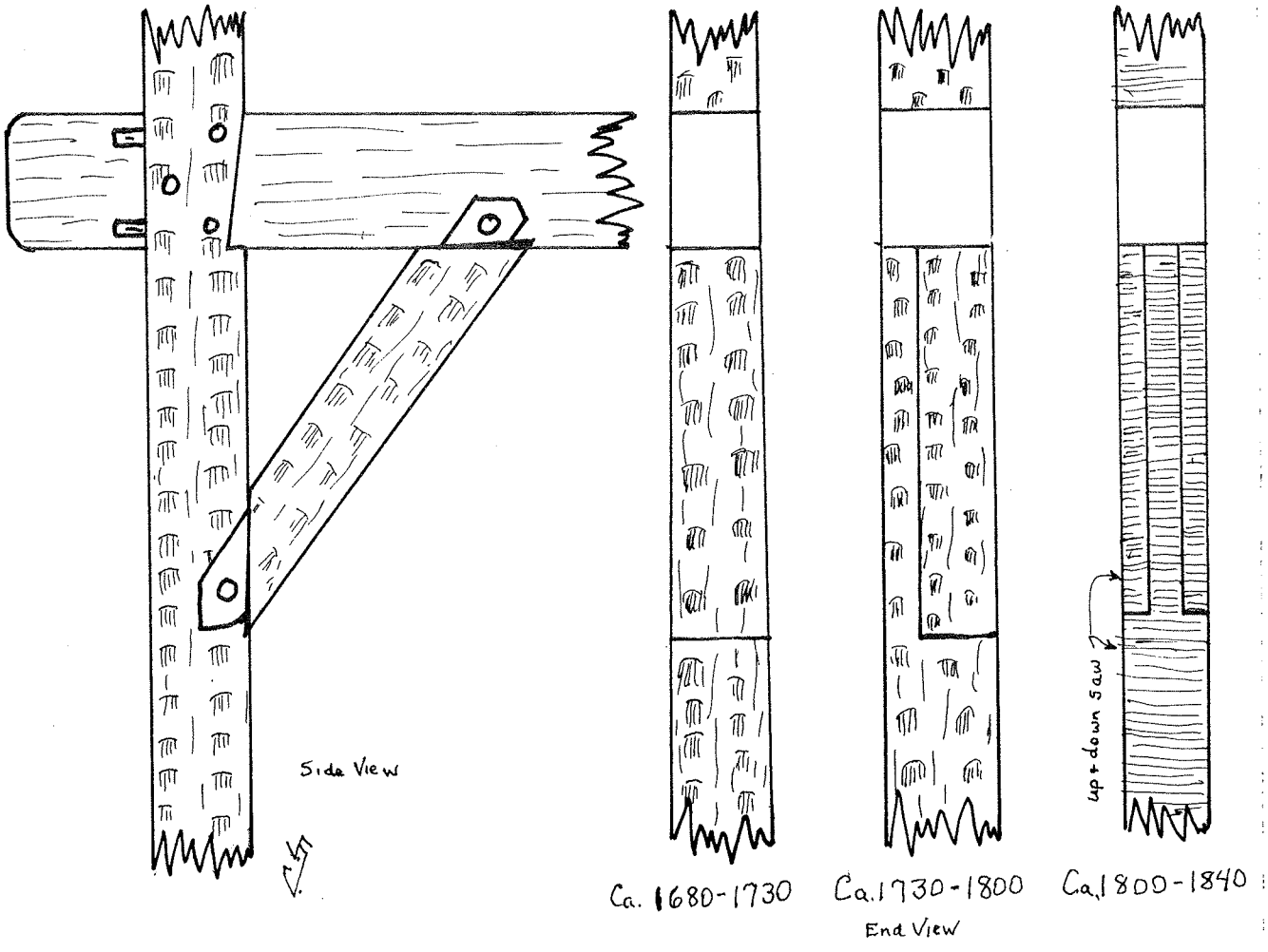


Anchor Beam Braces

As part of the joinery of the anchor beam/post complex is the anchor beam brace. This consists of a timber which extends from the front surface of the post to the under surface of the anchor beam. The brace has tenons on both ends which fit into mortices cut into the upright and horizontal surfaces of the two other members. The assembly of these tree timbers must be accomplished while resting horizontally at ground level. The brace joints are inserted as the large anchor beam tenon is slid into place. Once seated and the wedges are driven home, the wooden pins are driven into holes cut into the post and the beam. This makes an assembly which will last for centuries if kept dry.

It appears that the dimensions of the anchor beam braces provide an important clue to the age of the barn in which it is found. As a general occurrence, the oldest barns have braces which have the same width of the anchor beam and the post which holds it. In later years the braces sometimes consisted of two pieces of wood, their added width still less than the width of the beam or the post making up the complex of the H frame.

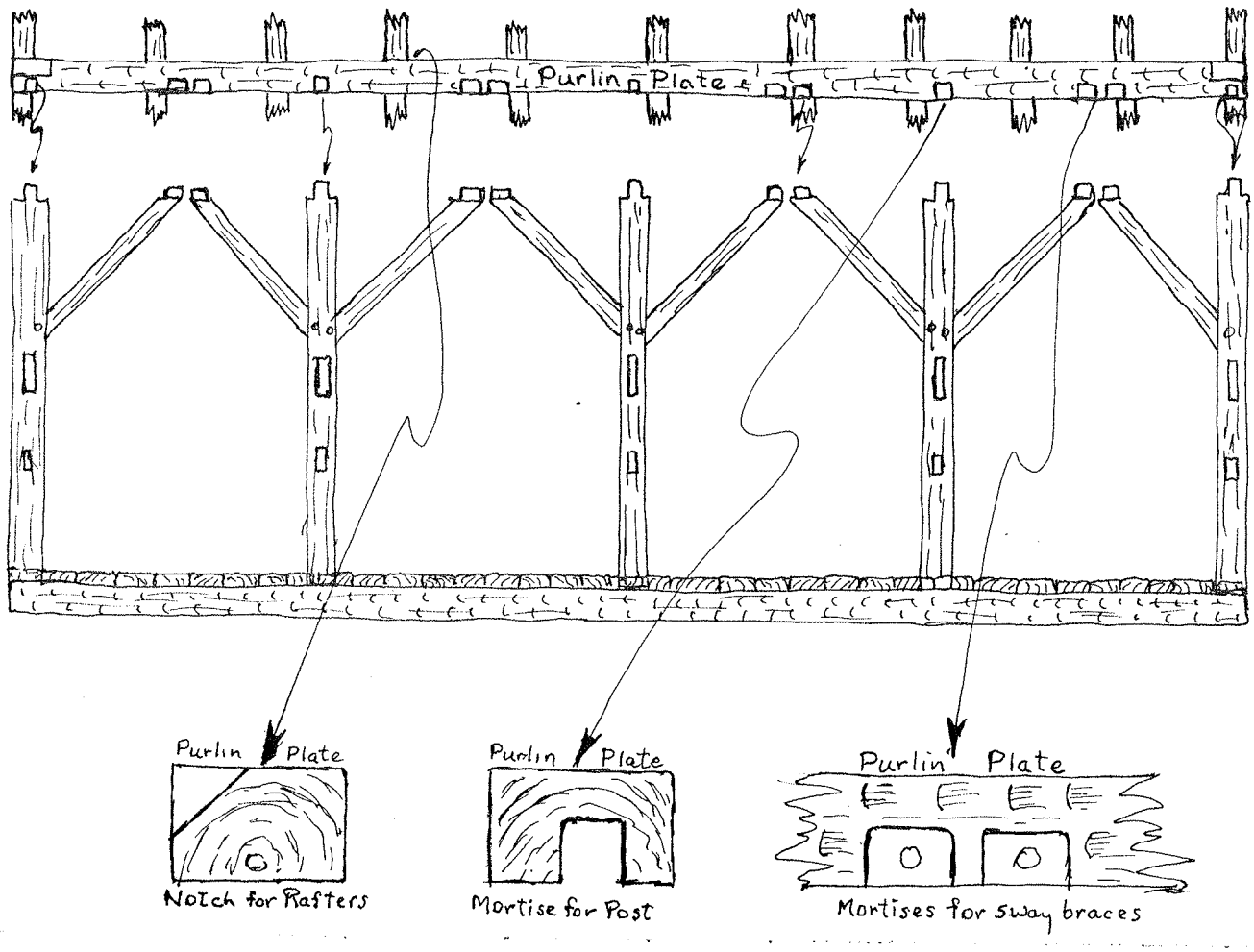
In the oldest barn of which we have firm measurements (the Marten Van Bergen 1680 Barn of Old Kattskill) the braces were curved and the width of the post and anchor beam. In this barn there was a second set of anchor beams with the posts leaning inward at an angle of about 30° from the vertical, identical with timber construction of 1548 in the Netherlands. This barn had a double set of purlin plates with roof rafters in the original barn having the same pitch as that of the Teller -- Schermerhorn Barn of 1701



Purlin Plates

The purlin plate is the long horizontal timber running the length of the barn and resting on top of the anchor beam posts centered by tenons projecting from the top of each one of them. These generally are made of a single timber with a cross section of 10" x 12" or 8" x 10" and sometimes sixty feet long. Other timbers - the sway braces - are pinned into mortises cut on the under surface of the purlin plate and similar holes cut into the sides of the anchor beam posts. On the oldest barns the braces are quite long sometimes with their lower end located below the adjacent anchor beam. With most of the barns however these braces are of a length to make a 45 degree angle between the plate and post and are pinned into mortises near the midpoint of the plate between the bents. When the sway braces are long, only one is found between the bents.

The purlin plates are sometimes notched to accommodate the roof rafters which rest on them. In most instances the rafters are notched.

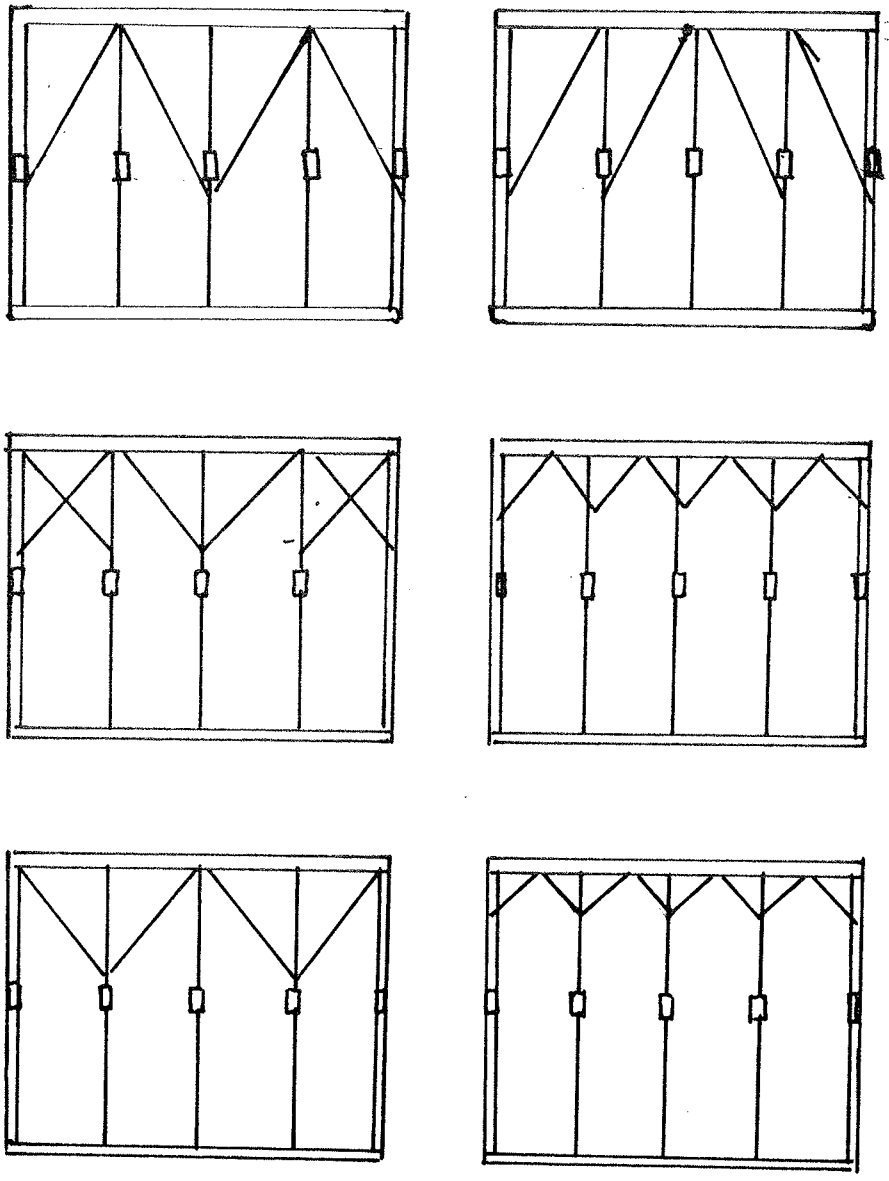


The Purlin Plate Sway Braces

In order to resist the wind loading on the roof assembly of the Dutch Barn, a series of timbers were employed which extended from either side of the anchor beam posts to the underside of the purlin plate which runs the length of the barn from gable end to gable end. These were mortised and tenoned and inserted when the purlin plate was raised and placed on the tenons cut on top of the anchor beam braces.

The earliest barns had sway braces which were the longest. In fact, they frequently extended from the purlin plate under side near an adjacent anchor beam post down to the opposite post and inserted into a mortise cut below the anchor beam. In a few instances these long braces were crossed by others with their centers cut to permit the presence of two fairly long braces to a bay.

More frequently, the sway braces were considerably shorter so that the upper ends under the purlin plate were close to each other in the center of the bay with their lower ends inserted into the sides of the anchor beam posts to make an angle of 45 degrees.

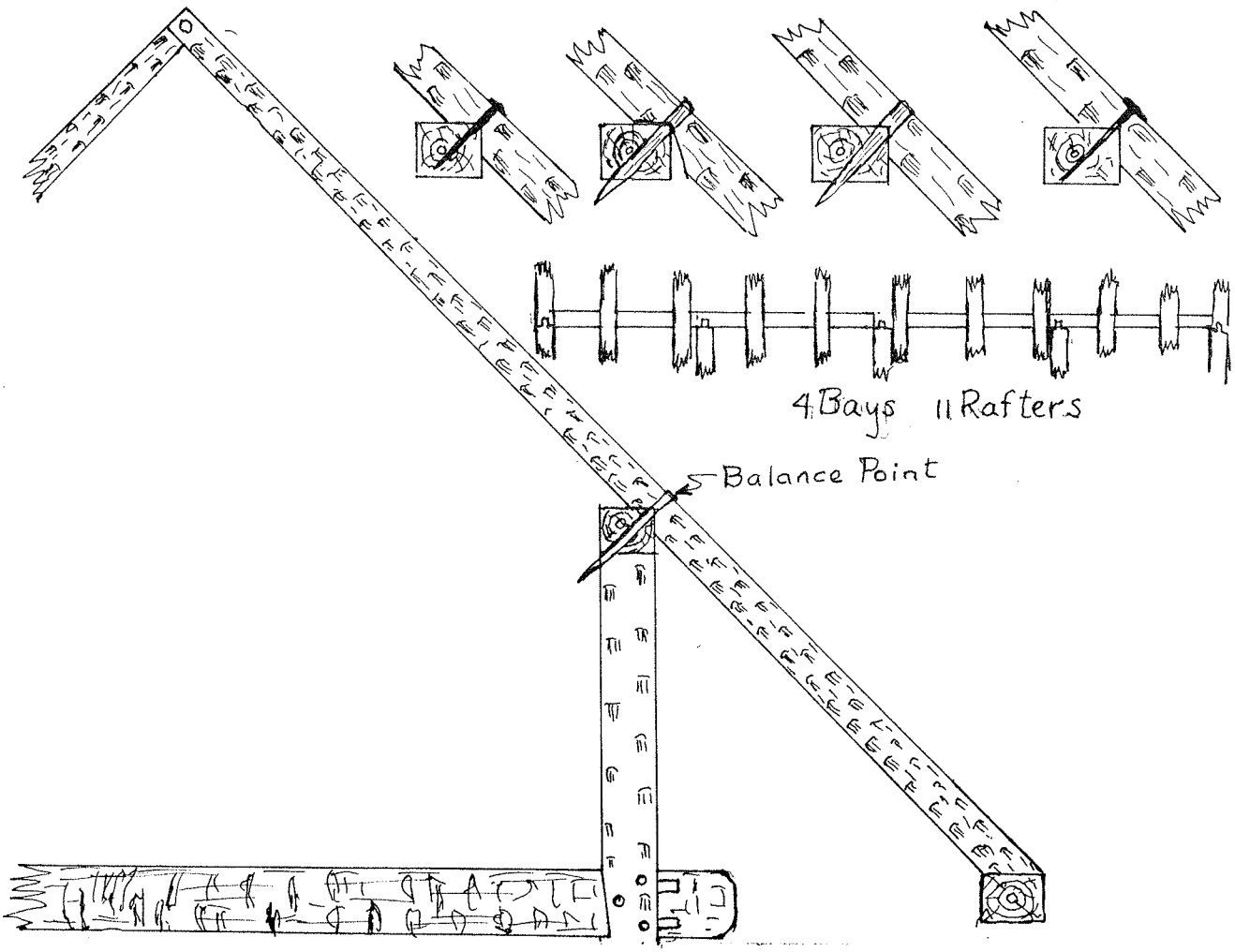


Roof Rafters

The roof rafters of Dutch Barns especially the older ones are big timbers. They are tapered and range from 5" x 5" or 6" x 6" at the top to 7" x 7" or 8" x 8" at the bottom. They are rarely suspended in their middle, the upper part above the purlin plate being longer. However, the tapered nature of the timber causes them to be in perfect balance when put onto the purlin plate. The rafters are hewn and occasionally smoothed by adze.

There is never a ridge pole in a Dutch Barn. The upper ends are finished with a fork and tongue ending and when fitted together are drilled and a wooden peg inserted to hold the ends together. Most often the rafters are notched so as to set firmly on the purlin plate and a very large iron spike or a long pointed wooden peg holds the rafter onto the purlin. Frequently the rafters are spaced about 40 inches apart, two of them sharing the space between the bents with every third rafter located near the anchor beam posts. In most instances they are not directly above the posts so as to not interfere with the mortise and tenon connecting the posts with the purlin.

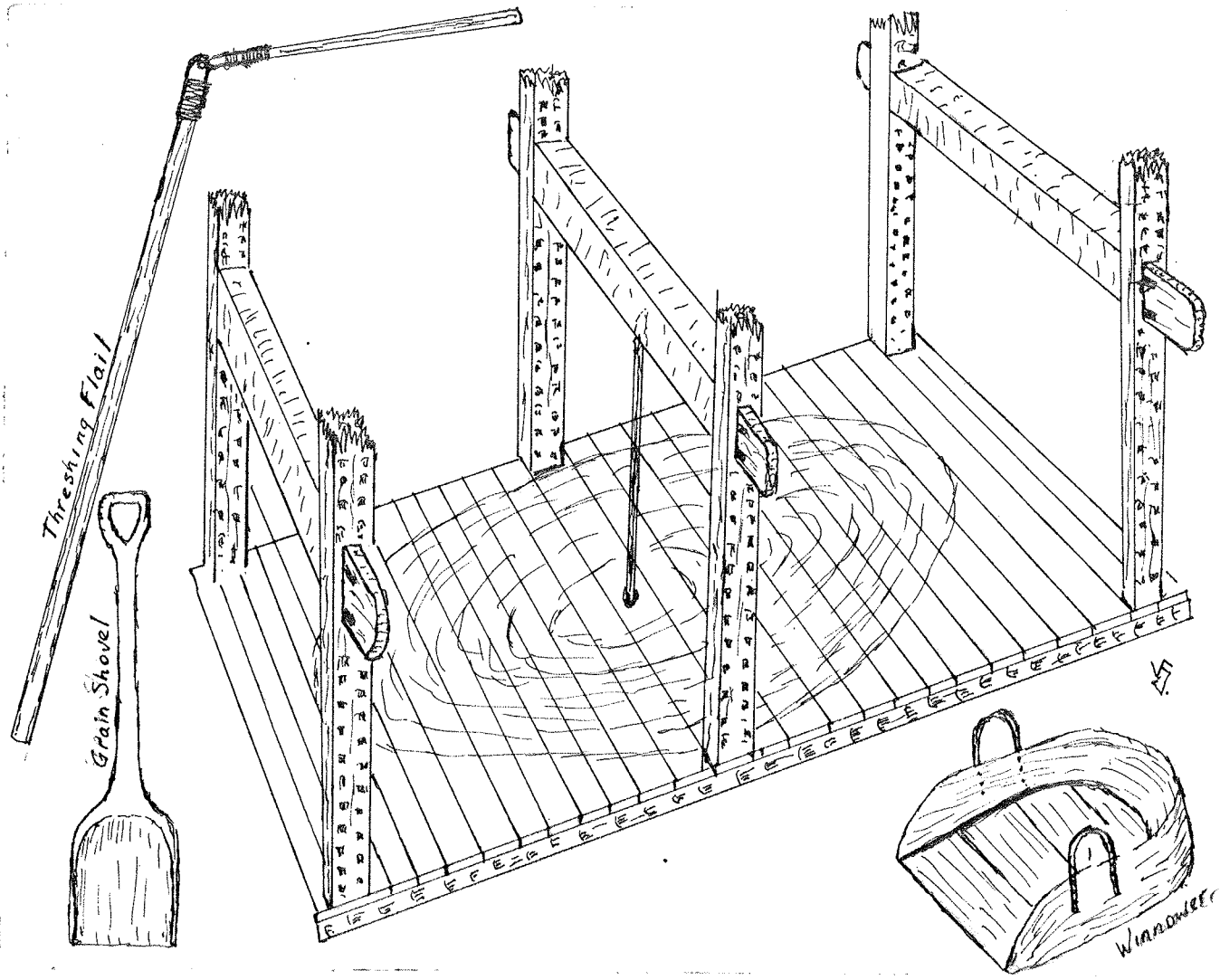
There is some evidence that some of the earlier barns were made with a double slope like those in the Netherlands built in the 1600s. The Teller-Schermerhorn Barn (1701) had a fourth of the roof made this way. Three barns in the mid-Hudson Valley near New Paltz, the Decker, Jansen, and Olive Barns have posts which were spliced so as to make it possible that this change was made when it was noticed that a load of snow would form at this break in the profile. In each of these three barns the height of the posts was doubled in length above the anchor beam by this lengthening splice.



The Threshing Floor

The Dutch Barn in the earlier days of its occurrence in the Hudson, Mohawk and Schoharie Valleys was used primarily for the storage and processing of grain. Consequently, the large space under the anchor beams was used as the place to thresh the wheat, oats, barley, rye and other seed bearing crops. The broad threshing floor was used to process this grain. Originally the technique involved the use of flails, two membered tools consisting of a long handle at the end of which another wooden device loosely fastened to the handle was used to hit the ripe head of the grain so the seeds were released. After being flailed until the seeds were all extracted the straw would be raked away and the loose seeds gathered, the chaff blown away and the cleaned seeds stored in the granary which was an important part of most of the early barns.

In many of these early barns a hole was drilled into the undersurface of an anchor beam and another directly below into which a pole was fitted. In this instance the grain was loosely piled around the pole and an animal driven around and around the pole, its hoofs doing the threshing job formerly done with flails. In a few instances the lower hole in the floor plank was enlarged and an iron socket substituted for it. In other instances a wooden bracket with a hole was fastened to the side of an anchor beam to hold the upper part of the guiding pole.

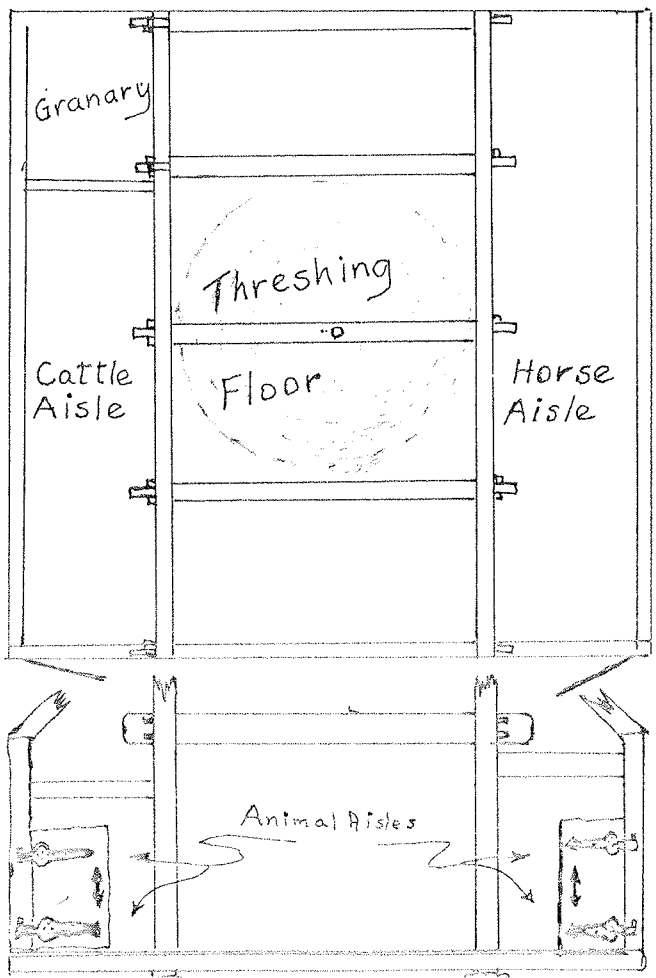


The Animal Aisles

On either side of the threshing floor which was under the wide anchor beams were aisles for horses, cattle and other livestock. At one end of a side aisle the granary was often located. This was a sealed room with tight fitting door made up of very wide tongue and groove boards. A solid hole-free floor, and a similar ceiling were built to house the threshed grain. This careful construction was necessary since it had to be rodent proof. With all these precautions its sanctity was often compromised by rodents who managed to gnaw holes in the siding so as to have access to the grain. Metal sheets were added to cover the holes when this occurred to prevent such depredation.

In a number of barns a manger was constructed along the threshing floor side of the side aisle. The upper part of the manger often took the form of a series of parallel slats or round saplings fitted into holes cut into the timbers extending along the aisle and fastened to the anchor beam posts. They slanted away from the side aisles and were used for dispensing hay to the animals having their heads toward the threshing floor. Most of these features have disappeared from the barns as more modern stanchions and other devices were added to accommodate the increasing number of dairy cows which were added to the farmstead as time changed the role of the wheat grower who converted to the production of milk.

The side aisles each had small animal doors at either side of the gable ends of the barn. Some were single, others double doors. Almost always they swung on wrought iron "Dutch" hinges in the earlier barns and strip hinges of various configurations many of them quite beautiful.



## The Central Doors

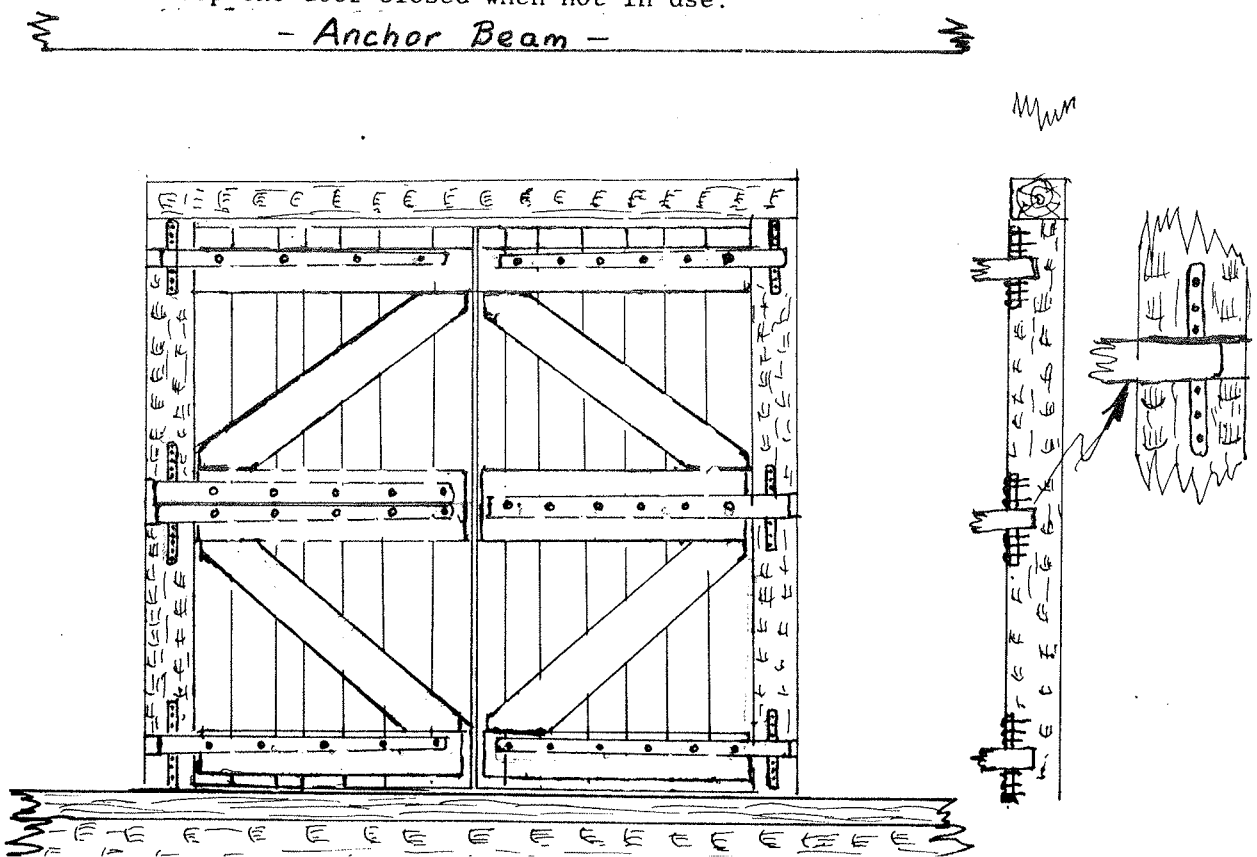
A feature of the Dutch Barn which sets it apart from the later English, German, Shaker, Pennsylvania and other type barns are the large central doors located in the gable ends of the barn. These generally consisted of a two or three component door which swung inward. These wagon doors were about 10 feet by 10 feet and could accommodate a wagon loaded with hay or grain and with doors on either end the wagon when unloaded could be driven thru the barn to the outside without the need for the horses to back up.

The doors were generally made up of one side with a full length, the other side consisting of two halves. The upper part could thus be opened for ventilation while the lower part remained closed.

The doors were hung on wooden hinges. These extended to nearly the full width of the door and were square where they hung on pins of oak or hickory which were sunk into vertical grooves extending above and below the notches cut into the door posts into which the butt of the hinges rested. The hinges while square at the butt end were tapered toward the opposite end and large rose headed spikes fastened the wooden hinges to the door chamferred to make an elegant device. Since they frequently were made of hickory they wore like iron and after two or three centuries of use still swung true, noiseless and durable.

In later years these inward swinging doors were often replaced with doors which swing outward supported by iron strap hinges. These never held up too well and were often supplanted with sliding doors which rode on a track supported below the pentice location. The pentice was often removed at this time.

In the earliest barns a "person" door was often located adjacent to the wagon doors so that it was feasible to enter the main part of the barn without the need to use the larger more ponderous wagon door. These had Dutch hinges and generally a wooden latch to keep the door closed when not in use.

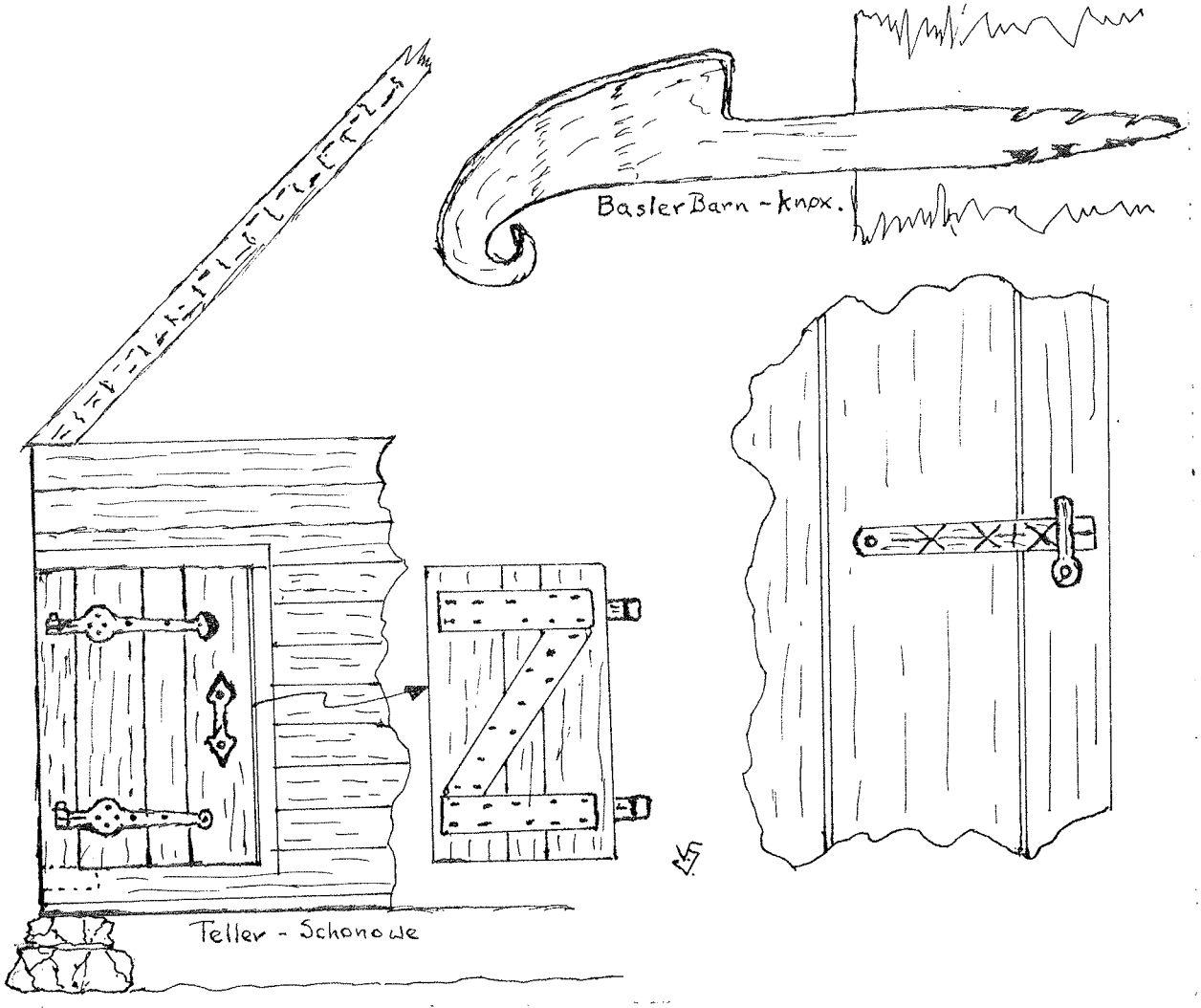


The Animal Aisle Doors

At the extreme corners of the gable end of the barns were either single or double doors used for admitting livestock to the side aisles. In most instances the doors were single - about four feet wide. Invariably these doors had classical Dutch Hinges. The older barns had such doors at either end of the gable. In later times the rear doors were not common.

A few of these barns had double doors at the aisles, the total width being about eight feet. The Teller Schermerhorn Barn was one of them and they had beautiful wrought iron hinges. Whether these doors were in some manner related to the rear half of the west side with its "old country" break in the roof line is unknown but such is a possibility. Further research is needed on this subject.

In addition to the two wrought iron "Dutch" hinges, the doors generally were fitted with an iron door pull which was functional as well as decorative. Sometimes the door was secured with an iron latch that was itself decorated with chisel marks made when the iron was hot. With other doors a sliding wooden latch was operated with two pieces of rawhide hanging outside the door, one to secure it, the other to loosen it. Invariably the animal aisle doors swung outward, the pintles being massive enough to be serviceable for centuries.

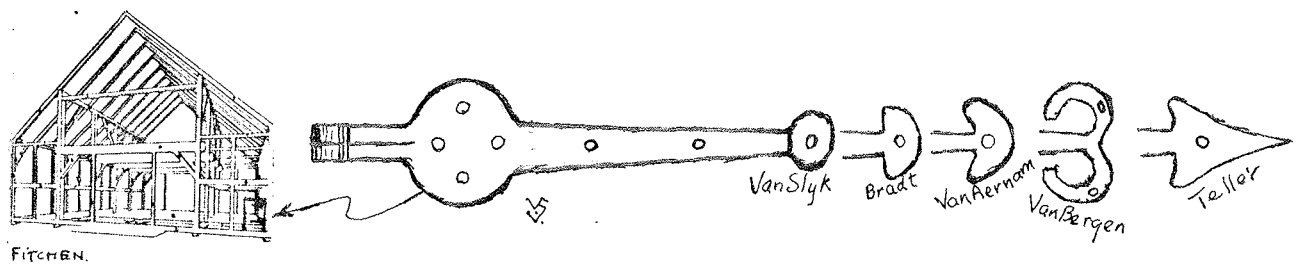


The Wrought Iron Hinge of Early Dutch Barns

From the earliest period of the Dutch occupation of the Hudson, Mohawk and Schoharie Valleys the homes and other buildings constructed in the settlements and the surrounding farmsteads have door fixtures made of wrought iron which are unique and quite different from those used by the settlers from other parts of Europe who followed.

The major fixture that is quite unique is the iron hinge. Unlike the strap and triangular shaped hinges found on later structures, the Dutch Hinge can be traced to the Netherlands and northern Europe. Its distinctive feature is a dish shaped spreading of the iron located several inches beyond the point where the hinge is hung on the door frame. Beyond this disc-shaped feature the hinge consists of a tapered portion extending about two or three times the diameter of the plate. The hinge ends with a flattened oval, arrow shaped or circular spreading of the iron. The hinge is fastened to the door with hand forged rose head nails. Four of these are located in the circular portion, two or three on the tapered portion and one on the flattened end. Rarely the outer end is made with two curlycues. More commonly at this end of the hinge a single or double groove extends from the end of the hinge where the metal is formed to fit on the suspending pin and extending to the dish shaped portion. At times additional decorative grooves are made cut at 45° from the long grooves.

The earliest hinges (prior to 1750) were apparently made by master blacksmiths. Their elegant proportions and fabrication are a joy to see.




These hinges were used both on Dutch houses and the animal doors of Dutch Barns. Their most common use was in suspending massive double Dutch doors in houses. Four hinges were used and invariably they were made so uniformly as to suggest they were cast from a single mold. This of course cannot be so since each one was fabricated from a strip of wrought iron. This similarity suggests that they were made at a central location rather than at a local smithy.

The length of the Dutch type hinge ranged from nearly 3 feet to about one foot. The largest I have seen reputedly came from a New Jersey mill and are in the Bienstock/Johannes Decker Barn off the Red Mill Road near Wall Kill, N.Y., in the mid Hudson Valley. The smallest were found in the Schermerhorn Barn at Schodack Landing and are somewhat similar to the two or three used in suspending the regular doors in the nearby house owned by the Rubensteins along the River Road.

The "standard" hinges found on the Dutch Doors of houses and the animal doors on either side of the gable ends of Dutch Barns have a length of _____ inches. And, as mentioned before, many of them seem to have had a common origin. Occasionally, a pair of hinges will have one "Dutch" hinge and a similar one without the circular spread which is so distinctive. In one instance to my knowledge the upper hinge had the circular spread while the lower one was without it. The shape, length, decorative grooves and terminal ends of both were identical. These hinges were on an ancient solid wooden window shutter. This disposition of the two hinges makes practical sense since the hinge bearing the greatest load is the upper one, while the lower one merely holds the shutter in place. The disc shaped feature of the hinge with its four nails provides great strength to the assembly -------

The Granary

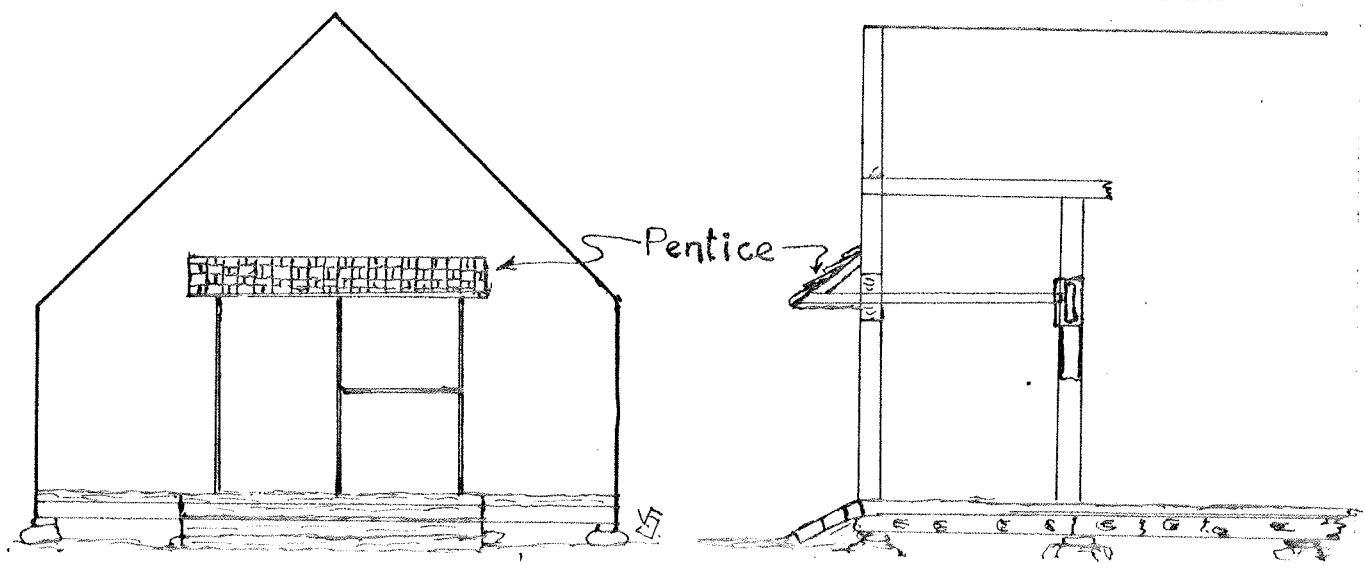
During the early development of the Dutch Barn in our region much of the barn's function centered around the raising and storage of grains especially wheat. Until the end of the 1700's such was the case since there was no need for having large numbers of milk cows. A granary was generally located at one end of the barn as has already been mentioned during the discussion of the threshing floor. Indeed, the Mohawk and Schoharie Valleys of upper New York State have been referred to as the breadbasket of the American Revolution. It was to destroy this critical aspect of the support of Washington's troops that Sir John Johnson and his English, Tory and Indian allies swept through the Schoharie and Mohawk Valleys after the wheat harvest had been secured, to burn these precious supplies. Sweeping up the Schoharie Valley after laying waste to the farms of Cherry Valley during October of 1780, Sir John left a widespread destructive swath. They burned the barns and their contents and did such a thorough job that only a very few of the earlier Dutch Barns survived. Thus nearly all of the fairly large number of such barns still remaining can be dated as later than 1780.

The granary was made of wide smoothed boards which had a tongue and groove construction so as to make it rodent proof. This was sometimes effective though many of the granaries still intact bear evidence that the integrity of the structure was often breached by industrious rats or mice which gnawed holes through the inch thick boards of white or pitch pine. When this happened a neat closure was generally prepared made of zinc or tin and tacked carefully to close the entry way. A war of wits apparently occurred and a number of such patches attest to the persistence and perhaps hunger of the mouse or rat determined to gain entrance to the forbidden store.

The Pentice

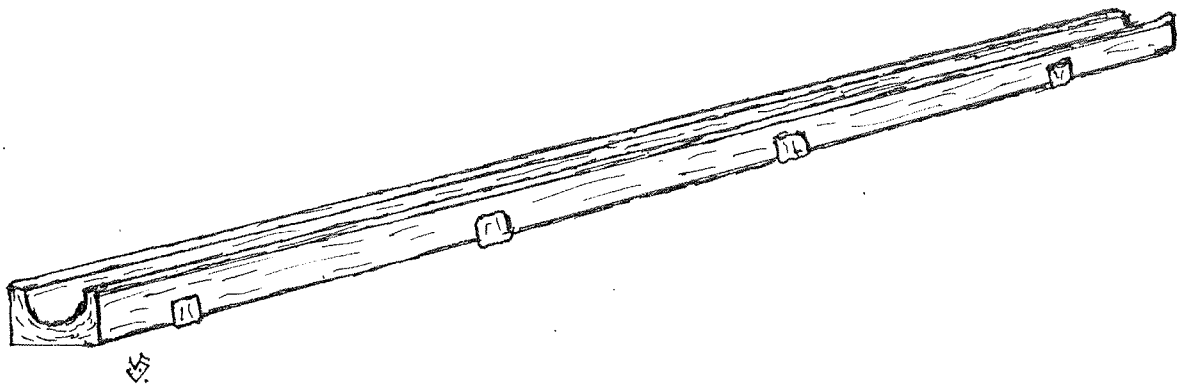
Most of our Dutch Barns possess pentices. These were stubby roofs which extended outward from the gable ends and were located above the wagon doors. These were supported by timbers which were mortised into the end anchor beams. There were generally three or four such mortises. In some instances these pentice supports were long enough to fit into mortices cut in the anchor beam adjacent to the end bent thus providing supports for poles piled loosely to support bundles of grain or hay.

The role of the pentice was to protect the sloping floor planks leading into the barn proper. Since the barns were invariably built on sills that were one to two feet above the ground such a ramp was necessary to permit the wagons to reach the level of the barn floor. Thus, the pentice roof was generally wider by several feet than the width of the wagon doors and extended outward some three to four feet.



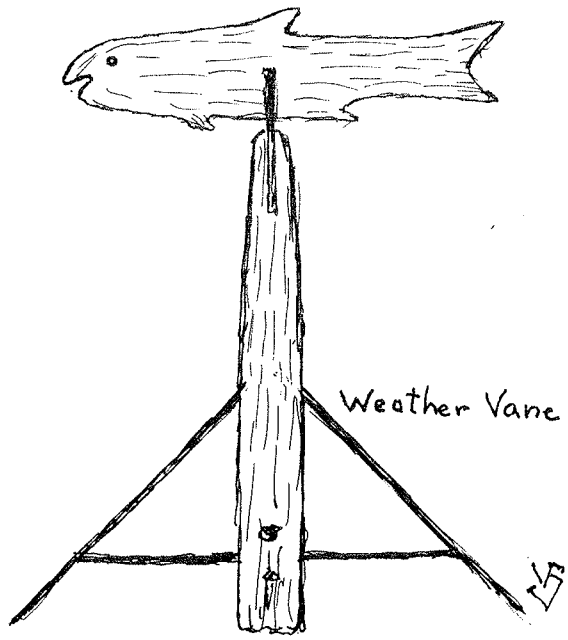
## The Roof Gutter

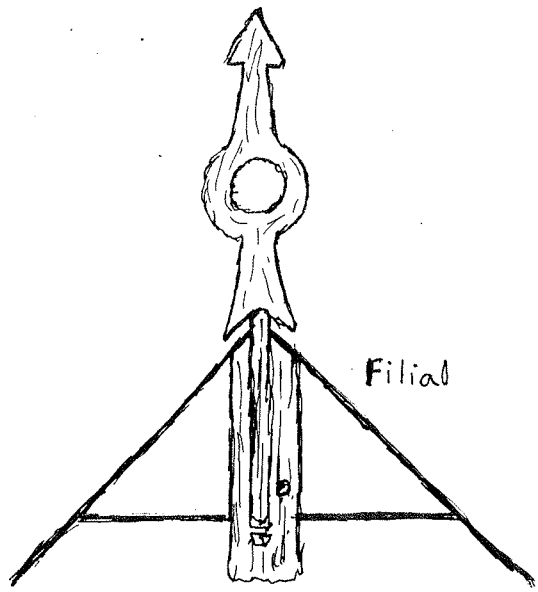
Gutters made of wood were a feature of most of the early Dutch Barns. These were made of a hollowed out timber which extended to the length of the barn. They were supported by brackets which had a slope of 1 in 3. These timbers were large enough so that in one instance (that of Robert Anderson of Westerlo) a discarded wooden eaves trough was used as a floor timber.



## The Weather Vane

With some of the early Dutch Barns weather vanes were a feature. They were located at the top of the gable end and projected above the roof line by several feet. With the Teller-Schermerhorn Barn (1701) a metal weather vane was located at the south end of the steep roof. Unfortunately it was blown away during the 1938 hurricane which swept through eastern New York at that time and was never found. With the Wemple-Delamont Barn early photographs show two vertical objects rising about two feet at either end of the roof at the gable ends. Whether they were weather vanes or other symbolic objects is not known. Neither exist at present though a vertical reenforcing board can be seen at the western end.



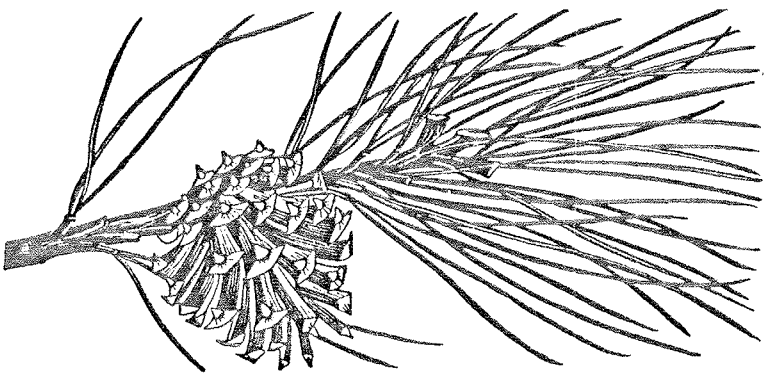
II-2-53

# PITCH PINE

*Pinus rigida* Miller

OTHER NAMES: Black, Torch, or Sap Pine.

RANGE: Rare in western New Brunswick; southern Maine, across New Hampshire, Vermont, and at low altitudes in New York to the Thousand Islands in Ontario, west to southeastern Ohio and western Kentucky, south at low altitudes to New Jersey and Delaware, and in the mountains to Georgia.



DESCRIPTION: *Needles* 3 to a bundle, 3 to 8 inches long, stout, rigid, twisted, dark green and shining, triangular in cross-section. *Flowers*—male yellow, in short crowded spikes; female light green flushed with pink, clustered on short stalks. *Cones* often clustered, almost without stalks, 1 to 3½ inches long, light brown, the flat, thin scales armed with a stout recurved prickle. *Seeds* mottled, dark brown, triangular, ¼ inch long, the wing 3 times as long. *Bark* dark red-brown tinged with purple, thick and deeply divided on old trunks into broad, irregular, connecting ridges. *Wood* brittle, weak, but durable, medium-light (35 pounds to the cubic foot, dry weight) with brown or reddish heartwood and white or yellowish sapwood.

Almost black against the sky, the tufts of the Pitch Pine's dark green and shining foliage stand out upon the twigs nearly at right angles. Usually the tree has a short thick trunk, more so than any of our other pines, with whorled, contorted and often pendulous branches that form a thick, round-topped crown. Where sea winds or mountain winds torture the tree, the crown may be flat-topped or lopsided or picturesquely broken and irregular. The cones tend to persist on the tree, not as living unopened cones, as in the Jack and Pocosin Pines, but dead and black, as if hundreds of black birds were clustered on the boughs. Or, after long weathering, they turn gray like the color of an unpainted, abandoned house down in the Jersey Pine barrens, while at a distance the trunk seems to be black.

The Pitch Pine is *the* Pine of Cape Cod and of storm-swept Montauk Point on extreme eastern Long Island. It is the most important Pine of rocky ledges in the Pennsylvania mountains. Above all, it predominates in the famous Pine barrens of New Jersey. This is a lozenge-shaped area, lying west of the great coastal marshes, on the average 80 miles long and 30 miles broad, corresponding almost exactly with what the geologists call the Beacon Hill formation, a nearly flat, shield-shaped area composed of alluvial deposits when this region was under the sea in Miocene times, nineteen million years ago. Since then other parts of New Jersey have been under the sea, leaving the Beacon Hill formation as an island; it has never been submerged again, nor glaciated. When the white man first entered this region, he found it one vast forest of Pitch Pine and Southern White Cedar, with more or less Shortleaf and Virginia Scrub Pine on its perimeter.

This is a supplement to Miscellany 1-1-24 which described the basic properties of the Pitch Pine (Pinus Rigida which is also called Yellow and Hard Pine.

During the past two years we have gained a much greater appreciation of the crucial role played by the Pitch Pine among the early Dutch settlers. We are finding that this tree was used more often than the white pine for supplying the major framing timbers of their barns and houses. Of particular importance in their houses were the very wide floor boards made of this wood. Many of these boards were cut with the pit saw. This is shown by the variation in width and direction of successive saw strokes. These begin to vary when one of the sawyers becomes weary and no longer keeps up his uniform rythm.

The Pitch Pine wood is best identified in situ by the alternating rich brown color of the resinous Fall wood which grows adjacent to the yellowish Spring wood in the annual rings.

More research is needed.

V. J. Schaefer 10/15/89.

It was a region of sterile sands and bogs, and in the bogs was found abundant bog iron ore — some of the first iron available to the early colonists. In the era before the use of coal, iron was smelted by charcoal, and the Pitch Pine, right at hand, was an ideal wood for the purpose. Tar, pitch, and turpentine were extracted by crude distillation from the intensely resinous knots.

Down at Cape May a large boat-building industry grew up, and the Pitch Pine, though not a durable naval construction material, was heavily cut for it. Pitch Pine went also into barn floors, bridges, inexpensive houses. So began the intensive exploitation of the great Pine barren resources. During the Revolutionary War, and the War of 1812, the Pitch Pine charcoal and the bog iron ore at Batsto forged weapons for our armies, and there was made the steam cylinder for John Fitch's *Perseverance*. Today the hundreds of small forest forges of the Pine barrens are but picturesque ruins, if they survive at all; the weed-grown circular hearths of the charcoal burners are still discernible, to those who penetrate the sandy wood roads.

But a century of exploitation and of terrific, unchecked forest fires among these pitchy trees which become living torches have destroyed all the virgin timber. The Pine barrens are now invaded by the worthless scrub Oaks, and the Pines themselves are stunted, never growing 50 and 60 feet tall as once they did, and sometimes, when repeatedly fire-swept, ceasing growth altogether at knee height. Agriculture, however, has not been able to replace the vanished forest on such sterile soils, and today the Pine barrens remain a wilderness some 2400 square miles in extent yet only one hour by motor from Philadelphia, two from New York.

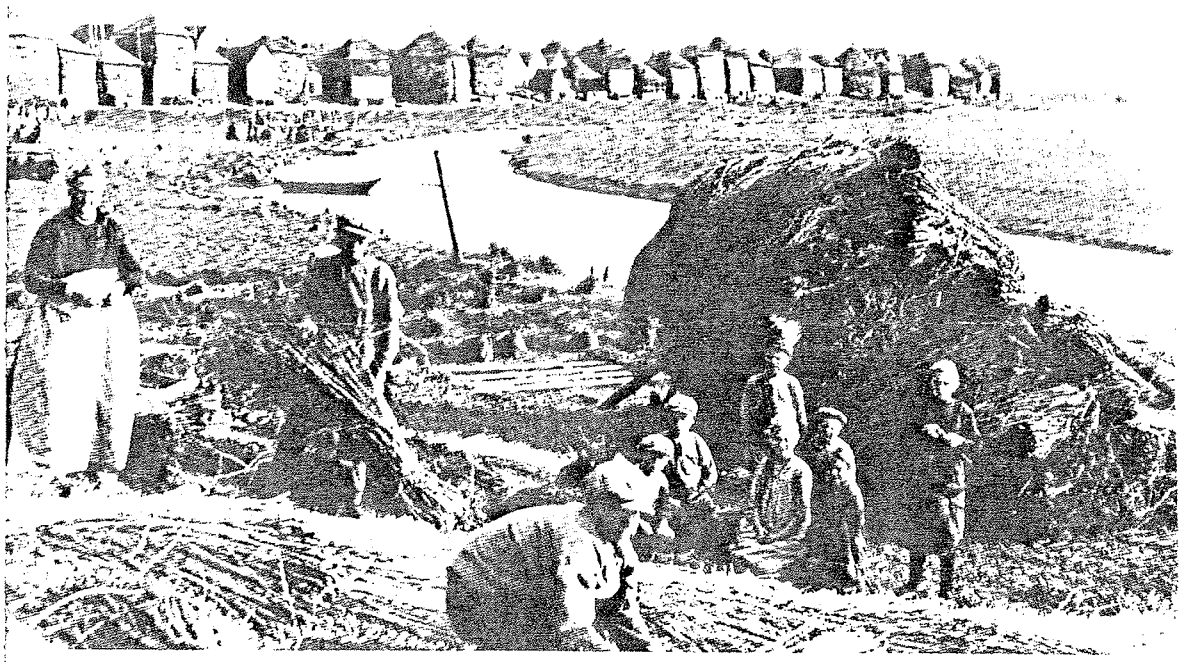
Dwelling in these Pine barrens is an isolated people known to the outside world as the "Pineys." Some, at least, of their ancestors were deserting Redcoats, others were hunted Tories, others still escapists from religious intolerance in the days of stocks and pillories and whipping posts. To these were added the "Pine Robbers" whose "cruelty and lust" were dreaded by every man and woman within their reach. The first sociological report on these people, cut off by the Pitch Pine wilderness from law, medicine, education, and commerce, was made by Elizabeth S. Kite of the Vineland Training School, who shocked the country with her article in *The Survey* for April, 1913.

Conditions have probably changed much since the black picture she drew of the Pineys' lives. Today they cut lumber, gather sphagnum moss for the florist trade, and raise cranberries in their bogs. Those who have known them best have not found them violent. A tale is related by a detective who came among them to discover the body of a murdered man. He enlisted the aid of the men who knew their wilderness best. As he tracked the woods with them he was amazed to find that they watched the tops of the Pitch Pines instead of the ground. At a certain point they stopped, and exhumed the body. The reason, they said, was that where the roots have been disturbed, the needles turn yellow.

The Pitch Pine's wood today enjoys no better reputation than the Piney's worst fame. It is full of knots, coarse-grained, hard to work. It holds nails and bolts so poorly that ships built of it have been known to pull apart at sea. Yet its resistance to water decay made it invaluable for ships' pumps and the old water wheels of primitive American mills. A barn floor laid in this wood in Pike County, Pennsylvania, was found so good, after 160 years of use, that it was taken up and relaid in a new house.

The tar obtained from Pitch Pine was considered the best axle grease for wagons, and no wagon in the old days but had its tar bucket and paddle swung from the rear axle. Though today it is still employed for wharf piles, mine timbers, and above all for cheap crate material, the great days of Pitch Pine in the domestic economy of Americans are over. But as long as our forests stand, as long as trees march down to the sea or climb the wind-swept ridges of the Alleghenies, its dark plumy crown, its grand, rugged trunks, the strong, sweet, pitchy odor of its groves and the heavy chant of the wind in them will stand for something that is wild and untamable, and disdains even to be useful to man.

Pitch Pine knots, which weaken and disfigure the wood for carpenters' use, yet are so filled with resin that they resist decay long after the stump has rotted away, and in regions where the tree was abundant, they used to cover the forest floor. Pioneer children were kept at work, stooping and gathering these, day after day. The knots were then tied to a Hickory withe. Burning for hours, such torches lighted the pioneer for miles through the forest at night. These flambeaux made ideal lights, too, for "shining" deer — their eyes fascinated and illumined by the flame while the hunter drew his bead upon them.



Roedenbergen aan het Zwarte Water in Genemuiden. Situatie in de twintiger jaren. Collectie: Oudheidkamer Genemuiden.

pg. 48

The picture above is from a brochure telling about a book recently published in Holland entitled "Hooiberghen in Oost-Nederland" about the Rise, Use and Typology of Hay Barracks.

This book is written by Dr. Everhard Jans of G.K. van Hogendrop straat 7, 7604 AP Almelo It is available from the IJsselakademie, Molenstraat 28a, 8261 J.W. Kampen. It costs 40.50 Dutch Guilders. A letter sent there will have this book of 85 pages sent to the address given along with a bill payable by personal check.

This brochure with the above information was received from my friend Jaap Schipper of Amsterdam.

Jaap also informs me that he has recently examined the houses and drawings in the Open air Museum at Arnhem. He found that none of the barns from Zeeland had anchor beams However he found that in the Province of Utrecht all the farmhouses and barns were built with anchor beams.

Peter Sinclair
407 Spillway Rd.
West Hurley,NY 12491

II-2-56

10/14/89

Dear Vincent,

I visited the barn at Napanoch today. It is a five bay pine frame Dutch barn with no additions. It measures 50'x50'. The braces are all hewn. The anchorbeam tenons do not extend. I could find no bent numbers. The fifth bay is 13' deep with lowered anchorbeams. There were no doors at this end of the barn and this bay probably had a dirt floor.The original threshing floor seems intact. The barn has the remains of its wooden hinged doors. The pintals and pins in the barn measure 1½" in diameter.

The barn is in exelent condition. The beams are not adzed but the frame is of good workmanship. The siding is new.

There is a house with the barn which seems of a similar early 19th century date. It is remarcably unaltered. The smaller section of the house is a kitchen with a wide shalow fireplace. There is a dutch oven bellow the mantle beside the fireplace. The larger section of the house has a central chimney, the fireplaces are gone. The plaster lath which I saw was sawn. The Kitchen ceiling beams were plained but the ceiling in the larger section was plasterd.

I took some measurments and will do drawings. I also took photographs of the exterior of the buildings.

It would be a good barn to move. Idealy it belongs at Shellbark farm which is 10 or 15 miles away. Shellbark is a privately run living history farm with lots of local input. They are looking for a Dutch barn.. One of their founders, Riok Grey, works at Napanoch and was not told of the sale of the barn. The guard I talked to at the gate of the prison knows Rick and also thought it was a shame it was not going to Shellbark. They sold it to Charles Putman, he said, for a hundred dollars.

The Joy farm has taken a turn, the Kingston Water Department is now hinting they may give it and the five acres back to Joe Nacaratto. It would be a victory and eventually a farm museum and educational center.

Sincerely,

Peter

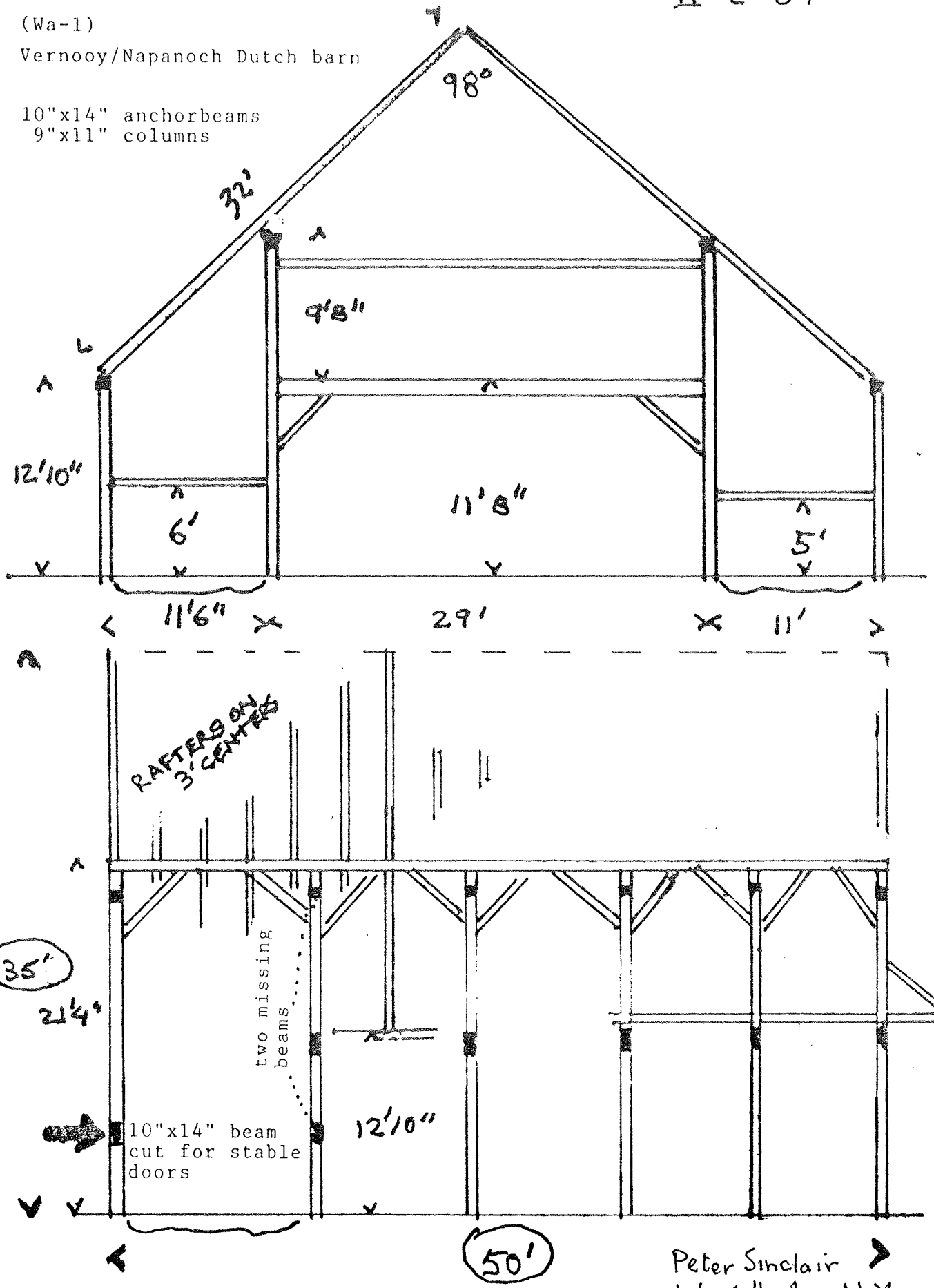
cc Stacy Matson

II-2-57

(Wa-1)

Vernooy/Napanoch Dutch barn

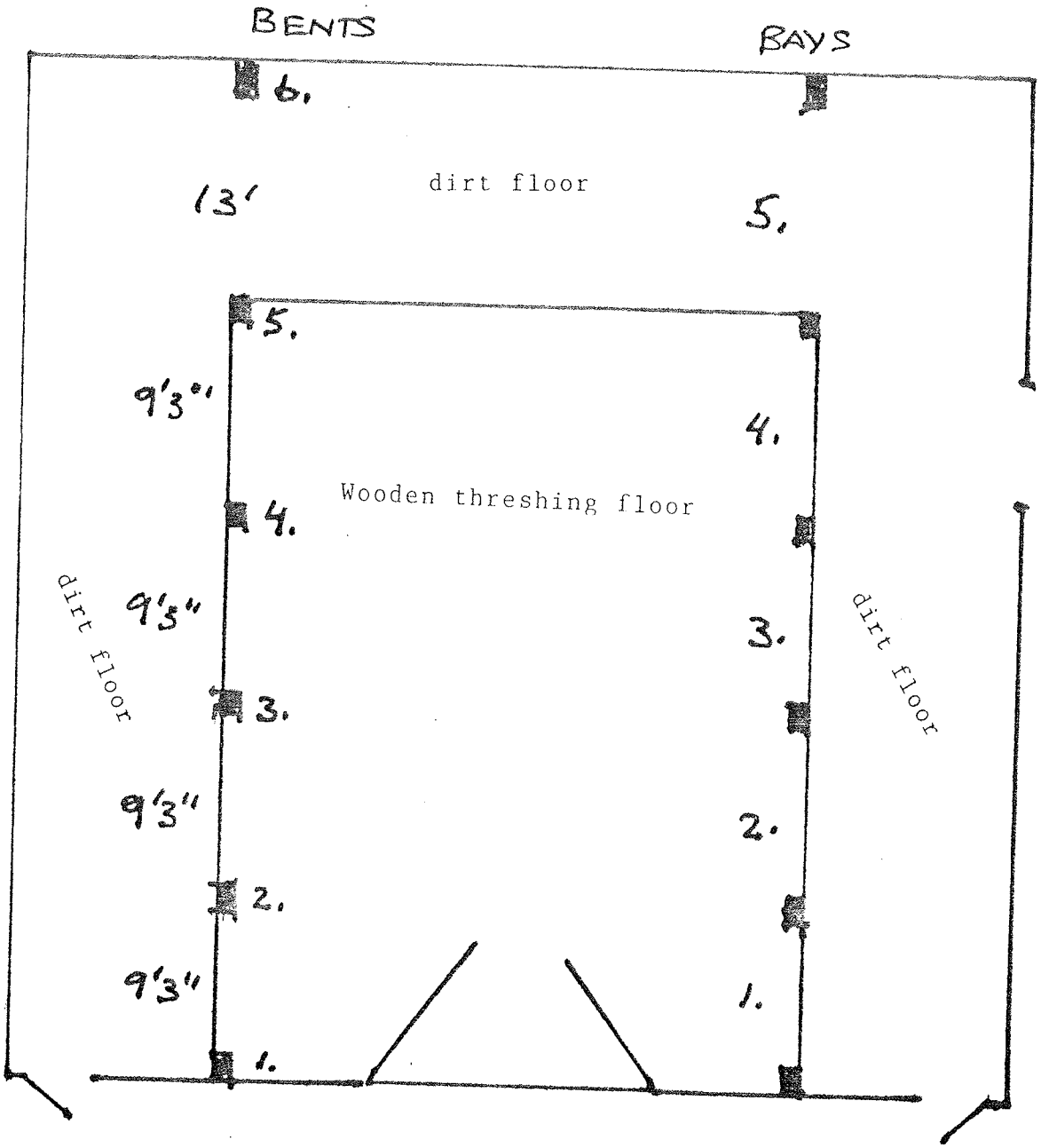
10"x14" anchorbeams
9"x11" columns




Peter Sinclair
West Hurley, N.Y.

II-2-58

(Wa-1)
Vernooy/Napanoch Dutch barn




Peter Sinclair
West Hurley, N.Y.

You win some!--

11-2-59

# Group aims to repair Joy Farm

## Legal questions delay restoration

By SHARON CHERVEN
Correspondent

WOODSTOCK — Historic Barn Preservation Society members and art colony officials are hoping legal matters can be worked out in time to make repairs on an old Dutch barn and nearby carriage house at the former Joy Farm property on Zena Road before winter weather arrives.

Peter Sinclair of the statewide preservation organization said a local group formed at a meeting Sunday with a mission to preserve the barn, the old Joy farmhouse and the carriage house on about 5 acres of a larger property now owned by the city of Kingston Water Department.

The building complex is next to a stone water filtration plant built by the city in 1897.

Complications in preserving the Joy farm complex began last year after the water department purchased 26 acres, including the farm buildings, from the Peter Naccarato and Arthur Britt families. Water officials said obtaining the property was necessary to comply with a state Department of Environmental Conservation order to construct filtration ponds on the property next to the filtration plant.

Before takeover by the city, the property had been in the Naccarato-Britt families for several generations, and both families have expressed interest in seeing their homestead preserved.

But Water Department Superintendent Judy Hansen said city officials and her department cannot grant Sinclair permission to make needed repairs on the barn or other buildings on the property until legal matters are settled. She said department lawyers and attorneys for both the Britts and Naccaratos are negotiating payment for the property. "The money is there to pay for the property, but matters of ownership between the Britts and Naccaratos have to be worked out," Hansen said in a recent telephone interview.

Sinclair said the roof of the farmhouse is badly in need of repair and that the carriage shed may not last through the winter unless it is properly reinforced. "We are willing to make these repairs without cost to the water department or the taxpayers, and we are covered by our own insurance. We just need to get in there and do something," Sinclair said.

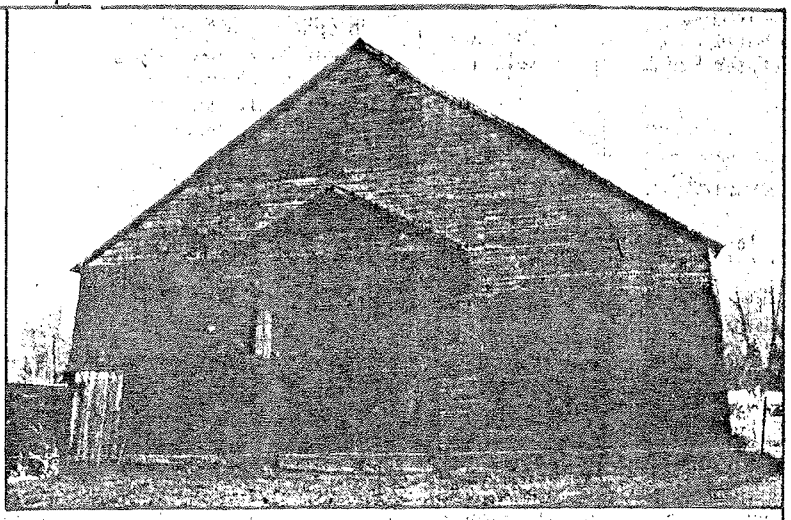
Aided by Woodstock town historian Edgar Leaycraft, preservation members have applied for state historical landmark designation and are in the process of applying for national historical designation.

"We have been assured by phone that the complex qualifies for state designation, but we cannot seem to acquire a letter saying so from the state Department of Parks and Recreation," Sinclair said. The nearby filtration plant already is designated a national historical building.

"The farm complex and filtration plant would make a beautiful site for the public to visit," Sinclair continued. He said that after immediate repairs are made, his group would be able to concentrate on saving artifacts found in the buildings, such as an old cobbler's bench, tools and swinging shelves in the cellar. The shelves are hung from the ceiling with chains and were used to keep foodstuffs away from rodents.

Woodstock Supervisor Brian Hollander said town officials are interested in preserving the farm complex as one of the town's historical treasures. "We will aid Sinclair and his group in any way we can," Hollander said, adding heis willing to help obtain historic designation for the farm complex.

Sinclair said he will contact DEC officials to enlist their help in preservation efforts.



Photos by Peter Sinclair

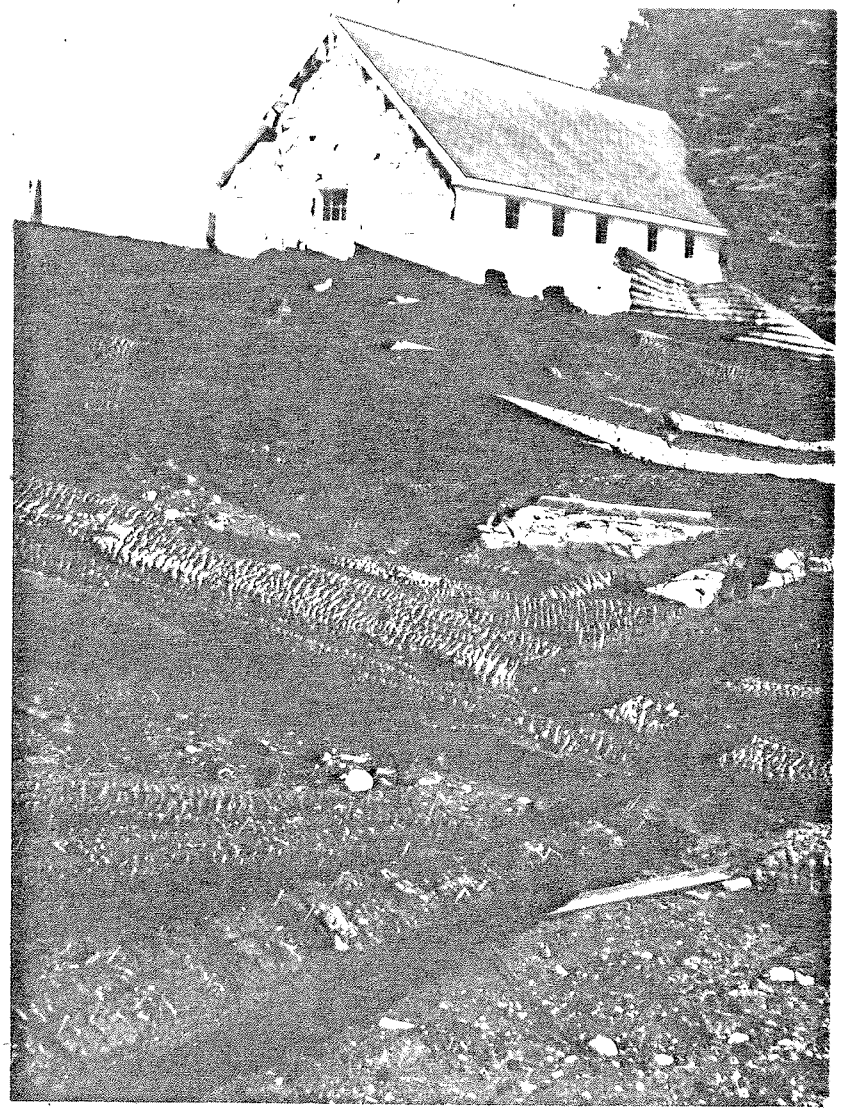
**The barn at Joy Farm has four-part wagon doors, above, and interior support columns, characteristic of Dutch barns. In English barns, the main support is built into the walls.**

Woodstock

Sent to Miscellany by Peter Sinclair

And you lose some!

II-2-60
The Remnants of the Bradt Dutch Barn, Martin Road, Montgomery County.
A monument to removal and carelessness.



# Barn Leveled By Fire Blamed On Trash Blaze

FONDA — A spark from a burning barrel of trash apparently caused a fire that leveled a barn on Martin Road yesterday afternoon.

* * *

Fonda Volunteer Fire Department Chief LaVerne Jones said the blaze started at around 1:30 p.m. It took nearly 60 firefighters from the Fonda, Sammonsville and Fultonville departments about 3½ hours to bring it under control, Jones said.

The barn was unoccupied at the time and was being taken apart in order to be moved. Workers were apparently burning debris in a barrel behind the barn when the wind apparently blew a spark from the barrel to the barn, igniting it, Jones said.

Vinyl siding on a house and a garage adjacent to the barn was melted by the heat from the blaze, but the buildings did not burn, Jones said.

Schenectdy Gazette 6/27/89
Photos by Clarke Blair, Fonda, N.Y.