

A SKETCH AND CONSTRUCTION DETAIL DRAWN BY THE AUTHOR

THE SWISS CHALET

By Jack Paterson

PROBABLY NO HUMAN habitation has met so well the needs of its inhabitants or suited so well its location as has the Swiss chalet. We go to Switzerland for various reasons—health, recreation, education and in more than one case to study its architecture. And most of us return impressed by the craftsmanship and sound architectural methods employed by their builders of two and three hundred years ago.

I went to France during the summer of 1928 from the University of Washington, at Seattle, on a scholarship offered by the West Coast Lumbermen's Association. The program outlined in the scholarship called for some original research on the chalets of Switzerland as a termination of the summer spent studying at Fontainebleau, France.

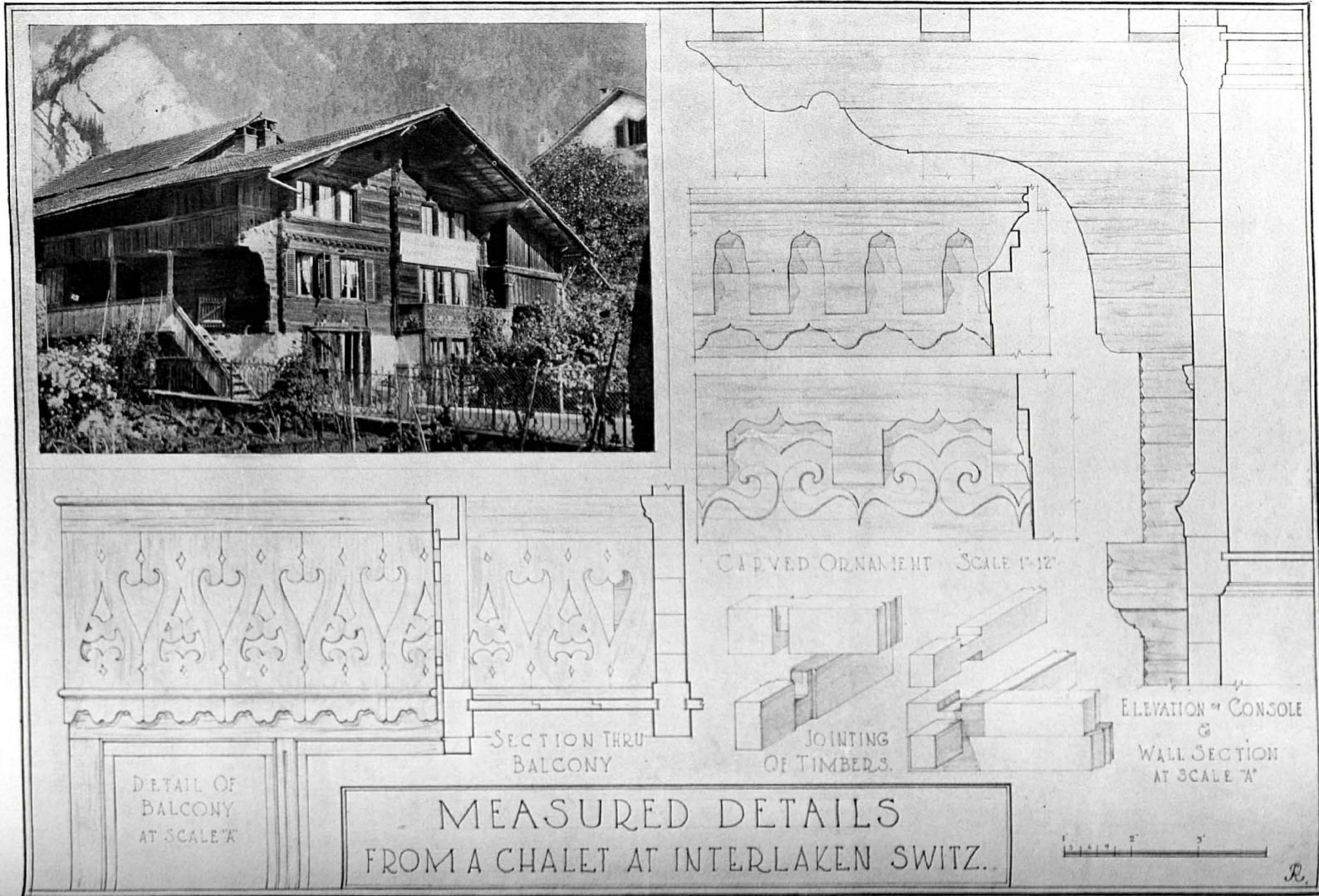
This article presents my personal observations, and information on the chalet I gathered from others who have made a more extended study of this type of architecture. It is illustrated with a number of drawings and photographs I made while studying various examples of the chalet.

I left Paris one Sunday morning in late September for Lausanne, Switzerland, and arrived at Vallorbe on the Swiss border about four o'clock in the afternoon. The railroad station made me really feel that I was in Switzerland for it had marked chalet character, though done in a modern spirit. From Vallorbe we rose slightly over the low mountains and then gradually swung around into a long series of switchbacks that brought us, through green pastures, down to Lake Geneva.

My first real introduction to the chalet came the next afternoon at Montreux, a short way down the lake from Lausanne. The mountains of the Bernese Oberland rise steeply behind Montreux and the slopes are covered with castles and chalets. The chalets of Montreux are gay little things all covered with florid carvings and bright awnings. They certainly belong to the flamboyant period of chalet styles. In order to study the true character of the Swiss chalet, however, the Bernese Oberland must be visited, so from Montreux I took the train to Gstad, a little town in the heart of the Oberland. At Gstad I saw the chalet in what, to me, is its most virile and picturesque character.

Bright and early the morning after my arrival in Gstad I took my pack sack full of sketching material and a camera and set out. Every house in the town of Gstad is a chalet more or less and I was overcome by their very profusion; so out I set for the country around. A short distance outside of Gstad I found what I was looking for, a little group of chalets upon a hillside with a road curling up and around a few pine trees. The air was fresh, the ground still hard with the frost of the night before, and the pines of the bluest green. The Alpine sunlight was clear and getting warmer, certainly a situation for viewing the chalet under the most ideal conditions. Up I went, following the road. As I rounded the bend and stood in the shade of the pines, there across the road, clinging with its back to a sharp rise of the hillside, was a chalet. Picture the bright yellow green of an Alpine pasture, the warmest of burnt siennas, the natural

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A CHALET AT INTERLAKEN, SWITZERLAND—PHOTOGRAPH AND MEASURED DETAILS BY JACK PATERSON

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wood color of a chalet, the emerald green of the shuttered windows, Alpine sunlight warming the frosty air and the mellow music of cowbells coming from far and near. Could anything more be needed to make one feel that the chalet with its gracious roof shading like a hat the warmly colored façade is indeed a part of the landscape, an integral feature of its setting? It is certain that I will never think of a chalet without visualizing that particular time, place, and color though I can not remember seeing any chalet that did not similarly harmonize with its surroundings. For instance, the chalets on exposed and weather-beaten hill-sides with outcroppings of gray shale are rugged and weather-beaten, too. For every warm and beautiful chalet or village of chalets you can find a counterpart in gray, wind-swept chalets that express a crueler, harder life than that of the sheltered valleys.

Swiss forests are composed mostly of red and white pine, and it is the red pine that gives the chalet such a marvelous reddish brown color that is the delight of everyone who beholds it. Red pine takes this color after a short exposure to the weather, and nothing, it seems to me, goes better with the blue-green forests and yellow-green of Alpine pastures than a red pine chalet, made warmer still by the penetrating brilliancy of Alpine sunlight.

What are the admirable features, architecturally, of the Swiss chalet? Perhaps we could, for our purposes, list these features as honest, sturdy construction, a certain grace and beauty of ornamentation and, finally, an appropriateness, the real character necessary to a structure of wood, placed in surroundings that call for naturalness and strength.

Just how the chalet came to its present stage of development is very interesting history. Its prototype is in man's primitive dwellings of wood. Wherever wood was plentiful, from the Himalaya Highlands to the Swiss Oberland, we find that man's early efforts at housing himself and his possessions were curiously alike. Lest India and Switzerland seem far from home we must remember that our own log cabin belongs to the chalet family.

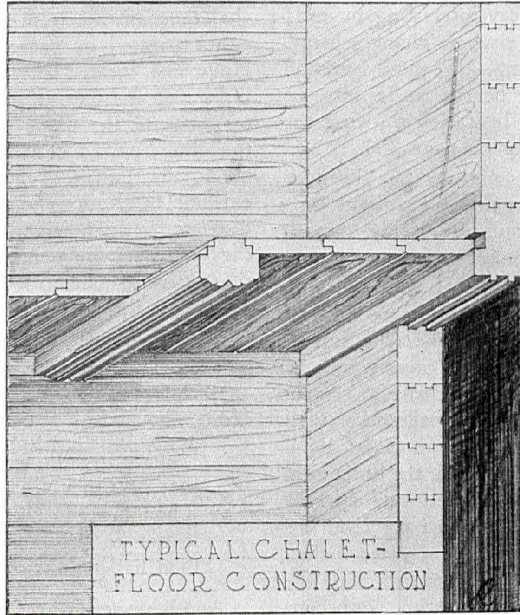
Why is there such a similarity between these dwellings of wood? Because they were all trying to solve similar problems with the same material. Thus if we examine the principal structural features of the chalet we find real reasons for everything that was done. The Oberland chalet is built on a rubble

masonry foundation that generally is raised to a height of five or six feet. Why: to raise the wood above the heavy blanket of snow that covers the ground during the winter. The walls are laid up of heavy timbers interlocking at every intersection. Why? Remember how a log cabin is laid up? It is the primitive and sound method of building a wood wall. The roof of a chalet is supported by heavy timbers. It is broad, flat-pitched, and has heavy overhanging eaves well supported by brackets or consoles. Why? Because some time in man's development he learned that snow was a good insulator. That roof will hold

a whole winter's collection of snow, keeping those within warm when all outside is white and cold, and at the same time, because of the distance it projects, protecting the walls from the winter storms.

Let us get a clear mental picture of the chalet before dealing with its detailed structure. Think of it as a rectangular box, the interior of which is broken up into rooms by walls and floors which firmly interlock with the exterior walls, thus forming a perfectly rigid structure. The boxlike structure is capped by a rather flat-pitched roof whose generous projection is supported by huge consoles formed by corbeling out the upper members of the lateral walls. The interior walls of the chalet are expressed by allowing the beam ends to project beyond the exterior wall surface, and it is the interior walls of the top story that one sees as supporting consoles for the roof projection. Another chalet element is obtained when the floor beams are projected some distance, carrying a balcony. In addition to the balcony, the invariable dentil-like band of ornament occurring at the different floor levels helps to express the structure.

With this picture in mind we can now trace the various phases of chalet construction. When a family determined to build a chalet they consulted a master carpenter and he planned to suit their needs. Then neighbors were gathered and the timber provided and everyone set to work under the direction of the master carpenter. First a shallow excavation was made, then a rubble masonry wall was laid up to a height sufficient for a basement. The construction of the chalet wall did not differ materially from that of the log cabin. Base timbers, frequently as large as 10" x 14", were laid on the masonry foundation. These were interlocked with each other and were firmly anchored to the foundation wall. Then on



DETAIL OF FLOOR CONSTRUCTION
DRAWN BY THE AUTHOR

these base timbers were laid the wall timbers, one on top of the other, until the floor above was reached, leaving, of course, the openings for doors and windows. These timbers were notched to one-quarter their depth on both top and bottom sides and were grooved the whole length so that when laid up a solid and airtight wall was formed. Each beam was pegged down at intervals of three feet to the one beneath it as an added factor of strength. As the floor level above was reached a heavier beam was laid on the wall and this beam had generally a great deal of carving on it. The inside face of the floor beam, as I will call it, was grooved to take the floor boards.

The floor of the chalet is very interesting in itself and quite in character with the whole chalet scheme. There are several floor systems—the most common being a pan system. The floor boards are let into the beams as may be seen in the illustration showing the general construction of the floor on page 861.

The ceiling of the chalet is nothing but the floor viewed from below and this makes a beautiful ceiling when the boards and beams are richly carved, as they not infrequently are.

Before discussing the chalet roof I would like to say a few words about a rather different type of wall construction, more modern but typically Swiss nevertheless. Here the wall is of two thicknesses with an air space between. The outside is built of plank about three inches thick and laid up much as the other wall is except that at the corners and at intervals of about eight or ten feet a vertical is introduced, the horizontal pieces being let into the vertical. The inside is in the form of vertical paneling that is blocked out from the outside wall, leaving an air space of some two inches. Very beautiful interior effects are obtained with the paneling. Outside of this difference in wall construction there is not much change in the other chalet motifs. The sketch on page 859, of the corner of a chalet done in this style, will explain the effect obtained.

The crowning glory of the chalet is the roof, a flat-pitched affair with eaves that often have a projection of six to nine feet. This projection is carried either by consoles or brackets. The consoles were formed by corbeling out the lateral walls, which were built up till they took the place of rafters. This method of carrying the roof was typical of the Oberland chalet and due to its wonderful supporting ability the roof can carry tons of snow through the winter. When the bracket method of supporting the eaves was used the Swiss, instead of corbeling out the walls, cut them flush and substituted an ornately carved brace. The chalet roof covering is generally large slate shingles that are tied down by heavy slats. Where there are severe gales in the winter the roof is weighted down still more by big pieces of rock or shale which are kept in place by the slats. The chimney in the older chalets was merely an opening in the roof built up several feet, with a flat cover attached to a lever, by which it was raised or lowered. In olden times all cooking was done over an open fire so that this type of chimney was necessary to

carry off the smoke. Since the introduction of the stove the chimneys of the Swiss chalets have developed—beautiful little bird-house effects that go very well with the pine tree entourage so common to the chalet.

Here, then, we have the chalet a solidly built home which satisfies the requirements imposed by its location and the rigor of the climate. The chalet, however, did more than this. It was the outlet for whatever æsthetic feelings the Swiss felt, for the religious fervor of the times, for poetry and philosophy. And this leads us logically to a discussion of the ornament of the chalet.

One of the interesting and most characteristic of chalet ornaments is the inscription. Inscriptions are either painted or carved and are generally of two kinds: one, located between the roof and the last story, indicating the date of construction, the names of the owners and the name of the master carpenter; and the other, placed between the stories, being religious quotations, poetry or general philosophizing. These exterior inscriptions seem to apply to the Protestant districts of Switzerland, for in the Catholic districts they are more frequently inside. The earliest inscriptions were in Roman lettering, but later—about 1739—all of the inscriptions were in German script.

Walter Larden in his book on Swiss inscriptions quotes several which are particularly appropriate for an architect to have carved over his front door. One, from a house in Wattsfluh, dated 1752, is:

“There lives no man so wise or experienced that he can build so as to please everyone. Though he do his very best, the world lays it not to his credit. But he who trusts God has built wisely and soundly.”

Another variation of the same theme is:

“Who builds to face the public roads must let the people talk (i.e. criticize the house). Melchior Leimen and Barbra Zuback. 1741.”

These carved and painted inscriptions are very decorative, the flowing lines and flowery curves of German script providing a fine outlet for the sense of rhythm and design of the Swiss workman. However, the very character of the script so desirable from the standpoint of art has made it almost impossible to decipher the meaning of many of the inscriptions, and this is further hindered by the old dialects of German in use by the Swiss at that time, and also by a more modern and reprehensible custom of scrubbing down the walls of the chalet with pumice stone, soap, and water.

One of the admirable features of chalet ornament is that whether it be carved or painted inscriptions, consoles or brackets, carved floor beams, balconies or any of the numerous bands of carved ornament, one and all are expressive of the structure, and are neither trivial nor forced in character. A fair idea of typical chalet motifs may be derived from the measured drawing and the page of details (see pages 860 and 863), though it must be borne in mind that the

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variety of ornament is almost limitless, as each chalet is more or less the expression of someone's individual taste.

Practically all of the chalet ornament was carved on the timber while still on the ground. Much of the intricate carving was done with the crudest tools, out of the solid timber, and we can only stand in wonder before the work of these master craftsmen. Certainly their homes were works of love and neither time nor effort was spared to make them as beautiful and as durable as humanly possible; they were done in a simpler, homelier, and more pious age, when to build on the shifting sands was contrary to the conceptions of a God-fearing people.

The chalets of Switzerland were produced in an age of craftsmen. They are undoubtedly the product of their age and any literal transplanting of the chalet out of its surroundings, or its period, or its traditions, would not only be as unsuccessful but, in its way, as expensive as transplanting the medieval cathedral with all of its Middle-age ornamentation and craftsmanship. But just as the structure, the ornament and the character of the Cathedral at Chartres is an inspiration to us, so can these little Swiss chalets in their purity of style, in their honest construction and delightful character inspire us to make our modern house of wood have something of a like quality.

There is many a hillside lot in the city whose natural beauty and opportunity for something unique in the way of a house is neglected for lack of a style, for lack of some special architectural character that belongs there. There are country residences where something of the chalet's stability and harmony with its surroundings would be admirably suitable. In the many parts of the country where summer homes, camps and hunting lodges in the mountains are popular, there is an opportunity for adapting the Old World chalet, or the American log cabin, into

an architecture that is appropriate, practical and beautiful; that is, a New World chalet.

The chalet offers many suggestions which have the justification of honesty for an interesting wood technique in the small house. The balcony with its pierced wood ornament is easy to construct and is, moreover, beautiful. This same thought can be applied to window boxes. Inscriptions, or ornament, are easily made in these days of sand-etching, and that offers everyone a chance for individuality in his house; he can praise his God or philosophize, whichever he pleases.

There are characteristic chimney tops made of tile or cinder concrete which add to chalet character. It seems to me that there is no feature that harmonizes better with its typical entourage than these bird-cage chimney tops.

Wishing to determine just how practical it would be, from the standpoint of cost, to construct the Swiss chalet type of dwelling in the United States, I obtained figures on the additional lumber cost for such a house. The cost of all the wood in the average modern wood-sided frame construction home, I learned, amounts to about 10 per cent of the total bill. About 20 per cent more lumber would be called for in the chalet type. This would increase the total cost over ordinary frame construction approximately two per cent. The greater durability, distinctiveness and other merits of the chalet construction, it seems to me, would more than compensate for the additional cost.

In concluding, I wish to express my appreciation of the friendliness of the Swiss people, particularly those who so willingly helped me in my research on the chalet, the courtesy and consideration shown me by the Chalet Fabrique at Interlaken, Switzerland, and again to thank the West Coast Lumbermen's Association for providing the scholarship, without which this study would not have been undertaken.