ORIGINS OF THE NORTHWEST APPLE BOX

A Review of Early Documents in History

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It has been said that necessity is the mother of invention. When it was first found that the apple valleys of the Pacific Coast produced apples of such fine color, firmness of texture, flavor, and general good appearance that these fruits were in demand all over the world, it became desirable to find a shipping container better than the old barrel and bushel basket as commonly used in eastern apple areas. Before the advent of refrigerated railway cars and refrigerated holds in ocean vessels, it was more necessary than now that the package be such as to prevent pressuring into the container all apples, large and small, yet that the tightness of pack be sufficient to prevent rattling of the fruits while in transit over the long distances then necessary to reach markets of ample capacity to consume the increasing production of the west. In the west the local population was entirely inadequate to absorb the increasing production of high quality apples, as increasing numbers of settlers chose production of apples as their vocation.

From this apparent need came the development of the Northwest standard apple box. This box proved of satisfactory size for handling and was adaptable to the aligning of apples of various sizes so as to fill the box snugly, whatever the size of apples. The standard Northwest apple box, as at present, was 10½ inches deep, 11½ inches wide, and 18 inches long, all inside measurements. This box contains 2173.5 cubic inches. In early days another box 10 inches by 11 inches by 20 inches, called the Western special box, was also used. This box contained 2,200 cubic inches, but each of these boxes had capacity for about

150 additional cubic inches by addition of a top and bottom bulge, which was general with good packaging in order to make the "tight pack" recognized as advantageous to good transit, and desired by the "trade" as evidence of a good full-measure pack. The latter of these boxes was adopted under law by British Columbia for a time as their standard apple box.

In early years boxes were packed both into a square or "straight alignment" pack and a diamond or "diagonal alignment" pack. In practice it was found that placing apples directly above one another made more bruises in the bulge pack than did the diagonal pack, and the latter filled more completely the cubic contents of the box, giving a heavier and "better measure" pack to the purchaser. After some years the Northwest standard box became the accepted package of the Northwest, including British Columbia, and both domestic and foreign buyers accepted it as the universal package of the west.

Just what experimentation and study was made and what circumstances brought about the size and arrangement of pack of the Northwest box, records available to me have not disclosed, but evidence indicates that boxes were used for packaging of Pacific Coast apples as early as 1891. An advertisement in the 1911 yearbook of the Washington State Horticultural Association by the Washington Mill Company of Spokane stated: "We became interested in the manufacture of fruit boxes in 1891, and pride ourselves on being among the pioneers in the Western Fruit Industry."

As early as 1910, despite the fact that eastern states were still predominantly using pecks, bushels, or barrels for the sale of their apples, there came about an agitation for adoption by Congress of a national size for uniformity of boxes. This came about because in eastern areas a third size of box came into usage. It was designed to hold, in loose fruit, the equivalent of a bushel or one-third of a barrel. This box was 10½ inches by 11½ inches by 19½ inches and

had a content of 2342 cubic inches without bulge. It was contended that the western box, with its smaller dimensions would sell against their larger box and thus give short measure. Such agitation gave no recognition to the compactness of pack and the bulge of the northwest box, and that if unpacked and emptied as loose fruit into the eastern box, the contents of the northwest box still gave the buyer a heaping bushel.

Thus pressure was put on eastern congressmen to get through Congress a bill for regulation of the size of the apple box to make it legal for sale between the states. One of the first of these efforts brought about the introduction of the Porter Bill in 1908 for a box with a content of 2342 cubic inches. In 1910 the Lafean Bill was before Congress. This sought to require that the standard of apples for use in interstate commerce contain 2342 cubic inches or the equivalent of the one-third barrel bulk box. In 1912 E. H. Shepard of Hood River, editor of Better Fruit, said at the annual meeting of the Washington State Horticultural Association meeting at North Yakima, ". . .in Chicago recently they proposed a city ordinance declaring that apples sold by the peck give at least twelve pounds for the peck measure. They have been investigating and find that the average peck measure in Chicago is not over nine pounds and some are as low as seven and one-half pounds. . . . And in New York City they are proposing, if they cannot get this national law (Lafean Bill) passed, they will pass the same box proposition as the Lafean Bill provides for, as a state law, and we would not be able to ship apples into New York City unless they conformed to that box, or unless they were marked 'short weight.'. . . So it is up to us to provide some sort of a national bill and let us say what the box shall be and to head off by that means any hostile legislation."

At the 1910 annual meeting of the Washington State Horticultural Association, a Mr. Offner of Walla Walla (Sixth Report, page 116) made the following statement:

"This box you are using all over the Northwest is a child of the old Northwest Fruit Growers' Association; the box was decided upon at Portland in 1897 or 1898, I am not sure which, and I say this box is a child of that association. The association is dead, but the box is not. I don't think for a minute that Congress can establish the size of the box any more than it can establish the size of the pen you put your pigs in, or to establish the size of the crate you put your peaches or your apricots or any other fruit in. Do you pretend to tell me that men who have come out to this country, some of us who have pioneered this country and re-created it from the barren waste into what it is today, must sit down here and take dictation on how we shall measure up our goods; that we cannot buy potatoes by the sack of 100 pounds, but must put them back into bushels and figure for an hour to tell what we owe for them? Are the Eastern apple buyers to tell us what kind of a box these communities in the Northwest shall use, when we have figured this thing out and fought it and years ago agreed and established the box that was suited to the wants of this country? I believe with the paper I read the other day from the gentleman in Missouri, that it is unconstitutional and never will stand."

In the same report, (page 92) Prof. W. G. Brierly, of the State College of Washington, remarked as follows: "I would like to add just a few words in connection with the efforts of Congress to provide us with a standard apple box. You all know that the sizes of boxes in use in the Northwest were not produced by any enactment of a legislative body, but that they are the result of at least twenty years of experience and experiment. Our boxes are made to fit our fruit, and the passing of a Standard Apple Box Law by Congress, if it is to give us a form of box not adapted to our use, would set us back in pack perfection almost ten years. It may be that the motive behind such a measure is antagonistic and purposely so, but if the idea is simply to make a certain box standard for the

whole country, then any Congressman with that burden could not do better than to look at our boxes, which have proven their worth, when he is making up his bill. However, if the motive is purposely antagonistic, then every fruit grower in the Northwest should do all in his power to prevent such a bill becoming a law."

J. L. Dumas, president of the Washington State Horticultural Association in 1910, defended the Northwest box and spoke against any Congressional legislation in his usual staunch manner, as follows: (1910 Report, page 27) "What is the necessity for such legislation? They say our box is not a full bushel. We proved by the Bureau of Standards that it was not only a full bushel but the only lawful one in general use throughout the United States and had been so used since the settlement at Jamestown in 1607. The Porter Bill sought to create a new standard bushel for the measurement of apples. The Lafean Bill does not use the word bushel at all. Its advocates do not now deny that our Pacific Coast box does not meet the requirements of a lawful bushel. . .Another objection to our box is because it is not one-third of a barrel. Why should it be? Do Eastern commission men desire to re-pack our apples in barrels? Do they expect quantity to determine the value? So long as the eastern consumer (and he is the man we wish to please) is willing to pay about as much for a Pacific Coast box as he will for an Eastern barrel, it is clear that there is no particular demand on his part that our box should hold exactly one-third of a barrel."

Then a Mr. Campbell of Hood River, (1910 Report, page 120) saying he represented Mr. E. H. Shepard, editor of Better Fruit magazine, said: "Now in connection with this Lafean Bill, Mr. Dumas has asked a question in regard to why the Association of apple shippers or apple distributors of the east are in favor of the Lafean Bill. I really believe the reason they are in favor of the the Lafean Bill is this: That if that bill should pass we would have to mark our boxes short, and those people know we are not going to change our boxes, because we cannot

change them, and if we did that, it would give the barrel-apple people who have more friends in the United States than we have, advantages. I really believe that is the reason. . . . I won't acknowledge that we have a short box. The fact of the matter is, as I have said before, we are selling a box of apples, and if we give them a good, full, honest packed box, as near as we can get it as represented from the bottom to the top, we will be doing our duty and we will be doing all we contract to do, and I don't think it well for any man in this house to claim he is selling a bushel, and if we all pack our fruit right, we shall give them results that they will be satisfied with."

After these remarks, Mr. C. L. Smith of Spokane made a motion (1910 Report, page 116) as follows: "I move you that, whereas the box at present in use by the fruit growers of the Pacific Northwest has proven entirely satisfactory for the purpose, both to the producers and the consumers, that we protest against any legislation changing or interfering in any way whatever with the size of the box; and, whereas, our grading is recognized as being the best in the known world, we protest against any legislation changing or interfering with that grading; and that a copy of these resolutions be furnished to the Senators and Representatives in Congress from the Pacific Northwest; that they be asked to oppose the passage of the Lafean Bill and the so-called substitute to the Lafean Bill under cover of an amendment to the pure food law, and that they be urged to use their best efforts to defeat the passage of any such measure." Motion seconded and carried unanimously.

By 1911 some of the heat had diffused from the discussions regarding boxes or barrels at the seventh annual meeting of the Washington State Horticultural Association, but F. E. Thomson of Yakima posed new problems based on production increases expected as a result of apple tree planting in the Northwest. (1911 Report, page 146) His thinking was recorded in part as follows: "The planting

of apple orchards is going on at a very rapid rate and it behooves the Northwest apple grower to lay a proper foundation for quality, intrench himself in the markets of the world, fortify himself against competition, and when competition does come he will have established himself and his position will be unique, but the words 'Yakima' and 'extra fancy' on his boxes will not be sufficient, and he must have perfect fruit and well packed.

"Our present style of fruit packages seems to be all that is desired, but the time has come when the apple growers of the Northwestern states must resort to barrels. This question is an economic one. It is not a matter whether we want to or not, we are going to be forced into it. Good authorities agree that the output of apples for the state of Washington for the year of 1920 will be 80,000 cars, that of Oregon 30,000 cars, Idaho 30,000 cars, Montana 10,000 cars, making a grand total of 150,000 cars for these four states. Reducing this estimate to boxes we will have the grand total of 94,500,000, and taking the estimate of 22½¢ per box for packing, it will cost the enormous sum of over $20,000,000 to place this fruit in boxes from these four states, not including the cost of picking and grading, and remember nearly all of this grand expenditure must be made within 60 days, and I firmly believe a lot of expense and time can be saved by resorting to barrels. Figuring upon the basis of 22½¢ per box for packing apples after they have been picked and graded, it requires three and one-fourth boxes to make one standard barrel; this equals 73¢.

"Now, taking the cost of a coopered barrel of 30¢ and add to this 2½¢ for placing the first layer in the barrel and 2½¢ for putting in the head, this makes the package cost 35¢. The difference between this and the same amount of apples packed in boxes is 38¢, or in other words a grower can pack 146 pounds of apples just thirty-eight cents cheaper in barrels than he could in boxes. We estimate that the Yakima Valley will have in the year 1920 40,000 cars of apples; reduce

this to boxes, we have 25,200,000 and there could be a saving made of over $3,000,000 by placing these apples in barrels instead of boxes."

In 1912 the discussion was still raging over the Lafean Bill and Mr. E. F. Benson of Tacoma, who had represented the State of Washington at the New York Land and Irrigation Show at Madison Square Garden, had made observations there relative to the apple packs of the Northwest and the advantages of the Northwest standard box. From his report we record the following: (1912 Report Washington State Horticultural Association, page 77) "We succeeded, through the help of the president and secretary of the International Commission Merchants' Association, in getting Mr. John Walsh, the commissioner of weights and measures of New York City, and his chief deputy to visit our exhibit at Madison Square Garden. We showed them two of their half-bushel measures heaped up high with the apples taken from one of our packed boxes. These measures bore the commissioner's brand, and it took us nearly a day to find them, as New York was very shy on official measures after the bonfire. We then showed them a box heaped up with apples thrown in loosely that had been taken from a box the same size properly packed. We also proved to them that our box was larger than a bushel, at which the commissioner suggested that it might be well to cut it down to just an even bushel. Someone suggested that a box ought to be just one-third of a barrel and that appealed to him very forcibly. Our box demonstration made quite a hit with him, however, and the next day he sent his deputy down to pier 20, where most of the boxed apples are handled, and investigations there convinced him that our box demonstration was all right. Something is going to be done soon toward establishing one standard apple box and since our box is desirable, why not work to have it adopted. It seems to be up to those growers who have used this box, whether they live in the Northwest or the extreme East, to take some action looking to this end, and as this Association is the largest

organization of growers who use these boxes it is probably up to us to take the initiative.

"Our box, being 10½ x 11½ x 18 inches inside measurement, contains 2,173.5 cubic inches, without the bulge, or as the Lafean Bill describes it, ' without distention of its parts.'

"A properly packed box, however, is considered to have a bulge on top and bottom that adds 150 cubic inches to the contents, thus making the actual capacity 2,323.5 cubic inches.

"The old Winchester bushel, which became the standard in the United States, contains 2,150.42 cubic inches, being 23.08 cubic inches smaller than our box, without the bulge, and 173.08 cubic inches smaller than our box as it is packed with the proper bulge."

Mr. J. L. Dumas (1912 Report, page 55) then said: "We ought to take time by the forelock and have some of our representatives from the Coast endorse a bill making our box the national standard box. . . Secure the cooperation of a Mr. Fisher in the department of weights and measures in Washington City and you will find that we have the better of the argument; we have the lawful bushel that has been in use since the colonists landed at Jamestown."

In 1913 the Oregon State Horticultural Society proposed enactment by Congress of a standard box bill to conform to the dimensions of the Northwest standard apple box and to have a cubical content of 2173½ cubical inches. This bill, presented in full before the Washington State Horticultural Association at their meeting in 1913 was unanimously endorsed and referred to the legislative committee.

At the same meeting of the Washington State Horticultural Association in Yakima in January 15-17, 1913, L. H. Tichenal of Cashmere had a discussion on the Apple Box Bill, in which he said, in part, "There were three bills: First,

Porter Bill; second, Lafean Bill; third, Sulzer Bill. The Porter Bill was introduced in 1908. M. C. Tibbets and J. L. Dumas went to Washington, D. C. to look after the interests of the State of Washington, and the bill never got past the Committee. The bill first originated in the Western Fruit Jobbers Association and W. L. Wagner of the Wagner Fruit Company was appointed chairman of the committee. He claims to be the father of the bill, and he got the bill drafted by Mr. Porter in 1908 and again in 1910 by Daniel L. Lafean of Pennsylvania. This same bill was dictated and looked after by Mr. Wagner and was tacked on to the Pure Food Law, as they thought they could force it through easier that way, as they found out they were going to have a hard fight for it and the bill had a penal offense of one year's imprisonment, $100 fine, or both. . . .Now you see that the main feature of this bill, or bills, is to get more apples, or in other words, a heaping bushel or thirteen pecks in a barrel, and for the box to hold one-third of thirteen pecks heaped up; or in other words, to bring our apples down on a level with the Eastern by law, as now we have them outclassed as far as the apples are concerned."

Mr. Sulzer introduced another bill in 1912. Shortly they agreed to leave out the box and standardize on the barrel and basket. Said Mr. Tichenal: "So you see, if they do they will have two-thirds of the fight won and then they will come back at us and say the box must be the same size as the basket and one-third of the barrel, 2352 cubic inches when measured without distension of its parts. So you see that they think they have scored two points on us. In the Porter Bill the box size was 2342, also the Lafean Bill was the same size, but the Sulzer Bill was for a box 2352 or 10 cubic inches larger than the other bills."

After the year 1913 discussion regarding a congressionally designated box seemed to have ceased and apparently no national standard of apple box was adopted.

And now in 1960, after reading about the problems of fifty years ago, we might make this generalization. People are prone to seek solutions to their economic problems through legislation when, in most cases the legislative solutions frequently hamper rather than help settle their problems. We can look back now and see what hindrances there might have been to development of cartons, tray-packs, cell-packs, and other later developed containers for apples, had there been national legislation limiting the type of containers acceptable to the market place.

Can we not generalize that the same hindrances would be applicable if we attempt to set grades acceptable to the market place through legislative enactment?

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Can we not generalize that the same hindrances would be applicable if we attempt to set grades acceptable to the market place through legislative enactment?

OREGON STATE COLLEGE
School of Agriculture Experiment Station
Extension Service

CORVALLIS, OREGON

epartment of Horticulture

December 8, 1960

Mr. Ralph Sundquist
Sundquist Fruit and Cold Storage, Inc.
302-310 N. First Avenue
Yakima, Washington

Dear Ralph:

Your letter came while I was away and this is the first opportunity I have had to answer. I would have liked to come to Yakima during the meetings of your Horticultural Association, and, most of all, I wish I could have accepted the kind invitation of Mrs. Sundquist and yourself to spend some time at your home. It so happened, however, that both Mrs. Hartman and I had other commitments that had to be met at the time.

While I have at times looked for information regarding the origin of the Northwest apple box, I have never succeeded in finding a specific reference which gave the information. I believe, however, that you are correct in assuming that the box originated at Hood River, Oregon. Hood River got underway with apple production some time before Yakima and Wenatchee began planting apple trees on a commercial scale.

My own experience with the Northwest apple box dates back to 1901. At that time there were two apple boxes in general use. In addition to the Northwest box there was a so-called California apple box which was longer and narrower but which had about the same cubical content. Shook material for both boxes was available at the box factories.

The use of the California box, however, was of short duration, since growers were quick to recognize the advantages of the Northwest box. I do not recall that we ever used the California box ourselves.

During the early days of apple packing, of course, we used the so-called solid or square packs where one layer was imposed directly on another. The diamond or diagonal packs came in at a later date, about 1904 as I recall.

One interesting point to note here is that the Northwest box was not originally designed to accommodate the diagonal packs. That it proved to be so well adapted to these packs was a matter of pure coincidence. No changes in dimensions were required as a result of the change from the solid to the diagonal packs.

I think we will all agree that who ever designed the Northwest apple box did a pretty good job. This is so true when we consider how long this box has continued to serve the needs of the apple industry without substantial change.

I am still hoping that I can come to Yakima within the not too distant future. When that time comes I hope we can get together to talk over the old days as well as the new.

Sincerely,

Henry Hartman
Horticulturist

HH/as

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THE WOODEN BOX INSTITUTE
55 NEW MONTGOMERY STREET

San Francisco 5, California

Dec. 27, 1960

Mr. Ralph Sundquist
Sundquist Fruit & Cold Storage, Inc.
302-310 North First Ave.
Yakima, Wash.

Dear Mr. Sundquist:

Thanks for your letter of Dec. 23 regarding the origin of the standard Northwest apple box. I'm sorry to say that we can help you very little. In fact, I have inquired a bit into the same origins and have had no satisfaction.

In 1947 I published a brochure in which I mentioned that the standard apple box had been developed in the Northwest 65 years previously which would make the date about 1882, but other than that I have no information as to the shipper or manufacturer.

Our own organization began at a much later date and we have nothing in our files which would be of help to you.

I would suggest you try V.V. Heilig, retired secretary-manager of the Inland Empire Wooden Box Association. His address is 1001 Orchard Avenue, Wenatchee, Wash.

Most sincerely,

THE WOODEN BOX INSTITUTE

E. Gorton Covington, Director,
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