

TECHNICAL NOTES

FOREST PRODUCTS LABORATORY

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SPECIAL BOX CORNER DESIGN TO PREVENT LOOSENING OF METAL STRAPS

Metal strapping applied to a box made of thin material cannot be fastened by nails driven into the edges of the boards, but must be joined by one of the various fastening devices and held in place by tension.

When first applied, the strap is very tight and no difficulty is experienced in keeping it on the box, but when the box is stored for a period of several months the shrinkage of the lumber usually reduces the circumference to such an extent that the strap falls off in transportation.

Such loosening of the straps may be successfully prevented on canned food boxes or, in fact, on any box carrying a commodity which has sufficient strength to resist the strap tension, by building the box in such a manner that neither the top nor bottom laps the sides. The accompanying sketch will make the construction clear. The strap is applied in the usual manner and drawn very snug. The tension of the strap is sufficient to spring the sides, top, and bottom of the box in against the contents so that the corner boards lap in the center. As a result, the middle of the box is smaller than the ends, and the straps will not slip off, even though the box shrinks.



Several such boxes were made up at the Forest Products Laboratory, Madison, Wisconsin, of lumber containing 15 to 20 per cent moisture and, after packing and strapping, these boxes were dried to a moisture content of 9 or 10 per cent, which is about the moisture content they would come to in a heated warehouse. It was found that, even after the boxes had shrunk, the straps could not be removed from them without cutting away the corners. When the boxes were tested in the revolving drum, the straps showed a tendency to work toward the center rather than to slip over the ends.