

struction, but very little development of the Alaska forests has yet taken place.

The normal annual cut of Sitka spruce in British Columbia for both pulp and lumber is about 90 to 100 million board feet; in the Pacific states 290 to 300 million. If all of the lumber suitable for aircraft construction were secured from this, British Columbia might supply from five to ten million, the Pacific states 20 to 30 million, and the Alaska forests might furnish a million feet or more if the contemplated development is realized. It requires such special care in sawing to recover all of the clear, straight-grained wood that it is not to be expected that a high percentage of it will be saved, unless very high prices are offered for it. It should be possible, however, to obtain one or two million feet of beam stock a year in British Columbia, and three or four million feet in the Pacific states for many years.

Engelmann Spruce

If Engelmann spruce is found upon further investigation to be satisfactory, British Columbia has 566 billion feet, with an annual cut of about 30 million feet, of which a small percentage would meet the aeroplane standard.

Eastern Spruce.

In the report of the United States National Advisory Committee for Aeronautics, the supply of spruce in the eastern states is estimate dto be 14,500 million feet, with an annual cut of 725 million board feet. The percentage of this which can be used for aircraft construction is said to vary from 3.9 per cent. in Maine, to 8.2 per cent. in the southern Appalachian Mountains, but it is very doubtful that this proportion could be secured.

There is no reliable estimate of the amount of saw material in the spruce of eastern Canada and the prairie provinces, but the annual cut of spruce lumber is about 1,400 million feet. If special efforts were made to secure all the aeroplane lumber from the eastern cut, it might

If thou art worn and hard beset
With sorrows, that thou wouldst forget,

If thou wouldst read a lesson that
will keep

Thy heart from fainting and thy soul
from sleep,

Go to the woods and the hills! No
tears

Dim the sweet look that Nature
wears. —Longfellow.

supply from 20 to 30 million feet, but under ordinary conditions, perhaps perhaps four or five million feet could be secured.

Douglas Fir Supply.

The total supply of Douglas fir is estimated to be about 580 billion board feet, of which 75 billion feet is in British Columbia. The annual cut in British Columbia is now about 750 million feet, and in the north-western states a little over five billion feet. During the war, when every effort was made to secure as much aeroplane lumber as possible from the commercial cut of fir, not more than two per cent. was found suitable for beam stock in British Columbia. On this basis, 15 million feet might be secured annually in British Columbia, and 100 million feet in the United States.

Port Orford Cedar.

The commercial stands of Port Orford cedar are confined to a narrow strip 20 to 25 miles wide along the coast in Coos and Curry counties in Oregon. The total stand is estimated to be only 750 million feet, and the total cut in 1917 was about 35 million feet. About 12 per cent. of the cut appears to be of aeroplane grade.

The better grades of grand fir, silver fir, noble fir and white fir may be used as substitute for spruce, especially in built-up parts, but the percentage suitable for aeroplane construction as solid wood, is comparatively small.

Western hemlock is also considered as a substitute for spruce, but it is heavier, low in shock resistance, and the percentage of clear is small, so