

STANDARDS

Bureau of Standards Builds Testing Unit for Scales

Local Authorities at Present Lack Facilities For Testing Vehicle Scales Weighing Coal and Other Loads

SCIENTISTS at the National Bureau of Standards have come to the aid of state and local officials responsible for checking weights and measures. A new motor truck scale testing unit is soon to go on extended tour. It will check the performance of scales that measure loads up to 38,000 pounds.

Millions of dollars in coal and other bulk commodities change hands each week on truck loads of 14 tons and more. Checking the scales which weigh these loads is almost a completely blank spot in the duty of authorities to prevent fraud in short weight. It is estimated that 90 per cent of the weights and measures jurisdictions in the nation do not have proper testing equipment to make frequent tests of the heavy-duty scales being used.

The National Bureau of Standards' new testing unit is designed to demonstrate, for the various states and large communities interested, possible inaccuracies of their large scales. It is hoped that when the situation has been revealed state legislatures will realize the necessity of duplicating the equipment for their own use. In this sense the coming tour of the giant truck and its fifteen 1,000-pound standard weights will be missionary work designed to improve a serious situation.

The trend of recent years to carry larger and larger motor truck loads and the increased volume of truck transportation have spurred the National Bureau of Standards in its development.

Operation Explained

R. W. Smith, chief of the Bureau's division of weights and measures, explained the operation of the new testing unit to Science Service.

A 23,000-pound truck carries the fifteen 1,000-pound standard weights to the scale to be tested. A hoist lowers the 1,000-pound weights singly to one end of the scale platform. The scientists thus check the scale from the range of zero to 15,000 pounds.

Then by a small special rubber-tired, two-wheeled cart the weights are transferred to the other end of the scale one

by one and the other end checked for the same range. Checking of each end separately is desired since the ordinary scale contains mechanisms at each end which combine to give the total weight.

Up to 38,000 Pounds

Following this part of the test, explained Mr. Smith, the weights are removed from the scale and the heavy truck rolled on. The scale is then balanced when its load is around 23,000 pounds. Then the hoist lifts the weights, one at a time, back to the truck and the range from 23,000 to 38,000 pounds is thus checked.

The allowable error in a weighing of 40,000 pounds is only 80 pounds, or .2 per cent. Frequent checking is needed

on heavy duty truck scales to maintain this accuracy. Testing equipment like the new Bureau of Standards unit is needed to see that commerce is protected in such weighing.

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ETHNOLOGY

Navajo Rugs Flawless; Indians Lose Old Fear

YOUNG Navajo women have no old-fashioned Indian fear of being perfect, and as a result many Navajo rugs are now being woven without the intentional flaws that old weavers used to slip into the designs.

Old Navajo Indians believe that any woman who weaves a perfect thing will die, according to Fern E. Harris, home economics teacher, telling of Navajo weaving progress in the federal publication, "Indians at Work."

"Any one attaining perfection is prepared for a world beyond," adds Miss Harris to explain this Navajo belief.

Most of the younger generation, she finds, have lost faith in the idea that perfection is deadly, and such flaws as occur in their work are merely mistakes that they do not trouble to correct.

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TO TEST VEHICLE SCALES

C. F. Horton, right, and R. W. Crouch of the division of weights and measures at the Bureau of Standards demonstrate new equipment which will test public and private scales in a nationwide tour. The giant truck carries 15 cast iron weights of 1,000 pounds each which test the scale from zero to 15,000 pounds. Then the truck, weighing about 23,000 pounds, is run on the scales and the 1,000-pound weights added to bring the test up to its full range of 38,000 pounds. The small cart which Mr. Horton is operating is so designed that a small boy can easily lift and wheel around the 1,000-pound test weights.