UNITED STATES OF AMERICA.—*Continued.*

liquid and dry substances, thus doing away with the wine gallon of 231 cubic inches, the ale gallon of 282 cubic inches, and the corn gallon of 272 cubic inches.

The old English wine gallon is the only recognized standard of liquid measure in the United States. It contains 8.339 pounds avoirdupois of distilled water, at the temperature of about 39° Fahrenheit, its capacity being, as before stated, 231 cubic inches, which is almost exactly equal to a cylinder of 7 inches in diameter and 6 inches deep.

The dry measure is the Winchester bushel. It contains 2,150.42 cubic inches, and holds 77.6274 pounds avoirdupois of distilled water at the temperature of its greatest density, and with the barometer at 30 inches. Its capacity is represented by a cylinder 18.5 inches in diameter and 8 inches deep.

The hundred-weight has been reduced, as in Canada, to 100 pounds, and the ton to 2000 pounds, but the old hundred-weight of 112 pounds, and ton of 2,240 pounds, seem still to be used under the designation of the *long hundred-weight* and the *long ton*; but these, it is presumed, are merely permissive, the reduced weights being the standards.

With the few differences pointed out, resulting from comparatively recent legislation in both countries, the weights and measures of the United States are similar to, and it may be said identical with, those of England.

Both countries have the same mile, yard, foot, and inch, the same acre, the same pound avoirdupois, and pound Troy.

FRANCE.

At the time of the French Revolution, the weights and measures were found to be in the greatest confusion, and the whole system of weights and measures, then existing in France, was suppressed, to give place to a new metrology established by the law of the 7th April, 1795.

With the Bishop of Autun, better known as Prince de Talleyrand, originated the idea of a new system of weights and measures, founded upon the principle of a single and *universal* standard, and it was he, it appears, who first submitted to the National Assembly in 1790 the project of a decree upon the subject.

The adoption of a *unit*, which would at once furnish a standard for measures of length, weight, and capacity, suggested itself as the great desideratum, and the *mètre* was chosen as that unit, with its decimal parts, the *mètre* itself being the standard measure of length, surface, and solidity; the cubic decimètre, or tenth part of the mètre, of distilled water, weighed in vacuo, at the temperature of its greatest density, being the *kilogramme* or standard of weight, whilst the space occupied by the cubic decimètre of water became the *litre* or standard of capacity.

The momentous question, however, the key-stone of the whole fabric, was to fix the length of the mètre upon some more philosophical basis than that upon which some parts of the old system rested, in which, the standard of length, for instance, was, it is stated, taken from the length of Charlemagne's foot, as the Greeks had before them adopted as their standard of that measure the length of the foot of Hercules.

To examine into this important question, a commission was appointed by the National Assembly, composed of some of the most eminent members of the Academy of Sciences of France. Borda, La Grange—who has been designated as the Newton of France,—La Place, Monge, and Condorcet, composed this commission, which, on the 19th March, 1791, reported in favour of selecting the fractional part of the meridian—*i.e.*, the 10-millionth part of the quarter of the meridian, instead of the length of the pendulum, as the standard unit sought for.

The admeasurement of the arc of the meridian was eventually completed by Delambre and Méchain. The accuracy of their respective operations will readily be conceived, when it is stated that, after a series of triangulations and levels, over a country upwards of 600 miles in extent between Dunkirk and Barcelona, upon two bases, the one of 6,075.90 toises, the other of 6,006.25—the latter base, though at a distance of 400 miles from the former, when calculated by inference from the chain of triangles between them, differed from its actual measurement less than one foot.

The standard mètre thus definitively adopted is equal to 443 296-1000 lines, or 36 94-100 inches of the old French measure, and corresponds nearly to 39 37-100 inches English measure.

The mètre is the centre of the French system of weights and measures. From it are formed in decimal ratios two scales, the one ascending and the other descending, and it furnishes the standard not only for linear, superficial, and solid measure, but it also, with its decimal parts, becomes the standard of weight and capacity.

This ascending and descending scale has its application to all the forms of measurement, and by means of Latin and Greek prefixes you at once know whether you are dealing with multiples or divisions of the standard, the Latin prefixes being indicative of the descending scale, whilst the Greek are applied to the ascending scale. Thus we have, with reference to measures of length, capacity, and weight, the following nomenclature :—

Length.

The Millimètre or	.001 of the Mètre.	
" Centimètre "	.01	
" Decimètre "	.1	
The Mètre "	1.	=39 37-100 English Inches.
" Decamètre "	10.	
" Hectomètre or	100.	
" Kilomètre "	1,000.	
" Myriamètre or	10,000.	

Capacity.

The Millilitre or	.001 of the Litre.	
" Centilitre "	.01	
" Décilitre "	.1	
" Litre "	1.	=26418 of wine gallon, rather more than a quart.
" Decalitre "	10.	
" Hectolitre "	100.	
" Kilolitre "	1,000.	
" Myrialite "	10,000.	

Weight.

The Milligramme or	.001	part of the Gramme.
" Centigramme "	.01	
" Decigramme "	.1	
" Gramme "	1.	=15.43 grains.
" Decagramme "	10.	
" Hectogramme "	100.	
" Kilogramme "	1,000.	=about 2 1-5 lbs. avoirdupois.
" Myriagramme "	10,000.	

And then, with respect to solidity and surface, the following, viz.:—

Solidity.

	The Decistère. .1 of Cub. Mètre.
35.3,166 cub. ft.	" Stère ..... 1. or a " "
	" Decastère. 10. or 10 " Mètres.