DOCUMENTS

PUBLISHED BY ORDER OF

THE LEGISLATURE

OF THE

STATE OF MAINE.

1867.

AUGUSTA:
STEVENS & SAYWARD, PRINTERS TO THE STATE.
1867.

FORTY-SIXTH LEGISLATURE.

HOUSE. No. 116.

STATE OF MAINE.

RESOLVE in relation to Bliss' "new decimal system of weights, measures and currency."

WHEREAS, Moses B. Bliss of Pittston, in this state, is the author of a uniform decimal system of weights, measures and currency, which is simple, concise and convenient, based upon a natural and familiar standard, and superior to the French "metric system" in the opinion of the most eminent scientific men of the country, a brief exposition of which system is hereunto annexed; therefore

Resolved, That our senators and representatives in congress be and they hereby are requested to take such measures as seem to them best calculated to secure the repeal of all laws relating to said "metric system," passed at the first session of the thirty-ninth congress, in order that citizens of our country may

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have an opportunity to urge the claims of schemes which seem to them better calculated to meet the wants of the people.

Resolved, That a printed copy of these resolutions be forwarded to each of our senators and representatives in congress, to the chairman of the congressional committee on weights, measures and coins, and to the governor of each state of the Union.

PRACTICAL METROLOGY:

A UNIFORM DECIMAL SYSTEM OF MEASURES, WEIGHTS AND CURRENCIES, INCLUDING A NEW METHOD OF RECKONING CIRCLES, TIME AND LONGITUDE AS ONE.

As the subject of coinage, weights and measures has been and still is agitated in this and other nations without settling anything permanently or satisfactorily, it is proposed to introduce for consideration a new decimal system, and let the public decide on its practical utility and comparative merit.

In presenting a new decimal scheme for measures and adapting them to a uniform ratio, with appropriate tables, they will be reduced to six in number, viz: Length, Surface, Solidity, Capacity, Weight and Value. The corresponding bases or units will be the Yard, Area, Cube, Gallon, Pound and Dollar—all of which are simple and common English terms in practical use wherever the English language is spoken.

For the purpose of increasing these primary units decimally we prefix the Greek numerals Deka, Hecto, Kilo and Myria, while they are decreased in the same ratio by prefixing the Latin numerals Deci, Centi and Milli.

Milli expresses the		1000th	part.
Centi	"	100th	"
Deci	"	10th	"

Deka increases the value	10	times.
Hecto " "	100	"
Kilo " "	1000	"
Myria inc.s the val.	10,000	"

Measures of Length.

The *yard* is the unit of linear measure, and from this as a basis all the other units are derived. The standard yard of the United States is the same as the imperial yard of Great Britain, which, as compared with a pendulum vibrating seconds in the latitude of London, the pendulum moving *in vacuo*, at the level of the sea, at the temperature of 62° Fahrenheit, should bear the proportion of

36 to 39.1393 inches. The yard is extensively used as a unit of measure in this country and in Europe.

				Yards.
		1 milliyard	=	.001
10 milliyards	=	1 centiyard	=	.01
10 centiyards	=	1 deciyard	=	.1
10 deciyards	=	1 yard	=	1.
10 yards	=	1 deckayard	=	10.
10 deckayards	=	1 hectoyard	=	100.
10 hectoyards	=	1 kiloyard	=	1000.
10 kiloyards	=	1 myriayard	=	10000.

In this plan we tolerate the binary subdivisions of the units: as halves, quarters, &c., when it is necessary for mercantile or retail purposes. Before the public become acquainted with a decimal system it will also be necessary to make use of such multiples as are equivalent to the more familiar denominations of the old system, as 1760 yards = one mile.

Measure of Surface.

The *Area* is the unit of the measure of surface, and is equal to a square whose side is ten yards, or whose surface contains one hundred square yards.

		Areas.
100 centareas make an area	=	1
100 areas make a hectarea	=	100

The multiple of 48.4 areas is equal to an acre.

Measure of Solidity.

The principal unit for measuring solids is a *cube*, each side of which is one yard.

				Cubes.
		1 millicube	=	.001
1000 millicubes	=	1 cube		1.
1000 cubes	=	1 kilocube		1000.

Note.—4 $\frac{29}{27}$ cubic yards or 128 cubic feet = 1 cord of wood.

Measure of Capacity.

The *gallon*, British, is the unit of the measure of capacity and is equal to the contents of a cube whose edge is 1.8 deciyards or 6.52 inches. The gallon is commonly used as a measure in America and Europe. In the new system it takes the place of all denominations of dry and liquid measures.

				Gallons.
		1 milligallon	=	.001
10 milligallons	=	1 centigallon	=	.01
10 centigallons	=	1 decigallon	=	.1
10 decigallons	=	1 gallon	=	1
10 gallons	=	1 dekagallon	=	10.
10 dekagallons	=	1 hectogallon	=	100.
10 hectogallons	=	1 kilogallon	=	1000.
10 kilogallons	=	1 myriagallon	=	10000.

Measure of Weight.

The *pound* (avoirdupois) is the unit of weight. It is the weight, taken in air, of .59 of a millicube of distilled water, at its maximum density, or when at a temperature of °39.83 Fahrenheit, the barometer being at thirty inches. It is the same as the imperial pound of Great Britain.

				Pounds.
		1 millipound	=	.001
10 millipounds	=	1 centipound	=	.01
10 centipounds	=	1 decipound	=	.1
10 decipounds	=	1 pound	=	1.
10 pounds	=	1 dekapound	=	10.
10 dekapounds	=	1 hectopound	=	100.
10 hectopounds	=	1 kilopound	=	1000.
10 kilopounds	=	1 myriapound	=	1000.

It will be observed that two kilopounds are equivalent to one ton.

Pound is an ancient term for a well known weight, and is very generally used in more than thirty countries.

Measure of Value.

The *dollar*, which is the unit of the measure of money, should weigh when coined of gold 3.68 millipounds. The silver coin should weigh 5.89 centipounds, or 412½ Troy grains. The latter is very similar to several European coins in value, weight and size.

				Dollars.
		1 millidollar	=	.001
10 millidollars (or mills)	=	1 centidollar	=	.01
10 centidollars (cents)	=	1 decidollar	=	.1
10 decidollars (dimes)	=	1 dollar	=	1.
10 dollars	=	1 dekadollar	=	10.
10 deckadollars (eagles)	=	1 hectodollar	=	100.
10 hectodollars	=	1 kilodollar	=	1000.

The dollar is divided into halves, quarters and dimes, and the eagle into halves, for the purpose of currency.

Happily this table is no innovation, conforming pretty nearly even in its nomenclature to the established system. The same enlightened views and profound solicitude for the happiness and convenience of posterity which led our ancestors to make civil and religious liberty the basis of our organic law, moved them to inaugurate the decimal system, by making the various denominations of our currency conform to its laws. The facility with which it was adopted by a people acquainted solely with the English method of computing values, goes far to show the practicability of further progress in the same direction. No change proposed by the scheme we are advocating is so radical as that which was triumphantly effected when the English pound gave place to the American dollar. The dollar sustains no relation to the pound or its subdivisions which can be made available in rendering easy the transition from one to the other.

For the purpose of completing the system we present in connection with the foregoing a somewhat novel table of *Time and Longitude combined.* To effect this the hour is divided into fifteen equal parts or *degrees,* the degress into sixty parts or minutes (which take the place of seconds) and the minute into sixty seconds, the latter falling back and taking the place of hundreths of seconds, which are now used in nice astronomical calculations. Thus:

60 seconds	=	1 minute
60 minutes	=	1 degree
15 degrees	=	1 hour
24 hours	=	1 day or *circle*
365¼ days	=	1 year
10 years	=	1 decade
10 decades	=	1 century.

These measures uncombined are almost universal. Why should they become less so by union?

The consummation of this scheme would necessitate the introduction of astronomical instead of civil time, and counting the hours from one to twenty-four in succession instead of from one to twelve twice and marking the parts A. M. and P. M. It will also be necessary to commence the day at noon, when a precise point can be determined by the culmination of the sun at the meridian, and not at midnight, when no point can be fixed from which to start by an observation. By this arrangement the reduction of time to longitude and the reverse in navigation and in astronomi-

cal calculations is avoided, to say nothing of other obvious advantages pertaining to this improved plan.

Even a cursory examination of the decimal system here presented cannot fail to convince the intelligent student of its superiority in logical coherence and simplicity over the complex systems now in use. To say nothing of the inestimable advantage of a uniform decimal ratio, nearly one-half of the measures with their corresponding units are dispensed with. The units remaining and used in this work are with one exception such as are well known wherever the English language is used. The term area, which has not previously been used in this country as a specific designation of superficial contents, is a general expression for the same thing, and is therefore in some degree suggestive of the measure to which it is applied. The *yard* is the basis from which all the other units are derived. This is selected because its length is determined through the operation of gravitation, a natural force the action of which is more nearly *constant* than that of any other.

Though at first thought the introduction of the Greek and Latin numerals appears arbitrary and unnatural, yet no violence is done to the language in which they already appear, either alone or in composition with other words. For instance, we have *decimal, centiped, mill, decade, hecatomb* and *myriad.*

It will be seen that the whole vocabulary of the system is comprised in the names of the six measures and their respective units to which appropriate numerals are prefixed—nineteen words in all.

If what we propose has not the elements of universality, it might at least become international, since we adopt terms used by most of the more important nations of the world. The foot is used in England, Russia, Prussia, Austria, Italy, Spain, Sweden and several other countries; the yard, pound and gallon in England and America; the dollar in Spain and America. The method of applying the Greek and Latin numerals is identical with that adopted in France seventy years ago. The time and longitude combination is in its nature universal because it corresponds with the nature of things.

At the instance of the author the Legislature of Maine, March 20, 1860, by joint resolution, expressed in decided language their desire for a uniform international decimal system of weights and measures. This was previous to the late Congressional action on

the subject, and is believed to be the first State action with respect to the matter, with the possible exception of the New Hampshire resolutions. This theory was originated by the author at the time the resolution above referred to was introduced in the Legislature.

MOSES B. BLISS.

PITTSTON, Maine, December, 1866.

STATE OF MAINE.

HOUSE OF REPRESENTATIVES,
February 22, 1867.

Reported by Mr. FOSTER, from the Committee on Education.

FRANKLIN M. DREW, *Clerk.*