

The Commonwealth of Massachusetts.

ANNUAL REPORT

OF THE

COMMISSIONER OF WEIGHTS AND MEASURES

FOR THE

YEAR ENDING NOVEMBER 30, 1915.



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The Commonwealth of Massachusetts.

DEPARTMENT OF WEIGHTS AND MEASURES,
STATE HOUSE, BOSTON, Jan. 3, 1916.

To the Honorable Senate and House of Representatives.

In accordance with the provisions of chapter 534, Acts of 1907, I submit herewith the annual report of this department for the year ending Nov. 30, 1915.

The broadening influence of the work of the Department of Weights and Measures, caused by the enactment of new legislation giving a broader scope of activity, causing a growing appreciation of the work of the department by the public at large, and standing for the protection of those who sell or buy commodities by weight or measure, has united in bringing the work nearer to an ideal standard.

The department is engaged in a scientific and practical work, — a work which calls for a full measure of mental and physical energy from all who are concerned in it. It is the province of this department and of local departments of weights and measures to deal with problems that trouble men and industry, and therefore we are striving to make it a department of helpfulness. The department strives to work out the difficulties and remove them from the avenues of honest and legitimate commercial industry.

The sealers of weights and measures in all cities and towns have been impressed that in dealing with problems resulting from commercial misconduct their duty is clearly defined. These problems and conditions must be met, carefully adjusted and corrected. Many erroneous customs can be effectively discouraged and disposed of by the exercise of common sense, which is as a rule good law.

The work of this branch of the public service may be termed as "promoting honesty." Upon the vigilance of those entrusted with the enforcement of the weight and measure laws depends

the establishment and maintenance of a uniform standard of honest weight and measure. A careful application to duties will promote the highest standard of efficiency, calculated to generate a commercial influence for honest exchange.

NEW LEGISLATION.

The General Court of 1915 enacted the legislation as shown by the following summary:—

Chapter 43 of the General Acts of 1915, "Establishing the legal weight per bushel of fine salt."

Chapter 190 of the General Acts of 1915, "Testing and sealing of weighing and measuring devices in State institutions and departments."

Chapter 253 of the General Acts of 1915, "Issuing and enforcement of hawkers' and pedlers' licenses."

Chapter 261 of the General Acts of 1915, "Establishing a standard for closed barrels and boxes of apples."

ADDITIONAL INSPECTORS NECESSARY.

The increase in the work of the department and the added demands from the public require the services of additional inspectors. In my report for the year ending Nov. 30, 1914, I called attention to this fact. At that time I stated that partly on account of the new legislation, but principally because of the increasing interest of the general public in the work, its scope had gradually broadened. Problems which were unthought of at the time the department was created were being presented almost daily for solution. I desire to emphasize the fact stated a year ago, and to add that the services of additional inspectors are more necessary now than at that time. I recommend that the employment of two additional inspectors be authorized in this department.

Illustrative of the growth of the work of this department, the records of the past three years are herewith attached. It will be noted that while there has been a most considerable increase in both field and office work the cost has not increased, the appropriation for each of the three years remaining the same, namely, \$20,000; the field work increased 165 per cent., and the revenue from \$377.50 to \$20,025.

THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF WEIGHTS AND MEASURES

CHART OF
APPROPRIATIONS, REVENUES
NUMBER OF PLACES INSPECTED
AND
NUMBER OF REWEIGHINGS
FOR THE YEARS OF
1913 - 1914 - 1915

FIVE INSPECTORS 1913	APPROPRIATION	_____	\$19,916. ⁰⁰
	REVENUE	— \$317. ⁵⁰	
	NUMBER OF PLACES INSPECTED	_____	3097
	NUMBER OF REWEIGHINGS	-----	3,152.
FIVE INSPECTORS 1914	APPROPRIATION	_____	\$20,000. ⁰⁰
	REVENUE	— \$516. ⁷⁵	
	NUMBER OF PLACES INSPECTED	_____	4549
	NUMBER OF REWEIGHINGS	-----	8,116
FIVE INSPECTORS 1915	APPROPRIATION	_____	\$20,000. ⁰⁰
	REVENUE	_____	\$20,025. ³⁰
	NUMBER OF PLACES INSPECTED	_____	5,164
	NUMBER OF REWEIGHINGS	-----	11,833

INSPECTORS' FIELD WORK.

The general work of inspection has been carried on assiduously by the inspectors assigned to definite prescribed territories. The total number of inspections, detailed reports of which are on file, number 5,156 in 1915 as against 4,549 made in 1914, or an increase in the past year of 13 per cent.

A compilation is given below showing the articles inspected and the conditions attendant upon those articles at the time the individual inspections were made.

ARTICLE.	Sealed.	Unsealed.	Tested.	Accurate.	Inaccurate.
<i>Scales.</i>					
Platform,	1,749	315	778	661	117
Computing,	1,807	161	1,446	1,240	206
Counter,	2,481	361	1,682	1,519	163
Spring,	1,541	298	1,108	925	183
Miscellaneous,	577	264	231	196	35
Total,	8,155	1,399	5,245	4,541	704
<i>Weights.</i>					
Avoirdupois,	13,707	4,037	1,188	962	226
Apothecary,	2,472	1,897	1,290	1,127	163
Total,	16,179	5,934	2,478	2,089	389
<i>Measures.</i>					
Liquid,	4,053	1,529	223	210	13
Dry,	288	408	16	16	-
Total,	4,341	1,937	239	226	13
<i>Pumps.</i>					
Oil,	455	125	68	58	10
Gasoline,	200	97	97	79	18
Molasses,	340	189	34	34	-
Total,	995	411	199	171	28
Measuring machines,	29	14	4	3	1
Linear measures,	881	1,291	94	74	20
Ice cream cans,	270	886	93	43	50
Milk jars,	580	26	59	8	51
Graduates,	35	3	-	-	-
Total,	1,795	2,200	250	128	122
Grand total,	31,465	11,891	8,411	7,155	1,256

Miscellaneous.

	Tested.	Accurate.	Inaccurate.
Berry boxes,	541	535	6
Coal certificates,	—	38	28
Total,	541	573	34

Remeasured wall paper, containing 208 yards.

Counter tacks found used in 31 stores.

Bread signs found displayed in 408 stores.

Bread signs found not displayed in 318 stores.

Inspections made in 1915, 5,156

Inspections made in 1914, 4,549

Increase in 1915, 607, or 13 plus per cent.

Nearly 12,000 packages containing various foodstuffs, such as beans, bread, potatoes, sugar, etc., have been reweighed by the inspectors to ascertain if the merchants were giving correct weight, and it is most gratifying to report that in the aggregate of 38,437½ pounds a net overweight of 15½⁵/₁₆ pounds has been shown to exist. This would indicate that the intent of the merchants has been to give the public a square deal.

Following is a summary of the reports submitted on the reweighing of certain important commodities:—

COMMODITY.	Number of Packages.	Number of Pounds.	Number O. K.	Number Under.	Number Over.	Pounds Under.	Pounds Over.
Beans,	1,322	2,996½	788	371	163	14½	9½ ¹ / ₁₆
Bread,	993	1,315	354	178	461	9½ ¹ / ₁₆	82¾
Butter,	5,039	5,341½	3,187	1,061	791	75½ ⁹ / ₁₆	27¾ ¹ / ₁₆
Onions,	159	359	110	29	20	3¾	1
Potatoes,	1,210	16,308¾	686	271	253	531¾ ¹ / ₁₆	46¾
Sugar,	1,456	6,413	901	289	266	18¾ ³ / ₈	20¾ ¹ / ₁₆
Tea,	202	186¾	150	29	23	1½	1
Miscellaneous,	1,452	5,517½	946	206	300	311½ ¹ / ₁₆	34¼
Total,	11,833	38,437½	7,122	2,434	2,277	208	223½ ¹ / ₁₆

Net overweight, 15½⁵/₁₆ pounds.

DISTRICT OFFICES.

It is necessary that there should be established branch offices in various parts of the Commonwealth in order that the field service shall be of the highest type of efficiency. Such an office has been established in Holyoke, and the experiment has proven so successful that I unhesitatingly recommend that this department be given power to establish additional offices wherever need seems greatest.

STATE INSTITUTIONS AND DEPARTMENTS.

Under the provisions of chapter 190 of the General Acts of 1915, the duty of testing and sealing all scales, weights and measures used in checking the receipt or disbursement of supplies in State institutions or departments now devolves upon the Commissioner of Weights and Measures, or the inspectors under his direction. In the past these tests were rarely done except upon request. The necessity of this legislation has already been amply demonstrated by tests, made by inspectors of this department, which have shown a large percentage of inaccurate apparatus in use. The use of correct apparatus will correspondingly enhance the value of reports based upon weighings or measurements made in the various institutions and departments, eliminating apparent breakage or errors which heretofore seemed inexplicable, and making possible fair comparisons between institutions or departments of a similar nature.

The figures given below corroborate the contention made to the General Court in petitioning for legislation on the subject that the need for supervision of such articles was genuine. Of the 2,712 articles tested 273 were condemned as unfit for use in the condition in which they were found by the inspectors. The majority of the condemned articles have since been adjusted, repaired or replaced by new ones.

Following is a tabulation of work done in institutions and departments:—

ARTICLES.	Scaled.	Condemned.	Adjusted.
Scales,	559	133	28
Weights,	1,792	128	187
Measures,	63	27	-
Miscellaneous,	8	2	-
Totals,	2,422	290	215

Total number of articles, 2,712.

AUTOMOBILE SERVICE.

During the past year the department has maintained four Ford automobiles in its inspection service, the use of these cars making it possible for the inspectors to cover a vast amount of territory at a nominal cost for transportation. The distance traveled aggregated 17,955 miles, at a total expense of 4½ cents per mile.

The automobiles have been of special value in the enforcement of the hawkers' and pedlers' law, enabling the inspectors to accomplish more efficient inspection generally in this branch of the work.

In addition to the mileage covered by the automobiles, 29,373 miles have been traveled by railroad.

PROSECUTIONS.

The prosecutions conducted by this department for the year ending Nov. 30, 1915, numbered 60, 45 of which were for violations of the weights and measures laws, and 19 for failure to comply with the requirements of the hawkers' and pedlers' license law. Fifty-six convictions were secured in the courts while four cases were dismissed. The fines imposed amounted to \$245 on weights and measures prosecutions, and \$140 on hawkers and pedlers, or a total of \$385.

OFFICE WORK.

Although the office facilities have been but slightly improved upon and no increase made in the office force, nearly 50 per cent. increase can be shown in the number of city and town

standard weights adjusted and compared, besides the testing of a considerable number of miscellaneous articles.

Below is a tabulation covering the work performed in the office.

ARTICLE.	Adjusted.	Compared.
Town standards,	1,468	2,114
Apothecary weights,	9	531
Metric weights,	3	447
Total,	1,480	3,092

49 per cent. increase over 1914.

ARTICLE.	Tested.	Accurate.	Inaccurate.
Tapes,	23	23	-
Berry boxes,	30	23	7
Total,	53	46	7

Packages:—	
Tested,	49
O. K.,	26
Under,	10
Over,	13
Thread:—	
Tested (spools),	32
Marked (yards),	102,900
Contained (yards),	100,845
Shortage (yards),	2,055

REVENUE FOR 1915.

The growth of this department during the last three years is illustrated in the most specific way by the increase in revenue from \$377.50 to \$20,025, thus making the department self-supporting.

The work of sealing meters designed for computing distance traveled and time consumed by the use of taxicabs has been continued as in previous years since the enactment of the statute requiring such tests to be made (chapter 541 of the Acts of 1909), with the result that 494 meters were tested and sealed, for which a fee of \$1 each was collected.

Following is the tabulation of revenue received: —

Hawkers' and pedlers' license fees (chapter 253, General Acts of 1915),	\$19,320 00
Fees for sealing taximeters (chapter 541, Acts of 1909),	494 00
Ford car rebates, 4 at \$50,	200 00
Sale of miscellaneous articles (chapter 310, Acts of 1909),	11 00
	\$20,025 00

EDUCATIONAL WORK.

Twelve conferences have been conducted for the benefit of the local sealers of weights and measures, they having been held in convenient centers throughout the State, viz., Fitchburg, Gardner, Worcester, Holyoke, Beverly, Pittsfield, Lowell and Springfield. Three conferences were held at the State House. Because of the additional duties imposed upon the sealers in their co-operation with the State department in the enforcement of the hawkers' and pedlers' law, these conferences enabled me among other matters to instruct the sealers in that work, so they would be in a position to act intelligently in the performance of their duties.

Illustrated lectures and talks have been given before women's clubs, schools, boards of trade, etc., in order to educate the public in the importance of honest weights and measures. In the majority of instances the results have been gratifying, there having been a total attendance of nearly 3,800 persons at the 20 meetings held during the year. Fifteen thousand circulars, entitled "Suggestions to Housekeepers," have been distributed throughout the Commonwealth.

HAWKERS AND PEDLERS.

In view of the fact that the issuing of licenses under the hawkers' and pedlers' law has been transferred from the Secretary of the Commonwealth to the Commissioner of Weights and Measures, and the enforcement of this law delegated to this department, it is essential at this time to outline briefly the history of this most important matter.

That the regulation of hawkers and pedlers is most important, if not absolutely essential, may be taken as established by the concurring practice

of civilized States. They are a class of persons who travel from place to place among strangers, and the business may easily be made a pretence or a convenience to those whose real purpose is fraud or theft. The requirement of a license gives opportunity for enquiry into antecedents and character; the payment of a fee affords some evidence that the business is not a mere pretence. (Chief Justice Cooley in *People v. Russell*, 49 Mich. 617.)

The first legislation upon this subject in Massachusetts is found in the colonial laws, the purpose being then as now to protect established storekeepers, resident permanently in cities or towns and paying rents and taxes therein, from unfair competition, and to guard the public from the impositions which might be practiced by traveling traders having no known or fixed residence.

The first enactment of the existing statutes relating to hawkers and pedlers occurred in 1846, at which time all previous legislation upon this subject was repealed.

Since that time numerous amendments and additions have been necessary, the Supreme Court having ruled that many of the provisions of the statute were unconstitutional.

In the amendment of different sections at more or less frequent intervals there has apparently been no attempt at a comprehensive revision of the entire statute, the result being an apparent conflict between different sections in the present law which adds to the difficulty of their construction and enforcement.

An instance of this condition is found when an attempt is made to reconcile the provisions of section 15, that "hawkers and pedlers may sell without a license . . . the product of their own labor or of the labor of their families," with that of section 20, which provides that under a county license "the licensee may expose for sale within such county any goods, wares or merchandise *manufactured by himself* or by his employer."

The sealers of weights and measures in the cities and towns, reinforced by the inspectors of this department, form an ideal official organization for the enforcement of the law, and although the change has been in effect only since June 11, 1915, there has been a material increase in the number of licenses issued and a corresponding increase in the amount of licensing

fees. The average income to the Commonwealth from this source during the past five years was \$12,947. During the fiscal year ending Nov. 30, 1915, the total receipts, including \$6,752 collected by the secretary prior to June 11, were \$26,072, an increase of over 100 per cent. as compared with the average for the past five years.

Systematic enforcement of the law will increase the income of the Commonwealth to more than double the amount received during the past year, while there will be a correspondingly large increase to cities, counties and towns, derived from special city, county and town licenses, the fees for which are payable to the city or town treasurers.

The revenue for city, town and county licenses issued through this department and payable to the respective treasurers is as follows: —

For 360 city licenses,	\$8,826 00
For 334 county licenses,	1,155 00
For 576 town licenses,	6,621 00
	<hr/>
Total,	\$16,602 00

The number of licenses issued from June 11 to November 30, inclusive, is as follows: —

State licenses,	361.
City licenses,	360
County licenses,	334
Town licenses,	576
	<hr/>
Total,	1,631

Licenses which have been transferred are as follows: —

State licenses,	41
City licenses,	12
Town licenses,	15
	<hr/>
Total,	68

Incidentally, the general enforcement of the law by this department revealed many points of weakness in the present

statute, and emphasized the necessity for its revision. The recommendations submitted herewith are the result of careful study of the existing law in this and other States, and the experiences of officials charged with their enforcement.

I recommend the revision of chapter 65, Revised Laws, relating to hawkers and pedlers.

DEPARTMENT BULLETINS.

The bulletin of this department has been issued four times in 1915, aggregating 5,400 copies. They are sent to every sealer and deputy sealer, and to any citizen of the Commonwealth interested in the work of the department. These bulletins have been of inestimable benefit to the local sealers and general public, in acquainting them not only with the work of the State department, but of various city and town sealers.

STATE STANDARDS IN CUSTODY OF CITY AND TOWN TREASURERS.

The State standards which are in the custody of city and town treasurers should be cared for in the most careful manner. I have called attention to the lack of care of these standards in the past, and the recommendations made have borne fruit. There is still room for improvement, however, and if the treasurers who have the custody of these standards realize that they are held personally responsible for their safekeeping and preservation, I am certain that there will be no further grounds for complaint.

RAILROAD TRACK SCALES.

Through the courtesy of Dr. S. W. Stratton, director of the United States Bureau of Standards, the new railroad test car of the Bureau was sent to Massachusetts during the period between October 11 and November 6. Thirty-three railroad track scales were tested.

Of the 33 scales tested, 13, or 39 per cent., passed, while the remaining 20, or 61 per cent., failed. Twenty-one of the scales tested are owned by railroads operating within the Commonwealth, and the remaining 12 were owned by either the govern-

ment or by private concerns, and used for commercial and industrial purposes.

This condition presents a great problem upon the solution of which much depends, for scales of this type are of such commercial and industrial importance, and the effects of error may be so far-reaching, that the greatest possible accuracy is not only desirable, but, in many cases, absolutely necessary.

Each of the railroads operating in Massachusetts are equipped with one or more test-weight cars which are used in testing track scales; but there is no master-scale upon which these test-weight cars may be proven and standardized.

The results of the tests made under the direction of the Bureau of Standards show the utter inadequacy of the tests heretofore made by sealers of weights and measures, who, however competent they might be, lacked the proper and necessary equipment for the purpose, it being manifestly impossible by the application of 1,000 or 2,000 pounds of standard weights to detect errors which may exist in a scale having a capacity of 300,000 pounds. As a remedy for these existing conditions I respectfully suggest the purchase of a master-scale and two short wheel-base cars of fixed weight. One of these cars should weigh from 80,000 to 100,000 pounds, and the other car from 40,000 to 50,000 pounds. The wheel base of these cars should not be greater than 7 feet.

The initial cost of this equipment and the cost of maintenance will be less than the test cars maintained by the United States Bureau of Standards. It would be a simple matter to return the test car to the master-scale for verification and adjustment at frequent intervals, since the territory covered in Massachusetts is small. This scale should be located in the central part of the State, preferably in Worcester.

This plan would have several other advantages. The railroads would have an available and authoritative master-scale for standardizing their test cars. This would assist the railroads to keep their scales in good condition.

It is also important that steps be taken toward the adoption of uniform specifications for the construction of track scales, but this can only be successfully accomplished through new legislation.

VENDING MACHINES.

Numerous complaints have come to this department relative to the various types of vending machines located in railroad stations, street railway waiting rooms and other public places. Some of these devices purport to deliver, upon depositing therein a coin, chewing gum, candies and various toilet requisites or other articles of merchandise, while others provide facilities for weighing, exhibit pictures, or furnish music or other forms of entertainment.

The vending machines in question are generally owned or controlled by nonresidents of the Commonwealth, who, though engaged in active competition with resident dealers, escape taxation, not only upon their machines but upon the stock which is sold by means of these mechanical vending devices.

The statutes of Massachusetts afford no relief to the patrons of these machines who often deposit coins without receiving anything in return, or to the storekeeper who may have reason to complain of their unfair competition. Many States have apparently solved the problem by requiring a license for the maintenance of all automatic devices of this nature.

I recommend the enactment of a law in this Commonwealth, not as a source of revenue, but in order to provide a means for regulating their use and making possible the establishment of their ownership in case of complaint.

LOCAL SEALERS OF WEIGHTS AND MEASURES.

I desire to take this opportunity to express publicly my appreciation of the co-operation of the local sealers of weights and measures. These officials in the cities and towns have shown a marked ambition to work effectively, and it has been my ambition to assist in every way possible. The mayors and city councils of cities, and the selectmen of towns, should consider the Department of Weights and Measures one of great importance, for through it they may serve every man, woman and child in their community. Some reforms touch the average individual once in a lifetime, but the subject of weights and measures touches every one all of the time. The department

may be rightfully called, as Ex-Mayor James Logan of Worcester has repeatedly said, "the big little department."

Following is a compilation of the work performed by the sealers of weights and measures in the cities and towns during the year ending Nov. 30, 1915, including court prosecutions:—

	Adjusted.	Sealed.	Non-sealed.	Condemned.
Scales:—				
Platform (over 5,000 pounds),	578	3,288	72	279
Platform (under 5,000 pounds),	4,479	24,924	796	1,308
Counter,	2,154	18,246	568	850
Beam,	230	2,141	25	142
Spring,	2,692	30,283	253	2,727
Computing,	1,167	12,432	63	750
Penny-in-the-slot,	53	2,928	—	143
Prescription,	45	1,400	23	103
Jewelers',	10	62	2	5
Miscellaneous,	1,494	10,038	77	617
Weights:—				
Avoirdupois,	23,752	200,546	1,059	1,939
Apothecary,	1,437	19,565	23	2,338
Metric,	641	9,781	90	527
Troy,	772	2,112	6	135
Measures:—				
Dry,	8	6,637	111	369
Liquid,	619	45,761	161	2,570
Linear,	—	10,205	21	816
Tapes,	—	178	—	4
Milk bottles,	—	29,747	—	760
Glass graduates,	—	111	2	—
Automatic pumps,	599	5,792	199	292
Ice cream cans,	541	48,498	38	1,659
Measuring machines,	—	353	3	13
Cartons,	—	65,044	—	5
Miscellaneous,	11	24	7	2
Totals,	41,282	550,096	3,599	18,353

Total number of articles sealed:—	
In 1915,	550,096
In 1914,	434,190
	115,906

An increase in 1915 of 21 plus per cent.

Number of coal reweighings made,	4,719
Number of loads O. K.,	3,210
Number of loads overweight,	1,034
Number of loads underweight,	475
Number of miscellaneous reweighings made,	69,139
Number O. K.,	52,377
Number underweight,	7,233
Number overweight,	9,529
Number of prosecuted cases,	195
Convictions,	172
Dismissed,	17
Defaulted,	6
Total amount of fines imposed by the courts,	\$1,628

Returns from the following towns have not yet been made, viz., Blandford, Granville, Hanover, Merrimac, Methuen, New Marlborough, Pepperell, Seekonk.

RECOMMENDATIONS.

1. Addition of two inspectors to this department.
2. The enactment of a law giving power to the Commissioner of Weights and Measures to establish district offices.
3. The revision of the hawkers' and pedlers' law.
4. The licensing of vending machines.

Respectfully submitted,

Thure Hanson,

Commissioner.