

R E P O R T

OF THE

State Inspector of Mineral Oils,

TO THE

GOVERNOR OF THE STATE OF INDIANA.--

FROM JUNE 6, '79, TO DECEMBER 31, '80.

✓
INDIANAPOLIS:

CARLON & HOLLENBECK, PRINTERS AND BINDERS.

1881.

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1879-80

NOTE.—Inasmuch as the usual endorsement of the filing of this report in the Governor's office is omitted, I would explain that it was placed in the Governor's hands January 7, the day before he delivered his message.

H. CLAY,
State Inspector.

Filed in my office by the Governor, January 10, 1881.

J. G. SHANKLIN,
Secretary of State.

12-14-

REPORT.

To His Excellency, ISAAC P. GRAY,
Governor of Indiana :

In compliance with the 4th section of the act providing for the inspection of mineral or petroleum oils for illuminating purposes, approved March 31, 1879, I herewith submit my report as State Inspector.

I was appointed State Inspector on the 6th day of June, 1879, and on the 8th day of said month filed my bond and oath of office with the Secretary of State.

I at once had a large number of copies of the law printed in pamphlet form, at my own expense, and distributed them over the State. In this I was very kindly assisted by the wholesale dealers, who have all manifested a willingness and desire to have the law strictly enforced. And in this connection I am happy to report that there has been no attempt to evade the law on the part of the wholesale dealers of the State.

For some months after my appointment there was very little oil used (being summer months), and the amount inspected up to the first of January, 1880, was so small I did not deem it important or necessary to submit a report at the close of the year 1879. The information contained in a report for a few months in the year would not have justified the expense of printing it. I, therefore, include in this report a full statement of the inspections made since I assumed the duties of my office, and up to the 31st day of December, 1880, inclusive.

THE OLD LAW.

The increasing consumption of petroleum oils for illuminating purposes, and the great danger to life and property arising from the use of an impure and inflammable article, made the passage of a law that should be uniform and stringent in its provisions, a matter of the greatest importance to the people of the State.

Under the old law the inspectors were appointed by the Judge of the Court of Common Pleas upon the application of five or more citizens of the county, and there was no uniformity in the execution of the law. Again, the temperature of one hundred degrees Fahrenheit's thermometer was entirely too low, and all dangerous oils were not rejected. Nearly all the oils in the State at the time I assumed the duties of my office were below the test of the new law, and their use was dangerous. I could not discharge my duty without prohibiting their sale, and they were shipped out of the State.

THE NEW LAW.

Under the provisions of the present law all oils are inspected by the State Inspector, or by his deputies who are under his control, and subject to such general regulations and rules as he prescribes. A uniformity of test is thus secured throughout the State, and less opportunity afforded to evade the law. The new law also prescribes the mode of testing oil, and requires it to bear a flash test of one hundred and twenty degrees Fahrenheit—being twenty degrees higher than the old law, so that the standard of the oils now used in the State is much higher than those sold under the old law, and consequently much safer. There are no means of estimating the advantages which the passage of the present law has been to the people of the State. Accidents from the explosion of coal oil lamps are very few and are generally traceable to the improper and careless handling of the lamps, and not to the character of the oil.

Thousands of dollars worth of property and many lives have doubtless been saved from destruction by driving out of the State the fire brands which were formerly sold as oil under high-sounding trade marks.

Nearly all the oil now brought to the State bears a higher test than that required by the law. This results from the fact that the dealers do not like to have oil rejected, and thereby subjected to the expense of return freight, and hence to insure its being ap-

proved, it is generally made several degrees higher than the standard required by law.

The following is a list of the deputies, and date of qualifying :

Name.	Residence.	Date.
A. C. Hardenbrook.....	Ligonier.....	Aug. 4, 1879
John H. Early.....	Laporte.....	July 18, 1879
L. C. Fletcher.....	Aurora.....	July 9, 1879
Tom M. Park.....	Lafayette.....	July 3, 1879
Wm. Sackett.....	New Albany.....	June 30, 1879
J. F. Elder.....	Richmond.....	July 3, 1879
John B. Foley.....	Terre Haute.....	July 11, 1879
Henry Mouning.....	Ft. Wayne.....	July 17, 1879
Thos. J. Immel.....	Logansport.....	July 16, 1879
Lee Linn.....	Wabash.....	July 22, 1879
Wm. Nelson.....	Evansville.....	July 23, 1879
Chas. S. Williams.....	Columbia City.....	July 29, 1879
L. A. Kirkwood.....	Muncie.....	Aug. 16, 1879
Thos. C. James.....	Shelbyville.....	Aug. 17, 1879
Ed. W. Cooper.....	Vincennes.....	Aug. 18, 1879
L. M. Develin.....	Brookville.....	Aug. 15, 1879
J. B. Peterson.....	Crown Point.....	Aug. 20, 1879
F. P. Carson.....	Evansville.....	Oct. 11, 1879
L. W. Childs.....	Valparaiso.....	Dec. 3, 1879
A. S. Parker.....	Kendallville.....	Jan. 16, 1880
John Frazier.....	Crown Point.....	July 24, 1880
W. L. Hallock.....	Evansville.....	Dec. 15, 1880

In December, 1879, Mr. Hardenbrook, of Ligonier, resigned, and A. S. Parker, of Kendallville, was appointed, this being a more convenient location for the Inspector to reside. September 1,

1879, Mr. Nelson, of Evansville, resigned, and on the 11th day of October following I appointed Captain F. P. Carson, who performed the duties of deputy to December 1, 1880, when he resigned. I then appointed W. L. Hallock, who is now Deputy Inspector at Evansville. J. B. Peterson, of Crown Point, resigned and John Frazier, of the same place, was appointed in his place. Some time last month L. C. Fletcher asked to be relieved from further duty as Deputy Inspector, which was done.

DIFFICULTY OF EXECUTING THE LAW IN PORTIONS OF THE STATE

I have labored under considerable difficulty in procuring suitable persons to act as deputies in the small towns along the Ohio river and in the southeastern part of the State. Each deputy is by law, required to give bond in the sum of five thousand dollars and furnish, at his own expense, his testing apparatus and brand and depend for reimbursement on the amount of oil he inspects. As this part of the State is almost entirely supplied with oil by Cincinnati dealers, at their urgent solicitation, and in order to facilitate trade, I authorized Mr. A. M. Riddle, a very competent gentleman, to inspect and brand oils for shipment to that part of the State. This proved not only a great convenience to the dealers and people in that section of our State, but it saved them the inspection fee, as that is paid by the dealers at Cincinnati; and, moreover, shipments of oil for that locality are closely watched, and in this way low grade oils are kept out of the State. This plan is pursued in Ohio, Pennsylvania, West Virginia and Kentucky.

Deputy Develin is now, and has been for several months attending to the inspection of oils at Cincinnati.

INSTRUCTIONS TO DEPUTIES.

In order to insure a uniform execution of the law I issued to my deputies the following circular:

OFFICE OF THE STATE INSPECTOR OF OILS FOR INDIANA.

INDIANAPOLIS, JUNE 16, 1879.

To Deputy Inspectors of Oils for the State of Indiana:

The law for the inspection of mineral or petroleum oils for illuminating purposes, approved March 31, 1879, requires the State Inspector to prepare rules and regulations for the direction of Deputy Inspectors.

In pursuance of that authority, I have prepared the following, which you will observe in the discharge of your official duties :

1st. Your special and careful attention is called to the act under which your appointments have been made for your guidance upon many points not necessary to be referred to in this circular.

2d. The process for testing oils is fully explained in the first section of the act with which you will strictly comply in making tests. The standard test for illuminating oils in Indiana is 120 degrees Fahrenheit's thermometer, and all illuminating oils that will bear a flash test of 120 degrees, as shown by the apparatus described in said section one, can be legally sold in Indiana ; and all illuminating oils that will not bear a flash test of 120 degrees can not be legally sold in this State for illuminating purposes. Keep a record of each inspection, noting the temperature at which the flash takes place. In testing oils from tanks, great care should be taken in seeing that the oil tested goes into the barrels branded for that purpose.

3d. The apparatus for testing and the brands for "approval" and "rejection" will be furnished from this office, at the expense of the Deputy. Brands furnished from this office only must be used, and but *one* of each kind will be allowed to each Deputy.

4th. Under no circumstances will Deputies allow their brands to be used by others, or to be out of their possession, but will brand the barrels *themselves*, or have it done under their supervision.

5th. Ordinarily the best place for branding is the guage end of the barrel, but when other marks interfere, then wherever practicable.

6th. Each Deputy Inspector is required to make a report to this office on the first day of each month ; blanks for that purpose will be furnished him.

7th. The fees allowed by the act are as follows, and are collectible upon approved and rejected lots :

Forty (40) cents for a single barrel, package or cask ;

Twenty-five (25) cents each when the lot exceeds one but does not exceed ten in number ;

Fifteen (15) cents each when the lot exceeds ten but does not exceed twenty in number ;

Ten (10) cents each when the lot exceeds twenty but does not exceed fifty in number, and

Five (5) cents for all lots exceeding fifty barrels, that is to say, ten (10) cents each barrel up to and including the fiftieth barrel, and five cents for each barrel of such lot over fifty.

8th. Although not provided by law, it is very desirable that Deputy Inspectors should investigate all accidents caused from the use of petroleum and its products as an illuminating fluid and report the facts to this office.

9th. The State Inspector enjoins upon each Deputy a personal supervision to the enforcement of the law, and especially so as to sections five, six and seven of said act, and promptly report all violations to the Prosecuting Attorney of the county in which such violation occurs, as provided in section ten of this act, and to this office.

Each Deputy Inspector will carefully examine the law and note all points not covered by these instructions, bearing in mind that only oils sold or manufactured for *illuminating purposes for use within this State* are subject to inspection.

In conclusion I would impress you with an appreciation of the great responsibility resting upon you officially. Human lives, as well as safety of property, depend upon a faithful and conscientious discharge of the duties entrusted to you. The law must be enforced impartially and without fear or favor.

H. CLAY, *State Inspector.*

It will be observed by the foregoing circular that Deputy Inspectors are instructed to investigate all accidents caused from the use of petroleum, and its products as an illuminating fluid, and report the facts to this office, but as none were reported it may be assumed that there were no accidents of a serious nature that came under their immediate notice. My personal attention was called to some three or four explosions of lamps in this city, but upon investigation I found them to be the result of gross negligence in not having the lamps properly cleaned; in each case the oil used was above the degree required by law.

THE FEES FOR INSPECTING.

Soon after my appointment a question was raised as to the proper construction of the fourth section of the law, as regards the fees

that the Inspector was entitled to charge. In order to have the matter settled by the proper authority, I addressed a letter to the Attorney General of the State, and received a reply giving his construction of the fee bill.

The following are copies of the letters :

OFFICE OF THE STATE INSPECTOR OF OILS,
INDIANAPOLIS, August 30, 1879.

Hon. T. W. Woollen, Attorney General:

SIR:—There is a difference of opinion among dealers in oil as to what are the legal fees for inspecting and branding oils. The law is as follows :

“Forty (40) cents for a single barrel, package or cask ;
Twenty-five (25) cents each when the lot exceeds one but does not exceed ten in number ;
Fifteen (15) cents each when the lot exceeds ten but does not exceed twenty in number ;
Ten (10) cents each when the lot exceeds twenty but does not exceed fifty in number, and
Five (5) cents for all lots exceeding fifty barrels.”

Now, a few dealers hold that whenever the number of barrels is over fifty, the whole lot, instead of simply the excess, must be reduced to five cents per barrel, and if this be so, the fees for inspecting and branding, say *fifty-one* barrels, would be two dollars and fifty-five cents, whereas, it is clear that the legal fees for a like service on a smaller number, say *fifty* barrels, is five dollars, and with this construction, the same inconsistency follows all through the fee bill. For instance, it is plain that the legal fee on ten barrels is two dollars and fifty cents, but if the number exceeds ten, then, if the whole lot must be reduced to fifteen cents per barrel, the fees for inspecting and branding, say *twelve* barrels, would be one dollar and eighty cents only, or seventy cents less than the clearly legal fees for a like service on *ten* barrels.

Will you, therefore, as the law officer of the State, give me your opinion as to what are the legal fees in the premises?

Very respectfully yours, etc.,

H. CLAY,
State Inspector.

ATTORNEY GENERAL'S OFFICE,
INDIANAPOLIS, September 5, 1879.

SIR:—Your favor of the 30th ult. is received and has been considered. You inquire what fees are properly chargeable under the 4th section of the act approved March 31, 1879, in relation to the duties of your office. That section, so far as it relates to the subject under consideration, reads as follows :

Sec. 4. Said inspector or deputy inspector shall be entitled to demand and receive from the owner or party calling on him, or for whom he shall perform the inspection, the sum of 40 cents for a single barrel, package or cask ; 25 cents each when the lot exceeds one, but does not exceed 10 in number ; 15 cents each when the lot exceeds 10, but does not exceed 20 in number ; 10 cents each when the lot exceeds 20, but does not exceed 50 in number ; and 5 cents each for all lots exceeding 50 barrels," etc.

If read literally this section would lead to an absurdity. For 10 barrels the inspector would be entitled to charge \$2.50, but for 11 barrels he would receive only \$1.65. So for 20 barrels he would get \$3, but for 21 only \$2.10; and for 50 barrels \$5, but for 51 barrels only \$2.55. This construction making the operation of the law ridiculous, it must be rejected, if any other construction consistent with the intent and purpose of the Legislature can be found.

I think the Legislature intended to grade the fees so that as the number of packages was increased the compensation for the increased labor should be diminished, but that the increase in the number of packages should not decrease the aggregate fees. Hence, I think the following construction should be placed upon the section: Take a given lot—suppose it be 15; this exceeds 10, and you get your fees of 25 cents each on the 10, and the decreased fee of 15 cents on the excess. Or suppose it to be 35 packages; you get your fee of 15 cents on the 20 and the decreased fee of 10 cents each on the excess. So, on 60 packages you take the lot of 50 at 10 cents and charge the decreased compensation of 5 cents each on the excess of 10. The following would be examples of the cases I have supposed :

1.	Lot of 15—	
	On 10, at 25 cents each	\$2 50
	On additional 5, at 15 cents each	75
		<hr/>
	Total	\$3 25
2.	Lot of 35—	
	On 20, at 15 cents	\$3 00
	On 15, at 10 cents	1 50
		<hr/>
	Total	\$4 50
3.	Lot of 60—	
	On 50, at 10 cents	\$5 00
	On 10, at 5 cents	50
		<hr/>
	Total	\$5 50

This, I think, is the construction most consistent with the intention and purpose of the Legislature. I have the honor to be,

Very respectfully,

T. W. WOOLLEN,

Attorney General.

To H. Clay, Esq., Inspector, etc.

The following table shows the amount of oil inspected from the date of my appointment up to and including December 31, 1880, and the fees received therefor :

Name of Inspector.	Residence.	No. of Bbls Approved.	No. of Bbls Rejected.	Amount.
State Inspector.....	Indianapolis.....	33,304	130	\$2,369 80
A. M. Riddle.....	Cincinnati, O.....	10,263	896 95
T. J. Immel.....	Logansport.....	6,626	52	823 43
Tom M. Park.....	Lafayette.....	9,660	12	956 55
John H. Early.....	Laporte.....	8,815	89	1,022 85
John B. Foley.....	Terre Haute.....	4,986	136	526 70
Wm. Sackett.....	New Albany.....	7,711	109	842 05
Henry Monning.....	Ft. Wayne.....	11,405	194	1,122 75
J. F. Elder.....	Richmond.....	7,733	184	520 25
Chas. S. Williams.....	Columbia City.....	1,731	12	263 85
L. M. Develin.....	Brookville.....	2,296	21	228 25
Ed. W. Cooper.....	Vincennes.....	1,968	16	245 60
L. A. Kirkwood.....	Muncie.....	3,688	130	417 70
Lee Linn.....	Wabash.....	2,937	3	338 00
A. C. Hardenbrook.....	Ligonier.....	1,304	21	158 35
T. C. James.....	Shelbyville.....	18	2	5 90
Wm. Nelson, T. P. Carson and W. L. Hallock.....	Evansville.....	5,450	1	377 95
L. C. Fletcher.....	Aurora.....	4,148	104	492 20
J. B. Peterson and Jno. Frazier	Crown Point.....	531	44	140 56
A. S. Parker.....	Kendallville.....	2,531	6	312 05
L. W. Child.....	Valparaiso.....	754	85 05
Totals.....	127,859	1,266	\$12,146 79

Total number of barrels approved	127,859
Total number of barrels rejected	1,266
Total number of barrels inspected.	<u>129,125</u>

The 1,266 barrels of oil shown as rejected was nearly all in the State when the law went into force. Now very little is shipped in that is below the test required for the reasons heretofore given in this report.

RECEIPTS AND EXPENDITURES.

Total amount received from all sources	\$12,146 79
Amount paid Deputies	\$7,903 74
Office rent, stationery, postage, traveling and other expenses.	785 50
	<u>\$8,689 24</u>
Net receipts for State Inspector	\$3,457 55

for nineteen months of his entire time and close attention to the duties of his office.

EFFORT TO EVADE THE LAW.

I take pleasure in reporting that there have been very few cases coming to my knowledge of an effort to evade the law. One case, however, demands more than a passing notice as the effort to put the "fluid" upon the market was continued over my protest with a persistency worthy of a better cause, or rather of a better article. The manufacturer of the "fluid" which he called by the high sounding name of "Hyperion" (the god of day), claimed he had a right to manufacture and sell it because he had obtained a patent from the United States, and he could not, therefore, be prohibited by a law of the State of its manufacture and sale. In this view of the case I did not concur, although he cited to me an opinion published in the Scientific American, which he claimed sustained his position. Some months afterwards I was called to Kokomo by a dispatch from Deputy Immel, of Logansport. I found that Mr. Immel had been called there to inspect the "fluid," or brand it, which he refused to do. The owner of the patent fluid had succeeded in getting some worthy gentlemen of the place interested with him in its manufacture, and as soon as I informed them that the fluid was prohibited by the law they declined to continue its manufacture. In order, however, to prove that the fluid contained the most inflammable products of petroleum, a sample was submitted to Prof. Collett for analysis.

The following is a copy of Attorney General Woollen's opinion on "Hyperion."

ATTORNEY GENERAL'S OFFICE,
INDIANAPOLIS, January 14, 1880.

SIR:—Your favor of the 2d inst., inquiring of me whether the burning fluid called "Hyperion," a sample of which you handed me, is of the character prohibited by the act approved March 31 1879, has been received and duly considered. The law mentioned prohibits the sale of "all mineral or petroleum oil, or any oil fluid or substance which is a product of petroleum, or into which petroleum or any product of petroleum enters, or is found as a constituent element, whether manufactured in this State or not," unless it is inspected and bears the test required by law. It will be seen at once that your inquiry submits to me rather a question of fact than law; I accordingly handed the sample of the fluid submitted to me to Professor Collett, of the Bureau of Statistics and Geology, for analysis, whose report I herewith transmit to you as part of this communication. You will see by this letter that the sample of "Hyperion" submitted to him is found to contain the "product of petroleum as a constituent element," and must undergo the necessary inspections and test if offered for sale for illuminating purposes.

I have the honor to be, very respectfully,

T. W. WOOLLEN,

Attorney General.

To H. Clay, Esq., State Inspector, etc.

The following is a copy of Prof. Collett's analysis of "Hyperion:"

DEPARTMENT OF STATISTICS AND GEOLOGY,
INDIANAPOLIS, IND, January 12, 1880.

Hon. T. W. Woollen, Attorney General State of Indiana.

SIR:—The sample of burning fluid marked "Hyperion," submitted by Mr. H. Clay, State Inspector of Oils, has been examined:

1. Physical characteristics, as odor, color, limpidity and smoky combustion, indicate products of petroleum.
2. It is coagulated (thickened) by *sapanaria officinalis*, declared and authorized as a test of petroleum by the Journal of Chemistry.

3. At suggestion of Professor Wyley, of Purdue University with the assistance of John N. Hurty, chemist, subjected to the test directed by chemical text books of practical distillation, with the following results :

A. Vapors came over at 113 F, which were not condensed by iced water, indicating products lighter than gasoline.

B. From 120° to 180° F, the distillate was 37 per cent., with specific gravity, of 0.666, indicating gasoline.

C. From 180° to 220° F, distillate amounted to 33.60 per cent.; specific gravity, 0.698, indicating C naptha, mixed with gasoline.

D. The residuum which did not evaporate at 220° F. amounted to 29.40 per cent. of the whole, with specific gravity of 0.733, indicating B naptha, with a small amount of A naptha.

The following formula, describing products of petroleum, is from page 371, volume 13, of Appleton's Encyclopedia :

Articles	Boiling Point.	Specific Gravity.
Gasoline . . .	120 degrees F.	0.665
C Naptha . . .	180 degrees F.	0.706
B Naptha . . .	220 degrees F.	0.724
A Naptha . . .	300 degrees F.	0.742
Kerosene . . .	350 degrees F.	0.904

From the foregoing results and indications, I am clearly of the opinion that products of petroleum are constituent elements in the samples examined for Mr. Inspector Clay.

At my request, chemical tests were made of the same fluid by Henry Jameson, Professor of Chemistry at Indiana Medical College, with similar indications.

Glass bulbs partly filled with the fluid and hermetically sealed were placed in water. As it approached the boiling point one bulb exploded at 185 degrees F., another at 191 degrees F., without report. Another bulb as before, containing about nineteen or twenty drops, was exposed to the flame of a small quantity of the fluid. It instantly and violently exploded, with a report similar to that of a musket percussion cap.

Respectfully submitted.

JOHN COLLETT,

Chief of Bureau of Statistics and Geology.

From the foregoing it will be seen that were it not for the
ent law the State would be flooded with "Hyperion," and a p
carrying a lighted lamp with such materials "holds his death
rant in his hand, and a stumble may furnish an executioner a
moment."

AMENDMENT.

I would respectfully suggest that if any change is made in
law, that it be so amended as to prohibit the use of the li
elements of petroleum in coal-oil and gasoline stoves.

All of which is respectfully submitted,

H. CLAY, State Inspector

INDIANAPOLIS, January 7, 1881.

SECOND ANNUAL REPORT

OF EXPENSES OF

BUREAU OF STATISTICS AND GEOLOGY,

YEAR ENDING OCTOBER 30, 1880.

TO THE GOVERNOR.

INDIANAPOLIS:
CARLON AND HOLLENBECK, PRINTERS AND BINDERS.
1881.

THE STATE OF INDIANA,
GOVERNOR'S OFFICE.

Received November 5, 1880, and referred to the Auditor of State for verification. Returned, certified as follows :

OFFICE OF AUDITOR OF STATE,
INDIANAPOLIS, Nov. 8, 1880.

On examination of the records in this office I find the statement of Chief Bureau of Statistics, as to the expenditures of his office, to be correct.

M. D. MANSON,
Auditor of State.

Examined by the Governor and transmitted to the Secretary of State to be filed and preserved in his office, and published as may be ordered by the Commissioners of the Public Printing. Vouchers retained and filed.

SAMUEL R. DOWNEY,
Secretary.

Filed in my office November 12, 1880.

J. G. SHANKLIN,
Secretary of State.

REPORT.

DEPARTMENT OF STATISTICS AND GEOLOGY,
INDIANAPOLIS, IND., October 31, 1880.

To *His Excellency*, JAMES D. WILLIAMS,
Governor of Indiana:

SIR: In pursuance of the requirements of the sixth section of the Act of the General Assembly of Indiana, creating the Department of Statistics and Geology, I submit the following "detailed statement, accompanied with the proper vouchers" (Nos. 36 to 117, inclusive) of and for all moneys expended during the fiscal year ending October 31, 1880:

1879.			
Oct.	31.	Voucher No. 36.	Campbell..... \$75 00
Oct.	31.	Voucher No. 37.	Carlton..... 13 75
Oct.	31.	Voucher No. 38.	Lloyd..... 39 75
Oct.	31.	Voucher No. 39.	Davis..... 32 85
Oct.	31.	Voucher No. 40.	Collett..... 41 25
Nov.	1.	Voucher No. 41.	Bowen & Stewart..... 3 32
Nov.	1.	Voucher No. 42.	Garvey..... 1 50
Nov.	1.	Voucher No. 43.	Lloyd..... 5 00
Nov.	1.	Voucher No. 44.	Gilkey..... 2 40
Nov.	1.	Voucher No. 45.	Express charges..... 25
Nov.	1.	Voucher No. 46.	Lloyd..... 40
Nov.	1.	Voucher No. 47.	Express charges..... 50
Nov.	29.	Voucher No. 48.	Reinhardt..... 1 50
Nov.	29.	Voucher No. 49.	Burkit..... 10 00
Nov.	29.	Voucher No. 50.	Greene..... 50 00

1879.

Nov. 29.	Voucher No. 51.	Greene.....	\$75 00
Nov. 29.	Voucher No. 52.	Mills.....	45 11
Nov. 29.	Voucher No. 53.	Mills.....	12 50
Nov. 29.	Voucher No. 54.	Emerson & Sons.....	80
Dec. 1.	Voucher No. 55.	Lloyd.....	55 00
Dec. 1.	Voucher No. 56.	Davis	27 60
Dec. 1.	Voucher No. 57.	Palmer.....	6 00
Dec. 1.	Voucher No. 58.	Campbell.....	75 00
Dec. 1.	Voucher No. 59.	Campbell	20 60
Dec. 13.	Voucher No. 60.	Palmer.....	18 00
Dec. 31.	Voucher No. 61.	Smith	36 75
Dec. 31.	Voucher No. 62.	Lloyd	60 00
Dec. 31.	Voucher No. 63.	Davis.....	23 25
Dec. 31.	Voucher No. 64.	Palmer.....	22 50
Dec. 31.	Voucher No. 65.	Hetselgesser	12 00
Dec. 31.	Voucher No. 66.	Campbell.....	82 60

1880.

Jan. 8.	Voucher No. 67.	Carlton	62 82
Jan. 15.	Voucher No. 68.	Palmer.....	19 50
Jan. 17.	Voucher No. 69.	Smith	19 50
Jan. 31.	Voucher No. 70.	Palmer.....	31 50
Jan. 31.	Voucher No. 71.	Smith.....	22 50
Jan. 31.	Voucher No. 72.	Hetselgesser.....	51 00
Jan. 31.	Voucher No. 73.	Floyd.....	54 00
Jan. 31.	Voucher No. 74.	Woollen	10 50
Jan. 31.	Voucher No. 75.	Davis.....	34 05
Jan. 31.	Voucher No. 76.	Campbell.....	90 20
Feb. 4.	Voucher No. 77.	Carlton.....	14 50
Feb. 18.	Voucher No. 78.	Hetselgesser	21 00
Feb. 18.	Voucher No. 79.	Palmer	22 50
Feb. 24.	Voucher No. 80.	Fleming.....	25 00
Feb. 28.	Voucher No. 81.	Woollen	36 00
Feb. 28.	Voucher No. 82.	Palmer	13 50
Feb. 28.	Voucher No. 83.	Davis	39 90
Feb. 28.	Voucher No. 84.	Smith.....	35 00
Feb. 28.	Voucher No. 85.	Lloyd.....	56 00
Feb. 28.	Voucher No. 86.	Campbell.....	79 10
March 9.	Voucher No. 87.	Carlton.....	11 00
March 10.	Voucher No. 88.	Sentinel	7 50
March 2.	Voucher No. 89.	Palmer	7 50
March 31.	Voucher No. 90.	Lloyd	50 00

1880.			
April	1.	Voucher No. 91.	Campbell..... \$84 10
April	30.	Voucher No. 92.	Lloyd... 40 00
April	20.	Voucher No. 95.	Davis..... 10 25
April	19.	Voucher No. 96.	Woollen... 37 50
May	31.	Voucher No. 97.	Lloyd..... 33 00
May	31.	Voucher No. 98.	Campbell..... 93 50
July	1.	Voucher No. 99.	Campbell..... 90 91
July	3.	Voucher No. 100.	Carlson..... 15 00
July	31.	Voucher No. 101.	Campbell..... 95 13
July	31.	Voucher No. 102.	Lloyd..... 32 00
Aug.	31.	Voucher No. 103.	Campbell..... 125 05
Aug.	31.	Voucher No. 104.	Davis..... 8 55
Aug.	31.	Voucher No. 105.	Woollen..... 7 50
Aug.	31.	Voucher No. 106.	Brouse..... 9 00
Sept.	30.	Voucher No. 107.	Campbell..... 101 55
Sept.	30.	Voucher No. 108.	Woollen..... 29 85
Sept.	30.	Voucher No. 109.	Brouse..... 23 33
Sept.	30.	Voucher No. 110.	Davis..... 28 35
Sept.	30.	Voucher No. 111.	C. & H..... 53 57
Sept.	30.	Voucher No. 112.	B. & S..... 58
Sept.	30.	Voucher No. 113.	Burford..... 3 10
Oct.	6.	Voucher No. 114.	Lloyd..... 37 00
Oct.	6.	Voucher No. 115.	McConnel..... 180 00
Oct.	6.	Voucher No. 116.	Piercy..... 50 00
Oct.	30.	Voucher No. 117.	Campbell..... 91 93
Oct.	30.	Salary drawn by Chief, including October, 1879.....	1,300 00
Total			<u>\$4,380 10</u>

The amount to be drawn on was as follows:

Balance brought down from last year to cancel liabilities previously incurred.....	\$680 10
Annual appropriation.....	3,700 00
Total.....	<u>\$4,380 10</u>
Amount expended as above.....	<u>4,380 10</u>

Respectfully submitted.

JOHN COLLETT,

Chief of Bureau.