



CHAPTER cxli.

An Act to provide in the case of certain gas companies for the adoption of the Metropolitan Argand Burner No. 2 as a standard burner in substitution for the various burners now in use for the official testing of the illuminating power of gas supplied by them and for other purposes. A.D. 1910.
[28th November 1910.]

WHEREAS by the City of London Gas Act 1868 it was enacted that the burner to be used for testing the illuminating power of gas supplied in the city of London should be “such as shall be the most suitable for obtaining from the gas the greatest amount of light and be practicable for use by the consumer”:

And whereas the Gasworks Clauses Act 1871 enacts that the illuminating power of gas supplied by the various gas undertakings of the kingdom should be tested by burners to be prescribed by the special Act relating to each company none of which burners (with the exception of the burner prescribed in Gas Acts of recent date and hereinafter referred to) fulfil the conditions prescribed by Parliament as aforesaid or meet the requirements essential for a fair and scientifically accurate test for illuminating power:

And whereas the metropolitan gas referees after careful experiment have satisfied themselves that the burner known as the Metropolitan Argand Burner No. 2 is the best known burner for the testing of illuminating power of gas and they have since the year 1906 adopted the same for the purpose of testing in accordance with the conditions and in the manner hereinafter set forth the illuminating power of gas supplied by the three metropolitan gas companies:

And whereas it has been proved that the said burner gives a fair and true result for all qualities of gas up to an illuminating

A.D. 1910. — power of twenty candles which limit covers the statutory obligations of all the gas companies enumerated in the First Schedule to this Act (hereinafter called “the Promoting Companies”):

And whereas the said burner is now invariably prescribed in all Acts and Provisional Orders conferring powers of supply upon gas companies and local authorities as also in Acts and Provisional Orders promoted by existing companies and local authorities for further powers:

And whereas the Promoting Companies are desirous of having the said burner substituted for the burner prescribed in the Acts or Orders relating to their respective undertakings and it is expedient to enact that the said burner should be substituted accordingly:

And whereas the objects aforesaid cannot be attained without the authority of Parliament:

May it therefore please Your Majesty that it may be enacted and be it enacted by the King’s most Excellent Majesty by and with the advice and consent of the Lords Spiritual and Temporal and Commons in this present Parliament assembled and by the authority of the same as follows (that is to say):—

Short title.

1. This Act may be cited for all purposes as the Gas Companies (Standard Burner) (No. 1) Act 1910.

Interpretation.

2. “The prescribed burner” means the burner prescribed pursuant to the provisions of the Gasworks Clauses Act 1871 in any Act or Order relating respectively to the Promoting Companies.

“The standard burner” means the Metropolitan Argand Burner No. 2 described by the metropolitan gas referees in their notification for the year 1908 (a model of which burner has been deposited with the Warden of the Standards) or any other burner which the Board of Trade may approve under the provisions of this Act as being equally or more suitable for the testing for illuminating power.

Commencement of Act.

3. This Act shall come into operation on the first day of January one thousand nine hundred and eleven.

Substitution of standard burner for testing gas supplied by Promoting Companies.

4. Notwithstanding anything in any Acts or Orders relating to the Promoting Companies contained the testing for illuminating power of the gas supplied by the Promoting Companies shall subject to the provisions of this Act be by means of the standard burner which shall be deemed to be the prescribed burner within the meaning of the Gasworks Clauses Act 1871 for the purposes

of any test for illuminating power under that Act and the Acts and Orders set forth in the second column of the First Schedule to this Act and such Acts and Orders are hereby severally amended and shall be read and have effect accordingly Provided that the Board of Trade may on the application of the company or the local authority concerned approve the use of any other burner the chimney and burner holes of which may have other dimensions and which may appear to the Board to be equally or more suitable for the testing Provided further that such other burner shall be the most suitable for obtaining from the gas the greatest amount of light and be practicable for use by the consumer.

A.D. 1910.

5. The following conditions shall be observed when testing with the standard burner:—

Defining conditions and method of testing with standard burner.

- (1) The glass chimney to be used with the standard burner shall be six inches in length by one inch and five-eighths of an inch in internal diameter:
- (2) The gas shall be consumed in the standard burner at the rate of five cubic feet per hour and the air supply thereto shall be adjusted according to the regulations contained in Part I. of the Second Schedule to this Act:
- (3) If the gas is so rich that it cannot be burned with the full air supply and at the prescribed rate of consumption without tailing above the chimney the rate of consumption shall be reduced until the flame burns properly within the chimney as described in Part I. of the said Second Schedule The rate of consumption shall then be carefully ascertained and from this the illuminating power of the gas under test shall be calculated by simple proportion for any reduction of such rate of consumption below five cubic feet per hour:
- (4) Proper correction shall be made according to the method set forth in Parts II. and III. of the Second Schedule to this Act for variation from standard atmospheric conditions of thirty inches height of mercury pressure and sixty degrees Fahrenheit.

6. The testing place of the Liverpool United Gas Light Company at their works at Linacre shall be a prescribed testing place for the purposes of the Gasworks Clauses Act 1871.

Liverpool company to provide testing place at Linacre.

7. All costs charges and expenses of and incident to the preparing for obtaining and passing of this Act or otherwise in relation thereto shall be paid by the Promoting Companies.

Costs of Act.

A.D. 1910. The SCHEDULES referred to in the foregoing Act.

FIRST SCHEDULE.

Name of Company.	Act or Order.
Croydon Gas Company - - -	Croydon Gas Act 1877.
Hastings and St. Leonards Gas Company	Hastings and St. Leonards Gas Act 1883.
Ilford Gas Company - - -	Ilford Gas Order 1873.
Liverpool United Gas Light Company -	Liverpool United Gaslight Company's Act 1865.
	Liverpool United Gaslight Company's Act 1882.
Maidenhead Gas Company - - -	Maidenhead Gas Act 1876.
Scarborough Gas Company - - -	Scarborough Gas Act 1873.
Swansea Gas Light Company - - -	Swansea Gas Order 1888.
Torquay Gas Company - - -	Torquay Gas Act 1894.

SECOND SCHEDULE.

PART I.

REGULATIONS FOR USING THE STANDARD BURNER.

The gas to be examined must be kept alight in the burner at or about the rate of five cubic feet per hour and with the air regulator screwed down so as to be fully open for at least thirty minutes before any testing is commenced.

When the examination is about to be made and the gas consumption has been adjusted to five cubic feet per hour the air regulator of the burner must be screwed upwards until the flame rises in the chimney as high as possible without smoking and no more air is to be admitted by the regulator than is necessary to accomplish this. The photometrical readings for illuminating power are then to be made in the usual manner.

From time to time the accuracy of the burner holes must be tested by two gauges having respective diameters of 0.058 inch and 0.062 inch. The holes must be of such size that the smaller only of the two gauges can be inserted therein.

The bottom edge of the glass chimney is to be ground true so that it stands upright upon the burner and a clean one must be used for each testing.

PART II.

A.D. 1910.

REGULATIONS AS TO CORRECTING TO STANDARD TEMPERATURE
AND PRESSURE.

At the time of each testing the gas examiner shall observe and record the temperature of the gas as shown by the thermometer attached to the meter and also the height of the barometer. The volume of the gas operated upon during the testing shall be corrected from these data to the standard of comparison (namely) for the barometer 30 inches of mercury and for the thermometer 60 degrees Fahrenheit. The correction may be made by means of the Table of Numbers given in Part III. of this schedule. If for example the thermometer reading is 54 degrees and the barometer reading 30.3 inches the tabular number will be 1.025 and multiplying by this figure the observed quantity of gas consumed per hour will give the corrected volume of gas so consumed that is to say the volume it would have occupied when measured over water at the standard temperature and pressure.

The originally observed illuminating power shall then be corrected by simple proportion for any variation between the observed rate of consumption and the true rate of consumption as ascertained by such correction to standard temperature and pressure.

PART III.

TABLE TO FACILITATE THE CORRECTION OF THE VOLUME OF
GAS AT DIFFERENT TEMPERATURES AND UNDER DIFFERENT
ATMOSPHERIC PRESSURES.

The numbers in the following table have been calculated from the formula $n = \frac{17.64 (h-a)}{460 + t}$ where h is the height of the barometer in inches t the temperature on the Fahrenheit scale and a the tension of aqueous vapour at t degrees. If v is any volume at t degrees and h inches pressure and V the corresponding volume at 60 degrees and 30 inches pressure $V = vn$.

BAR.	THERMOMETER		— FAHRENHEIT.								
	40°	42°	44°	46°	48°	50°	52°	54°	56°	58°	60°
28·0	·979	·974	·970	·965	·960	·956	·951	·946	·942	·937	·932
28·1	·983	·978	·973	·969	·964	·959	·955	·951	·945	·941	·936
28·2	·986	·981	·977	·972	·967	·963	·958	·953	·949	·944	·939
28·3	·990	·985	·980	·976	·971	·966	·961	·957	·952	·947	·942
28·4	·993	·988	·984	·979	·974	·970	·965	·960	·955	·951	·946
28·5	·997	·992	·987	·983	·978	·973	·968	·964	·959	·954	·949
28·6	1·001	·995	·991	·986	·981	·977	·972	·967	·962	·958	·953
28·7	1·004	·999	·994	·990	·985	·980	·975	·970	·966	·961	·956
28·8	1·007	1·003	·998	·993	·988	·984	·979	·974	·969	·964	·959
28·9	1·011	1·006	1·001	·997	·992	·987	·982	·977	·973	·968	·963
29·0	1·014	1·010	1·005	1·000	·995	·990	·986	·981	·976	·971	·966
29·1	1·018	1·013	1·008	1·004	·999	·994	·989	·984	·979	·975	·969
29·2	1·021	1·017	1·012	1·007	1·002	·997	·992	·988	·982	·978	·973
29·3	1·025	1·020	1·015	1·011	1·006	1·001	·996	·991	·986	·981	·976
29·4	1·028	1·024	1·019	1·014	1·009	1·004	·999	·995	·990	·985	·980
29·5	1·032	1·027	1·022	1·018	1·013	1·008	1·003	·998	·993	·988	·983
29·6	1·036	1·031	1·026	1·021	1·016	1·011	1·006	1·001	·996	·992	·986
29·7	1·039	1·034	1·029	1·025	1·019	1·015	1·010	1·005	1·000	·995	·990
29·8	1·043	1·038	1·033	1·028	1·023	1·018	1·013	1·008	1·003	·998	·993
29·9	1·046	1·041	1·036	1·031	1·026	1·022	1·017	1·012	1·007	1·002	·997
30·0	1·050	1·045	1·040	1·035	1·030	1·025	1·020	1·015	1·010	1·005	1·000
30·1	1·053	1·048	1·043	1·038	1·033	1·029	1·024	1·019	1·014	1·009	1·003
30·2	1·057	1·052	1·047	1·042	1·037	1·032	1·027	1·022	1·017	1·012	1·007
30·3	1·060	1·055	1·050	1·045	1·040	1·036	1·030	1·025	1·020	1·015	1·010
30·4	1·064	1·059	1·054	1·049	1·044	1·039	1·034	1·029	1·024	1·019	1·014
30·5	1·067	1·062	1·057	1·052	1·047	1·042	1·037	1·032	1·027	1·022	1·017
30·6	1·071	1·066	1·061	1·056	1·051	1·046	1·041	1·036	1·031	1·026	1·020
30·7	1·074	1·069	1·064	1·059	1·054	1·049	1·044	1·039	1·034	1·029	1·024
30·8	1·078	1·073	1·068	1·063	1·058	1·053	1·048	1·043	1·037	1·032	1·027
30·9	1·081	1·076	1·071	1·066	1·061	1·056	1·051	1·046	1·041	1·036	1·031
31·0	1·085	1·080	1·075	1·070	1·065	1·060	1·055	1·049	1·044	1·039	1·034

BAR.	THER. 62°	64°	66°	68°	70°	72°	74°	76°	78°	80°	82°	84°
28·0	·927	·922	·917	·912	·907	·902	·897	·892	·887	·881	·875	·870
28·1	·930	·926	·921	·916	·911	·905	·900	·895	·890	·884	·879	·873
28·2	·934	·929	·924	·919	·914	·909	·904	·898	·893	·887	·882	·876
28·3	·937	·932	·928	·922	·917	·912	·907	·902	·896	·891	·885	·880
28·4	·941	·936	·931	·926	·921	·915	·910	·905	·900	·894	·888	·883
28·5	·944	·939	·934	·929	·924	·919	·914	·908	·903	·897	·892	·886
28·6	·947	·943	·938	·932	·927	·922	·917	·912	·906	·901	·895	·889
28·7	·951	·946	·941	·936	·931	·925	·920	·915	·909	·904	·898	·893
28·8	·954	·949	·944	·939	·934	·929	·924	·918	·913	·907	·901	·896
28·9	·958	·953	·948	·942	·937	·932	·927	·921	·916	·910	·905	·899
29·0	·961	·956	·951	·946	·941	·935	·930	·925	·919	·914	·908	·903
29·1	·964	·959	·954	·949	·944	·939	·933	·928	·923	·917	·911	·906
29·2	·968	·963	·958	·952	·947	·942	·937	·931	·926	·920	·914	·909
29·3	·971	·966	·961	·956	·950	·945	·940	·935	·929	·923	·918	·912
29·4	·975	·969	·964	·959	·954	·949	·943	·938	·932	·927	·921	·915
29·5	·978	·973	·968	·962	·957	·952	·947	·941	·936	·930	·924	·919
29·6	·981	·976	·971	·966	·960	·955	·950	·944	·939	·933	·927	·922
29·7	·985	·980	·974	·969	·964	·959	·953	·948	·942	·937	·931	·925
29·8	·988	·983	·978	·972	·967	·962	·957	·951	·946	·940	·934	·928
29·9	·991	·986	·981	·976	·970	·965	·960	·954	·949	·943	·937	·932
30·0	·995	·990	·985	·979	·974	·968	·963	·958	·952	·946	·941	·935
30·1	·998	·993	·988	·983	·977	·972	·966	·961	·955	·950	·944	·938
30·2	1·002	·996	·991	·986	·980	·975	·970	·964	·959	·953	·947	·941
30·3	1·005	1·000	·995	·989	·984	·978	·973	·968	·962	·956	·950	·945
30·4	1·008	1·003	·998	·993	·987	·982	·976	·971	·965	·959	·954	·948
30·5	1·012	1·006	1·001	·996	·990	·985	·980	·974	·969	·963	·957	·951
30·6	1·015	1·010	1·005	·999	·994	·988	·983	·977	·972	·966	·960	·954
30·7	1·018	1·013	1·008	1·003	·997	·992	·986	·981	·975	·969	·963	·957
30·8	1·022	1·017	1·011	1·006	1·000	·995	·990	·984	·978	·972	·967	·961
30·9	1·025	1·020	1·015	1·009	1·004	·998	·993	·987	·982	·976	·970	·964
31·0	1·029	1·023	1·018	1·013	1·007	1·002	·996	·991	·985	·979	·973	·967

Printed by ERYE and SPOTTISWOODE, Ltd.,

FOR

ROWLAND BAILEY, Esq., M.V.O., the King's Printer of Acts of Parliament.

And to be purchased, either directly or through any Bookseller, from
WYMAN AND SONS, LTD., FETTER LANE, E.C.; or
OLIVER AND BOYD, TWEEDDALE COURT, EDINBURGH; or
E. PONSONBY, LTD., 116, GRAFTON STREET, DUBLIN.

