The British Patent Technology Classification Database: 1855-1882

W. Walker Hanlon

February 9, 2016

Overview

Patent data provide a unique window into innovative activity. This document describes a data set containing British patent data from 1855-1882. The time period covered by this dataset spans the period between the major patent reforms of 1855 and 1882. Thus, this was a period of stability in British patent law.

The unique feature of these data is that they include the British Patent Office (BPO) technology classifications for each patent. The BPO classified each patent into one or more of 146 technology categories. This provides a way to track innovation patterns in specific types of technologies over the 1855-1882 period. Because they come from the name indexes, the data also include the name of the inventor.

Citation

When using these data, please cite:

Hanlon, W.W. (2016). *British Patent Technology Classification Database: 1855-1882.* Available at: `http://www.econ.ucla.edu/whanlon/`.

Acknowledgments

The collection of this database was made possible through NSF Dissertation Improvement Grant No. SES-0962545. Most of the data were collected while I was a Marie Curie AMID Fellow at the London School of Economics. Finally, I thank the staff of the British Library's BIPC Reading Room, who's assistance played a vital role allowing me to collect these data.

Collection of the data

These data were collected from published versions of the British Patent Abstracts available in the British Library's BIPC reading room. To obtain the data, I scanned and digitized

the name index pages from each of the Abstract volumes. The data were then processed into Stata format. An example of one of the Abstract volumes is available here:

https://books.google.com/books?id=G0dEAQAAMAAJ&lpg=RA1-PA121&ots=6LyAaq7MgW&dq=british%20patent%20act%201855&pg=PR5#v=onepage&q=british%20patent%20act%201855&f=false

Important notes

One feature of these data is that they cover patent applications. Nearly all of these applications resulted in granted patents as long as the applicant completed the application process, because the British patent system did not include a modern patent review stage during this period.

Another feature of the data is that a number of patents have a patent agent listed rather than the actual inventor. Patents which have the agent listed rather than the inventor were often invented by foreigners who then patented through the British agent. Table 1 lists some of the major patent agents during this period. Note that many of the agents were operating as part of family firms, so we see surnames such as Lake, Newton, and Clark repeated multiple times.

Data fields

Table 2 describes the fields in the data. Each patent in the data is uniquely identified by the combination of the year and patent number field.

Data description

Table 3 describes the BPO technology classifications included in this database as well as the number of patents in each category in the 1855-1882 period. We can see that the largest categories are Metals & Cutting Equipment (83), Spinning (Textiles) (120), Furnaces (51), Weaving (142), and Railway Equipment (104, 105, 106) and Ships and Ship Equipment (113, 114, 115). These reflect the key components of the British economy during this period.

Additional resources

1. An invaluable resource for understanding the British patent system during this period is:

   Van Dulken, Stephen (1999). *British Patents of Invention 1617-1977.* Gateshead: Atheneum Press.

2. Additional patent data are available from the Cradle of Inventions Database, which can be purchased by following the link below. I have compared my data to the Cradle of Inventions Database and in general they match well.

   `http://finishingpublications.com/books-and-cd-roms/cd-roms/patents.html`

3. A useful general resource for understanding patent data analysis is:

   Hall, BH and Jaffe, AB and Trajtenberg, M (2001). *The NBER Patent Citations Data File: Lessons, Insights, and Methodological Tools.* NBER Working Paper No. 8498.

Table 1: Listing of major patent agents

Lake, W. R.	Johnson, J. H.
Clark, A. M.	Clark, W.
Newton, W. E.	Newton, A. V.

Table 2: Fields in the data

Field name	**Description**
name	The name of the inventor
year	The year
patent_no	The patent number
class	The BOP technology classification number
class_name	The BOP technology classification name

Table 3: Technology categories available in the data

Class	Class Name	No. of Pats	Class	Class Name	No. of Pats
1	Acids, alkalis, etc.	4201	50	Fuel, manufacture	1898
2	Acids and salts, etc.	1792	51	Furnaces	8903
3	Advertising	1034	52	Furniture	4392
4	Aeronautics	304	53	Galvanic batteries	1093
5	Agricultural appliances, farmyard	1405	54	Gas distribution	1229
6	Agricultural appliances, land treatment	4031	55	Gas manufacture	2729
7	Air and gas engines	1553	56	Glass	750
8	Air and gases, compressing, etc.	2628	57	Governors	1353
9	Ammunition	2643	58	Grain	1487
10	Animal powered engines	1571	59	Grinding and crushing	2450
11	Artists' instruments	414	60	Grinding or abrading	1300
12	Bearings, etc.	3285	61	Hand tools	1717
13	Bells, etc.	624	62	Harness	1284
14	Beverages	1421	63	Hats	1176
15	Bleaching, etc.	2731	64	Heating	2827
16	Books	1052	65	Hinges	1018
17	Boots, etc.	1981	66	Hollow-ware	1164
18	Boxes, etc.	1636	67	Horse-shoes	619
19	Brushing, etc.	769	68	Hydraulic engineering	1939
20	Buildings	3912	69	Hydraulic machinery	2701
21	Casks	1094	70	India-rubber	1946
22	Cements	1923	71	Injectors	760
23	Centrifugal drying	498	72	Iron	3251
24	Chains	585	73	Labels	457
25	Chimneys	819	74	Lace-making	1736
26	Closets	1805	75	Lamps	4013
27	Coin-feed apparatus	19	76	Leather	1467
28	Cooking, etc.	1648	77	Life-saving	491
29	Cooling	1480	78	Lifting	3415
30	Cutlery	822	79	Locomotives	2468
31	Cutting	1944	80	Mechanism	4725
32	Distilling	1823	81	Medicine	2555
33	Drains	900	82	Metals and alloys	3123
34	Drying	2363	83	Metals, Cutting, etc.	10229
35	Dynamo electric generators	1539	84	Milking	474
36	Electricity conducting	1697	85	Mining	1571
37	Electricity measuring	359	86	Mixing	1009
38	Electricity regulating	1508	87	Moulding	4065
39	Electric lamps	1210	88	Music	1400
40	Electric telegraphs	1786	89	Nails	2228
41	Electrolysis	607	90	Non-metallic elements	1255
42	Fabrics, dressing	2864	91	Oils	2690
43	Fastenings, dress	2410	92	Ordnance	1414
44	Fastenings, lock	2822	93	Ornamenting	1064
45	Fencing	625	94	Packing	1208
46	Filtering	1452	95	Paints	2018
47	Fire extinction	1590	96	Paper	2075
48	Fish	269	97	Philosophical instrument:	2276
49	Food	1058	98	Photography	1086

Class	Class Name	No. of Pats	Class	Class Name	No. of Pats
99	Pipes	2678	**124**	Stone	536
100	Printing, letterpress	2397	**125**	Stoppering	2499
101	Printing, other	2948	**126**	Stoves	2810
102	Pumps	3217	**127**	Sugar	1041
103	Railway etc. vehicles	6040	**128**	Table articles	667
104	Railways, etc.	2947	**129**	Tea	448
105	Railway signals	2021	**130**	Tobacco	1243
106	Registering	3638	**131**	Toilet	799
107	Roads	944	**132**	Toys	1942
108	Road vehicles	2969	**133**	Trunks	702
109	Ropes	1035	**134**	Umbrellas	1003
110	Rotary engines	1980	**135**	Valves	3386
111	Sewage	1347	**136**	Velocipedes	1287
112	Sewing	3355	**137**	Ventilation	1035
113	Ships, Div I	4030	**138**	Washing	1740
114	Ships, Div II	2713	**139**	Watches	1264
115	Ships, Div III	708	**140**	Waterproof fabrics	1455
116	Shop accessories	544	**141**	Wearing apparel	2840
117	Sifting	1712	**142**	Weaving	7466
118	Signaling	1373	**143**	Weighing apparatus	645
119	Small arms	2763	**144**	Wheels	1281
120	Spinning	9559	**145**	Wood	2140
121	Starch	1016	**146**	Writing instruments	2656
122	Steam engines	7044			
123	Steam generators	5894			