

ments in machinery or apparatus for lifting turnips, and for topping and tailing the same."

4817. To Charles Ambrose McEvoy, of the London Ordnance Works, Bear-lane, Southwark, in the county of Surrey, for the invention of "improvements in telephonic apparatus."

4852. To Emil Böttcher, of Bremen, in the Empire of Germany, for the invention of "improvements in tramways."

4853. And to Joseph Stokes Williams, of River-ton, New Jersey, United States of America, now of 8, Southampton-buildings, London, for the invention of "improvements in apparatus for operating or adjusting railway switches or crossings and signals."

On their several petitions, recorded in the Office of the Commissioners on the 20th day of December, 1877.

4855. To Thomas Parkes, of Brettell-lane, near Stourbridge, in the county of Stafford, Commercial Traveller, for the invention of "improvements in the construction of window-sash fasteners."

4857. To William Young and Alexander Neilson, both of Clippens, in the county of Renfrew, North Britain, for the invention of "improvements in refrigerating liquids, and in the means employed therefor, also in apparatus for the subsequent treatment of the refrigerated liquids."

4859. To Richard Hardman, of Albert Mill, Burnley, in the county of Lancaster, Manufacturer, for the invention of "an improvement in and applicable to looms for weaving."

4861. To Adolf Gutensohn, of Bow, in the county of Middlesex, for the invention of "improvements in surfaces for igniting lucifer matches."

4863. To John Sturgeon, of Crosby, near Liverpool, in the county of Lancaster, Engineer, for the invention of "improvements in and appertaining to machinery, and apparatus for cooling, drying, and purifying atmospheric air for refrigerating purposes."

4865. And to Albert Silbermann, of Berlin, in the German Empire, for the invention of "improvements in gas blow-pipe machines."

On their several petitions, recorded in the Office of the Commissioners on the 21st day of December, 1877.

4867. To Samuel Cleland Davidson, of Belfast, in county of Antrim, Ireland, Gentleman, for the invention of "a new or improved implement for hoeing, digging, or cultivating the soil."

4869. To John Smith, of Kynsal Lodge, Audlem, in the county of Chester, Gentleman, for the invention of "improvements in the manufacture of cheese, and in apparatus employed therein."

4871. To William Shirley, of Newington-causeway, in the county of Surrey, for the invention of "an improved device for guiding and holding or retaining the cords used for raising and lowering venetian and other blinds."

4873. To Joseph Kaye, Jim Wainwright Kaye, and Walter Kelita Kaye, all of Kirkstall, near Leeds, in the county of York, for the invention of "improvements in the means or apparatus employed for fastening and unfastening doors, gates, lids, and windows."

4875. And to William Richard Middlemore Thomson, of 96, Buchanan-street, Glasgow, in the county of Lanark, North Britain, Consulting Engineer, for the invention of "improvements in direct acting vacuum chamber steam lift and force pumps."—A communication to him from abroad by Joseph Lynn Berry,

of Sprottan, Schlesien, in the Empire of Germany.

On their several petitions, recorded in the Office of the Commissioners on the 22nd day of December, 1877.

4883. To Charles Crossley, of Sudbury, in the county of Suffolk, for the invention of "improvements in looms for weaving, and in apparatus connected therewith."

4885. To Francis John Bolton, commonly called Frank Bolton, of 4, Broad Sanctuary, Westminster, Major, late 12th Regiment, for the invention of "improvements in transmitting, receiving, and printing telegraphic messages, and in the apparatus employed therein or connected therewith."

4891. To William Robert Lake, of the firm of Haseltine, Lake, & Co., Patent Agents, Southampton-buildings, London, for the invention of "an improved machine or mill for grinding, granulating, separating, and similarly treating grain, bark, and other like materials."—A communication to him from abroad by Darius C. Newell, of the city and State of New York, United States of America.

4893. And to Alexander Melville Clark, of 53, Chancery-lane, in the county of Middlesex, Patent Agent, for the invention of "improvements in dynamo-electric, and magneto-electric machines."—A communication to him from abroad by the firm of Lontin and Company, of Paris, France.

On their several petitions, recorded in the Office of the Commissioners on the 24th day of December, 1877.

4895. To James Clark Bunten, of the Anderston Foundry, Glasgow, in the county of Lanark, and James Livesey, of No. 9, Victoria-chambers, Westminster, in the county of Middlesex, for the invention of "improvements in sleepers and clips for rails."

4896. And to William Frederick Nast, of Saint Louis (Missouri), United States of America, Gentleman, for the invention of "an improved furnace for heating air suitable for drying and other purposes."

On both their petitions, recorded in the Office of the Commissioners on the 26th day of December, 1877.

4897. To Jonathan Edge, of Bolton, in the county of Lancaster, Engineer, for the invention of "improvements in machinery or apparatus for surfacing and dressing mill-stones."

4898. To Daniel Clarke, of Leith, in the county of Midlothian, North Britain, Book-Keeper, for the invention of "improvements in apparatus for checking and recording the fares received by the guards of tramway cars and other vehicles, and for checking and recording receipts or payments generally."

4899. To James Hall, of Bonnybridge, in the county of Stirling, North Britain, for the invention of "a new or improved admission and exhaust valve for motive power engines."

4900. To Joseph Warren Wattles, of the State of Massachusetts, of the United States of America, for the invention of "improvements in mechanism for spinning."

4902. To William Morgan-Brown, of the firm of Brandon and Morgan-Brown, Engineers and Patent Agents, of 38, Southampton-buildings, London, and 1, Rue Lafitte, Paris, for the invention of "improvements in the means of actuating the brakes of carriages and wagons for railways."—A communication to him from