

the Yokohama Electric Wire and Cable Works.

The business of the Ore Department of Furukawa, Osaka, may be divided into three parts: that is, first, the selling of the ore produced in Furukawa's mines, such as Innai gold and silver ore, Kune copper and iron pyrite ore, Daira zinc ore, and Furokura copper ore; second, the department acts as a broker of ore produced in the mines owned by other parts; third, the furnishing of material to the Midzushima Smelting Works. We must in this connection touch briefly on the Midzushima Smelting Works. These works were established on the island off the port of Tamashima, Okayama Prefecture, just after the Chino-Japanese War, and passing through several hands, fell into Furukawa's management in August, 1914. The amount of copper ore consumed by the works exceeds 200,000 tons per annum, and after the extension, now going on, is completed, the ore consumed will reach 300,000 tons.

There is also the Furukawa Shipping Office, Sakaye Machi, Kobé. This office

uses the ships owned and chartered by Furukawa Gomei Kaisha, and assists in facilitating the export trade of Tokyo and Osaka.

As mentioned above, the market for Furukawa Gomei Kaisha, Osaka, is extending all over the world, and consequently the prospect of the concern is the brightest possible. To meet the expected great development, a new up-to-date building is nearly completed on a site only a minute's distance from Umeda Station.

K. HATTORI & CO.

LIKE other countries, Japan furnishes many instances of the growth of large enterprises from very humble beginnings, and the history of its industrial development provides numerous examples of the rise to fortune and fame of men of the right spirit. Nevertheless, the story of Mr. Kintaro Hattori's rise from the position of an office boy to the head of one of the greatest clock and watch making concerns in the world, is not easy to parallel. The business of K. Hattori & Co. is well known to all visitors

to Japan, for there is no more attractive place in the famous Ginza of Tokyo than the great watch and jewellery shop which occupies a commanding position. The name of the firm is also well known throughout the East, but the origin of the business, and Mr. Hattori's own life story, are not so familiar to those who see to-day only the great success he has achieved. The famous Hattori watch and clock works are the creation of one man. As a boy, Mr. Hattori was so poor, and his father so helpless, that the future man of business could not be educated, and often went hungry, yet to-day he controls an industry that represents a fortune of Yen 12,000,000.

Mr. Hattori's father was a native of the Province of Owari, and in the Kei-o era came to Yedo, as Tokyo was then known. He failed in business, and was compelled to sell second-hand goods in the streets, plying a precarious trade in front of the spot where his son's famous shop now stands. So poor was the family that the father had to send his son out, without any education, to earn his living when he was twelve years



YOKOHAMA VIEWED FROM THE MEMORIAL TOWER, LOOKING TOWARD THE BLUFF

of age. The boy was sent as office boy, or apprentice, to a foreign goods store at Hachikan-cho. Young Kintaro Hattori determined to improve his position and help his father. Opposite where he worked as office boy there was a watchmaker's shop. The future successful business man realised that it required a great deal of capital to open a foreign goods store, but little was required, beyond skill at his calling, for a man to be a watch repairer. That he decided to be, and he spent all his spare time with Kobayashi, the watchmaker. At the age of fifteen the boy left the foreign goods store and entered the service of Kameda, a watchmaker of Kamimaki-cho, Nihonbashi-ku. There he was first ordered to act as a child's nurse, and when he had leisure he was allowed to learn to repair watches. At night he studied Japanese, and endeavoured to educate himself. He gradually made some progress, but the difficulty of his struggle may be imagined from the fact that once, when he needed a book costing about 25 sen, neither he nor his father could provide such a paltry sum. The intensity of the struggle only increased the boy's determination to make headway. He worked hard at repairing watches. From the ages of eighteen to twenty-two he saved by dint of hard work and self-denial the small sum of Yen 150, and this he invested in a small shop at Unemecho, Kyobashi-ku. The store was tiny, the business was new, the customers were few, and the earnings small. Accordingly, Mr. Hattori went round at night visiting the street sellers at Kakigaracho and Ningyocho, and such places, and bought broken old watches which he repaired and sold. In this way he worked night and day to save the sum of Yen 1,200 in two years. Unfortunately a fire broke out in the neighbourhood of Mr. Hattori's store in 1883, and it was destroyed. Not discouraged by this he again started at Kobikicho Gochome, and worked harder than ever. In 1887 Mr. Hattori removed to Ginza, his business having grown in a fairly satisfactory manner. A temporary workshop was started in May, 1892, at Ishiwaramachi, Honjo, and the trade name of Seikosha was adopted, which afterwards became famous. The locality was, however, crowded with houses, and Mr. Hattori was not permitted to install a motor engine for his machinery, so the following year the factory was removed to Yanagishimacho. Here Mr. Hattori was able to install an eight horse-power engine, and went in for the manufacture of clocks. The demand for the Hattori products began to increase, and presently the factory was making clocks and exporting to China. More modern machinery being necessary,

Mr. Hattori imported an automatic plant from Europe and America, and used it, together with machines of his own design. The manufacture of watches was commenced in 1895, and the next development, a few years later, was the making of nickel alarm clocks.

To follow the history of the Hattori Company farther is hardly necessary, because it has been a continuous triumph of success, the works expanding year by year in keeping with the development of trade. Mr. Hattori's enterprise has practically meant the stoppage of the importation of foreign-made clocks, especially the cheap German article. He has made Japan patronise another home industry by turning out clocks and watches of the highest grade of workmanship, and he has built up a considerable export trade with India and China. In 1916 the number of watches and clocks turned out at the Hattori works was over 800,000. In 1899 Mr. Hattori visited Europe and America to study the industry in which he is such a prominent leader. This visit was repeated in 1906 and as a result of it the most modern machinery was imported and the works so extended and improved as to permit of the carrying out of the most delicate work on the widest possible scale. More than 1,500 workmen are engaged, and the office and sales staff comprises over 100 hands. Mr. Hattori is now planning to maintain his export trade after the declaration of peace. Expansion while the war is on and while the import of such materials as must come from Europe and the United States is rather difficult, but the Hattori watches and clocks are so popular wherever they are known that it is hardly likely that there will be any falling off in the demand. There is more likely to be an increase under the easier conditions of peace time. Mr. Hattori is now fifty-nine years of age, and all who know the hard struggle he had in his early days heartily congratulate him on the success of his great enterprise.

TOKYO GAS AND ELECTRIC INDUSTRIAL COMPANY, LIMITED

THIS enterprise is one that covers a far wider field of industrial manufactures than the title of the company implies, the original purpose of the Tokyo Gas and Electric Industrial Co., Ltd., having been considerably broadened in keeping with the remarkable economic development of Japan since the outbreak of the war. The company was organised in August, 1910, by the late Mr. T. Tokuhisa, formerly Governor of the Saga Prefecture, assisted by some of the leading financiers of Tokyo. At this time there was a strong development in the gas industry

in Japan and the promoters of the company had in view the manufacture of gas mantles, fittings, and other apparatus, as well as contracting for the erection of gas-making plants and works, etc. Before the foundation of the new enterprise could be consolidated Mr. Tokuhisa died, and the undertaking came to a standstill. Mr. G. Matsukata, fifth son of the famous Genro Marquis Matsukata, was unanimously elected President of the company in succession to Mr. Tokuhisa, and devoting himself energetically to the furtherance of the company's interests, he overcame many difficulties and put the industry on a sound basis. Mr. Matsukata introduced new departments, such as, for instance, the manufacture of enamelled ironware, and proceeded to open up new markets for the company's products, both at home and abroad. From that time the company has made slow but steady improvement. Its operations have been widely extended, as will be shown later. The quality of its products has been improved, and the excellent reputation it has won has brought its goods into great demand for home use and also in the United Kingdom, America, China, India, and the South Seas.

The Tokyo Gas and Electric Industrial Co., Ltd., possesses five factories at Honjo-ku, Tokyo. No. 1, where gas mantles are made, covers 192 tsubo. The power is electricity, conveyed to 33 different machines. Employment is given in this factory to two expert engineers and 166 hands, the majority of them women. The second factory, or machine shop, covers 531 tsubo. Motors developing 122 horse-power operate no fewer than 472 machines, and the staff comprises 27 engineers, supervising the work of 549 men and 114 women. The enamelled ironware factory extends over 377 tsubo and employs 94 men and 6 women. The fourth factory, for finishing gas meters, covers 80 tsubo and employs 2 engineers and 36 labourers. In the fifth factory, which is used for galvanising work, and covers 150 tsubo, 1 engineer and 53 labourers are at work. The gas mantles turned out by the company have won high distinction in all the markets of the world. The defect with most mantles is that those for strong candle power consume much gas and still are not durable, while those that are comparatively durable are not adaptable to high candle power. This difficulty is claimed to have been overcome by the company, which is turning out a mantle that is not only durable, whether made of silk, ramie, or cotton, but is adaptable for stronger candle power than those of any other make. In the production of enamelled ironware the Tokyo Gas and Electric Industrial Co., Ltd., is without rival