

down and the shell is thus forced upon the collet, filler, etc., the cloth cover being at the same time turned under. Reference to the section of the finished button in Fig. 3 will make this clear. Nothing further remains but to attach the buttons by dozens to cards, or make them up for the market in any desired attractive way.

There is another variety of button belonging to the same class as the above, but termed "silk back" in contradistinction to "iron back." The face consists of shell and cover, while the back is composed of four layers, namely, a concave circular piece of tagger's iron, somewhat smaller than the shell, a pasteboard blank, a canvas blank, and, lastly, a silk back. These are put together in manner similar to that already described, and then by means of a press a nipple for purposes of attachment is formed on the back.

The City Button Works, of 116 Walker Street, this city, have courteously offered us the facilities for preparing the foregoing description and engravings.

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THIERS AND CONTEMPORARY SCIENCE IN FRANCE.

To have it said that the period of his life marks an epoch in the history of his country, is perhaps as high fame as any man can hope to attain. Such, however, will be posterity's verdict in recording the biography of Louis Adolph Thiers. Born on April 16, 1797, of humble parentage, the lapse of the first twenty-five years of his life found him not merely unknown, but struggling for bare existence. His abilities, it is true, had shown themselves in literary contests, but his political proclivities, at a time when such opinions overshadowed all else, barred his advancement. The period of his progress dates from his entrance into journalism. From the editor's chair he passed to that of the historian; from the historian to the statesman is but a step, and on the accession of Louis Philippe, he became a cabinet minister. With his political life thence forward, which culminated in his being chosen President of the French Republic in 1871, it is not our province to deal.

The interval of eighty years (ending on the 30th of the present month), over which M. Thiers' existence has extended, will be remembered in the history of the French people, not alone as one of unexampled political changes. Despite the instability of governments, and in marked contrast therewith, the march of science in France has continued onward as unswervingly as in other countries the internal peace of which scarcely has been broken; and to contemporaries of the great statesman now deceased, with whose labors he was in full accord, whose friend, associate, and upholder he was, is owing the present leading place which France now holds among scientific nations. To recall the names of these men and their work is to review some of the grandest achievements in human progress. It brings before us Arago's magnificent investigations in magnetism and the polarization of light. Becquerel the elder's discovery of the relation between electricity and chemical affinity; that first step made by Becquerel the younger toward color photography; the demonstration of the influence of light on chloride of silver in the daguerreotype; the labors of Daguerre and the Niepces de St. Victor (of the last name, father and son), which, as all the world knows, resulted in the art of photography; Berthelot's discovery of acetylene and synthesis of alcohol; Balard's extraction of bromine from sea water; besides the splendid chemical work of Thénard, Despretz, Cagniard de la Tour, Berthollet, Pélouze, and Dumas. France still possesses Pasteur, first of living biologists and the uncompromising opponent of the spontaneous generation theory. The past labors of her modern physicists have included those of Gay Lussac, whose investigations extended over the whole field of science, but whose discoveries in the properties of air and other gases are of inestimable importance. In the same field belongs the work of Dulong, discoverer of the most violent of explosives, chloride of nitrogen, of Petit, and of Regnault. In Leverrier, discoverer of Neptune, and weigher of other worlds, France possesses the greatest of contemporary astronomers. In Cuvier and Geoffrey St. Hilaire, the one the founder of the science of comparative anatomy, the other his no less able opponent and critic, she possessed naturalists whose fame can never be diminished. Such were a few of the men of science who have had in Thiers a friend who despite the engrossing activity of a turbulent political career, found time to master the results of their labors and to enrich therewith his already vast store of almost encyclopædic knowledge.

Throughout all Thiers' history—although it does not appear that he was himself intimately connected with scientific men—there can be traced the consequences of his association with scientific men, and his substantial appreciation of their merits. When he became Minister of Commerce and Public Works in 1832, procuring a grant of twenty million dollars, he carried out a system of internal improvements, which have been to France of incalculable benefit, while at the same time he encouraged national industries in a manner that infused new life into their every department. In 1833 he was elected to the French Academy, and soon after he became a member of the Academy of Moral and Political Science.

Although Thiers was not a scientist in one acceptation of the term, yet in the widest sense he merited the title in the highest degree. There is no science grander and nobler than the science of governing—the science of leading and directing others so as to secure the most good for all—and in that science Thiers stood preëminent.

SARGENT'S CASE.

Some very interesting and novel questions in relation to interference controversies, and of great importance to inventors, have lately arisen before the Patent Office, in the case of James Sargent.

This gentleman, in February, 1874, filed an application for a patent for an improvement in time-locks; but this application being defective, he withdrew the same, and, on the 12th of March, 1875, substituted for it a new application. Three days later, Emory Stockwell, assignor to the Yale Lock Manufacturing Company, filed, on behalf of said company, an interfering application. The interference thereupon declared was decided by the Examiner of Interferences in favor of Sargent, and from this decision no appeal was taken.

On the 2d day of June, 1875, John Burge, assignor to the said Yale Lock Manufacturing Company, filed on behalf of said company, an interfering application. An interference was accordingly declared between said applications, and a large amount of testimony was taken on both sides. The

decision of the Examiner of Interferences was again in favor of Sargent. From this decision the unsuccessful party appealed to the Board of Examiners-in-Chief, who affirmed the decision of the Examiner below; and from this decision an appeal was taken to the Commissioner of Patents in person. In April, 1876, the Commissioner rendered his decision, affirming those of the Examiner of Interferences and of the Board of Examiners-in-Chief, in favor of Sargent.

Interfering applications with Sargent's were also filed by Pillard, August 13, 1875; by Lillie, April 28, 1876; and by Little, June 6, 1876. In all of these three last mentioned cases, the Examiner of Interferences decided the question of priority of invention in favor of Sargent. Pillard and Lillie did not appeal. Little appealed successively to the Board of Examiners-in-Chief and the Commissioner of Patents in person, and on both appeals the question of priority of invention was decided in favor of Sargent. The decision of the Commissioner in this last named case was rendered on the 9th day of July last, after which, every pending interference with Sargent's application having been finally disposed of, Sargent paid the final government fee, and demanded the issue of a patent.

Meanwhile, on the 4th day of June, 1877, John Burge, before mentioned, had commenced a suit in equity in the Supreme Court of the District of Columbia, under section 4,915 of the Revised Statutes, against Sargent, praying to be adjudged to be entitled to a patent for the invention which had been the subject-matter of his interference with Sargent, and praying also for an injunction restraining Sargent from taking out the patent until the determination of said equity suit. Immediately after the decision of the Commissioner in Little's case, a motion was made on behalf of Burge, before the Commissioner of Patents, to suspend the issue of a patent to Sargent until the determination of said equity suit.

This motion was fully and ably argued before the Commissioner. On the part of Burge, it was insisted that so long as a party to an interference was pursuing such remedies as were secured to him by express statutory enactment, his adversary should not be permitted to obtain, by the issuance of a patent, *prima facie* title to the very matter concerning which the entire interference controversy had been made; in other words, that the corpus of the litigation should be preserved throughout until the dissatisfied party had exhausted all his just legal remedies, or until, by his inaction, a conclusive presumption of abandonment of the contest should arise against him.

Sargent maintained, in opposition to this view, that, when a final judgment and award of priority is made by the Commissioner, the right of the successful party to an immediate grant of letters patent against his opponent is complete, and that this right could not be affected by the result, whatever it might be, of the equity suit.

The Commissioner rendered his decision upon this motion on the 24th of July last. He held that power was vested in him by section 4,904 of the Revised Statutes, to withhold the issue of a patent to a successful interference contestant, after final award in his favor by the highest tribunal within the Office, pending the result of an equity suit brought by his opponent; and that the occurrence of the word "may" in the phrase of such section, "may issue to the party adjudged the prior inventor," instead of the mandatory "shall," was not without significance in this connection, and reposed a discretion in the Commissioner as to the issue of the patent. He therefore suspended the application of Sargent pending the result of the equity suit.

From this order of the Commissioner of Patents, suspending the issue of letters patent, Sargent, on the 30th day of July last, presented his petitions in the form of a motion for the revocation of the order, to the Hon. Carl Schurz, Secretary of the Interior.

Sargent's counsel insists in the first place, that under this order of the Commissioner, Sargent suffers a very grave injury. That owing to the voluminous testimony to be taken, the equity suit cannot reasonably be expected to be carried through the Supreme Court of the District of Columbia in less than two years, and that if an appeal be taken to the Supreme Court of the United States, three more years will be consumed, and that thus Mr. Sargent's patent is liable to be suspended for at least five years longer, and that in the meantime the demand for time-locks will have become so fully supplied that his patent will be of little or no value.

They urge, in the second place, that the Secretary of the Interior has power to redress this injury. This argument rests mainly on three sections of the Revised Statutes.

Section 441 declares that "the Secretary of the Interior is charged with the supervision of the public business relating to the following subjects;" the fifth of which, in numerical order, is "Patents for Inventions." This, Sargent's counsel claims, "makes it one of the primary duties of the Secretary of the Interior to oversee and give orders how and where patents for inventions shall be delivered."

Section 481 provides that "the Commissioner of Patents, under the direction of the Secretary of the Interior, shall superintend or perform all duties respecting the granting and issuing of patents directed by law." This, counsel argue, imports the order and command of the superior officer.

Section 483 provides that "the Commissioner of Patents, subject to the approval of the Secretary of the Interior, may from time to time establish regulations not inconsistent with law, for the conduct of proceedings in the Patent Office."

That the order in question amounts to nothing more or