

ROME LIFE OF THE CAZAR.

Incidents of His Concealment at Gatchina.

The Palace He Lives in—Lunching With His Family—The Czarina's Boudoir.

London Daily Telegraph.

Notwithstanding the commencement of the winter season and the assembly of the nobility in St. Petersburg, the czar remains concealed in the seclusion of Gatchina. This place is about 40 miles from St. Petersburg, with which it is more or less directly connected by three railways. It is thus quite a strategic position, and possibly this circumstance has influenced its selection as an imperial retreat. The residence is surrounded by a beautiful park, with picturesque undulating grounds, the graceful slopes being adorned with fine old timber. The palace itself is an enormous building, or block of buildings, with which it is more or less directly connected by three railways. It is thus quite a strategic position, and possibly this circumstance has influenced its selection as an imperial retreat.

The ordinary sitting room of the czar in which he transacts business is situated on the first floor of the black inhabited by the imperial family. It is comfortably, but simply, furnished apartment. The style somewhat betokens the character of its occupant. A number of heavy German-fashioned and capacious arm-chairs give it an appearance of ponderous solemnity. Little elegance or ornament is noticeable, but a large writing table and other unmistakable signs denote that of the emperor's hours are here passed in close application to the endless business that devolves on the autocratic head of a system of bureaucratic centralization.

WONDERS IN INVENTIONS.

Important Discoveries of the Last Decade.

New York Star.

The last ten years in the history of American inventions have been wonderfully prolific in important results. To say nothing of the telephone, the phonograph, the electric light, and the system of automatic and quadruplex telegraphy, all of which have been so fully described that their principles are perfectly familiar to general public, there have been numerous discoveries and improvements which, in their way, have brought revolutions in the arts and sciences. The agent said: "Among the most important of recent discoveries are improvements in the manufacture of vulcanized India-rubber in its various applications, which have resulted in making it the best and cheapest material for superior and highly-finished combs, in its flexibility and durability, and equal to the best horn and shell, and are now extensively manufactured. The principal factories for the making of rubber combs are located in Connecticut."

The material produced by this new process possessed peculiar qualities. It was more perfectly elastic than common caoutchouc, resisted the action of the ordinary solvents of that material, was better able to resist the wear and tear of its surface, and preserved its elasticity at all temperatures. Then Mr. Nelson Goodyear patented a process of solidifying rubber, making it susceptible to any form of process of manufacture.

The next invention of any importance was a pegging-machine. Pegged shoes made by hand were manufactured in large quantities a long time before the invention of this machine; but the manufacture was, and is, confined chiefly to men's boots and shoes, and to the coarse kinds of ladies' shoes. Lynn, the great centre of the manufacture of ladies' shoes, was never engaged to any extent in the manufacture of pegged shoes. The introduction of the machine largely increased the production, and, of course, diminished the cost of the product. There have been many improvements in the stitching-machines, the product originally of the mechanical genius of Elias Howe.

This machine was first perfected in 1845. Prior to this wonderful invention ladies' shoes were "bound," as it was called, by hand. Its introduction speedily revolutionized this department of industry. A single operator with one of these machines can do the work of nearly a score working by the old process with needle and thread, rendering possible the production of elaborately stitched boots of the present day at moderate cost. These inventions, and many others of minor importance, have revolutionized the shoe manufacturing industry, so that to-day the machinery employed in the prosecution represents an amount of individual labor which it would be difficult exactly to compute.

A process has recently been patented in the United States by which shot is made at a low elevation by forcing a strong current of air upon it as it falls into the water. Another important use to which lead is put is the preparation of oxide of lead or white lead as a pigment. In this branch of the lead industry this country takes a prominent and probably a leading position, as the practice of painting dwelling houses is more common than in any other country.

The safety-drum, another new invention, is a safety device which guards against accidents arising from some derangement in elevator machinery, or some obstruction in the hatch-way, whereby the ropes may be uncoiled from the main drum of the engine while the car remain temporarily lodged at a greater or less distance from the bottom. It is also a perfect safeguard against the too rapid descent of the car in case the belt or any part of the gearing connected with the engine should give way, or if run too fast by the carelessness of the operator. The safety-drum takes the place

of ordinary sheave-wheels and acts as the medium through which motion is communicated from the engine to the car. All ropes connecting from the engine to the car are arranged to act upon this drum in such a manner that any derangement in their bearings, or change in their action, or increase in their motion beyond that prescribed as the regular working rate, will immediately bring into action two powerful brakes and thus instantly stop the entire apparatus.

Great improvements have been made in the methods of construction used for iron safes, making them impregnable to almost any appliance in use by the most expert burglars. The doors, which are generally the weak point of a safe, are constructed of plates so dove-tailed and fitted correspondingly into the jams that the wedge, the most effective implement used by the burglar, is perfectly powerless against them, while the interior is lined with a heavy fire-proof material, which offers no opportunity for any crevice into which nitro-glycerine or any other explosive fluid can be introduced. The body of the safe being also constructed of alternate plates of iron, welded iron and steel, carbonized and de-carbonized steel and crystal steel, fastened together by bolts from their inside, effectively prevents them being forced by sledge-hammers, jimmies, jackscrews, or any other burglarious instrument. Their fire-proof qualities are also secured by a filling of concrete, which ake them absolutely proof against both fire and damp. In addition to the fire-proof filling, the safes are furnished with improved combination locks, varied for each safe, many of which are supplied with an automatic rotary movement, and consequently operated without any labor or spindle passing through the door into the lock, rendering it impossible to pick them by any process yet invented.

In 1849 Dr. Gathny invented a method of transmitting power by means of compressed air driven through pipes. Up to ten years ago his application for a patent for this process from the United States was rejected by the Commissioner on the ground that it was a discovery, and not an invention. Patents, however, have been obtained for it in Europe, and it is by means of this method that the tunnel of Mount Cenis has been worked. The process was used in the work on Hoosac Mountain tunnel. The refusal to grant him a patent called his attention from this valuable idea, though it is unquestionable that if in the future power will be thus created and distributed in cities, avoiding the bother, expense, and complication of individuals having their own sources of power. Like the distribution of gas, and water, this method of distributing power is at a glance so advantageous that its merits are evident.

In 1872 Dr. Gathny invented and patented a steam plow, or earth pulverizing machine, to be propelled by steam and animal power combined. The failure of his health and the low price of grain at that time prevented his bringing this invention into practical use. Dr. Gathny has devoted his time and attention to improving the gun which bears his name, and the success which has attended his labors induced him from the more congenial field of peaceful invention.

Within twenty years since collision came to be a prominent chemical in photography, there have, of course, been a thousand delicate and strictly chemical improvements in every step of the process. During the last ten years the quality of the coating material has been carefully studied and artists have discovered just the right combinations of gun-cotton, alcohol and ether to use. The best mode of making this film sensitive, the best material for developing the shadows when thrown upon it; the manipulation best adapted to remove defects in the impression, the bath that will set the lines, and, more than all, the most approved and skillful handling of the glass as a type print with, and the various modes of toning, softening, intensifying, and piercing the pictures thrown from the glass to the paper, have been studied with persistent enthusiasm.

Inventive talent has also been brought to bear upon soap. Several materials have been avowedly and openly mixed with soaps as improvements. The use of resin has been utilized. Siliceous earth or sand or the form of "gelatin" or soluble glass (nitrate of soda), is one of the most common, and some of the soaps made in this way are extremely efficient and useful. Modified soaps for various special purposes are now made by mixing lime-water, dissolved alum, etc., with soap already made.

It will be remembered that soon after the commencement of the Civil War in 1861 Congress appropriated \$1,500,000 for the construction of one or more armored ships. Plans were presented by several competent inventors, manufacturers, or companies, and of these three were accepted—the corvette Galena, plated with iron three inches thick, and hulled through and through by ten-inch shot in the attack on Fort Darling; the frigate New Ironsides, which, with her battery of eleven-inch guns, proved very effective in attack; and Ericsson's Monitor, which introduced the principle upon which all the successive and successful iron-clad batteries were built. Several leading inventors are now engaged in further improving the existing systems of constructing naval armor that will be completely shot and shell proof.

It is a gratifying fact to note that inventors are taking advantage of the great capabilities of iron for beautiful forms, as shown in its use for architectural purposes. Its strength makes it suitable for structures and tracery of a light and graceful effect altogether beyond what is possible in wood or stone. In it can now be rendered both the slender and the richer beauties of the Greek orders, the characteristic arches and stratifications of Rome, the points and pinnacles of Gothic designs, and the traceries and arabesques, domes and pinnacles of the Moors. Some of the combinations recently produced by a union of light castings and wire or rod work in trolleys and verandas are wonderfully rich and light in effect.

"Buchapalpa." New, quick, complete cure in four days, urinary rheumatism, smarting, frequent or difficult urination, kidney disease, St. Druggists. Depot at C. F. Goodman's, (3)

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Buffalo Blood Bitters advertisement with logo and text.

Advertisement for Buffalo Blood Bitters, detailing its benefits for various ailments.

Advertisement for Buffalo Blood Bitters, mentioning testimonials and availability.

Advertisement for Postel, Milburn, & Co., Proprietors of Buffalo Blood Bitters.

Advertisement for I.A.M.A. (International Association of Medical Amateurs) with logo.

Advertisement for Chicago Rock Island & Pacific Railway, highlighting its routes and services.

Advertisement for Kennedy's East-India Bitters, describing its medicinal properties.

Advertisement for Gentle Women hair care product, promising lustrous and abundant hair.

Advertisement for Gentle Women hair care product, detailing its benefits for hair health.

Advertisement for Gentle Women hair care product, mentioning its popularity and effectiveness.

Advertisement for Gentle Women hair care product, providing contact information for the manufacturer.

Advertisement for Gentle Women hair care product, emphasizing its quality and results.

Advertisement for Gentle Women hair care product, concluding with a strong recommendation.

Advertisement for Chicago & North-Western Railway, featuring a map of the region.

Advertisement for Chicago & North-Western Railway, detailing its routes and services.

Advertisement for Chicago & North-Western Railway, highlighting its connections to other cities.

Advertisement for Chicago & North-Western Railway, mentioning its reputation for reliability.

Advertisement for Chicago & North-Western Railway, providing information about ticket prices.

Advertisement for Chicago & North-Western Railway, detailing its passenger services.

Advertisement for Chicago & North-Western Railway, mentioning its freight services.

Advertisement for Chicago & North-Western Railway, providing contact information for the railway.

Advertisement for Chicago & North-Western Railway, emphasizing its commitment to service.

Advertisement for Chicago & North-Western Railway, concluding with a strong recommendation.

Advertisement for Chicago & North-Western Railway, providing additional details about its routes.

Advertisement for Chicago & North-Western Railway, mentioning its history and future plans.

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Advertisement for Chicago & North-Western Railway, mentioning its history and future plans.

Advertisement for Wm. Rogers' Manufacturing Company, featuring images of silver-plated spoons and forks.

Advertisement for Wm. Rogers' Manufacturing Company, detailing their products and quality.

Advertisement for Wm. Rogers' Manufacturing Company, highlighting their reputation for excellence.

Advertisement for Wm. Rogers' Manufacturing Company, mentioning their long history.

Advertisement for Wm. Rogers' Manufacturing Company, providing information about their agency.

Advertisement for Wm. Rogers' Manufacturing Company, detailing their manufacturing process.

Advertisement for Wm. Rogers' Manufacturing Company, mentioning their awards and recognition.

Advertisement for Wm. Rogers' Manufacturing Company, providing contact information for their agency.

Advertisement for Wm. Rogers' Manufacturing Company, emphasizing their commitment to quality.

Advertisement for Wm. Rogers' Manufacturing Company, concluding with a strong recommendation.

Advertisement for Wm. Rogers' Manufacturing Company, providing additional details about their products.

Advertisement for Wm. Rogers' Manufacturing Company, mentioning their future plans and goals.

Advertisement for M. Elgutter's Mammoth Clothing House, featuring images of clothing items.

Advertisement for M. Elgutter's Mammoth Clothing House, detailing their clothing line.

Advertisement for M. Elgutter's Mammoth Clothing House, highlighting their variety of styles.

Advertisement for M. Elgutter's Mammoth Clothing House, mentioning their quality and fit.

Advertisement for M. Elgutter's Mammoth Clothing House, providing information about their location.

Advertisement for M. Elgutter's Mammoth Clothing House, detailing their services and offerings.

Advertisement for M. Elgutter's Mammoth Clothing House, mentioning their reputation for customer service.

Advertisement for M. Elgutter's Mammoth Clothing House, providing contact information for the store.

Advertisement for M. Elgutter's Mammoth Clothing House, emphasizing their commitment to fashion.

Advertisement for M. Elgutter's Mammoth Clothing House, concluding with a strong recommendation.

Advertisement for M. Elgutter's Mammoth Clothing House, providing additional details about their inventory.

Advertisement for M. Elgutter's Mammoth Clothing House, mentioning their future plans and goals.

Advertisement for Geo. P. Bemis Real Estate Agency, featuring images of real estate listings.

Advertisement for Geo. P. Bemis Real Estate Agency, detailing their real estate services.

Advertisement for Geo. P. Bemis Real Estate Agency, highlighting their expertise in the market.

Advertisement for Geo. P. Bemis Real Estate Agency, mentioning their track record.

Advertisement for Geo. P. Bemis Real Estate Agency, providing information about their office.

Advertisement for Geo. P. Bemis Real Estate Agency, detailing their services and offerings.

Advertisement for Geo. P. Bemis Real Estate Agency, mentioning their reputation for professionalism.

Advertisement for Geo. P. Bemis Real Estate Agency, providing contact information for the agency.

Advertisement for Geo. P. Bemis Real Estate Agency, emphasizing their commitment to client satisfaction.

Advertisement for Geo. P. Bemis Real Estate Agency, concluding with a strong recommendation.

Advertisement for Geo. P. Bemis Real Estate Agency, providing additional details about their services.

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