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Contents:

(Illustrated articles are marked with an asterisk.)

CENTRAL PARK, NEW YORK—REPORT OF THE COMMISSIONERS.

The report of the Central Park Commissioners for 1869 has but just made its appearance. We are, however, compensated for the delay by the fullness of the report. The book, which is in pamphlet form, comprises some two hundred pages of valuable statistics, and other matter, and is illustrated with a number of photographs and lithographs. The lithographs illustrate the work of Professor Hawkins, who has been, as our readers are already informed, engaged in modeling a group of fossil animals for the Museum, and the meterological instruments, improved and invented by Mr. Daniel Draper, and used in his observations, are given at length for the year in the report. The photographs are chiefly scenes and statuary in and about the Park.

From the body of the report we are enabled to extract some items of general interest.

THE MUSEUM.

As a beginning of this collection, intended to ultimately be made equal to any in the world, the Commissioners have purchased

1st. The entire collection of the late Prince Maximilian, known as the Weid Collection, comprising 4,000 mounted birds, 600 mounted mammals, 2,000 fishes and reptiles.

2d. Selections from the Verreau collection at Paris, 2,800 mounted birds, 230 mounted mammals, 400 skeletons.

3d. The entire collection of American and foreign birds, about 2,500 in number, lately belonging to D. F. Elliott, Esq.

4th. A series of 250 birds of Siberia, purchased from Monseiur Vedray, in Paris.

This purchase, comprehending in all 12,770 specimens, as follows: Mounted birds, 9,550; mounted mammals, 820; fishes and reptiles, 2,000; skeletons, 400.

The details of the conditions upon which these collections are to be deposited with the Park Commissioners have not yet been entirely settled, but it is believed they will be such as to be satisfactory to all the parties concerned, and greatly to the public advantage. It is important that the conditions be carefully devised, to provide for all probable contingencies, to protect the property, to keep alive and extend the interest of the donors, and to serve as a precedent for those interested in other branches of art and science who may be disposed to make like arrangements.

Prof. B. Waterhouse Hawkins has been engaged in advancing the group of fossil animals, more fully alluded to in the last Annual Report. A very wide interest, both in this country and in Europe, has been excited among scientific men by this interesting and novel undertaking. The proceedings of the Commissioners of the Park in this matter have been alluded to, commented upon, and commended by scientific journals, both at home and abroad.

It would be difficult to insure too great care in the preservation of the wonderful remains of animal organizations of past times that are from time to time discovered in different parts of the country. There are examples of fossil remains lying in public and private collections of the country, that in the interest of science, should be utilized and placed where they can readily be got at by those especially interested in this department of inquiry. It is very difficult, except through the offer of a reward in money, to impress upon those who, in excavation, casually come upon fossil remains, the importance of handling them with care; they are often, to them, nothing but old bones, and a stroke of the pick, or a scoop of the shovel may, in an instant, irrevocably destroy or cast away a fragment that might serve to establish or refute received ideas of the past eras of our globe.

The great group of ancient animals formerly living during the secondary geological epoch on the continent of America, now being modeled and restored to the natural size and appearance of the animal as in life, by Mr. Hawkins, for the Central Park, consists of the gigantic Hadrosaurus of the exact dimensions (one twenty-six feet, and the other thirty-nine feet long), as proved by the fossils described by Dr. Joseph Leidy, in the "Smithsonian Contributions to Knowledge, No. 192"; also models of "Laelap's Aquilunguis" fossils, described by Cope, together with the aquatic "*Elasmosaurus* and *Mosasaurus*." The second division of the group will illustrate the post-tertiary period, and represents the mastodon, the mammoth, megatherium, megalouyx, glyptodon, etc., etc., thus uniting the early periods of animal life with the earliest evidence of man's existence, and so constituting a complete visual history of the American continent from the dawn of creation to the present time.

THE ZOOLOGICAL GARDENS.

The progress reported in the zoological gardens has not been great, owing to want of proper drainage, insufficient housing for animals, and delay in regulation of streets and avenues about the grounds. It will probably be a year before this feature of the Park reaches completion. The commissioners having no control over the difficulties specified are obliged to wait the movements of others. They report, however, that

Nearly two thirds of the foundation wall is, on the west line of the square, complete. The preparatory excavations of the habitations of the large group of northern carnivora represented by the genus *Ursus*, or the bears, with their allied genera, has been made at the southwest angle of the Zoological grounds. At this point are also commenced the accommodations for the polar bears, the walrus, seals, sea lions, etc., specimens of cetacious, and also for the aquatic rodents, such as capybare, beaver, etc. In these, as in all other habitations for the animals of the gardens, every arrangement that will conduce to their healthfulness, and to the facility and convenience of observing them, will be provided, and it is hoped that in the outset the knowledge of the needs of various classes of auimals may be so thorough, and the skill in utilizing this knowledge for the purposes required may be so marked and successful, as to avoid much of the expensive alterations and changes in plan that have characterized, during the last half century, the experiences of most of the European gardens, and that by the time these habitations are ready for occupancy, some of the ways of approach to the gardens may be passable. Some progress has also been made in the preparation of designs and models for the houses of tropical carnivora, and each class of animals, in the order of its relative importance, will be located and properly housed and provided for.

METEOROLOGICAL OBSERVATORY.

This employs the self-registering apparatus above referred to, a portion of which was invented by Mr. Daniel Draper, and the rest improved from European instruments by the same gentleman, and by which, to use the language of the report, "the weather each day leaves, by its own action, an enduring picture of itself, complete and accurate, presenting a marked contrast to the ordinary methods of weather observation. The records of the observatory frequently sought for to determine legal controversies, are given weekly to the newspapers for publication, and are forwarded to kindred institutions."

The report is a well-written and comprehensive document, and the favored few who are able to obtain copies of it, will doubtless read it with interest throughout. The Commissioners are entitled to great praise for the vigorous and judicious manner in which they have discharged and are discharging their duties, and the additions they are constantly making to the chief attraction of our great metropolis.

WOODBURY'S PHOTO-RELIEF PROCESS.

A few years since Mr. Woodbury explained to us in Paris his famous process for obtaining pictures by copying negatives with gelatin and transferring the print to soft metal. Since that time he has made some improvements, and we give below the whole method as witnessed by ourselves, and as described in some of the photographic journals.

A film of gelatin rendered sensitive by bichromate of potash is exposed in a common printing frame to the action of the sun or electric light. Where the light acts, the gelatin is rendered insoluble, where it does not penetrate, the gelatin remains soluble. If, therefore, the film of the exposure be put into warm water, the parts acted upon by light will be dissolved out, and the other portions will remain to form a picture in relief.

This gelatin picture is laid upon a steel plate, then covered with a plate of type metal, and subjected to pressure under a small hydraulic press. The raised parts of the gelatin film are forced into the soft metal, thus giving a picture with the lights and shadows reversed.

Upon this metallic *cliché* is poured a hot mixture of gelatin with some coloring substance, a sheet of well-sized paper is then laid on, and the whole is well pressed together. As soon as the gelatin is cool, the impression is done.

In order to render the impression permanent it is immersed in a solution of alum or of tannin—it would otherwise be soluble in water.

This is the outline of the process, and we come now to speak of the details.

A glass plate is greased and covered with a hot solution of gelatin containing some pigment and bichromate of potash. After drying, the film is covered with a thick layer of paper collodion. It is then removed from the glass, and kept on a portfolio until wanted. The greasing of the glass facilitates the removal of the gelatin. The film is quite black, and as thick as pasteboard. The coloring matter is added to aid in following the development of the picture, and the collodion serves as a support to the film.

The gelatin sheet thus prepared is laid in a printing frame, with the collodion side in contact with the negative. It is then exposed either to the sun or a powerful electric light. The length of exposure is half an hour in the sunlight, and two to four hours in electric light. The sunlight is preferable because the rays are parallel and more powerful. The electro-magnetic apparatus consists of fifty horseshoe magnets, and the helices are propelled by a steam engine of six-horse power.

Usually six printing frames are simultaneously exposed at a distance of a few feet. A large sheet of white paper serves as a reflector. The light is evolved between two carbon pencils which are connected with the magnetic-electro machine, and is so uniform, that, with a little experience, the duration of the exposure can be estimated by the appearance of the negatives. A glass plate is covered with a solution of india-rubber in benzine. The exposed sheet with the collodion side down is pressed upon it (to prevent the curling up of the film in water), and the plate is laid in warm water, and the water is renewed from time to time. The development requires considerable time, often twenty-four hours. The coloring matter dissolves in the places where the gelatin has remained soluble, and finally leaves a clear picture. The print is then taken from the water, removed from the glass plate, and dried. It forms a beautiful transparency, and is a true picture in relief, in which the deepest shades possess the original thickness of the gelatin film.

This gelatin relief is pressed into a metal plate in a similar manner to nature printing. It is laid upon a hard steel plate and covered with a sheet composed of antimony and lead ¾ of an inch thick. It is then exposed for five minutes to a pressure of half an tun to a cubic centimeter in an hydraulic press, by which a sharp impression is obtained on the soft metal without the least spreading or injury of the gelatin film.

The *cliché* is cut with a saw, and made ready for the printing press. It is carried to a room where there are a number of large revolving tables, on each one of which there are six presses. There is one workman for every table, who is provided with a pot of dark-colored gelatin kept hot in a little stove.

The *cliché* is put entirely horizontal into the press, which is simply an iron box with a metallic cover. Some of the colored gelatin is poured upon the middle of the *cliché*, the cover put on, and the table revolved until the second press is before the printer. By the time the sixth press has been reached, the picture in the first press is ready for removal. A skilled printer can take forty impressions in an hour.

The paper is rendered water-tight by lac, and is then well glazed. After each print the *cliché* is wiped off with an oily rag to remove any adhering color. The gelatin must harden in the press; the print is laid upon a table until it is entirely dry and hard. The margin of gelatin squeezed out by the press is cut off and thrown into the glue pot to be used again. The color improves by use. Finally, the prints are immersed in a solution of alum, then washed, dried, and cut ready for mounting.

Mr. Woodbury has made some further improvements by which he can use fatty inks the same as with copperplate engraving.

Electrotypes can also be taken of the *clichés*, and this is one of the most important applications of the process, as it admits of taking photographs of all manner of natural objects, of copying them in gelatin and of obtaining electrotypes for printing in the usual way. Prints in gelatin and color have the great advantage over ordinary photographs of being much more permanent—they are as unfading as any steel engraving, and are very rapid of execution.

We are glad to know that the inventor, who has been indefatigable in his efforts to perfect his process, is now beginning to reap the rewards of his labor.

THE GATLING BATTERY GUN IN ENGLAND.

The trial of the "Gatling Battery Gun" at Shoeburyuess, has given the British authorities a very favorable impression of its formidable character. The small Gatling gun of forty-two one hundredths of an inch caliber was tried first. This gun has ten steel rifled barrels, and is made of any proper caliber to suit the musket cartridges used by different governments. It was fired at the high rate of about 350 shots a minute. The one-inch gun was tested next. This is the third or largest gun of the system, and is made with six, sometimes with ten, barrels, and discharges solid lead balls half a pound in weight. It also uses a canister cartridge which contains sixteen balls. It also discharges explosive balls with great effect. At this test it discharged 255 half-pound balls in one minute and eighteen seconds, and riddled the target at 1,400 yards. On the same day the small gun (No. 1) was again discharged at 1,400 yards, and made an excellent target, firing about 375 shots a minute. It was also fired at dummies representing a company front, on uneven ground, the men being disposed in irregular order. There were 136 dummies, representing men, 99 of whom would have been killed. The average hits were four in each man.

Subsequently, the small gun was again fired at various ranges from 1,200 down to 400 yards at targets and at dummies. The firing was at about the same rate and speed as before, making the same targets and producing the like destructive effect among the dummies. All on the ground seemed to agree that they had seen the operation of a weapon of unprecedented power.

Our readers will be interested in the history of this remarkable gun, from the pen of Mr. Gatling himself.

A man is entitled to the fruits of his labor, and to assert a just claim is a duty as well as a right. In the year 1861, I

first conceived the idea of a machine gun, which has been ever since the great controlling idea of my life; and it certainly cannot be regarded as egotism when I express the belief that I am the originator of the first successful weapon of the kind ever invented. A brief history of this arm may esablish the fact, and cannot fail to engage the attention of all who take an interest in fire-arms.

I completed my first "battery," or "machine gun," in the city of Indianapolis, State of Indiana, my place of residence, in the early part of the year 1862, and my first American patent bears date November 4th, of the same year. The gun was fired repeatedly during that year, in Indianapolis, in the presence of hundreds and thousands of persons, over two hundred times a minute, and the result published to the world.

In the autumn of 1862, I went to the city of Cincinnati, in the State of Ohio, and in the well-known establishment of Miles H. Greenwood & Co., I had six of my guns constructed; but about the time they were completed the establishment was destroyed by fire, together with the guns, patterns, and drawings, subjecting me to a very heavy pecuniary loss. Shortly afterwards, I had twelve of my batteries manufactured at another establishment in the same city. In the meantime, I continued to fire my gun, made at Indianapolis, before the citizens of Cincinnati, and in the presence of many Army Officers of rank and distinction, all of whom were highly pleased at the result of its performance. The American press of 1862 and 1863 teemed with accounts of these trials, and during all this period no notice of a similar weapon, at least none equaling or approaching the "Gatling battery," in the rapidity of its firing, appeared in any of the papers published in America or Europe.

I made no effort to keep my invention a secret, but, on the contrary, published full descriptions of the gun, with cuts and diagrams, and sent the same to all parts of the civilized world. Istated in these descriptions that my invention consisted of a 'series of barrels," parallel to each other, arranged around a central shaft, and that "each of the barrels was furnished with its own appropriate lock, or firing mechanism;" I also described it as a "compound machine gun," that is, many guns in one. At the time I made these publications, that "mysterious" French mitrailleuse, of which we have since heard so much, was not invented, and, in my opinion, not even thought of. It is well known that the French and Montigny mitrailleuses are composed of a number of barrels, and have a lock or firing device for each barrel, and, for reasons submitted hereafter, I have no hesitation in saying, that this feature of a gun, formed of many barrels and many locks, is copied from my invention.

I continued to make my guns in Cincinnati during the years 1863 and 1864, and in the autumn of the latter year, I made additional improvements to my battery—in the locks and rear cam—but without, however, changing its main features, for which I secured a second patent of the United States, bearing date May 9th, 1865.

In the years 1865 and 1866, these improved guns were manfactured at Cooper's Fire Arms Manufactory, in the city of Philadelphia, but since that time they have been constructed in large numbers, at Colt's Armory, in the city of Hartford, where machinery has been fitted up at great expense, to build the guns in the highest style of perfection.

This gun is now on exhibition at the Fair of the American Institute in this city.

COMPARATIVE ACCURACY OF MERCURIAL AND ANEROID BAROMETERS.

During the progress of the recent official surveys for the ship canal across the Isthmus of Darien, the level lines were ascertained by spirit levels, and also by barometic observations. The mercurial and the aneroid barometers were employed, and their indications were, from point to point, compared with those of the spirit levels. The result showed that the aneroid barometer was very unreliable, as its indications of level were frequently in error to the extent of one hundred feet, while the average deviation of the mercurial barometer from the spirit level, did not exceed twelve feet.

Our readers are, of course, familiar with the construction of the mercurial barometer, in which a column of quicksilver, 30 inches high, counterbalances the weight of a column of the air, of the same diameter, and 100 miles, more or less, high. When we rise above the sea, the weight of the air diminishes, and at an altitude of 5,000 feet the mercury column stands at 24·77 inches, instead of 30 in. as at the sea level. The hight of hills and mountains may therefore be measured by placing the barometer at the highest point of elevation, and observing the position of the mercury.

The mercurial barometer was invented in 1643, by Torricelli, an Italian, a disciple of the famous Galileo. The term barometer is derived from Greek words signifying "weight-measurer."

The aneroid barometer is a more recent invention. It is made wholly of metal, and consists of an air-tight box, which may be described as somewhat resembling a common tin blacking-box, except that the edges of the barometer box are creased so that the flat faces may spring towards or from each other, when pressure is applied to them. One of the faces is connected with a delicate wheel mechanism and a pointer by which the slightest movement of the box face is indicated to the eye. The interior of the box is charged with hydrogen gas, and the faces are so set that at the sea level the pointer will stand at a given degree, say 30. Any variation in the pressure of the air will alter the position of the faces of the box in respect to each other, and the change will be indicated by the pointer.

The aneroid barometer has come into very extensive use, and has heretofore been considered a reliable and excellent instrument. During a voyage across the Atlantic, we once compared the relative merits of the mercurial and the aneroid barometers. The ordinary indications were the same with both instruments; but the aneroid was considered preferable by the officers of the vessel as it was more sensitive to atmospheric changes than the mercurial. The aneroid always indicated the approach of bad weather, or the change to fair, in advance of the mercurial instrument.

It may be that the aneroids used on the Darien expedition were in some manner defective.

The aneroid barometer is a very neat and compact instrument, not easily broken, readily transported, and very serviceable. It was invented about twenty-two years ago by M. Vidi, of France.

The term aneroid is from Greek words, which signify "without fluid;" no mercury being employed in the aneroid barometer.

FAIR OF THE AMERICAN INSTITUTE.

We have noticed in order certain departments of this Fair, and for the future shall select for notice from the other departments such things as may seem of interest, without regard to strict classification.

Among these we find a patent machine for "spreading" flax, hemp, etc., which takes the material from the bale, and lays its fibers all parallel, turning them out in a continuous sliver in a very expeditious and beautiful manner. The hemp or other similar material, in the condition in which it is ordinarily taken from the bale, is placed upon the feed-board, and gradually brought to feed-rollers, which convey it at the requisite speed to and upon an endless chain apron covered with heckling pins, which measurably straighten and comb its fibers. From this it passes to another endless chain, running at higher speed, the pins of which complete the heckling operation. The hemp is thus combed and drawn out by the pins of the two endless chains, while the fibers are free at one end to accommodate themselves to such action. The hemp then passes therefrom to pressing and drawing rollers, which, having performed their function, the material passes through condensing tubes in the form of a sliver. To any who delight in examining the workings of well devised machinery, the operations of this machine will prove gratifying. The machine is exhibited by John Good, of Brooklyn, E. D., N. Y.

A cotton seed hulling machine is shown by T. M. Jewell, 93 Liberty street, New York. It is designed for plantation use and can be run separately from the gin, or attached to the gin and driven by the same power. When run by itself it is driven by the power of two mules. It is claimed to remove the hull and lint entirely from the seed and to leave the kernel unbroken. At the same time the kernels are dried and cleaned by an air blast, and, it is claimed, rendered fit for shipment to any distance. Our readers who have perused the valuables article on "Cotton Seed" and "Cotton-Seed Oil," published in our last volume, will be prepared to appreciate the value ot a machine that will do what is claimed for this one.

A line of power and foot punching presses shown by N. C. Stiles, Middleton, Conn., is worthy of notice. Tbose interested in this class of machines, and who visit the Fair, will do well to look at them.

Shaw's Patent Gunpowder Pile Driver, exhibited by the Gunpowder Pile Driver Co., 505 Minor street, Philadelphia, attracts much attention. This novel and ingenious device was fully described and illustrated on page 97, Vol. XXI., of Scientific American. For the short time this invention has been before the engineering public it has made a brilliant record.

A flax scutching machine, shown by William McBride, Somerville, N. J., is also a very ingenious device. The flax is fed in under an endless belt, the belt pressing upon the middle of the fiber, and holding it firmly while it passes and is acted upon by a series of revolving scutching blades which dress one end of the mass. Then the machine turns the other end of the flax fiber, so that it in turn passes another series of scutching blades, and finally delivers it well dressed for future operations.

FIRE-ARMS.

Under the superintendence of Col. Geo. Woodward, 304 West street, New York, this department has been made a most attractive feature of the Fair.

Col. Woodward represents nearly or all the first class manufacturers of fire-arms in the United States, and his politeness and affability, his intimate knowledge of the arms exhibited, and his readiness to explain to the curious the peculiarities of the weapons shown, render this department a rare opportunity for any who wish to post themselves on the subject of modern fire-arms. Most of the guns shown are breech-loaders, and are made in the very highest style of the art.

A prominent object in this connection is the Gatling battery gun, quite recently described and illustrated in this journal, exhibited by Chas. H. Pond, 179 Broadway, Agency, Winchester Arms Company and Gatling Gun Company. We need not here repeat any details of this remarkable arm, which as a destructive weapon is probably unexcelled by any similar piece ever constructed. The same exhibitor shows a case of the Winchester repeating arms.

The Winchester rifle differs from the Henry rifle only in the mechanism by which the cartridge is extracted. It is claimed for this gun that it can not only be fired thirty times a minute continuously as a repeater, but it can be used as a single loader without any attachment to be changed for the purpose, retaining the magazine full of cartridges to be used in any emergency, when the whole fifteen charges can be fired in fifteen seconds, or at the rate of sixty shots a minute, or in double-quick time, in seven and a half seconds, or at the rate of 120 shots per minute, or two shots per second, loading from the magazine.

The Providence Tool Co., Armory, Providence, R. I., exhibit a case of the Peabody breech-loading fire-arms. In these arms no movement of the barrel or any other parts, except those immediately connected with the breech block, is required in the performance of any of the operations. The mechanism is designed to prevent any possibility of obstruction from the effects of friction, rust, or exposure to dust, rain, and continued service. The condition of the breech block, when the guard is drawn down, is such as to form an inclined plane, sloping towards the breech of the barrel, and the groove on its upper surface corresponding precisely with the bore of the gun, facilitates the entrance of the cartridge, so that it slides directly into its proper position without the necessity of looking to see that it is properly inserted. The removal of the empty cartridge is effected by the action of an elbow lever, which throws it out the instant the guard is lowered. This lever derives its power from the action of the breech block itself, and is not dependent upon any spring and is of such strength as to seemingly prevent the possibility of breakage or derangement by any service to which it can be exposed.

Ward & Co., 57 Wall street, New York, show a case of the Ward-Burton breech-loading rifles. The Ward-Burton gun is constructed on the bolt or needle gun system, and is operated by holding the piece in the left hand below the lower band, in the position known in the manual for muzzle-loading arms as "prime," and seizing the handle of the breech with the right hand, nails uppermost. The breech is then opened by turning the handle up and withdrawing it to its full extent of motion, a cartridge taken from the pouch with the right hand and dropped bullet end to the front in the now open receiver, and the breech closed by reversing the motions required to open it. By the motion of opening the breech to reload, the empty cartridge shell will be ejected. The breech, however, may be closed during the act of raising the gun to the position of aim. A manual to load and fire by command in six motions may thus be readily devised. Practically, to load and to fire require but four motions.

S. Remington & Sons, of Ilion, N. Y., show a collection of the various arms manufactured by them. These arms are too well known to need any special description here. The exhibitors are now supplying arms to Egypt, Italy, France, Austria, and Denmark; France at present taking all the available stock. The details of the guns thus furnished to foreign governments vary in nothing except the form of the bayonets. The bayonets on the Egyptian guns are sabers, with hilt and guard; the others are triangular.

Isaiah Woodbury, 39 Broadway, New York, exhibits specimens of the "Roberts" Breech-loading Musket. This arm is constructed strictly on the lever plan, having lever strength for its entire operation. The breech plug is a lever, the extractor is a lever, and the "catch" that holds the breech plug in place for firing is a lever. These are the principal pieces that take the wear and tear of fire-arms; they are all of great strength, and so mechanically combined as to receive the recoil shock of the charges without cross strain or disposition to displacement.

The Sharp's Arms Co., of Hartford, Conn., exhibit their infantry carbines and repeating rifles. These celebrated arms are fine specimens of mechanical art, and have a reputation so widely extended that we need not dwell upon the prominent features of their construction.

M. W. Robinson, of 79 Chambers street, shows a fine group of the Wesson sporting rifle pistols, and a case of Smith & Wesson's well-known revolvers

J. W. Storrs, 252 Broadway, New York, shows specimens of the "Central Fire" breech-loading shot guns manufactured by the Wesson Fire-arms Company, Springfield, Mass. These guns are beautiful pieces of workmanship, and will be admired by all sportsmen who examine them. The same exhibitor shows specimens of J. Stevens and Co.'s breech-loading pocket rifles, each of which weighs only eleven ounces, yet shoots with great accuracy and power from thirty to one hundred yards or more; can be loaded and fired five times a minute, can be carried in a side pocket while working in the fields, ready to bring down game at short notice.

Isaiah Woodbury, 39 Broadway, New York, shows some electric batteries and battery fuses for blasting purposes, in which the spark which ignites the powder is generated by frictional electricity. We regret that we could not obtain any information in regard to the details of the internal construction of his device.

Near the collection of fire-arms in one of the alcoves may be seen the screw steering apparatus illustrated and described on page 111. It is exhibited by the manufacturers, James L. Jackson & Bros., 315 East Twenty-eighth street, New York.

We noticed, also, near the entrance to the Machinery Department, a novel and ingenious printing press, called the "Chromatic" press, which prints in three colors with a single impression, and does its work as rapidly as any platen press can print in single color. The surface of the inking cylinder is divided into three equal parts, which are supplied with adjustable sectors (or color strips) of various sizes, to correspond in width with any line or part of line of type. Each part is supplied with a color from one of the distributing rollers. The cylinder has lines struck on its surface which are numbered to correspond with lines and numbers on the chase, making simple work for the pressman to set his sectors to correspond to the lines of the type which he may wish to print in colors. Thus, having the sectors arranged, they receive their proper colors and transfer them to the type rollers, corresponding in width and position with the lines of the type to be printed. Within one minute the press may be changed from two or three colors to one, by means of throwing two polished shells or half cylinders over the color arrangements, which enables the pressman, if he desires, to use three times the amount of distribution and inking surface that he now has in any one-color job press.

Those interested in ice manufacture and ice machines will soon have the opportunity to see the celebrated Carre apparatus at work in a special room assigned to it at the rear of the building. A skating ring 24x10 feet, and laid with ice eight inches thick is promised as soon as the machine gets under way. This will be a most interesting feature of the