

NEW ADVERTISEMENTS.

BEATTY PIANO, ORGAN, &c. See! Organ, 12 stops \$55; Pianos only \$130, and \$250, Circulars free. DANIEL F. BEATTY, Washington, N. J.

GUNS and Revolvers. Illustrated Price List free. Great Western Gun Works, Pittsburg, Pa.

3 new vocal and 2 new instrumental pieces Sheet Music, 10 Historic Star Sts. MUSIC PUBLISHING COMPANY, Middleboro, Mass.

FREE MAMMOTH outfit to everybody. Steam-winder with free with first order. Ten dollars a day and 10 cents a week. M. CROCKETT & CO., Philadelphia, Pa., or Milwaukee, Wisconsin.

AGENTS Wanted! Medals and Diplomas Awarded FOR HOLMANN'S NEW

PICTORIAL BIBLES, 200 Illustrations. Address for new circulars, A. J. HOLMAN & CO., 930 Arch Street, Phila.

Agents Wanted for the **WORK DAYS OF GOD**.

A book of marvelous beauty and richness in thought, style, and historic facts. Gives the very cream of Science, making its thrilling wonders and bright gems household treasures. **WATER CHAS. STEVE** for Agents. Sales immense. Sample Illustrations, Circulars and terms free, at once. J. C. McCURDY & CO., Phila., Pa.

50 LARGE MIXED CARDS with name, in case, 13 cents; 25 without case, 9 cents; 30 new full cards in case, 10 cents. F. WASHBURN & CO., Middleboro, Mass.

SANFORD'S The only combination of the true Jamaica Ginger with choice Aromatics and French Brandy. Is a delicious, refreshing, strengthening substitute for all kinds of stimulants. It promptly relieves Dyspepsia, oppression after eating and every species of Indigestion, corrects all disturbances of the Stomach and Bowels, and cures Cramps, Chills, Fevers, and Malaria. Ask for SANFORD'S GINGER.

JAMAICA GINGER.

RUPTURE.

Those wishing relief and cure for Rupture should consult Dr. J. A. SHEPHERD, 238 Broadway, New York.

Send facts for his new book, with photographic likenesses of bad cases before and after cure. Beware of cheats who pretend to furnish Dr. Shepherd's treatment.

One of these fellows, a German clerk, now calling himself Dr. W. G. Crotopica, is indicted on complaint of Dr. S. and awaits trial for forgery and embezzlement.

Agents Wanted! FOR PARTICULARS ADDRESS

WILSON SEWING MACHINE COMPANY,

829 Broadway, New York City; Chicago, Ill.; New Orleans, La.; or San Francisco, California.

OPIMUM HABIT CURED.

A Certain and Sure Cure. Large reduction in prices. A trial bottle free. Mrs. J. A. DROLLINGER, La Porte, Indiana. Box 1038. (Formerly Mrs. Dr. S. B. Collins).

Send for Reduced Price List of

Mason & Hamlin CABINET ORGANS.

New and Splendid Styles; PRICES REDUCED \$10 to \$50, each this month. (Nov. 1877). Address, MASON & HAMLIN, ORGAN CO., Boston, New York or Chicago.

CONSUMPTION CURED.

An old physician, retired from practice, having received from an East India missionary the formula of a simple vegetable remedy for speedy and permanent cure of consumption, bronchitis, cough, asthma, and all pulmonary affections; also a cure for persons laboring with all nervous complaints, after having tested it by and all persons afflicted with it. It is a simple, safe, and powerful remedy, and is known to his authoring fellow. Address: 177 N. 5th St., Philadelphia, Pa. If you desire to see this recipe in German, French, or Italian, send 1/2 dollar. Address with stamp, W. W. STEVENS, 124 Power's Block, Rochester, N. Y.

THE YOUTH'S COMPANION A WEEKLY PAPER FOR

YOUNG PEOPLE AND THE FAMILY

It aims to be a favorite in every family—looked for eagerly by the young folks, and read with interest by the older. Its purpose is to interest while it amuses; to be judicious, practical, sensible and to have really permanent worth, while it attracts for the hour.

It is handsomely illustrated, and has for contributors some of the most attractive writers in the country. Among these are:

T. T. Trowbridge, Dinah Muloch Craft, James F. Fields, J. G. Whittier, Rebecca H. Davis, Louise G. Moulton, Mrs. A. H. Leavens, C. A. Stephens, Edward Everett Hale, Harriet P. Spofford, Wm. Cullen Bryant, A. D. T. Whitney, Louisa M. Alcott.

Its reading is adapted to old and young; is very comprehensive in its character. It gives Stories of Adventure, Stories of Home and Letters of Travel, School Life, Editorials upon Current Topics, Selections for Historical Articles, Declamation, Biographical Sketches, Anecdotes, Puzzles, Religious Articles, Facts and Incidents.

Subscription Price, \$1.75. Specimen copies sent free. Please mention in what paper you read this advertisement.

PERRY MASON & CO., 41 Temple Place, Boston.

A Great Offer For Holidays!

WE will during these hard times and the holidays dispose of 100 NEW PIANOS and ORGANS, of first-class makers at lower prices for cash, or installments, than ever before offered. WATERS' Pianos and Organs are the best made, warranted for five years. Illustrated Catalogues mailed. Great inducements to the trade. Pianos 7 octave, \$140; 7 1/2 octave, \$150. Organs, 2 stops, \$18; 4 stops, \$25; 7 stops, \$35; 8 stops, \$70; 10 stops, \$85; 12 stops, \$90; in perfect order not used a year. Sheet Music at half price. HORACE WATERS & SONS, Manufacturers and Dealers, 40 East 14th Street, New York. nov 30-4w

THE ELEPHANT

—HAS COME— With a Fresh Stock of Fall and Winter Goods,

AT THE DRY GOODS, FANCY GOODS AND

Millinery Bazaar.

IMPORTANT ANNOUNCEMENT.

WE take pleasure in announcing to our friends and the public generally that we are now opening the finest and most complete assortment of

FALL AND WINTER GOODS,

including Millinery and Fancy Goods in all the latest styles and novelties of the season, such as are generally found in a first-class Millinery establishment. Fancy and staple Dry Goods, a beautiful stock of newest styles of Dress Goods Buttons and

TRIMMINGS.

A full assortment of brown and bleached Muslins, Poplins, Calicoes, Ginghams, Gents' Goods, Notions, Corsets, Gloves, Hosiery, Bustles, Skirts, Shawls, Cloaks, &c. Men's and Boys' Hats. Boots and Gaiters for Gents and Boys, Shoes and Gaiters for Ladies, Misses and Children.

A FULL STOCK OF

Fresh Groceries, Confectioneries, Cakes and Crackers, Cheese, Mackerel, Flour, Meal, Grist, Soaps, Starch, Candles, Kerosene, Crockery, Tin and Wooden Ware, Furniture and Mattresses.

LUMBER FOR SALE

As low as the lowest. Call and examine my stock and prices.

J. O. BOAG.

oct3



Pat. July 30, 1871. WE CLAIM FOR THE IMPROVED

WHITNEY SEWING MACHINES

The following specific points of superiority:

- 1—Great simplicity in Construction.
- 2—Durability.
- 3—Exceedingly Light Running.
- 4—Still Running. Noiseless.
- 5—Performs all Varieties of Work.
- 6—Beauty of Finish and Workmanship.
- 7—GREAT REDUCTION IN PRICE.

Single Machines, sent on orders direct from the Factory, written guarantee with each Machine.

WHY PAY OLD PRICES! Send for circulars and particulars. Address, The Whitney Mfg. Co., Paterson, N. J. feb 17

Just Received,

APPLES, Oranges, Pears, Raisins and Onions, just in and low for cash.

We will keep on hand during the season a choice stock of the above fruits. ALSO,

Butter, Eggs, Soda Biscuits, Ginger Bread, Spices, Starch, Grist, Meal, etc., always fresh at

J. E. CATHCART & BRO.'S.

VEGETINE

WILL CURE RHEUMATISM.

MR. ALBERT CROOKER, the well-known druggist and apothecary, of Springfield, Me., always advises every one troubled with Rheumatism to try VEGETINE.

Read His Statement.

SPRINGVALE, ME., Oct. 12, 1876. MR. H. R. STEVENS: Dear Sir:—Thirteen years ago last fall I was taken sick with rheumatism, was unable to move until the next April. From that time until three years ago this fall I suffered everything with rheumatism. Sometimes there would be weeks at a time that I could not step one step. These attacks were quite often. I suffered every thing that a man could. Over three years ago last spring I commenced taking VEGETINE and followed it up until I had taken seven bottles; have had no rheumatism since that time. I always advise every one that is troubled with rheumatism to try VEGETINE, and not suffer for years as I have done. This statement is gratuitous as far as Mr. Stevens is concerned. Yours, etc., ALBERT CROOKER, Firm of A. Crooker & Co., Druggists and Apothecaries.

VEGETINE

HAS ENTIRELY CURED ME.

BOSTON, October, 1876. MR. H. R. STEVENS: Dear Sir:—My daughter, after having a severe attack of Whooping Cough, was left in a feeble state of health. Being advised by a friend she tried the VEGETINE, and after using a few bottles was fully restored to health. I have been a great sufferer from Rheumatism. I have taken several bottles of the Vegetine for this complaint, and am happy to say it has entirely cured me. I have recommended the Vegetine to others with the same good results. It is a great cleanser and purifier of the blood; it is pleasant to take and I can cheerfully recommend it. JAMES MORSE, 361 Adams Street.

Rheumatism is a Disease of the Blood.

The blood in this disease is found to contain an excess of fibrin. VEGETINE acts by converting the blood from its diseased condition to a healthy circulation. VEGETINE regulates the bowels which is very important in this complaint. One bottle of Vegetine will give relief, but to effect a permanent cure it must be taken regularly, and may take several bottles, especially in cases of long standing. VEGETINE is sold by all druggists. Try it, and your verdict will be the same as that of thousands before you, who say, "I never found so much relief as from the use of Vegetine," which is composed exclusively of barks, roots and herbs.

VEGETINE, says a Boston physician, "has no equal as a blood purifier." Hearing of its many wonderful cures, after all other remedies had failed, I visited the laboratory and convinced myself of its genuine merit. It is prepared from barks, roots and herbs, each of which is highly effective, and they are compounded in such a manner as to produce astonishing results."

VEGETINE

NOTHING EQUAL TO IT.

SOUTH SALEM, MASS., Nov. 14, 1876. MR. H. R. STEVENS: Dear Sir:—I have been troubled with Scrofula, Cancer and Liver Complaint for three years; nothing ever did me any good until I commenced using the VEGETINE. I am now getting along first-rate, and still using the Vegetine. I consider there is nothing equal to it for such complaints. Can heartily recommend it to everybody. YRS. TRULY, MRS. LIZZIE M. PACKARD, No. 16 Lagrange Street, South Salem, Mass.

VEGETINE

—PREPARED BY— H. R. STEVENS, BOSTON, MASS.

Vegetine is Sold by all Druggists. nov 30-4w

New Groceries.

I AM RECEIVING daily fresh

Sugars, Coffees Green and Roasted, Tea, Flour, Grist, Meal,

Syrups, Molasses, Soda, Soap, Starch, Bagging

and Ties, Bacon, Lard—in Bbls., Cans and Buckets

Seed Oats, Rye and Barley, Nails, Traco Chains, Horse and Mule

Shoes, Axle Grease, White Wine and Cider Vinegar.

All goods delivered within corporate limits.

Fresh Cheese and Maccaroni received to-day.

New Buckwheat Flour. Choice new crop New Orleans Molasses.

New Mackerel in kits, 1/2 and 1/4 barrels.

D. R. FLENNIKEN ESTABLISHED IN 1859.

CHARLES MULLER.

WATCHES, Clocks and Jewelry repaired, and satisfaction guaranteed to everybody.

N. B.—All who have left watches store must come and get them, or I will sell them for costs in thirty days. sept 18 CHARLES MULLER.

MONSTERS OF DEATH.

THE FAMOUS KRUPP GUN FACTORY.

The Triumphs of Art—Casting and Forging Reduced to a System—The Mammoth Hammer—Annealing and Banding—What the Playthings Cost. From the New York Herald.

As the artillery duels which were recently occurring around Plevna, in Shipka Pass, and elsewhere in Bulgaria and Armenia were simply between Krupp guns served by Russians pitted against Krupp guns served by Turks, or Oboukhoff guns of the Krupp system against genuine Krupps and Armstrongs, a description of the great works at Essen, in Rhenish Prussia, which have produced the greater part of the heavy armament of both contending Powers, will be found especially interesting.

Herr Krupp has for years furnished, and is still furnishing, with great impartiality, steel rifled cannon to the Russian and Turkish, as well as to other foreign governments.

THE HOOPING.

The tube is now ready to receive the first layer of hoops. For these, large steel ingots are cast and forged into flat lengths. These are cut into pieces of the size required for the rings and are forged into a peculiar shape. They have holes near either end, which are joined by a slot being cut into the ingot. Wedges are driven into the slot and it is gradually widened out and worked under a hammer into a ring like shape. This has at this stage of the operation about half the diameter and twice the thickness of the finished hoop. It is then heated and put over the rolls of a machine similar to those used in the manufacture of wheel tires. In revolving the rolls approach each other gradually, rolling the hoop to its desired size. By this operation it will be seen that an endless fibre is being developed in the direction of the hoop circumference. A jet of water is constantly playing over the steel mass while it is being developed on the rolls, thus preventing any distortion. It is stated that in this way hoops of any required diameter can be produced, but not of a width exceeding six inches. These hoops so manufactured have, like the large tube ingots, no seams or welds, and are very uniform in texture. Everything being ready for the hooping the main tube is placed, muzzle end up, in a vertical position, and the hoops slipped on to their places. The hoops are previously heated in boiling lead, and, when the expansion is judged sufficient, are taken out of the bath, wiped clean, slung to above the muzzle in a line with their intended position and let go. They fall heavily along down the tube until they reach their position. Here they cool slowly, and contracting form a perfect contact with the tube. The hoop manufacture and subsequent adjustment are very delicate operations. The calculations involved are very nice, as the diameter of the hoops as first manufactured, have to be so calculated that after the expansion in the bath and subsequent cooling they will, on contracting, have a diameter which will cause them to exert a certain pressure, to be the same in all of the same layer, upon the main tube, and upon each other when superimposed. Upon the successful performance of the hooping depends, to a great degree, the gun's strength and durability. The first layer of hoops having been placed in position the gun is again taken to the turning establishment, and the surface of the first layer which is to receive the second is turned down to the required diameter. The second and third layer being in place the end hoop on the gun again goes to the turning establishment. The hoops are kept from working by key rings, these being small half hoops, with rectangular sections let into scores cut to receive them in the tube and first layer and in the first and second layer. The breech of the gun is then shaped, the bore carefully rifled with the required number of grooves and the eccentric chamber formed. The closing mechanism at the breech is adjusted and the gun is finished.

THE GUN MANUFACTURE.

Krupp guns are made of solid low cast steel, manufactured in crucibles. The pig iron used at the works is manufactured from ores notably free from sulphur and phosphorus, and rich in manganese. It is manufactured at the firm's various blast furnaces from ore taken from mines owned by the firm, so that the manufacture, not of guns alone, but of the crude materials used, is under the same control, in itself a very great advantage. All the metal to be used in the crucibles undergoes a preparatory puddling. One quality of pig iron is puddled to steel, afterward being placed under the hammer and then passed through the rolls. When taken from the last rolling it is cut up into rectangular bars, which are broken into pieces of a size suitable for insertion in the crucibles. Another sort of pig is puddled still longer until wrought iron is produced. This, like the crude steel, is rolled, barred and cut into lengths suitable for transferal to the crucibles. The mixture placed in the plumbago clay crucibles consists of the steel and wrought iron in certain proportions which long practice has shown to be most advantageous and of several other ingredients not known to the outside world. In the buildings of the casting department there are a sufficient number of furnaces to accommodate the large number of 1,600 crucibles, having an average capacity of seventy pounds of metal each.

The proportions of each ingredient for each crucible are regulated with great accuracy, and constant analyses are made to see that the ingredients in all of the crucibles to be used for the casting of a gun are of the same quality, so that the grade of steel poured into the casting pit from the numerous crucibles shall all be the same.

THE CASTING.

After the manufacture of the steel in the crucibles they, with their molten contents, are carried to the casting pit. The crucibles are emptied as they arrive into an immense vessel placed over the mould and tapped from the bottom. Thus a continuous stream of molten steel is kept up until the cast iron gun mould is full. With such care and regularity does the work go on that the casting of the ingot for the tube of a 56 ton 14 inch gun is an affair of but comparatively few minutes. In about twelve hours the core is taken out and a stream of water let in to cool the cast steel ingot. This treatment is continued for several days until the mass is somewhat cooled. The ingot is then hoisted by a steam crane from the pit, and taken to the part of the building set apart for that purpose, where it lays for months with sister ingots, being kept covered with hot ashes from the furnaces, which are constantly renewed. The metal, from this treatment, undergoes a process of annealing, which softens, toughens and tempers it. This process, it is claimed, takes the place of and answers better than the tempering by oil practised in England and Russia. After this the steel ingot is transported on a car to the smithery, and run, ear and all, into the heating furnaces, preparatory to the forging. The heating takes several days, the temperature being kept constant and moderate. On being brought to the required tem-

perature the ear and its load are drawn out and on to the hammer. The heating of such large masses of steel uniformly throughout without burning the outside is an operation of great delicacy, and which is very successfully performed at the Krupp works. On arriving at the hammer the crane chains are placed around the ingot and it is hoisted to the anvil, underneath the hammer. For the immense fifty ton hammer, which is the largest in use at the works, the anvil or casting which receives the transmitted blow weighs 300,000 pounds, and rests upon a foundation which is built up from an excavation one hundred feet in depth. After being wrought under the great steam hammers to give the metal the texture required, and the gun ingot the necessary form, the tube ingot is taken to the boring and turning establishments, where the exterior is turned smooth to receive the first layer of hoops, the breech block cut and the interior channel bored out. In the operation of burning the ingot loses half its weight in the lathe.

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The proportions of each ingredient for each crucible are regulated with great accuracy, and constant analyses are made to see that the ingredients in all of the crucibles to be used for the casting of a gun are of the same quality, so that the grade of steel poured into the casting pit from the numerous crucibles shall all be the same.

THE CASTING.

After the manufacture of the steel in the crucibles they, with their molten contents, are carried to the casting pit. The crucibles are emptied as they arrive into an immense vessel placed over the mould and tapped from the bottom. Thus a continuous stream of molten steel is kept up until the cast iron gun mould is full. With such care and regularity does the work go on that the casting of the ingot for the tube of a 56 ton 14 inch gun is an affair of but comparatively few minutes. In about twelve hours the core is taken out and a stream of water let in to cool the cast steel ingot. This treatment is continued for several days until the mass is somewhat cooled. The ingot is then hoisted by a steam crane from the pit, and taken to the part of the building set apart for that purpose, where it lays for months with sister ingots, being kept covered with hot ashes from the furnaces, which are constantly renewed. The metal, from this treatment, undergoes a process of annealing, which softens, toughens and tempers it. This process, it is claimed, takes the place of and answers better than the tempering by oil practised in England and Russia. After this the steel ingot is transported on a car to the smithery, and run, ear and all, into the heating furnaces, preparatory to the forging. The heating takes several days, the temperature being kept constant and moderate. On being brought to the required tem-

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