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W J. GILMORE'S OWN MAJESTIC REVELATION,

Presented Under the Management of Chas. H. Yale,

WM. GILMORES LEGENDARY SPECTACLET

THEATRE

UNDER THE DIRECTION OF R. M. GULICK & CO.

Would Find Lots of Trouble Getting Within Shooting Range of Our Seacoast Cities.

OUR BIG GUNS NEARLY READY.

Projectiles That Would Sink Any Ship Affect, and That at Five Miles out in the Sea.

PROGRESS AT THE BIG FACTORIES

Illustrations From Photographs Showing Our Prepa tion for Delense.

WASHINGTON, Jan. 2.—The bluster about Chile has aroused the country to a lively interest in the offensive and defensive equipments of the Government. A great deal has been said about the offensive-but little about the defensive. In fact the need of coast defenses as compared with the growing navy received a tardy recognition. For, while appropriations for the one were begun in 1883 and the work of building up a new navy has been in active progress for the past eight years, it was not until five and a half years later, or in September, 1888, that a law was enacted which per mitted a definite commencement upon the

The reproach that the United States had not a single modern gun to mount for the defense of the coasts had become a phrase almost too backneyed to hurt. Once felt with sufficient force, however, and recognizing that the sphere of navy operations is upon the high seas and that no adequate defense of our senports can be made without permanent fortifications on land, and that neither could the ships of the pavy act with effect and safety to themselves without fortified harbors as bases of operations, we

new plans of coast defense and modern

besides before they were needed, and who desired to await a time when something

like perfection had been attained in the art of gun making, had more reason on their

side, when that period of change from iron to steel guns was in progress about 1880. The Call on American Steelmakers.

The navy Bureau of Ordnance undertook the construction of six-inch built up steel gun in 1880 and of two others in 1882, the

metal being simply annealed. A great advance car seace by the Army Ordnance De-

par ent, when in a circular letter issued to neglmaker in April, 1883, it called for oil-tempered steel. The results of this circular were remarkably successful, and

led to the production of oil-tempered and annealed steel in this country such as is

used in all the guns now making, and is of a quality not elsewhere excelled.

The period from 1883 to 1888 was well em-

upon with a gest born of confidence and

A 134-Inch Deck-Piale After First Shot From 12-Inch Mortar.

of home manufacture, and also the first 12-inch steel gun prepared for service in this country. The two services, army and navy,

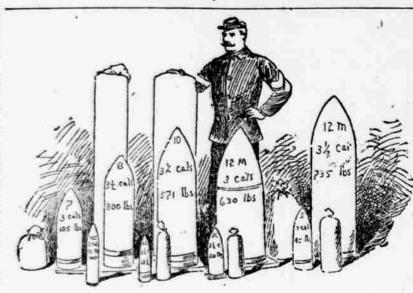
country. The two services, army and navy, are to-day working independently to make each service a deserved source of national confidence, and the spirit of friendly though keen emulation thus engendered is one of the best guarantees that can be given to insure good results and economical administration.

The Report on Fortification.

idable desire to overcome in good time the handicap possessed by the sister service. The army gun factory then produced the

now presued, are based generally upon the report of the board on fortification and other defenses, made in 1886. That board, first lot of 12 8-inch guns will be completed in February, when the forgings of that size will be exhausted. Meanwhile work is proas may be well known, submitted estimate will be exhausted. Meanwhile work is progressing upon 38 10 and 12-inch guns from forgings under delivery. A further supply of 33 sets of 8, 10 and 12-inch forgings have been contracted for. But the output of the factory will require that money must be granted to make contracts for additional contracts. for land and harbor defenses of the prin cipal lake and seaconst ports, 27 in number, the land armament to consist chiefly of 44 16-inch, 203 12-inch, 222 10-inch and 102 8-inch steel breech-loading guns, or an aggregate of 571 heavy guns and 700 12-inch breech-loading rifled mortars. A policy of moderate annual appropriations was inaugu-rated two years later in place of that recommended by the board, to appropriate \$21,500,000 for the first year and \$9,000,000
yearly thereafter until the completion of
the work. The present policy has the apparent merit of providing just so much
money annually as the bare necessities of
the work demand. It has so far satisfied

forgings within the calendar year 1892, in order to prevent a deficiency. Gun-Carriages for the Sea General Flagler makes an earnest appeal for funds needed to increase the facilities boo,000 for the first year and \$3,000,000 for funds needed to increase the facilities yearly thereafter until the completion of the work. The present policy has the apparent merit of providing just so much money annually as the bare necessities of the work demand. It has so far satisfied these demands as regards the making of guns, but unless the proper extension and development of the work is unduly re-



stricted, appropriations of increased amounts must henceforth be provided. A point has now been reached when a generous rather than a restrictive policy in the

Up to the present time 198 of the sea-coast guns and 75 of the heavy rifled mor-tars have been provided for. One-half of all these guns and practically all of the fortified harbers as bases of operations, we have now for three years past been busily at work upon the coast defenses.

Adequate Coast Defenses Assured.

The work is necessarily slow, as THE DISPATCH has often shown, but, owing to

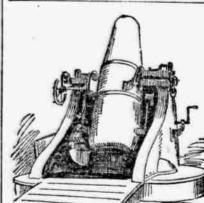
number will be required for mounting the new guns, are being made here.

But disappearing carriages, which will enable the gun to be quickly raised to the firing position, and in the recoil lower it into a completely covered and safe position behind the parapet of the battery, will be required in the greatest number. Several carriages of this type are in the course of manufacture or test, including an 8-inch and two 10-inch carriages of different models.

One of these mounting a new 12-inch, 52-

THE TWELVE-INCH STEEL BREECH-LOADING BIFLES.

prosecuted, great progress has been made, and the Secretary of War has been enabled Work of the Private Gunmakers, That private industry should have a large share in this work is a natural deto state in his annual report that the problem of adequate coast defenses has been velopment of our institutions, wherein the key-note is commercial rather than warlike ically settled. The brunt of this work has so far devolved upon the ordnance deascendancy. The amount of new business that has been created and the improvements of the army, which has first to rovide the guns, carriages and ammuniin methods of manufacture introduced by the necessarily rigid requirements of ma-terial procured by the Government have been of no small moment to the commercial tion. As these are now being turned out, however, the engineer department is engaged upon the erection of batteries and emplacements at New York, Boston, San interests of the country. This is evidenced by the number of firms having important Francisco, Hampton Roads and Washingby the number of firms having important contracts with the army ordnance department for completed guns, forgings, guncarriages, projectiles, powders and heavy machinery for the army gun factory, namely: The California Powder Works, Dupont Powder Works, Bethlehem Iron Company, Midvale Steel Works, South Boston Iron Works, Builders' Iron Foundry, West Point Foundry, Theoremson & Manager Flestein There are not lacking those who did and who still maintain that this procrastination was a wise measure in economizing the expenditures of the Government. It is fortunate for such that the emergency requiring adequate means of defense has not already arisen. Other objectors, who feared that guns would be built which might become Foundry, Thomson & Houston Electric



lieved, can lay claim to more complete in-vestigation in this direction, or a more sat-A 13-Inch Breech-Loading Mortar in Spring isfactory demonstration of the extent to which theory could be relied upon to gov-Return Carriage. ern practice in gun construction. Finally, in 1888, when an opportunity was given to go ahead with the manufacture of heavy guns in quantity, the work was entered

chine Company.

The necessity of having well equipped government factories is not, however, less mandatory. They are needed primarily to meet emergency demands for military sup-plies of every kind, and especially new material which has not, whether in kind or quantity, renched a commercial basis; and after such a status of any particular manu-facture may have been attained they are not less needed to govern the cost of production and prevent the formation of "rings" among the comparatively few firms which devote themselves to specialties in the manufacture

There is at present no plant of any kind adapted to the manufacture of heavy guns on the Pacific coast. The question whether the Government shall establish there a factory for the manufacture of the very considerable number of heavy gams and mortars required for the defenses of that coast has been carefully studied by a board of army officers appointed by the President, pursuant to the act of August 18, 1890. The report of the board, which also treats of the coast facilities for steel production on the coast and other localities, has been published, and is now before Congress for the defenses of the Pacific coast and Puget Sound, and the report states: "The board of a gun factory of a capacity such as to enable the guns for that cosst to be reeady at least as soon as those for the Atlantic and

I., partly sub-let with the Morgan Engineering Works, of Alliance, O. These are aptly called the spring-return carriages. The piece is mounted upon a cross-head and recoils along slides inclosed at an angle of 50 degrees on the inner sides of the heavy cheek pieces. The recoil is absorbed by hydraulic cylinders, and also in compress-ing a pile of cup-shaped (Belville) springs, strung upon a rod, on each side, in the line of recoil. The reaction of these springs causes the piece to return at once to the

(the Canet) has also been procured for trial.

This acts upon the hydro-pneumatic principle. An air cylinder is placed centrally and connected with the two hydraulic cylinder. inders, one on each side. The water is partly forced out of the hydraulic cylinders In the recoil and acts upon a piston to com-press the air, which then reacts to return

\bigcap	manufactured by for seacoast defen as follows: Artillery
	ARTILLERY
	Guns - Eight-inch, steel Ten-inch, steel Twelve-inch, steel. Mortara- Twelve-inch, C. I. h Twelve-inch, steel.
	Some of the 12- made will be 40 fe

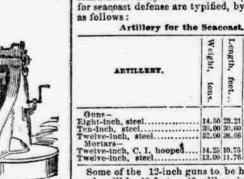
Niles Tool Works and the Southwark Ma-

The Pacific Coast Left Defenseless.

General Flagler, who succeeded General

firing position.

Another type of heavy mortar carriage



Company, Morgan Engineering Pond Machine Tool Company,

its action. The board finds that about 500 heavy guns and mortars may be required for unanimously and as strongly as possible recommends the erection on the Pacific coast

The Report on Fortification.

Benet as chief of ordnance in January, 1891,
The policy and plans for coast defense, as says that at the Watervliet gun factory the heavy 12-inch rifled mortars continues to

the piece to the firing position.

The modern service guns and mortars manufactured by the ordnance department for seacoast defense are typified, by caliber,

Artillery for the	Sene	onat		
ARTILLERY.	1 =	Length,	CHARGE.	
	cight,		Pour pour	Proje
	tons.	feet	nds	nds
uns – ht-inch, steel i-inch, steel	20,00	23, 21 30, 60 36, 66	130 256 440	300 575 1,000

inch guns to be hereaftre made will be 40 feet, or 40 calibers, in length. Guns of 16-inch caliber will be made as the necessary legislative approval is received. These guns will weigh 125 tons and will use

a charge of 2,370 pounds of brown powder to propel a projectile weighing 2,370 pounds. The enormous energy of this projectile, 62,400 foot-tons, can be appreciated in stating that it is equivalent to the striking force of a 5,000-ton ram moving at the rate of 17 knots on hour. of 17 knots an hour. Very interesting and full of portent for the future have been the trials of smokeless powder fired from the 8 and 10-inch sea-



Front View of the Broken Deck-Plate A charge of 50 pounds of this powder, little more than one-third of the service charge of brown powder, gave the 300-pound projectile of the 8-inch gun a velocity of 2,162 feet and the energy of 9,720 foot-tons, with a pressure not exceeding the capacity of the gun—a performance beretofore unexcelled. One very important result to follow from the adoption of the smokeless powder will be that, as, ceteris paribus, the force of the recoil decreases with the weight of the powder charge, the difficulties of the carriage construction will

Can Reach Five Miles to Sea

NEW ADVERTISEMENTS.

PITTSBURG'S LEADING THEATER.

Week Commencing Jan. 4, '92.

Wednesday-MATINEES-Saturday.

GOSSOON.

The Lakes of Killarney in Summer. The Lakes of Killarney in Winter.

The Home of the Gossoon. The Old Hunting Lodge. The Open Country by Moonlight.

The Struggle in the Snow. The Unroofing of the Cabin. The Grandest Effect Ever Presented

THE GOSSOON. Bernard Mallay. Rody Dugan. Percival Kirke. Cullin. Dandy Darraugh.

Annabel. Pansy. THE PIG.

NO PIKES, LOST WILLS, MORTGAGES, CARICA-TURES OF THE CLERGY INFORMERS.

Incidental to The Gossoon CARROLL JOHNSON will sing his latest songs, "THE IRISH ARE TRUE," "SWEET ANNABEL," "WEDDING BELLS," etc. All Scenery and Effects by MOHN & BECKER, Union Square Theater, New York City. Mechanical Effects by GEORGE PURVIS.

SEATS NOW ON SALE. PRICE \$1, 75c, 50c, 25c. POPULAR PRICE MATINEE WEDNESDAY.

NEXT ATTRACTION--Farewell Appearance Mr. and Mrs. Kendal.

develop as the trials at Sandy Hook are extended. They constitute very powerful and effective weapons of defense, which can be properly utilized only on land—being prac-tically useless to mount on shipboard, where tically useless to mount on shipboard, where the platform is too unstable to secure accuracy of, fire. Hostile ships approaching within a range of five miles of the shore batteries will find themselves in a very dangerous neighborhood. Targets made over water have shown that 67 per cent of the shot struck within the space of a ship deck 330 feet long by 60 feet wide if taken bow on, and 14 per cent, if broadside on, at a range of five and one-half miles. At about one mile range the percentages of hits for the two positions of the target were found to be 92 and 43 respectively.

Vessels of whatever kind are most vulnerable to the high angle fire delivered by these pieces, by which even the armored decks will be readily pierced or shattered by the heavy projectile, as experiments have demonstrated. The projectiles now used will be supplemented by steel shell of 1,000 pounds weight, containing a powerful bursting charge.

How to Protect Your Valuables. How often do we read in the newspapers about houses being robbed of large sums of money and valuable papers and jewels? It is easy and cheap to guard against being de-spoiled in this way. How? By renting a box in the Fire and Burglar Proof Sate Deposit Vaults, German National Bank, Wood street and Sixth avenue. Here you will trifling cost, with the key in your own pos-



spot that aches WOOD'S

PENETRATING Once applied it acts PLASTER special power to enetrate deeply and stop pain, render far superior to ordinary porou

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ESTABLISHED 1883. NINTH YEAR.
Opening of second session. Every evening of weeks commencing January 4 and 11, SPECIAL ADVANTAGES
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Office open day and evening. jan3-19

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WILL COMMENCE ON MONDAY Greatest Clearing Sale

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WORTH OF WINTER CLOAKS Must be sold regardless of value

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Mrs. P. Harris, R. L. Britton, T. F. Dean, Proprietors and Managers.

Popular Prices Always Prevail a Harris' .Theater,

10, 15 and 25 Cents!

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Every Afternoon and Evening. **DEVOY & SMILEY'S**

ROBERT STICKNEY'S CIRCUS! ANTIQUIAN_TUCATO Presenting a Performance

OBIGINAL AND BRILLIANT.

Thoroughly

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WILLIAMS' ACADEMY.

Monday Evening, January 4.

Tuesday, Thursday and Saturday.



Mr. Sam Bernard, Miss May Adams, Smith and Lord, Miss Lizzie B. Raymon Fitzgerald and Kelly,

Handsome Ladies The Grand Military

New Burlesque.

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SYMPHONY ORCHESTRA OF NEW YORK. WALTER DAMROSCH Conductor

TWO GRAND CONCERTS.

January 5 and 6, Tuesday and Wednesday Evenings, at CYCLORAMA AUDITORIUM,

ALLEGHENY. PRICES—\$2 00, \$1 50 and \$1 00. Tickets now on sale at Mellor & Hoene's, Pittsburg, and Alex. Ross', Allegheny, jn3-68

D. L. DOWD'S HEALTH EXERCISER.
For Brain-Workers & Sedentary Zeople:
Gentlemen, Ladies, Youths; Athlete
or Invalid. A complete gymnasium.
Takes up but 6 in square floor room;
Takes up but 6 in square floor room;
Takes up but 6 in square floor room;

Jan. II---Chas. T. Ellis in "CASPER, THE YODLER."---Jan II.

MUSEUM – IHEAIEK Week Commencing Jan. 4.

STUPENDOUS SENSATION

CREATED BY DANIEL BOONE

MHe. MILLI CARLOTTA Has induced Manager Davis to re-



For one week more at the enormous salary of \$1,500. This will positively be their last appearance in Pittsburg, as they are booked to appear in the leading theaters of Great Britain the present season. Their troupe of five trained lions are the monster beasts that appeared in the first production of the great spectacle of "Nero" at Niblo's Garden. Their acs is intensely thrilling, and must be seen to be appreciated. They perform the most marvelous :::: leats.:::

A host of other strange and interest-

ing curios. The Gaiety Specialty Company

IN THE THEATER.

Next week-THE GREAT LALOO. SEE

63, 65 and 67 Fourth Av. (SECOND FLOOR.)

BEGINNERS' CLASSES-Tuesday, Wed-ADVANCED CLASSES—Monday and Friday evenings.
CHILDREN'S CLASSES (Advanced and Beginners)—Saturday afternoon, 1 to 5 o'clock. Clock.
Three teachers in each class.
TUITION—One quarter, 10 lessons, \$3 00.
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PHOF. JAMES P. BROOK'S DANCING ACADEMY.

THE LADIES

THE

CHILDREN.

AND

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MATINEES:

WEDNESDAY

SATURDAY.

The Most Extensive Indoor Show in All America! A Fortune in Wardrobe, Paint and Canvas 4—PARISIAN PREMIERS—4! 80—IN THE CORPS DE BALLET—80!

125—PEOPLE IN THE REPRESENTATION—125! The Three Brothers LA MARTINE! The Eccentric Russians Salamonskys! DELHAUER, THE "HUMAN FROG!" SIGNORITA PAPARILO FRAULEIN NEUMANN and the Phenomenal CHITTEN SISTERS!

CHARLES L. DAVIS......Owner and Manager.

WEEK JANUARY 4. TO-MORROW NIGHT

Mr. A. M. PALMER'S Company will give the first production of the Greatest Dramatic Triumph of the Age,

ALABAMA

A STORY OF THE SUNNY SOUTH

AUGUSTUS THOMAS.

MATINEES WEDNESDAY AND SATURDAY.

WEEK JAN. 11-MR. HENRY E. DIXEY.

.....Proprietor and Manager.

MONDAY, JANUARY 4,

THE POWERFUL ROMANTIC ACTORS,

Matinees Wednesday and Saturday.

FORGIVEN

A DRAMA OF INTENSE HUMAN INTEREST.

By CLAY GREENE, Esq. PRICES: 15c, 25c, 50c, 75c, \$1.00.

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