

WEEKLY EXPOSITOR.

DEL. T. SUTTON, PUBLISHER.

BROCKWAY CENTER, - MICH.

MICHIGAN.

John T. Durand, the oldest resident of Jackson, died recently, aged 75 years. He leaves a wife, one son named Charles and a daughter, Mrs. Mary Green.

The Grand Rapids & Indiana railroad company have decided to build a new freight house at Kalamazoo.

Mrs. Garfield, mother of the late president, and her daughter, Mrs. M. G. Larabee, and Master Harry Garfield, arrived in Grand Rapids from Ohio, and went to Jamestown to visit relatives.

Four prisoners overpowered the turnkey of the Bay county jail recently. They were Dan Connors and Theo. Perry, alleged thieves; Ed Johnson, in for false pretenses; and Geo. Graham, a counterfeiter.

In the case of Johnnie Grant, the boy who was shot through the brain while sitting in a neighbor's doorway at Bay City a few days ago, the coroner's jury attribute his death to Mrs. R. Ward. The theory is that she shot at him, supposing he was a lad named Goelin, as he was a feud between the Goelins and Birds.

Ira A. Brown, aged 21 years, was instantly killed recently, at Hall's camp, north of Farwell, by a rolling log. His neck was broken and body badly crushed. His parents reside at Farwell and his funeral was held there.

Hon. Byron Ballou, mayor of Cadillac, has resigned that office.

Wm. Johnson, a young man late of East Saginaw, was killed by the cars near Vestaburg, yesterday.

Rev. Levi Tarr, pastor of the M. E. church at Portland, is about to leave for Spokane Falls, Wyoming territory, to assume the presidency of a college at that place.

Wm. Fennell, who mysteriously disappeared from Bay City a few weeks ago, has turned up at Duluth. Still this does not account for the papers, etc., found in the woods near Toledo.

Judge Coleman, of Indianapolis, while playing tennis at Grand Haven laid aside his coat and a lad named Thomas Mann stole his pocket book containing \$1,500 worth of notes, etc. The youth has been sent to a reform school.

A. B. Van Buren, aged 55, sawyer in Mather's mill at Petersburg, was killed by a breakage of the machinery recently. He leaves a family.

Among the bequests of the late Jessie Hoyt is suitable grounds and \$100,000 for the erection and maintenance of a public library and reading room to East Saginaw, and also to the city for a public park a waste containing some twenty acres on Washington avenue.

J. C. Clark, the cashier at the Detroit, Lansing & Northern depot, Big Rapids, came near losing \$50, the money having been removed from the safe by a young man who afterwards replaced the amount, although he denies that he intended to steal it.

Elizabeth Davis, of Cadillac, mother of Frank Davis, aged 52 years, was thrown from the track by express No. 5. She will recover.

Mrs. Garfield has built a new house near Byron, Kent Co., for Thomas Garfield, brother of the late president.

As John Laird was going to work in Saginaw City not long since he was attacked by Wm. Watson and John Garrigan, who struck and choked him, etc. When Laird got away from them he procured a revolver and again started forth. The two came at him again, when Laird struck Watson with the butt of the revolver, which was discharged by the concussion, the ball entering Watson's arm. It was later found that Laird's blow had fractured Watson's skull, which was successfully treated, and it is thought he will recover. Sympathy is with Laird, who is a peaceable young man. He was not arrested, but has himself sworn out an assault and battery warrant against Watson and Garrigan.

Street cars will probably be running in Battle Creek before winter.

Unpaid notes given in aid of the Pentecostal car work's bonus in Adrian have been placed in the hands of Messrs. Bean and Underwood, and delinquents will be called upon in a few days.

Mrs. Wm. B. Hawkins, a pioneer of '86, died at Paw Paw last week.

It is thought the west side cars, Grand Rapids, will run to the Union depot the early part of this week.

A Muskegon man named Hendrix has been "borrowing" sums of money at Grand Rapids, and skipping.

The convention of Michigan sheriffs at Grand Rapids last week wound up with an excursion to Potoski.

No new arrivals at Jackson prison in three weeks. Only 644 state boarders there, now the smallest number in 15 years.

G. A. Preston, who has been unable to walk or do business since injured by a fall on a bad Charlotte sidewalk a year ago, has had that city in the United States court at Grand Rapids for \$5,000 damages.

Blinn & Weidman's mill at Deerfield, Lenawee Co., destroyed by fire last week, makes the third institution of the kind burned on the same site. The opportune rainfall saved adjoining property. All the stock of hogs, staves, headings, etc., burned. Insured; loss not known.

Stephen Vandresser, night foreman in Emlaw's mill, Grand Haven, fell against a running sun and mangled his right arm in such a manner that it is feared it may be necessary to amputate it.

Nelson Lamare packed 47,000 shingles in ten hours at Ontonagon recently.

Mrs. Mary Rivard, accused of killing Johnnie Grant, Bay City, has been honorably discharged.

Reunion of Mexican veterans of Michigan at Grand Rapids, September 25. Isaac H. Parrish, Grand Rapids, will be the orator.

Look out for frauds who promise to secure old soldiers 160 acres of land without

their having to live on it, for a fee of \$10. No change in homestead law.

The survey of the Wisconsin & Michigan railway is now said to be completed to the state line, where it will connect with the Ontonagon & Brule River railway.

Some Michigan farmers are signing "orders" for carpets very cheap, and the next day find their notes in bank for payment.

Mrs. Decker's house burned at Grand Rapids; loss \$700. The fire also damaged E. Meinard's grocery \$600.

Two Lansing sisters, both married, have been arrested for robbing a Grand Ledger man of \$300.

Tecumseh is alive on the F. & M. railroad. Notes given one year ago have to be renewed, and \$5,900 have already been secured, while the committee are still vigorously at work.

Pinneus Pearl, 90 years old, 50 years a resident of Barton county, died recently.

Button Broe, are buying 500 sheep in Genesee county for their ranch in Kansas. New Greenville is to have a new depot right away.

C. E. Ring, South Saginaw, has invented a strange device for holding logs while being cut.

A Cincinnati boot and shoe factory wants to locate at Flint.

Alpena mills will cut 175,000,000 feet of lumber this season.

Dr. W. H. Palmer, of Jackson supervisor of the eighth ward and a prominent greenbacker, has been arrested for embezzlement in converting to his own use \$50 of funds received at the picnic held for the benefit of the blind policeman, Officer Schweimer, on the 11th of July. He is held to bail in \$800.

The Buffalo Courier says: "Concerning the report that the New York, Chicago & St. Louis railroad, contemplated a Michigan branch, President Cummings says that contracts have already been let for a branch of 150 miles in length from Toledo to Allegan, Mich., connecting at the latter point with the Chicago & Western Michigan road, and giving access to Grand Haven and other Michigan lake ports. When completed it will be operated in connection with the Ohio Central, affording an outlet northward for Ohio coal, and southwest for Michigan lumber. The purpose of the syndicate is to build next year from Marshall, Mich., to junction with the Detroit, Marquette & Mackinaw road in the iron ore regions. Cummings says money for the first 15 miles has been already subscribed.

East River Bridge. Marked progress has been made toward the completion of the East River bridge. All of the floor beams have been placed, the foot bridges removed, the approaches have been brought almost to completion, and the elevated superstructure has been commenced and is now progressing, having reached a distance of ninety to one hundred feet each way from each tower, and the overhead stays are correspondingly advanced.

The bridge is designed to carry three kinds of load: the outside roadways being for wagon traffic, the middle one for a promenade, with the railway tracks on either side of it, and between it and the roadways.

The approach on the Brooklyn side differs from the New York approach in having iron street bridges at all of the streets. The New York approach has but one iron street bridge, and this is located at Franklin Square. All the other streets are spanned by massive arches of masonry.

The total weight of metal in this bridge is round numbers is one thousand tons. Of this 1,658,279 pounds are wrought iron, 82,092 pounds steel, 27,440 pounds steel pins, 146,891 pounds cast iron. The width of the bridge over all, 88 feet.

Each cable contains 5,296 parallel (not twisted) galvanized steel, oil coated wires, closely wrapped to a solid cylinder, 15 1/2 inches in diameter. Total height of towers above high water, 278 feet.

Clear height of bridge in center of river span above high water, 135 feet. The depots at the ends of the bridge are to be elaborate structures of glass and iron. The one on the New York side is to be 260 feet long and 59 feet wide, with a platform on the bridge end 70 feet long.

The cars will pass through the depot, and are shifted from one track to the other on switches between the depot and end of the approach.—Sci. Am.

The Wild Flowers of Montana. The wild flowers of Montana are as abundant as those of the Alps, and more varied. Choicest of them all, because most delicate and fragrant, is a white, star-shaped, wax-like blossom which grows very close to the ground, and the large golden stems of which give out an odor like mingled hyacinth and lily of the valley. The people call it the mountain lily. There is another lily, however, and a real one—yellow with purple stamens—that grows on high slopes in shaded places. The yellow flowering currant abounds on the lower levels, and the straws are often bordered with thickets of wild rose bushes. Dandelions abound, but do not open in full, rounded perfection. The common blue larkspur, however, is as well developed as in our eastern gardens, and the little yellow violet which in the states haunts the woods and copses is at home in Montana, alike in the moist valleys and upon the bleak, dry hill-sides. Small sunflowers are plentiful, the bluebell is equally abundant in valleys and on mountain ridges and in early June there blooms a unique flower called the shooting star, shaped like a shuttlecock. There are a dozen other pretty flowers, but I could not learn their names—among them a low-growing mass the clumps of which are starred over with delicate white or purple blooms.—E. V. Smalley.

The Mississippi River Commission is "taking notes."

NEWS OF THE WEEK.

WASHINGTON.

THE GOVERNMENT TO TAKE CHARGE.
Acting Secretary of the Treasury French received a telegram from the Governor of Texas, asking the government to take charge of the hospital and yellow fever patients at Brownsville. The Acting Secretary replied that Surgeon Murray of the Marine Hospital Service at Memphis, had been ordered to proceed at once to Brownsville via Galveston, and the Health Officer at Brownsville had been requested to communicate with him immediately upon his arrival. A revenue cutter will meet Murray at Galveston and convey him to Brownsville. Dr. Murray will at once take charge of all hospital and sanitary arrangements there.

A LETTER FROM LIENUT. HANBER.
The Navy Department is in receipt of a long communication from Lieut. Harber, U. S. N., dated Vicska, Siberia, June 11, giving in detail the story of his preparations to search for the Lena Delta. The news that De Long and party had been found dead had reached him. The main points of his narrative have been published.

INTERNATIONAL MAILS.
A general order has been issued from the Post office Department directing a daily exchange of international mails between St. Paul and Breckenridge, Minn., and the Canadian post-offices of Emerson and Winnipeg, Manitoba. The exchange is to commence September 1, and to include all international correspondence except book pockets from Canada for the United States.

TO BE A FREE DELIVERY OFFICE.
The postoffice department has made an order establishing the free delivery system at East Saginaw, Mich., after October 1st.

CLEANING UP.
Since the adjournment of Congress the Senate chamber and hall of the House of Representatives have been uncared for, preparatory to a general cleaning up. The only new work going on about the building is the inclosing of part of the space under the rotunda with a heavy brick wall. This space is to be divided into compartments in which will be stored the books belonging to the Congressional library, which have mildewed in the boxes in which they have been stored for want of air.

GARFIELD'S WASHINGTON RESIDENCE TO BE SOLD.

Mrs. Garfield has expressed a willingness to part with her late Washington residence, and it is quite likely the house will be purchased and used by the Ohio Republican Association.

REMOVED FOR CHEATING.
Assistant Postmaster General Hatton has removed E. Oakley, postmaster at West Fulton, N. Y., and appointed W. B. Fellows to the vacancy. Oakley was removed for cheating.

BECAUSE THE PRESIDENT SAID SO.
By order of the President, Acting Postmaster-General Hatton has removed Mrs. Anna E. Thompson as Postmaster of Memphis and appointed Jas. H. Smith.

NEWS NOTES.
A CABINET MEETING IN NEW YORK.
An informal meeting of the cabinet was held at President Arthur's house in New York on the 21st inst. All the members except Secretary Teller and Postmaster General Howe were present. There was no business transacted, and the session was more of a social one than otherwise. The cause of the meeting as explained by Secretary Folger and Attorney-General Brewster, was that as Secretaries Lincoln, Chandler and Folger and the President were in New York, Secretary Frelinghuysen in Newark, and Attorney-General Brewster at Long Branch, it was thought best to meet and inquire whether in either of the departments it required joint action. Nothing of this nature came before the meeting. Both Secretary Folger and the Attorney-General denied that changes in the heads of departments had been discussed.

VENNO'S PREDICTIONS.
Venno predicts a severe storm period on the lower lakes toward the end of the present month and early in September. He also predicts similar disturbances along the New Jersey coast, and southward to and beyond Charleston on the Atlantic coast.

A LONG STRIKE ENDED.
The operatives who have been on a strike at Cohoes, N. Y., for so long a time, have virtually admitted defeat by flocking to the gates of the mill for work. A full force will soon be at work.

DELAWARE DEMOCRATS.
The state convention has nominated Chas. C. Stockley for governor.

DISASTER IN A MINE.
The Empire coal mines, at Hopkinsville, Ky., caved in the other day, killing John McLoe and John Dunning, and fatally crushing a negro laborer.

A GRAND AFFAIR.
President Arthur, while in Newport, R. I., held a reception, said to be the grandest ever witnessed at that famous resort. Over 1,500 invitations were sent out. The guests included all the distinguished foreigners, American and American visitors. The President was supported on either hand by Gov. and Mrs. Morgan.

THE ANTI-LIQUEUR ELEMENT.
About 350 delegates met in Chicago August 23rd and formed the National Prohibition Convention.

THEIR PLATFORM.
Aside from the plank demanding prohibition of the liquor traffic, the National Prohibition Convention at Chicago engrafted in its platform a plank calling for the enfranchisement of women; also, one against polygamy, and one demanding the abolition of executive, judicial and legislative patronage; selection of all officers by the people, so far as practicable, and civil service reform in other appointments.

HONOR TO LONGFELLOW.
Sir Frederick Leighton, President of the Royal Academy at London, has written to Wm. Cox Bennett, LL. D., consenting to add his name to the list of those willing to promote the project of placing a bust of the poet Longfellow in Westminster Abbey if there be a precedent for such a step in connection with a foreign poet. Mr. Bennett, in reply, states he has no doubt about the admirability of the bust and says: "The Americans

are not foreigners to us, but one in blood, language and institutions, and share in common the glory of our achievements."

FLOODS.
Terrible rains have lately caused the Concho rivers in Texas to overflow their banks and flood the country. Hundreds of houses were swept away, causing thousands of dollars' worth of damage. The town of Ben Ficklin is all washed away, except the light-house. The court house and jail are a total loss and uninsured from loss by water. The people of San Angeles tried to render assistance, but the raging water prevented. It is impossible to cross the North Concho. The country presents a spectacle which beggars description. Houses, horses, cattle and clothing are piled up in heaps at every step. The bodies of Mrs. Metcalf and daughter are the only ones found.

CHOLERA.
The dreadful Asiatic cholera is doing terrible work in the Celestial empire. Four thousand natives died in the single province of Philippine within a short time. The disease is said to be on the decline.

THE CATTLE DISEASE IN NEW YORK.
The Texan cattle plague continues to spread at Auburn, New York. One of the cattle afflicted with the fever was slaughtered and the spleen taken out. It was found to be rotten, weighing five pounds and three ounces. The spleen of one of the healthy cattle killed weighed two pounds and one ounce. G. V. Cornell has been notified that stringent measures will be necessary to stamp out the disease.

A PRIZE-FIGHTING GAME ARRANGED.
Articles of agreement have been signed by James Elliot and Wm. E. Harding for Pug Wilson to fight November 28, for \$2,500 a side, within 100 miles of New Orleans.

FIRE.
The four story building in Philadelphia occupied by Qun's planing mill, offices and box factory and McCarthy's marble works was destroyed by fire. Loss \$19,000; partly insured.

IN FATAL CLAWS.
Capt. James Anderson, of the steamer J. R. Benson, met a horrible death at a lumber camp on the Sargent river, Lake Superior. A heavy iron grip used in loading timber became loosened and in flying past Capt. Anderson, fastened itself on his head, literally cleaving his head from his body. Capt. Anderson was well known in every port on the chain of lakes. The J. R. Benson was owned by S. Neelson, of St. Catharines, Ont., and has been engaged in the Canadian lumber trade.

A MANIAC'S DEED.
An insane woman named Mrs. Chapman assaulted her sleeping husband, at Worthington, Ind., with a razor and cut his throat from ear to ear, severing the windpipe. She was committed to an asylum.

THE PRICE OF NEGLIGENCE.
The excursion steamer Thomas Clyde was seized by the United States officials at Philadelphia for carrying 631 passenger over the number allowed by law. The penalty is a fine of \$5,000.

CRIME.
ARRESTED.
Red Cloud, who wanted to go on the war-path, has been arrested by the government.

THROWN FROM THE TRACK.
As the fast White Mountain train was running through a dark hollow on the Boston, Concord & Montreal Road, near Woodsville, recently, and was rounding a curve on a twenty-foot embankment, the engineer, George Pebles, discovered an obstruction on the track, reversed the engine and applied the brakes, but the train struck the obstruction—a chain, placed there by design—and plunged down the bank. By a miracle nobody was seriously, though several were severely hurt, and the cars and locomotive badly damaged. Robbery was the evident purpose of the wreckers.

AN OFFICER KILLED.
In a desperate fight at Fayetteville, Ark., between a deputy sheriff's posse and a band of horse thieves, Webb, one of the sheriff's men was killed and three of the robbers escaped.

COOLIDGE'S STAND DEFEAT.
A special from Shelbyville, Ky., says: Alesk Julian, brother of Ira Julian, committed suicide on the Fair grounds a couple of days ago by shooting himself through the brain. He was a candidate for Sheriff in the late election and his defeat is believed to be the cause.

SPRAGUE'S FOOLISHNESS.
It is evident that the ruined ex-governor of Rhode Island is soft. Some time ago, it will be remembered, Trustee Chaffee sold the Canonchet estate to Mrs. F. D. Moulton. Mr. Chaffee repaired to the premises the other day, in company with the purchaser, to deliver possession of the property, but was met by a heavily armed lot of men and repulsed. The entrance, lawns and roof were heavily guarded, while an anomalous flag was flying on the house. Mr. Chaffee held an interview with Sprague's boy, who said entrance would be resisted by rifles, Gatling guns, etc., and concluded to return to the city and call upon the state of Rhode Island to uphold the law's dignity.

A TRIPLE TRAGEDY.
A special from Alma, Ark., says: At Mount-ineburg Tom Simcoe, David Pope and Frank Lane got into a quarrel when playing cards. Lane drew a knife and cut Pope in the abdomen, disemboweling him, and then fatally stabbed Simcoe in the breast. Pope lived one hour. Simcoe is still alive. This morning at last accounts Lane was in the hands of a mob, and is believed to have been already lynched.

FOREIGN AFFAIRS.
TROOPS REMOVED.
The majority of British troops have been removed to Ismailia, on the Suez canal, and future war news will become more interesting than ever.

THE FIGHT AT CHALOUT.
A Suez correspondent writes: "I have just returned from Chalout, where I witnessed the conclusion of the fight in which 250 of our men, including Highlanders, blue jackets and marines, brilliantly defeated twice their number. The fight lasted from 11 o'clock a. m. until nearly 5 o'clock in the afternoon. The firing of the Highlanders was remarkable for coarseness and steadiness. The Gatling in the tops of the gunboats worked with admirable precision and did much execution among

the enemy, who advanced to within a hundred yards of the bank of the canal. The success was all the more brilliant owing to the extremely difficult nature of the country, which abounded with low ridges and water courses. Lieut. Lang, of the Highlanders, gallantly crossed a fresh water canal in the face of a hot fire, and brought back a "boat thus enabling a company of each of the Highlanders and marines to cross and take the enemy on the right flank. The enemy fought bravely. Their commander was killed."

A RESOLUTION OF SYMPATHY.
The Corporation of Dublin has passed a resolution of sympathy with Mr. Gray. The resolution describes Gray's imprisonment as arbitrary and oppressive, and expresses the opinion that proceedings for contempt should be regulated by statute. The Conservative members of the Corporation were absent from the meeting which passed the resolution.

DE LESSEPS AND ARABI.
The noted French engineer was at Ismailia a few days ago, and dined with Arab Pasha.

SPENCER AND GRAY.
Lord Spencer intends to examine the affidavits submitted to him in the Gray imprisonment case, in order to learn if sufficient grounds exist for interfering with the due course of law.

ENGLISH AUTHORITY TO BE OBTAINED.
The Khedive of Egypt has issued a proclamation instructing the authorities to implicitly obey Gen. Wolsley. The latter, says the paper, is authorized to restore order in Egypt.

A CUTE MOVE.
A thorough reconnaissance reveals the fact that Arabi has abandoned every position between Suez and Ismailia, and his men are in full retreat in the direction of Tel-el-Kafer, at which point he will probably concentrate his forces and make the first stand of any moment in his efforts to repel the British invasion. Meanwhile he has succeeded in cutting the canal between Chibin Kuni and Mahallet, flooding the intervening country. This movement on the part of Arabi is regarded as very strategic, and was evidently resorted to with the view of impeding the advance of the British from the direction of the Mediterranean. He has gathered 40,000 fellahs at Cairo and forced them to work on the embankments at that place.

TRUIMPH OF THE MODERATE PARTY.
General confidence is expressed in diplomatic circles and by the press that the moderate party has triumphed and that a military convention will be concluded. Lord Dufferin's essential demands are already conceded and the question of form only awaits decision.

VICIOUS WOMEN.
Over 1000 women are on trial at Gross-Belakerek, Hungary, charged with poisoning their husbands. The guilt of thirty-five of the women has been proven.

OUR EX-VICE PRESIDENT.
Hannibal Hamlin is at Gibraltar and will visit Tangier.

AID FOR ARABI.
Some of the principal Arab merchants of Port Said and Damietta have contributed money towards the cause of the rebels. Five hundred horses have been sent to them from Damietta. Wild stories are still circulated among the natives of Arabi Pasha's great successes.

A POINT SETTLED.
Lord Dufferin informed Said Pasha and Assym Pasha at Constantinople that his government, yielding to the objections of the Sultan, were prepared to waive the demand that any movement of Turkish troops must be first approved by the British. Lord Dufferin therefore proposed that the English and Turkish commanders should first deliberate together, and if the English General should not approve the proposed operations, the Turkish commander would still be at liberty to carry them out. Said Pasha then urged that the landing of Turkish troops in Alexandria was indispensable for the future combined action of the two armies. He suggested that the Turks would evacuate Alexandria, which the English would evacuate, their base of operations, while the British base should be Ismailia. As far as regards military affairs this is the only point of difference between Lord Dufferin and the Porte.

NO HELP FOR GRAY.
The lord lieutenant of Ireland has declined not to interfere with Gray's sentence.

A STRIKE.
Three thousand ship joiners have struck at Glasgow.

THE KILLED AND WOUNDED.
Says a dispatch from Alexandria, August 27: The losses on both sides in Thursday's fight are said to have been heavy. The Egyptian loss in killed and wounded reaches 475. During the battle Gen. Wolsley was conspicuous by his activity, frequently being seen in the most exposed positions along the line. A shell fired by the Egyptians passed over his head, falling within a rod of the spot where he was riding, and killing a horse near his own.

Elephants and Flowers.
The more I think about elephants, ants, the more wonderful they seem to be. The great, clumsy creatures are so very knowing, so very loving, and so like human beings in many of their qualities. They know their power well, and they also know just when not to use it. Deacon Green tells me that keepers and trainers of elephants often lie down on the ground and let the huge fellows step right over them, and that they feel perfectly safe in doing so, because they know the elephants will pick their way carefully over the prostrate forms, never so much as touching them, still less treading on them. Yet the mighty creatures can brush a man out of existence as easily as a man can brush away a fly. And what delicate taste they have—delightful, I'm told, with strawberries, gumdrops, or any little dainty of that kind! They are fond of bright colors, too, and travelers tell wonderful tales of seeing elephants gather flowers with the greatest care, and smell them, apparently with the keenest pleasure. It is true that they eat the same flowers afterward—but dear me! I've seen girls do the same thing! Many a time I've watched a little lady pluck a wild rose, look at it a moment, sigh, "how lovely!" then open her pretty lips and swallow the petals one by one. Why shouldn't an elephant?

THE MARINE ENGINE OF THE FUTURE.
One need only reason from current events and contemporary evidence to deduce that the marine engine is rapidly undergoing a change in character which is so radical as to almost make it another machine. The direction of this change is chiefly in the velocities at which it can be driven, which is only another way of saying that it is found that it can be made vastly more powerful by increasing its speed. In itself this is not a discovery, but the possibilities of speed in the pistons of marine engines have only lately been recognized. Engineers naturally feared, in years past, to set large masses of iron in motion at high speeds at sea, and not until the screw came in was anything attempted in this direction. Now there is scarcely any limit to the speeds that may be expected.

The mere fact that a piston 75 inches in diameter can be worked at 114.7 pounds absolute, and make upward of 700 feet per minute, day in and day out, under all ordinary circumstances, is a fact that speaks with more force than any combination of words or arguments can show, and this is done daily.

The marine engine of the future will doubtless be a very much smaller machine than the present one, speaking of its size in feet and inches. Higher pressure in the cylinder and higher velocities in the crank shaft will take the place of lower pressures, larger cylinders and low velocities. This will be attained by better workmanship and a better general knowledge of the conditions to be overcome.

When boiler making attains to the same perfection as engine making, we may laugh at pressures that now seem impossible and improbable.—Mechanical Engineer.

Mackinaw Island.
This island was settled by two pious old monks of the Catholic church, by name, Father Jacques Marquette and Father Claudius Dablon, in 1608. While the French and English held possession of this territory this island was a part of Canada, but became part of the territory of Virginia at the close of the Revolutionary war, although it was not formally occupied by the United States until 1796. Virginia had in the meantime ceded to the United States all of her territory northwest of the Ohio river, and Congress by the historical ordinance of 1787, passed July 13 of that year, provided for its government as the Northwest territory. By act of January, 1805, the territory of Michigan was set off from the Indian territory, the seat of government being established at Detroit. By this act the southern boundary line of Michigan was established by a line struck due east from the southerly bend or extreme of Lake Michigan until it intersects Lake Erie and the western boundary through Lake Michigan and thence due north to the northern boundary of the United States. This includes on the south a strip of territory now forming a portion of the state of Ohio, a land since noted for its hot-house growth of officeholders. This does not include the northern or upper peninsula of the now state of Michigan. The upper peninsula contains, according to Lieut. D. H. Kelton's History of Mackinac, 14,451,451 acres, and Mackinac island proper, 2,221 acres.

The island is hilly and rough for the most part, and the banks along the shore in places are almost 300 feet in height.

A Curious Torpedo.
The latest offspring of Australian destructive ingenuity promises to be a distinct success. Its motive power is not compressed air, neither is it contained in the body of the torpedo. To propel the weapon the water at a speed of from 15 knots to 20 knots an hour for 1,000 yards, a separate engine, or at least a special connection with an existing one, is necessary. This engine drives two drums, about 3 feet in diameter, with a velocity at their peripheries of 100 feet per second. Their duty is to wind in two fine steel wires, No. 18 gauge, of the same sort as that used in the deep sea sounding apparatus of Sir William Thomson. The rapid uncoiling of these wires from two small corresponding reels in the belly of the fish imparts to them, as may readily be conceived, an extremely high velocity. The reels are connected with the shafts of the two propellers which drive the torpedo through the water. The propellers work, as has long been known to be necessary to insure straight running, in opposite directions and both in one line, the shaft of one being hollow and containing the shaft of the other. Now, at first sight it would seem as if hauling a torpedo backward by two wires was a sufficiently curious way of speeding it "full speed ahead," but it is found in practice that the amount of "drag" is so small, as compared with the power utilized in spinning the reels that give motion to the propellers, that it may be left out of calculation altogether. Of course it is at once seen that this method of propulsion does away with the necessity for air-compressing engines and reservoirs pressed to 1,500 lb. on the square inch, which, however carefully constructed, must always involve a certain element of danger, however small. Neither are any delicate little engines, controlled and stopped by complicated, though exquisite mechanism, required. But these advantages, great as they may be, are as naught compared with the power possessed by the user of the Brennan torpedo to guide and govern its course and movements.

Many experiments have been recently made at Woolwich, and more especially at Gatham, and there seems little doubt, as far as can be seen at present, that the new torpedo will prove most valuable for the defense of harbors.—Standard.