

## UNITED STATES ARMY AND NAVY IN MANEUVERS TO DEMONSTRATE EFFICIENCY

The scene of the army and navy exercises this year was Chesapeake bay, and, in a measure, the movement was to determine the value of the fortifications in preventing a foreign foe from making an attack upon Washington from the sea.

### Officers in Command.

Rear Admiral F. W. Dickins was in command of the invading fleet, and the defensive works were commanded by Major General James F. Wade, commanding the department of the Atlantic, who had as his chief of staff Brigadier General Frederick D. Grant.

All the elements of actual warfare were not present; for, among other things lacking was a defensive fleet, which, in the event of war, especially if it were believed Washington was to be directly menaced, would be floating in the waters of Hampton Roads. In actual war this fleet would be considered advisable to protect the large government navy yard at Norfolk, if for no other reason.

Rear Admiral Dickins had in his command a torpedo boat flotilla, under Commander M. Johnston; size third-class battleships, two cruisers and three converted yachts.

### Nearly 10,000 Man Forts.

The fortifications in the three artillery districts, which comprise the defenses of Washington and Baltimore, were manned by nearly 10,000 men, or more than half those in the fleet opposed to them. Seven forts were engaged in the war game: Fort Monroe, in the Chesapeake district, commanded by Lieut.-Col. Ramsay D. Potts; Fort Washington and Fort Hunt, in the Potomac district, commanded by Col. Benjamin K. Roberts, and Forts Howard, Smallwood, Carroll and Armistead in the Baltimore dis-

trict, is a government wireless telegraph station, which also had its quiet part in the exercises. This agency, which was in communication with the forts, naturally endeavored to keep the army informed of the approach of the attacking fleet, and also attempted to "overhear" any wireless messages passing between the flagship and the other vessels in the fleet. Likewise the fleet tried to "tap" the



Gen. James F. Wade.

wireless messages passing between the commanders of the artillery districts.

### Fort Monroe Chief Point.

Fort Monroe, at the mouth of the James river, which commands the entrance to the Chesapeake, was the most critical point in the war game. Although Major General Wade's headquarters were movable, it was at Fort Monroe where the headquarters flag first flew. The fortress is a very different defense from what it was even so late as the Spanish war. Very considerable improvements have been made to it, and its battery of great

could not in any even risk grounding in order to pass the upper forts.

### Defense of the Cities.

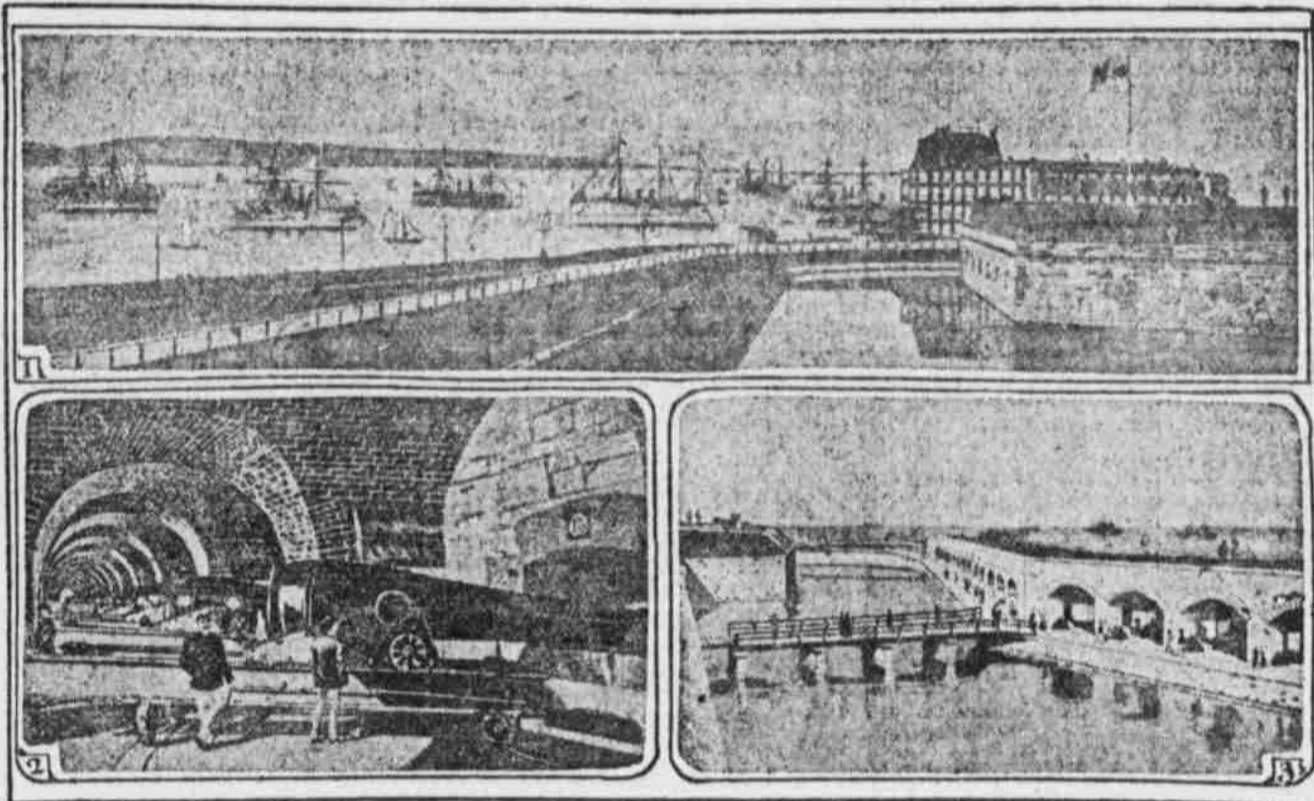
Washington is about 175 miles from Fort Monroe, and Baltimore is about 160 miles from the entrance to the Chesapeake. Defending Washington are Forts Washington and Hunt, on either side of the Potomac, about twelve miles below the national capital. Baltimore is defended by Fort Carroll, which is on a small island lying in the Patuxent river, about seven miles below the city, and on the west bank of the river, nearly opposite, lies Fort Smallwood. About four miles below them are Fort Howard, on North Point, and Fort Armistead, nearly opposite, both guarding the entrance to the river from the bay.

### The Game of War.

Only the destroyers and smaller boats attempted to pass these fortifications, and choose the light for the work. It has been the usual belief among those who have made the waging of war their specialty that ships can rarely be pitted against fortifications with success. And it has been found in practice in recent wars that the damage done on either side during such an engagement is very small indeed, although a chance shot from a fort would work more damage to a ship it happened to hit squarely than any broadside is likely to effect upon a modern fortress.

The night attacks were to ascertain the efficiency of the searchlights of the fortifications and also to give the navy exercise in constructively making these lights dark. Actual experience has demonstrated that it is most difficult to hit a searchlight, and incidentally, most difficult to navigate a ship on which a searchlight has been turned, the effect of the light being to

FORTRESS MONROE, OFF WHICH PART OF THE WAR GAME MANEUVERS WERE CONDUCTED.



(1) View of harbor. (2) Water battery in Fortress Monroe. (3) View of fort and moat.

trict, under the command of Col. Frank Throp. Artillerymen were collected from the ports all along the Atlantic coast, and augmented by few, if any, state militia.

### Preparations for Resistance.

In the fortifications the greatest preparations for the event were made, but for the most part the improvements made and the equipment installed are intended to be permanent. Within the last few months \$125,000 has been expended in the purchase and installation of the most complete telephone equipment which could be obtained. In time similar equipment will be in place in every artillery district on the coast to carry out the approved system of fire control. This is a most elaborate scheme of attack on an approaching enemy which cannot be seen by the gunners anywhere.

It is possible by this arrangement to direct the fire with effect, not only as to the time of discharging a gun, but in respect to range and direction of the shell. This mysterious factor is made possible by means of numerous instruments, miles of land wire and cable, and a comprehensive secret code.

### Signal Service Complete.

The new portable searchlight for fortifications was another important feature which was tested under practical conditions of service. It was discovered in the maneuvers of two years ago that the gunfire of ships was directed with what would have been telling effect if the shots were real, on account of the stability of the searchlights.

In the war game these lights did not remain in one place. They were mounted on wheels, and in that way their location was changed, in addition to which their removal prevented their destruction by a shot from the fleet. At Cape Hatteras, 11.5 miles south from the entrance to the Ches-

apeake, is a government wireless telegraph station, which also had its quiet part in the exercises. This agency, which was in communication with the forts, naturally endeavored to keep the army informed of the approach of the attacking fleet, and also attempted to "overhear" any wireless messages passing between the flagship and the other vessels in the fleet. Likewise the fleet tried to "tap" the

disappearing guns is believed to be invulnerable. The fleet did not attempt to run past Fort Monroe in the day time, although the deepest part of the channel is almost fourteen miles distant. On the part of the artillery officers it is claimed that even at night there was little hope for the fleet to pass successfully by the fortification. There are frequent heavy fogs in this neighborhood, however, and had the fleet been favored with such an ally, the naval men believed that they could pass in without the fort being aware of it. The extensive mine fields of the military at this point, however, would



Admiral Francis W. Dickins.

be expected to destroy a fleet hazing the attempt.

For the fleet to reach Washington, or even Baltimore, was hardly practicable, owing to the shallowness of the channels of the Potomac and the Patuxent. Consequently the main fleet, under Rear Admiral Dickins

blinded the navigators as well as the gunners.

To render this exercise the more effective, the ships of the squadron were painted four colors: The Texas, Newark, Atlanta, Terror, Puritan, Hornet, Siren and Silvia, white; the Florida, Arkansas, Nevada, war color; the Hartford, black, and the torpedo boat destroyers, dark green.

The object of each of several forms of attack by the navy was to demonstrate the strength or weakness of some particular phase of the defense. The results were known only at the conclusion of the exercises, and then known only to the proper authorities. This precaution was emphasized as important, that the character and strength of the various defenses might not become known to possible enemies of the country.

### Oldest Judge in Active Service.

Judge Charles Field of Athol, Mass., is ninety years old. He is in active service, holding court in the first district court of northern Worcester, at both Athol and Gardner, several days each week. While, naturally, his health is not quite as robust as ten years ago, he is still vigorous enough to administer justice in the two courts. Judge Field is said to be the oldest judge in the country in active judicial service.

### Keeps Important State Records.

Gov. Warfield of Maryland has had made a large scrapbook of newspaper clippings on the death of Lloyd Lowndes of his state, to be filed in the state archives at Annapolis. He says: "I believe it is the first time that any history of the death of a governor of Maryland has ever been compiled and I propose to take care of predecessors and trust that my example may be followed by my successors."

### Peculiar Case of Smuggling.

A smuggling case which is probably unique, even in the strange annals of contraband, has just been before the customs court of Marseilles. On board the French steamer Touraine there was found a large quantity of opium smuggled, not by any individual in particular, but by the whole ship's company, and the strange spectacle was witnessed of the heavy fine of £2,000 being levied on all, every man in the vessel being mulcted in his proportion, assessed according to wages.

### CAPRICES OF RICH WOMEN.

Many of New York's Matrons Have Strange Fads and Hobbies.

Philosophers who have found it interesting to study out the etiology of feminine fancies give up in despair when they attempt to find a reason for the strange caprice of the wealthy English woman at the Waldorf who insists on having her dog's hide dyed to match the color of her gown, or to figure out why Mrs. Mackay will insist on buying three-cent postage stamps because they are of the heliotype shade which matches her stationery, or why Mrs. Howard Gould, with her wealthy husband, insists on breeding squabs and broilers for market, and is as close in bargaining as Mr. Gould is in his business transactions, for everybody knows that he will pursue a nickel until the milling melts, says the gossip society writer of the New York Press. Mrs. Gould's chicken and pigeon establishment at Fort Washington is a model of its kind. She does not conduct it on sentimental lines, but purely as a business, and many a man about town who has eaten a broiled squab topped off with a cold bottle of the Waldorf-Astoria has had no idea that the bird came from Mrs. Gould's farm and was bought from her by "Mr. Oscar," as the hotel folks speak in reverent tones of the chief of the food supply department. Mrs. Gould's masterful ways, however, are not confined to chicks and young pigeons. She carries a master's certificate as the commander of a yacht, and when she steps on board every man jack knows who is captain.

### POTALA: THE SACRED PALACE.

Beautiful Spot Photographed for the First Time.

Potala, or the sacred palace of the dalai lama, the high priest of the Tibetans, was photographed for the first time when the members of the British Tibetan expedition reached Lhasa, the sacred forbidden city in the center of Tibet, says the Metropolitan Magazine. Col. Younghusband, who was in charge of the expedition, would permit no attempt by the correspondents to violate the sanctity of the various sacred buildings, but splendid views of the exterior were obtained, and the world is richer by authentic descriptions of this wonderful palace, which is described in the dispatch of the London Times correspondent. Over a city set as a jewel amid green gardens, through which crystal streams flowed, towered the giant Potala, rising almost from the ground in gigantic stretches of white masonry, pierced with interminable rows of windows, and scaled by great red-edged, zig-zag stairways twenty feet wide. Above these a white mass ascended at either end in the shape of a heavily terraced palace, enclosing a maroon mass, the main building. Above this again were golden roofs of a Chinese pattern, the whole structure 430 feet high and between 800 and 900 feet long, completely dominating the City of Lhasa, which was separated from the palace by wide stretches of turf and a beautiful plantation full of forest trees.

### Erudition.

A. J. Drexel Biddle, of Philadelphia, was on the Riviera in the spring. At the Nice races he described America to a group of Russians.

"Your Boston," one of the Russians said, "she is called Hub sometimes, da?"

Mr. Drexel Biddle laughed good humoredly.

"Yes, that is right," he said. "The Hub of the Universe. That is what we sometimes call Boston."

"Da," said the Russian. "You call her Hub for that intelligence, great learning, there shall prevail. Yes? Da?"

"Yes, da," said Mr. Drexel Biddle. "Every inhabitant of Boston is most liberally educated."

"Exemplify," said the Russian eagerly. "The proofs. Show, if you can, proofs."

"The American thought a moment. 'Well, here is one proof,' he said. 'A young man in a Boston restaurant ordered a sandwich. The sandwich was brought promptly to him, but it contained no meat. He called the waiter over.'

'Look here, waiter,' he said. 'There is no meat in the sandwich.'

'The waiter, elevating his brows, said:

'Then why call it a sandwich, sir? With a minimum of erudition one should be able to avoid a rhetorical solecism so cacophonously glaring.'—San Antonio Express.

### Popular American Diplomat.

John Rigley Carter, who succeeds Henry White as first secretary of the American embassy in London, is popular in the British metropolis. T. P. O'Connor says that Mr. Carter's personality "is strong enough to have retained his delightful Virginian accent. He is a strikingly handsome man; tall, with black hair, dark eyes and brilliant white teeth. He is a good conversationalist—witty himself and highly appreciative of the wit of other people."

### Poor.

O'er all these grand and spacious halls, From dome above to marble sill, The somberness of silence falls, And all is still.

No baby fingers beat tattoo Upon the polished window panes To greet the wayfarer below Here silence reigns.

No madcap group comes rushing through The doorway with a shout of joy, No loving maiden fond and true, No roguish boy.

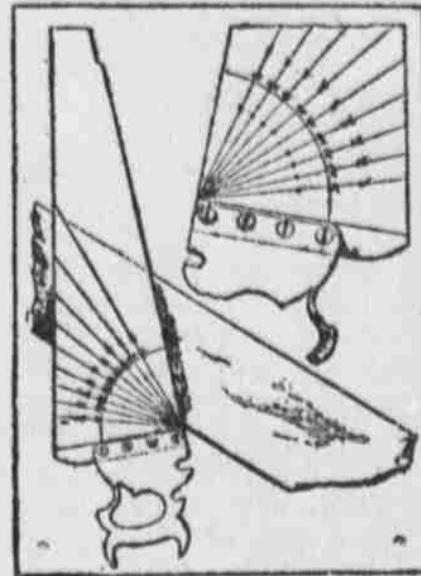
Alone they sit at close of day, A pair—ah! gold is their gair, They know no touch of poverty— But they are poor.

—Horace Seymour Keller.



### Markings on the Saw.

An invention pertaining to compound tools of the saw type has for its object a design as simple and efficient as the ordinary saw and almost, if not quite, as cheap, and provides the amount of rise per foot of run of horizontal means by which the various angular cuts resorted to in carpentry may be expeditiously and easily found and marked. The blade is similar in type to the ordinary handsaw, except that it must have a straight back and carries a number of inscribed lines to mark different angles, such as 15 de-



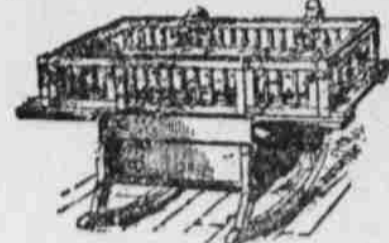
grees, 22½ degrees, 30 degrees, 45 degrees, 60 degrees, etc. Other correlated information, such as the amount of rise per foot of run of horizontal measurement for any of the angles within the scope of the saw is added. These marks considerably increase the sphere of the tool and render it unnecessary to employ the usual miter when an angular cut is to be found and marked, without in any way rendering the tool cumbersome or interfering with its ordinary use. Moreover the improvement does not add appreciably to its cost.

### Painted Paper for Steel.

As a result of ten years' experimenting on the durability of paints an eastern railroad has now introduced a system of protecting smooth steel surfaces in its stations with painted paper. Of all the paints tried none was found which could be relied upon to protect a clean steel surface more than eight months under the extremely severe conditions of the test. Under the new system the metal is cleaned in the ordinary way and then coated with a single coat of a sticky substance. Paraffined paper is next pasted over this and finally painted any color desired. Holes are cut in the paper for the rivet heads to pass through, the heads being then covered with caps of paraffined paper. The cost is but little more than that for applying two coats of litharge in boiled linseed oil directly to the metal, since the work is all done at one setting of the scaffolding, and the result appears to be permanent, while the painted bars scale off under the conditions of the test in a few months.

### Rocking Chair Cradle.

Every mother gives the baby preference over everything else, and she will invariably make every sacrifice she can to add to its comfort and ease. A baby takes a great deal of care and watching, and this always falls on the mother in addition to the regular household duties. If she puts it to sleep upstairs in the cradle, it means a run up and down steps to attend to it and her work also. A New York man has devised a convertible



### Used as a Cradle.

rocking chair and cradle, an illustration of which is shown here, and it is so constructed that it can be placed in the dining room, where it could be used for either purpose. If it is desired to put the baby to sleep at any time, it can be converted into a cradle and placed right under the watchful eye of its mother in the dining room, but when not so used it can be changed again to a rocking chair and its appearance will not look out of place as a cradle would. It is provided with the necessary cushions for both purposes, the rockers of the chair serving as the rockers of the cradle.

Barnet Smith of New York City is the patentee.

### Aluminium Detects Mercury.

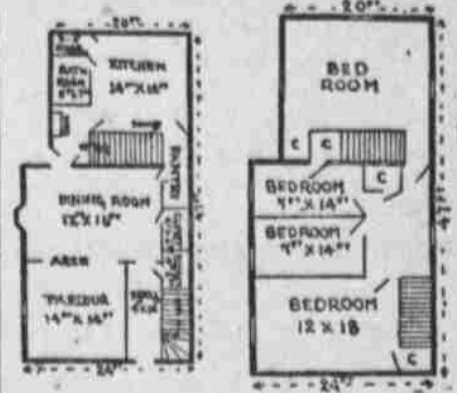
The power of aluminium has for absorbing mercury vapor has been proved by H. Tarugi to constitute a delicate method of analyzing the presence of mercury in the atmosphere and furnishes a means of prevention against poisoning by its vapors. He has demonstrated that this property is manifest even when the vapor is largely diluted with air and at the temperature of the surrounding atmosphere. A respirator has been constructed in which the air before entering the lungs has to pass through finely pulverized aluminium, and in this way all traces of mercury are absorbed so completely breathing can be carried on without difficulty in the dense vapors produced by the burning of chloride of mercury.

### HOUSE TO COST \$1,800.

Plans for Erection of Small but Comfortable Abode.

I enclose you a rough plan of a house upon which I would ask you to improve. I would like to build for not more than \$1,800.

The accompanying plans should fulfill all your requirements. The cellar and foundation walls should be built of stone work, 18 inches thick. These walls would take eleven cords of stone, eleven yards of sand and fifty-five bushels of lime. The cellar floor, 19x20 feet, should be of concrete two inches thick. This would require three barrels of Portland cement and 2½ yards of gravel. The cost of the house



GROUND FLOOR PLAN. UPPER FLOOR PLAN. will depend on the price of material and labor where the house is to be built.

Two Forms of Strong Truss. Please publish a plan of a truss to span 40 feet and to carry heavy loads.

Figs. 1 and 2 represent two forms of truss, either of which would be satisfactory. To build a truss according to Fig. 1, cut a slot about one inch



Fig. 1—A—8x8 in. timber, 18 ft. long; B—Bolts; C—Rods, 1½ in.; D—Timber, 8x10 in., 40 ft. long.

deep in each outside stringer, and use for the truss timber 8x8 inch material as per the plan. Use 1½-inch rods in the center. If desired a king post



Fig. 2—A—Timber, 40 ft. long; C—Nut and washer in center of timber; D—Struts, 1 ft. 6 in.; E—Innocent walls; Unlettered arrow—Iron rod, 1½ inch.

may be put in at the center rod, but this is not usually done.

Fig. 2 is another form of truss which will be understood by the cut with lines beneath.

### A Flat Roof.

What roofing would you suggest for a flat topped building?

Very flat roofs can be made of gravel, coal tar and felt paper. The sheathing for the roof should be matched lumber, then tar paper should be put on and laid the same as shingles, the lower edge of the tar paper should be laid in coal tar for about ten inches up and nailed down to the roof. The paper should lap over each layer, so that when the roof is covered it will be three-ply. After the paper is laid cover the roof with hot coal tar and sift on gravel while the tar is soft, so that it becomes imbedded in it. The tar must be put on hot, with a broom or large brush. The tar can be procured at any hardware store.

### Paint for House; Finishing a Ridge.

1. Please publish directions for mixing house paints in order to get intermediate colors. 2. Please describe how to finish the hip of a cottage roof with shingles instead of boards.

In order to get desired shades in paint a great deal of experience in mixing is needed. Unless an experienced painter is employed it would be well to use ready mixed paints, which may be procured in any desired shade or color.

2. Hips or ridges finished with shingles soon warp and look badly. Cover with ridge boards five inches wide and finish with a two-inch ridge roll set on the joint.

### Stone Stable; Ventilation.

For a stable let into a bank is it better to have only three sides of stone wall or all four? How may dampness be prevented?

Would advise having a stone wall on all four sides, and ventilating the stable. An easy and inexpensive way to ventilate a stable is to have fresh air intake pipes through the walls in the alleys near the floor, and wooden ventilating flues running up through the mows to the roof at the gable ends or perline posts. These flues pass through the floor of the barn to the bottom of the joist in the ceiling of stable. The intake pipes can be closed or opened to regulate the ventilation according to the temperature of the weather.

### Cement for Hollow Blocks.

Would natural rock cement answer for building hollow cement blocks, or is Portland cement necessary?

Portland cements are used almost exclusively for molding building blocks on account of their rapid setting qualities and superior strength.

### Goodness Knows.

Mrs. Naylorleigh—Judge, I want you to try some of my angel cake. Judge Sokem (absently)—What is it charged with?

### Edible Swordfish.

The Block Islanders are justly proud of their swordfish, for they almost have a corner on that variety of the finny tribe, the flesh of which, it is claimed by many, surpass anything caught in the deep. The demand for the swordfish is invariably greater than the supply, for although a number of boats from the islands make daily trips, they have practically no competition, as the fish even in the best fields are not numerous, and it is hard and dangerous work.

### Coal-Black Rat.

A coal-black rat was caught in a trap at the police station the other morning. The rat was unusually large in size and its skin was very soft, like velvet. The animal was drowned along with several other rats which were caught in the same trap. Many people saw the animal and they all said that never before had they seen a black rat. It attracted a great deal of attention even among the prisoners in whose apartments it was caught.—Portland Oregonian.