

TECHNOLOGY HAS CHANGED EVERYTHING

Or
Covering Human
Mayhem from
Spears to Nuclear
Weapons

By Thomas C. Gibbons



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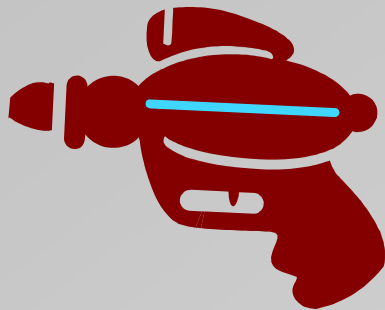
CHAPTER 4

US CIVIL WAR:

HI TECH

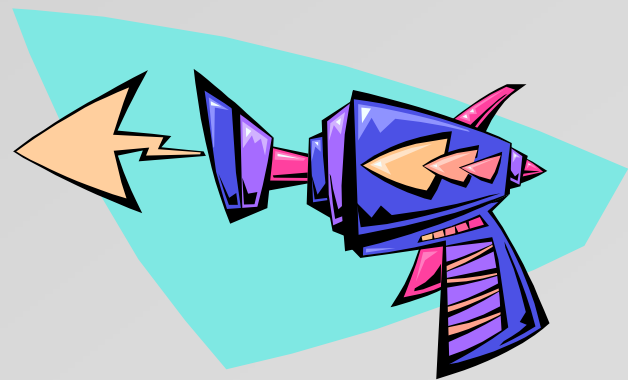


WAR, AND THE EXPECTATION OF WAR, SEEMS TO BRING OUT THE INNOVATIONS IN WEAPONS TECHNOLOGY!



MANY NEW ONES CAME OUT DURING THE US CIVIL WAR.

NOT INCLUDING THESE.





IRON-CLAD SHIPS

You have probably heard of the *Monitor* and the *Merrimac* (which, of course, was not really its name—for its real name continue on for a few slides).

But have you heard of the *Cairo*, the *Mound City*, or the *Cincinnati*?

That is the *USS Cairo* in the picture up there.

It is currently preserved at the Vicksburg National Military Park at Vicksburg, MS.

<http://www.nps.gov/vick/u-s-s-cairo-gunboat.htm>



The *USS Cairo* was a river-going iron-clad ship from the Civil War. Such iron clad ships played an important part in Gen. U. S. Grant's western campaigns in which he penetrated the Confederacy while the eastern armies were stalemated for years. Those western victories were very important in making the overall Union victory possible. By the way, Illinois was considered to be in the "west" then.

There were several other such ships such as the *Mound City* and the *Cincinnati*.

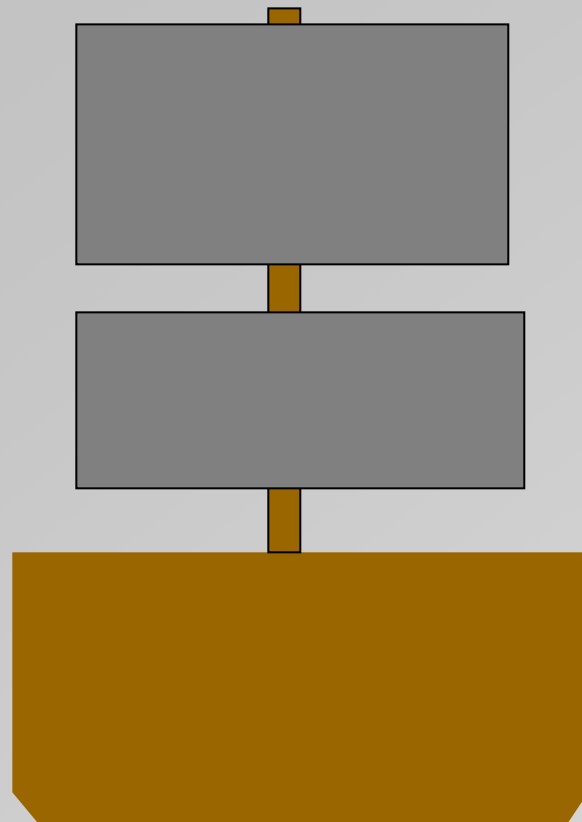


It was the first warship in the world to be sunk by a mine (called a "torpedo" then) that was detonated electrically from the shore according to the nps link below. It was rediscovered in 1956 and raised in the 1960s. These pictures are by John and Martha Bonte at the ship's current home on the battlefield at Vicksburg, MS.

<http://www.nps.gov/vick/>

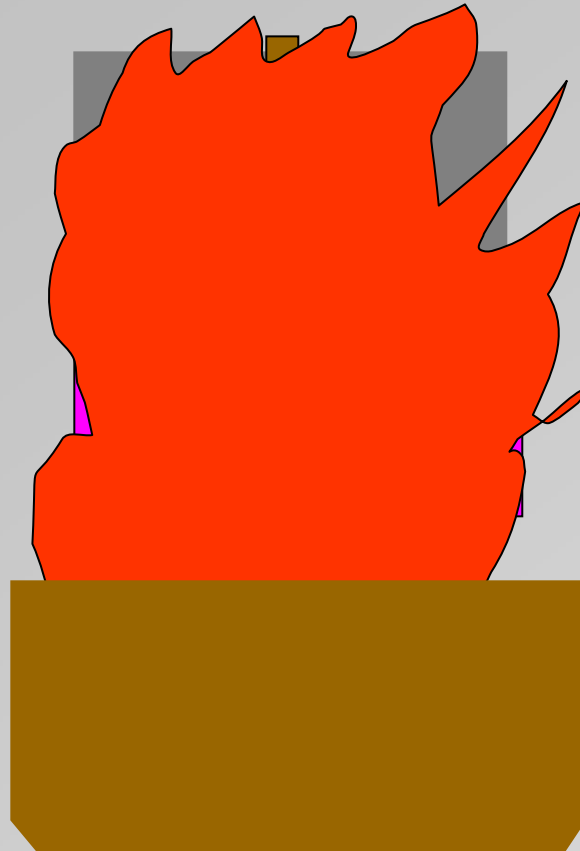
Check this US Navy site for more on these ships and pictures of them.

<http://www.history.navy.mil/photos/sh-usn/usnsh-c/cairo.htm>



CSS MERRIMAC

Then there were the two famous ironclads – one of which was called the Merrimac when it was a wooden sailing ship.

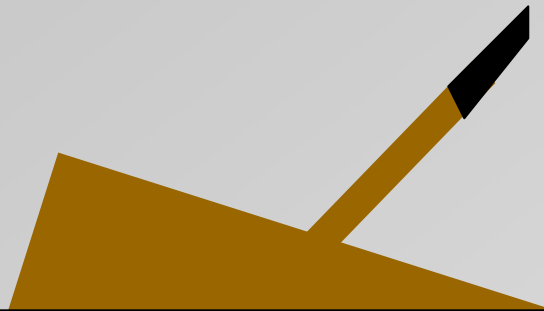


CSS MERRIMAC

It had been deliberately burnt to keep it from falling into enemy hands.

CSS MERRIMAC

**But it had an intact
hull.**



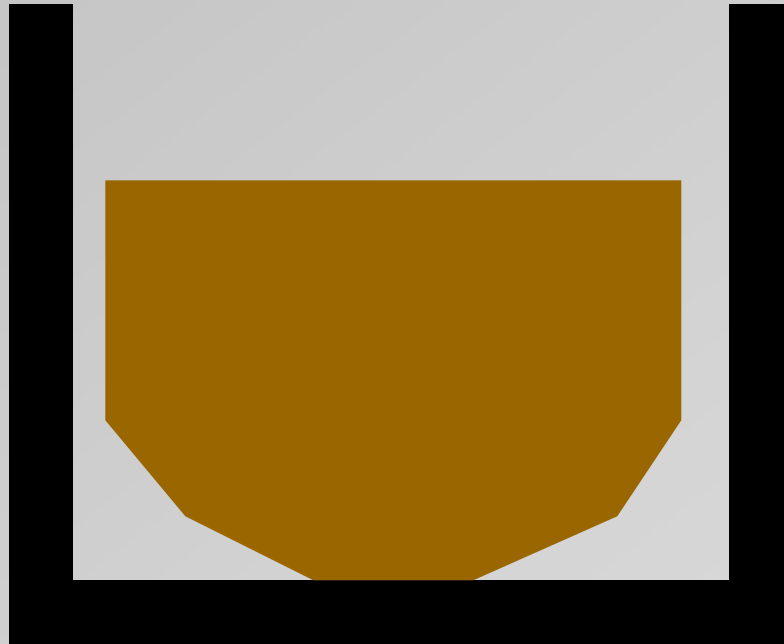
CSS MERRIMAC

**So the Confederate
States raised it.**



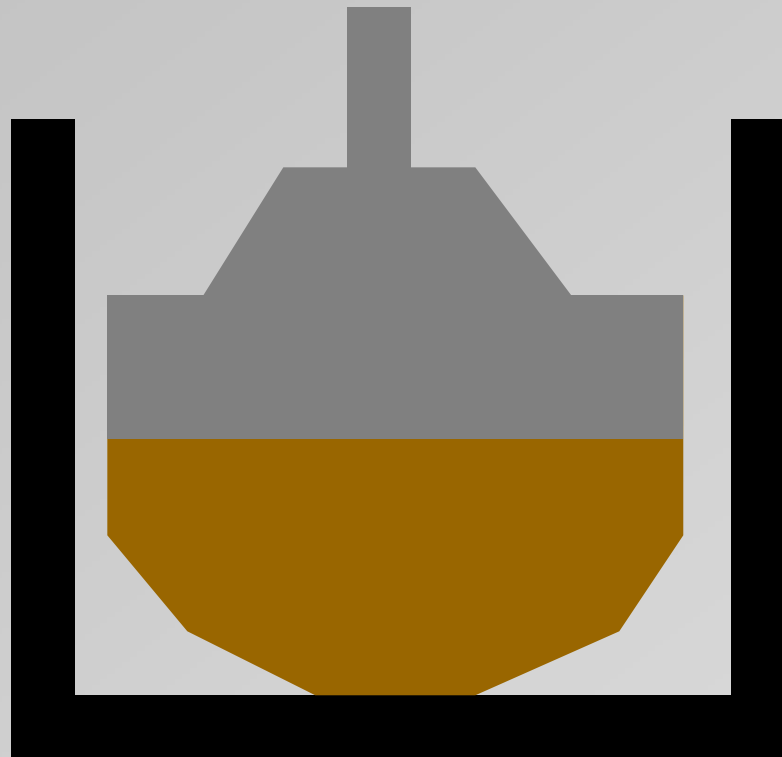
CSS MERRIMAC

They put it in a dry dock.



CSS MERRIMAC

**They added iron siding
and a new
superstructure.**

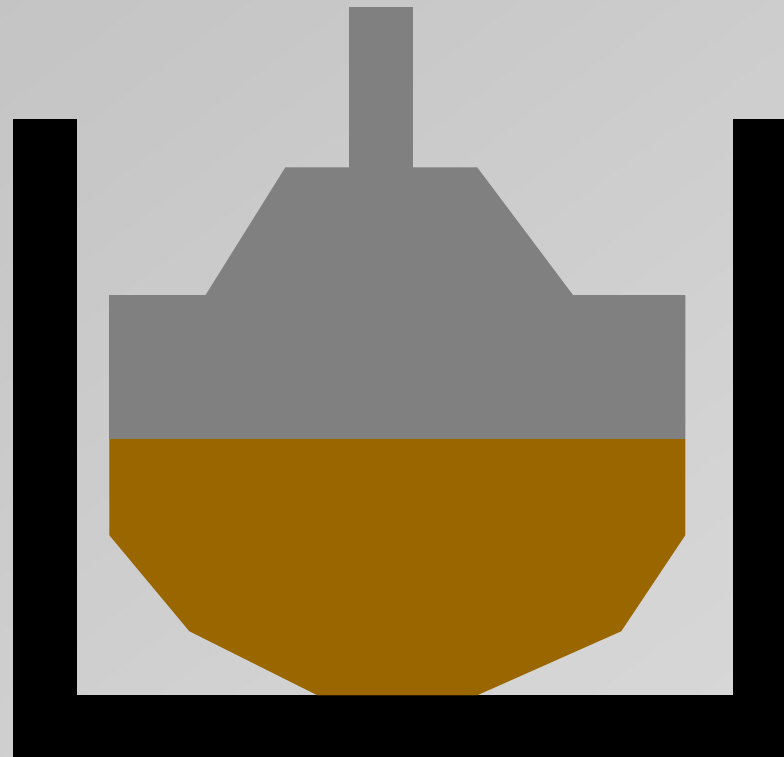


There is its real name as an ironclad →

CSS VIRGINIA

They changed its name.

And they floated it again.



Some US Navy web pages featuring information about the CSS Virginia:

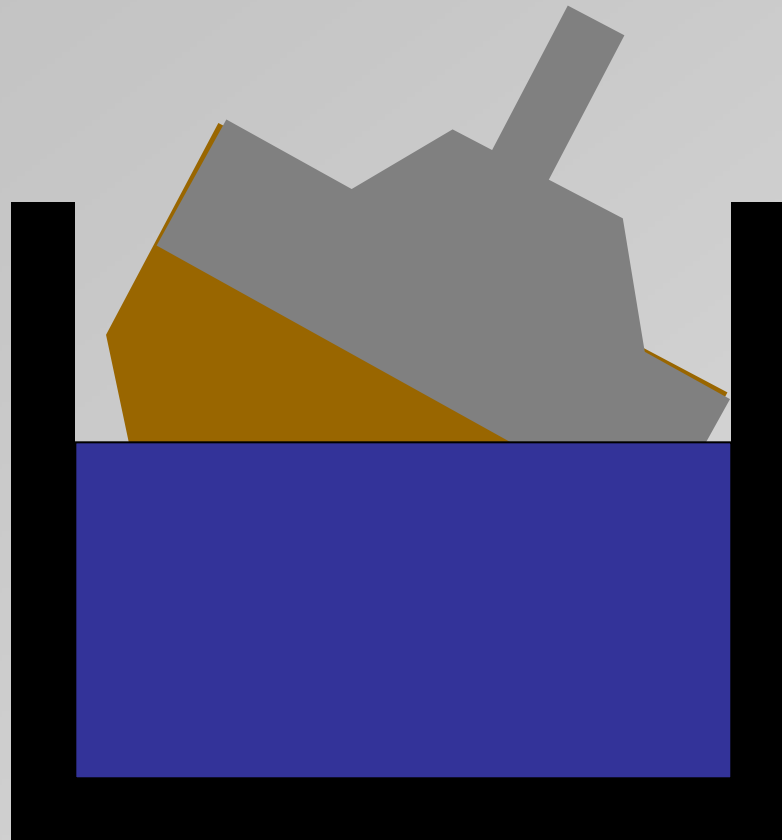
<http://www.history.navy.mil/photos/events/civilwar/n-at-cst/hr-james/8mar62-b.htm>

<http://www.history.navy.mil/photos/sh-us-cs/csa-sh/csash-sz/virg-d.htm>

<http://www.history.navy.mil/photos/sh-us-cs/csa-sh/csash-sz/virg-x.htm>

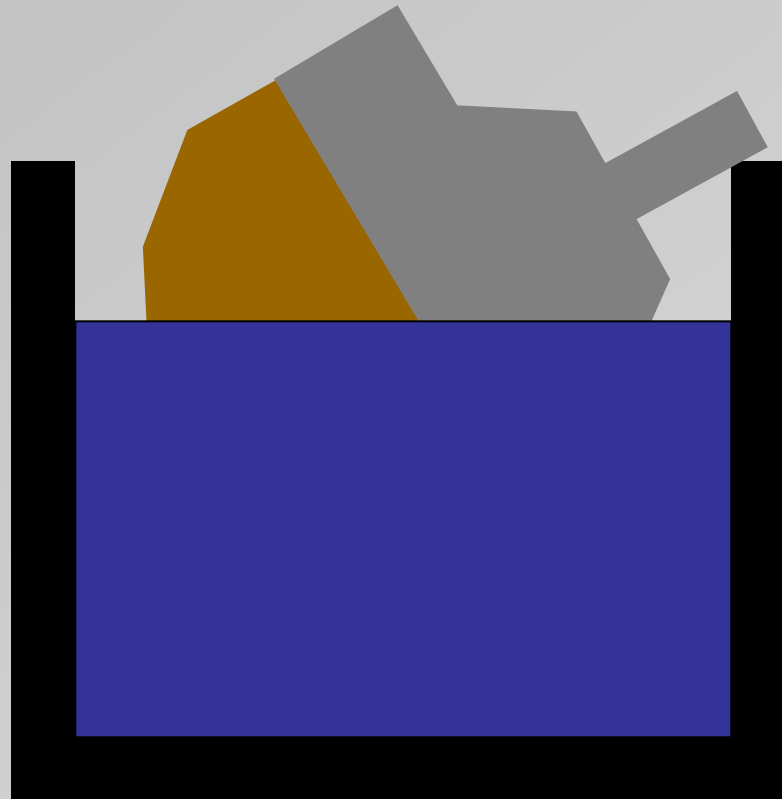
CSS VIRGINIA

New technologies tend to have bugs. With any such new technology, there is one last detail that needs to be right before it is useful.



CSS VIRGINIA

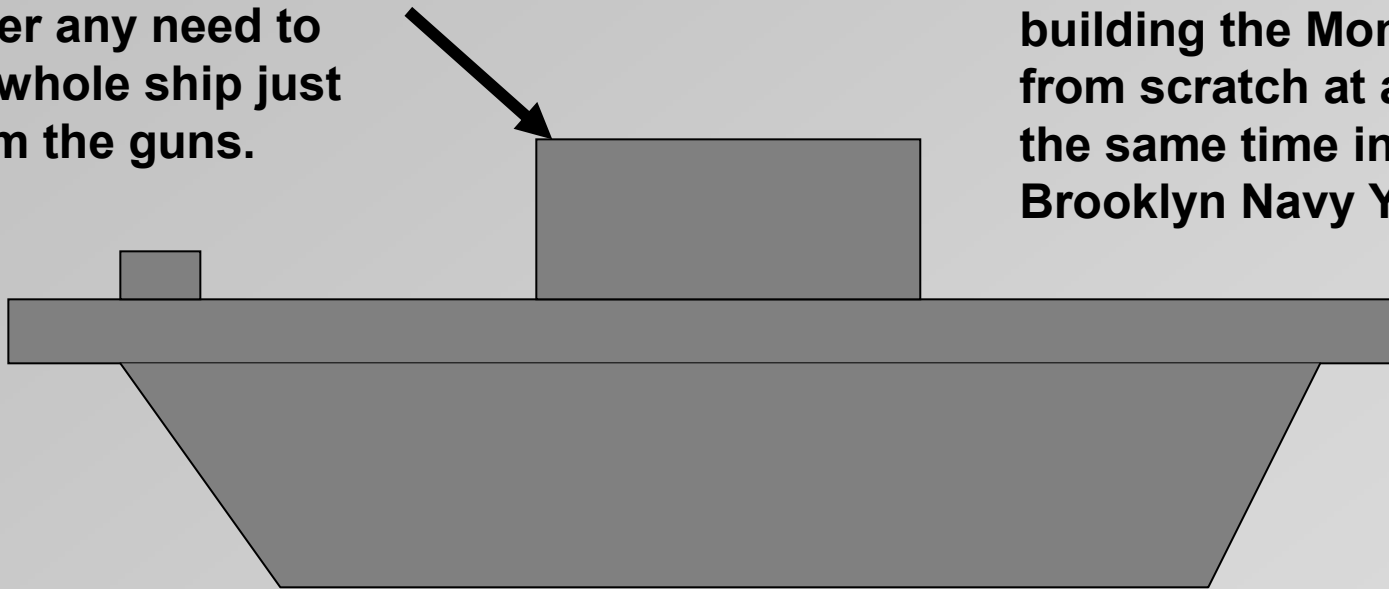
Well, OK, this is an exaggeration, but it turned out to be unstable, and it had to stay in the harbor in the Hampton Roads area. (where it fought the famous battle with the *Monitor*)



This is the first turret ever used on a ship. It held the guns, and it could turn, so there was no longer any need to turn the whole ship just to aim the guns.

USS MONITOR

The Union side was building the Monitor from scratch at about the same time in the Brooklyn Navy Yard.



Some US Navy web pages about the USS Monitor:

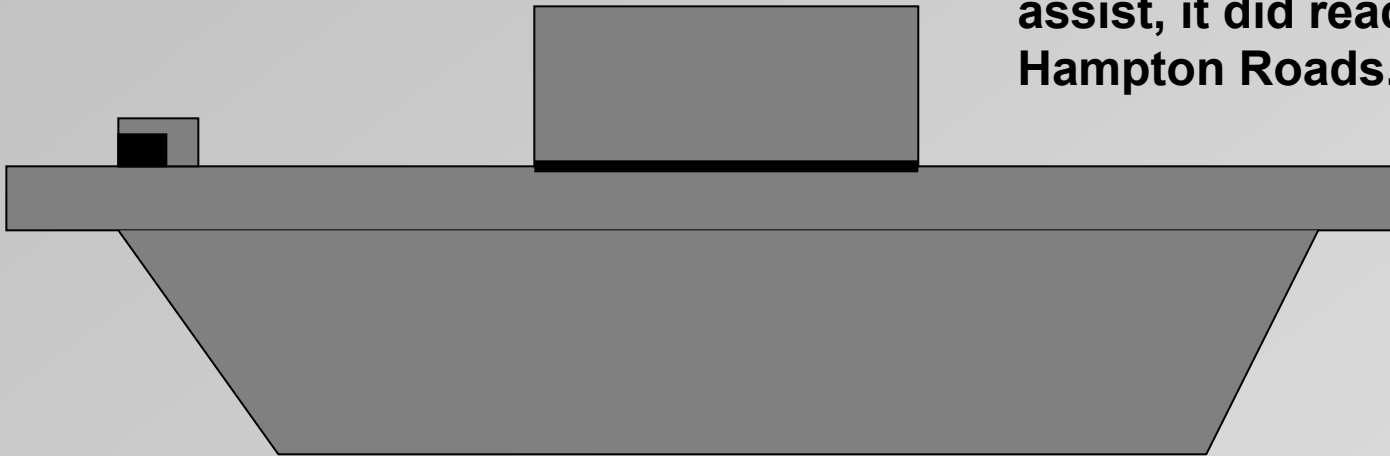
<http://www.history.navy.mil/photos/sh-usn/usnsh-m/monitr-a.htm>

<http://www.history.navy.mil/photos/sh-usn/usnsh-m/monitr-v.htm>

<http://www.history.navy.mil/photos/sh-usn/usnsh-m/monitr-c.htm>

USS MONITOR

It also should not have been allowed on the high seas. But with an assist, it did reach Hampton Roads.



Some US Navy sites about the battle between the Monitor and the Virginia:

<http://www.history.navy.mil/photos/events/civilwar/n-at-cst/hr-james/9mar62.htm>

<http://www.history.navy.mil/photos/events/civilwar/n-at-cst/hr-james/9mar62-b.htm>

<http://www.history.navy.mil/photos/events/civilwar/n-at-cst/hr-james/9mar62-c.htm>

<http://www.history.navy.mil/photos/events/civilwar/n-at-cst/hr-james/9mar62-d.htm>

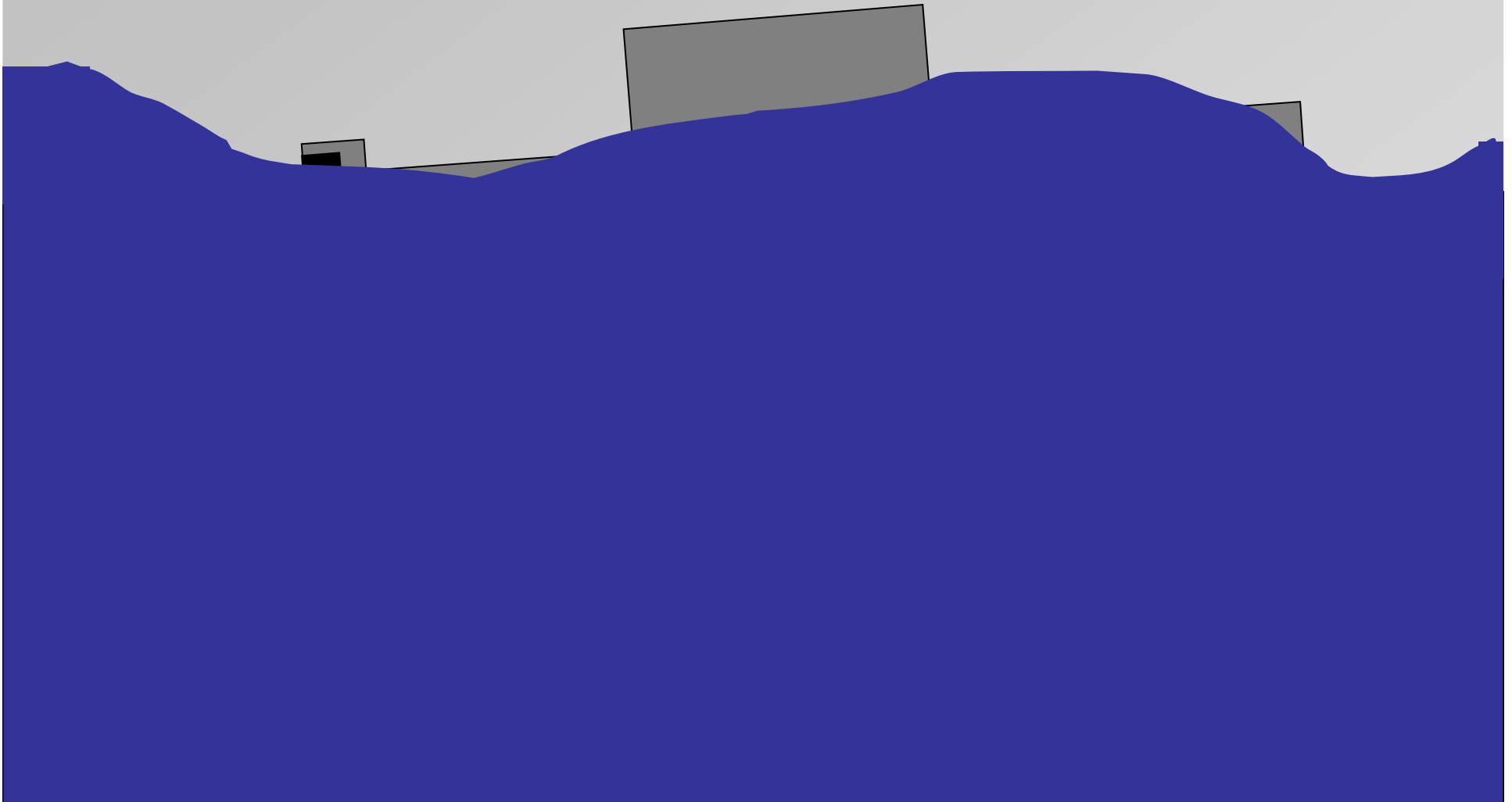
USS MONITOR

It famously fought the Virginia to a standstill on March 9, 1862. And it was OK as long as the sea was smooth.



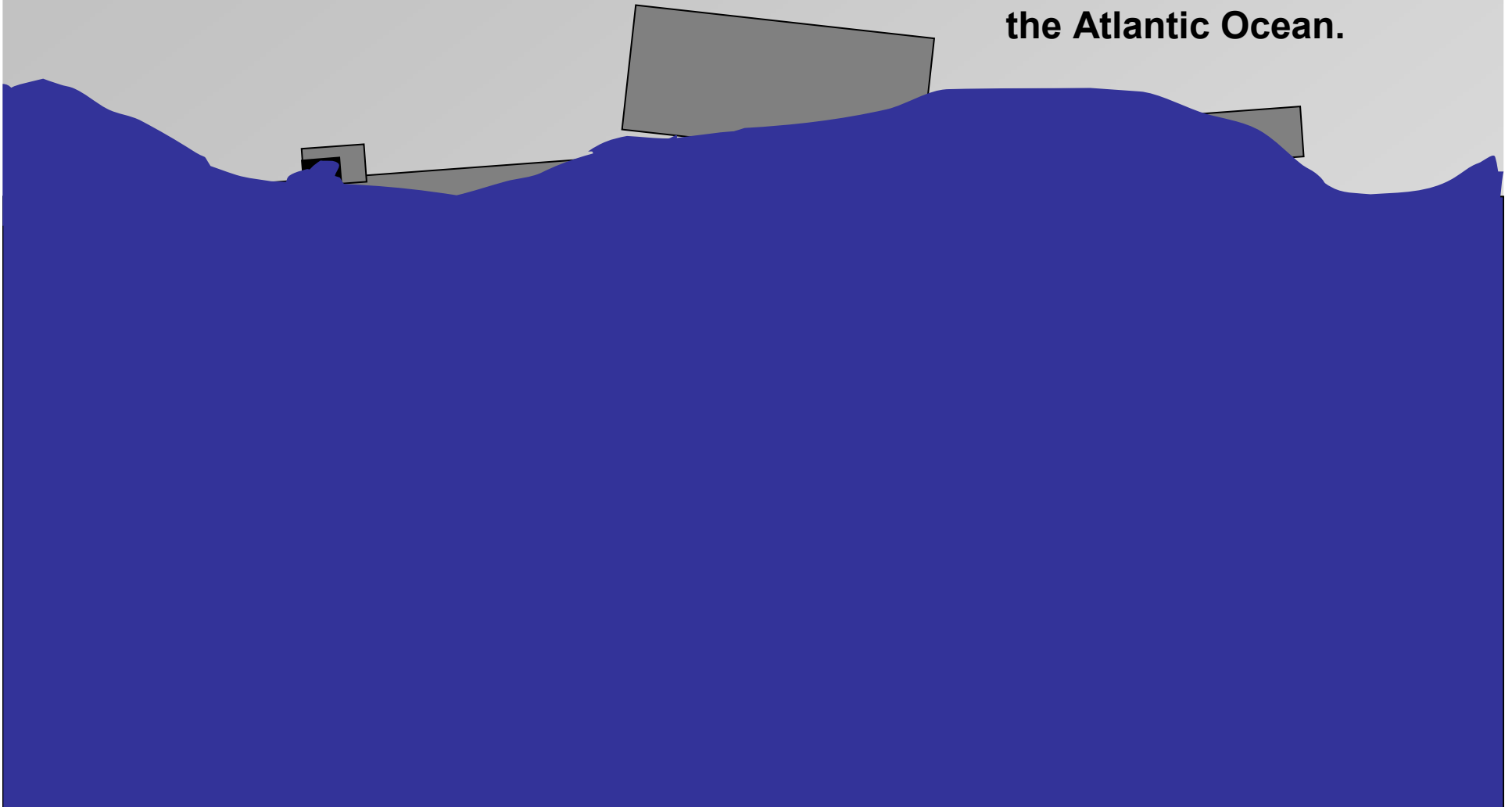
USS MONITOR

**But in rough seas it
took on water from the
topside.**

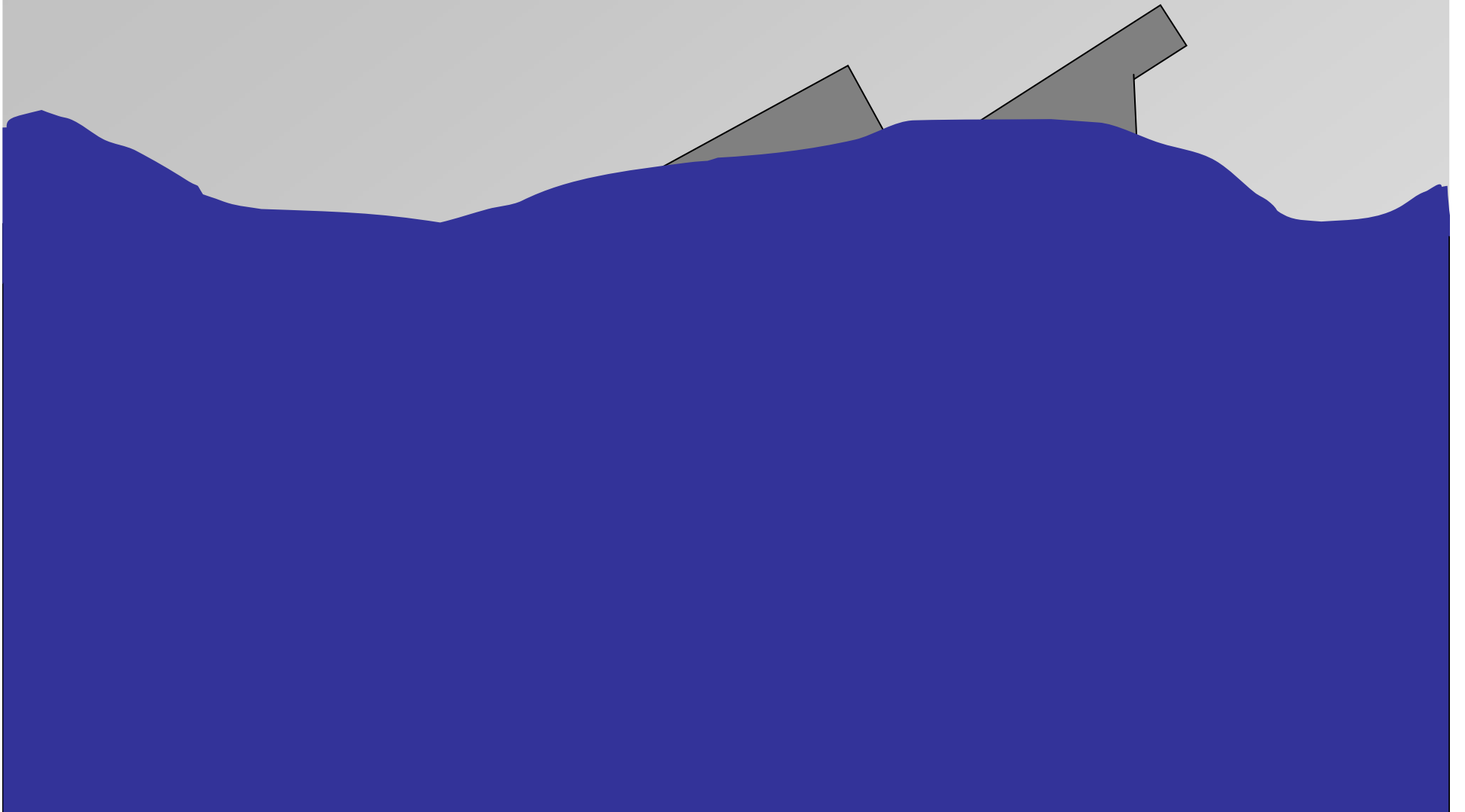


USS MONITOR

Not long after its famous battle, it encountered a storm in the Atlantic Ocean.



USS MONITOR



USS MONITOR

**One of those last
important details about a
new naval technology is
that the ship should float.**

USS MONITOR

Although these early ironclads had their problems, the ships were soon improved, and many ironclads were in service by the end of the Civil War.



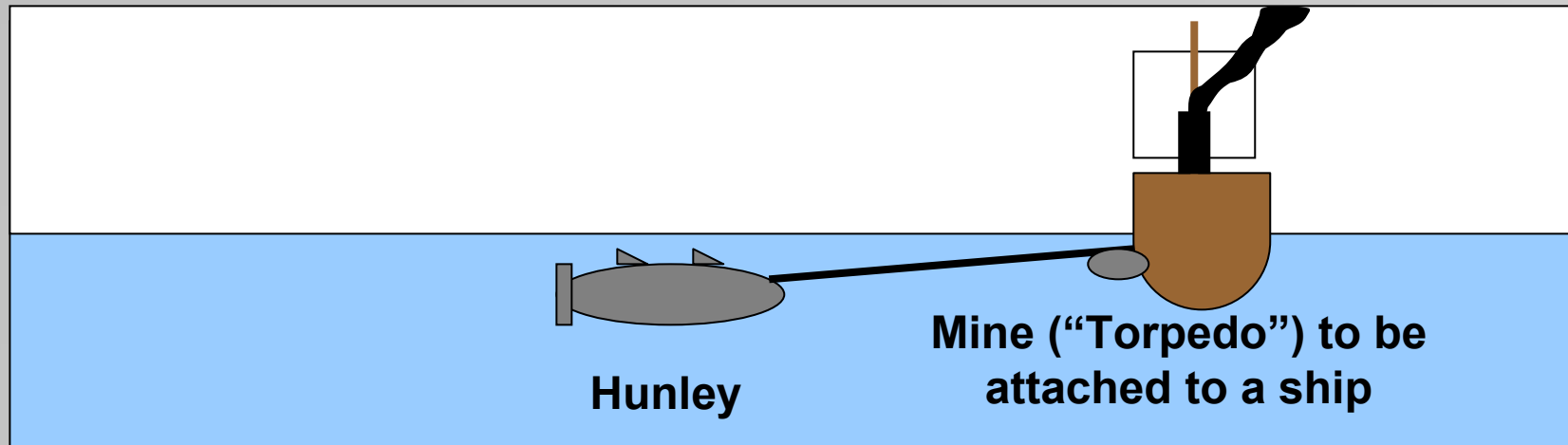
The Monitor was recently found again. The turret was recovered on Aug. 5, 2002 and was placed in the Mariners' Museum in Newport News, VA. This device, called the "spider", was used to lift the turret. I took this picture of it in museum.

Museum Web Site: <http://www.mariner.org/>



As of 2006, the turret was being prepared for display at the museum in this tank using fluids to clean the corrosion. I was lucky enough to see in on a day when the fluid was being changed. Here is the museum's Monitor Center:

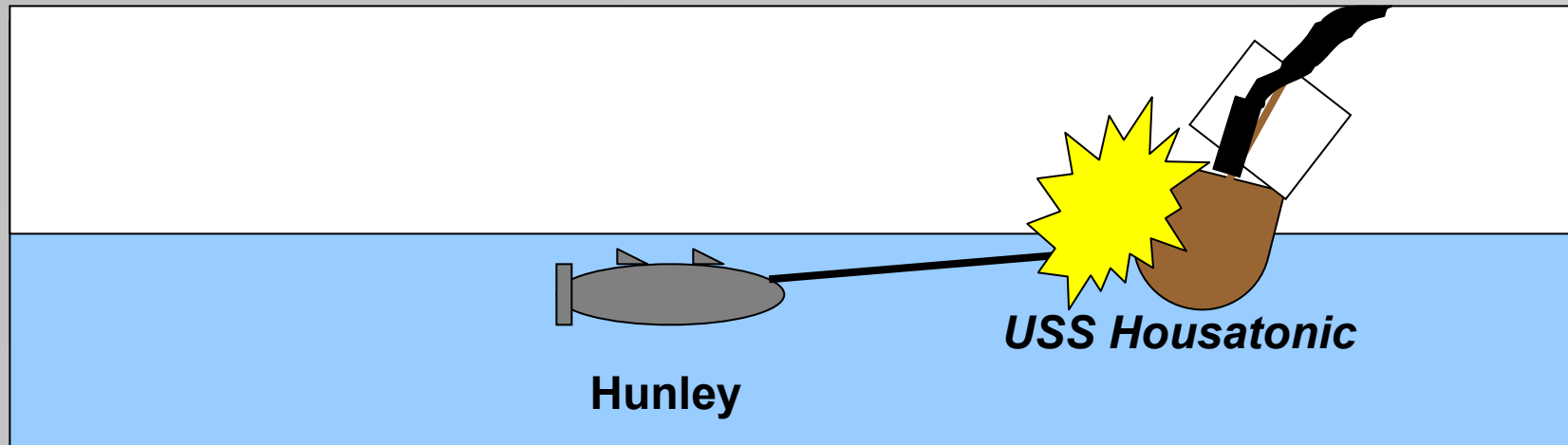
<http://www.marinersmuseum.org/uss-monitor-center/uss-imonitori-center>



There was even an attempt by the Confederate States to build and use a submarine, the *Hunley*. In fact, this was not the first submarine.

But there were no self propelled torpedoes at the time. They called a mine a torpedo.

So it was pretty crude. Its crew propelled it with a hand crank. And see above for its method of attack.



After sinking twice and losing two crews (including the designer, Horace L. Hunley), it did finally manage to sink a Union Ship this way on Feb. 17, 1864 at Charleston, SC.

But it never returned from this mission.

It was rediscovered in 1995 and raised in Aug., 2000. Examination of it has suggested that was not destroyed by its own explosion, as had often been assumed, but the reason for its loss is still a mystery.

Check <http://sciway3.net/clark/civilwar/navy.html> for a history of the Hunley.

IS IT POSSIBLE TO SEE THE HUNLEY??

Check the following sites for information

According to this site, (<http://www.geotimes.org/june04/Travels062204.html>) a replica is on display at the Charleston (SC) Museum, <http://www.charlestonmuseum.org/home>

(This Museum's site did not seem to mention the Hunley when I looked Oct, 2010)

The real Hunley is in a warehouse in North Charleston, according to the geotimes link above, where a tour might be available. Scroll to the bottom of the page after you take the link.

Details about visiting at (http://www.hunley.org/main_index.asp?CONTENT=TOURS)
I don't know if they are current.

Here is another Hunley site: <http://www.thehunley.com/index.dwt>

Photos on this site suggest that the Hunley is very badly corroded, which is not surprising given its 136 years under the sea. I am not sure how current this information is either.

Submarines were also improved as time went by. Although they presented engineers with tougher problems than surface-traveling ironclads, the submarines came into their own by the First World War.

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Please continue
and return to the
War Home Page.
Then go on to
Chapter 5.

