

# A Super-Junkyard for Battleships

*Torches Cut 18-Inch Steel Armor into Five-Foot Lengths and Giant Shears Snip Destroyers Apart in Newest Industry*

**T**HE greatest junk business in the history of the world sprang up almost overnight when the recent Conference for the Limitation of Armaments, in binding the United States, Great Britain, France, Italy, and Japan to "keep the peace," decided to discard more than 2,000,000 tons of fighting ships of three leading powers.

In the United States a brand new industry was created—that of scrapping or converting 845,000 tons from the vessels of Uncle Sam's navy. This displacement tonnage represents about 300,000 tons of steel and 4000 tons of scrap valued at millions of dollars.

The gigantic task of literally sawing apart the heavy steel armor of modern fighting ships has called for methods entirely new. Sledge and cold chisel are tools of the past. In their place are the sawlike flames of oxyacetylene torches that rip the toughest steel armor plate, from 10 to 18 inches thick, into five-foot lengths, as if they were boards in a sawmill, and 10-ton crocodile shears that snip through six-inch destroyer armor like paper.

## How Ships Are Torn Apart

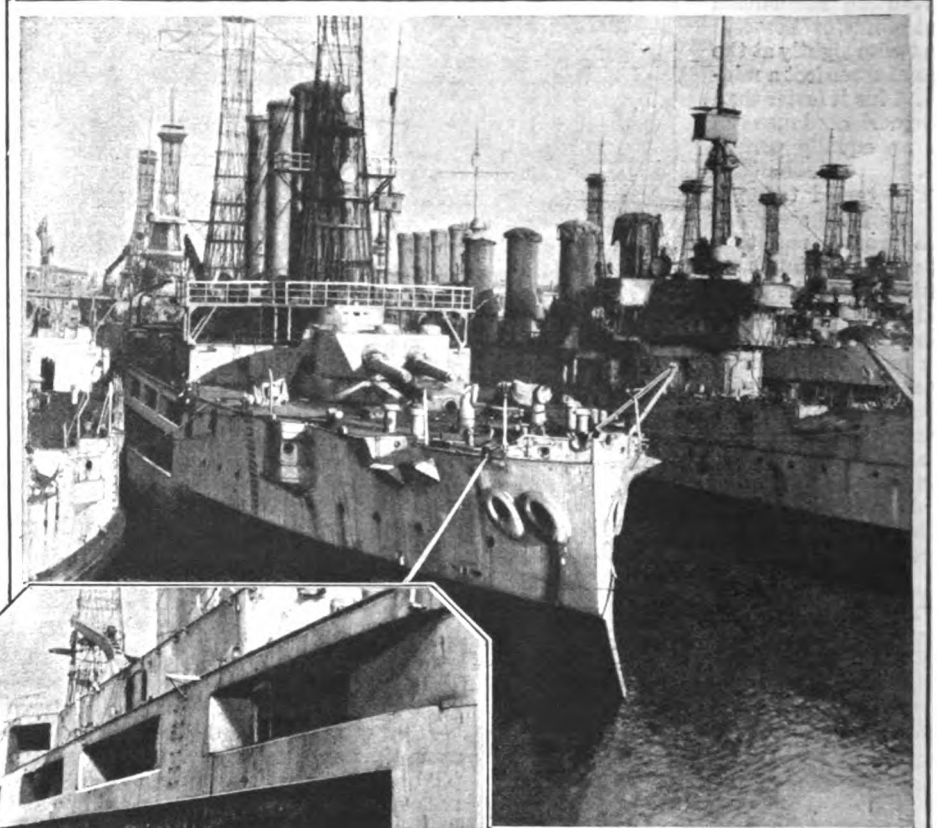
Consider how the intricate structure of a battleship is put together, plate by plate and rivet by rivet—a task that requires years to complete—and you may realize the tremendous task that confronts the modern super-junkman. Piece by piece, the massive fabric must be torn apart, in reverse order, beginning with fighting masts, then the superstructure, the armored hull, and finally the keel itself.

This new industry is interestingly exemplified in the yards of the Henry A. Hitner's Sons Company of Philadelphia, who are the successful bidders for a colossal proportion of the 845,000 tons that the United States must scrap or convert. Tied to these docks today is a navy greater than that of Italy at the beginning of the war, or of the United States in 1910.

You cannot casually call in a passing junkman and sell him a 13,500-ton battleship of the *Maine* type. Nor can you tell the small boy of the family to load the 411-foot cruiser *Columbia*, formerly flagship of the Atlantic fleet, on his little express wagon and take it to the "ol' iron" man and sell it.

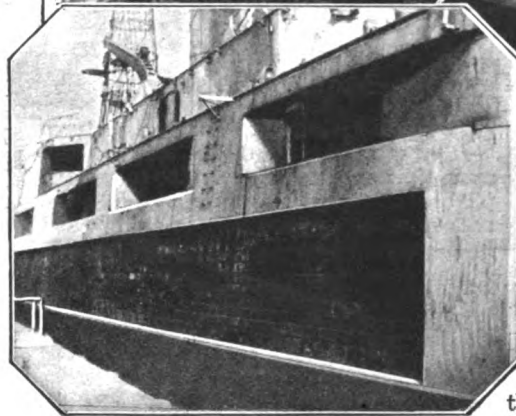
The Philadelphia company bought these, and many more, ranging from battleships and cruisers down through the list that includes the monitors *Monterey*, *Ozark*, and *Tonopah*, torpedo boat destroyers, coast torpedo boats, Eagle boats whose names are just numbers, and finally reaching the tiny submarine *A-1 Plunger*, which was the grandfather of the present-day S-41 type of submarine cruiser.

Under the terms of the sale,



Photographs © Henry A. Hitner's Sons Co.

Once the most powerful unit of the Atlantic fleet, the 13,500-ton battleship "Maine," shown above, is being ripped apart in the super-junkyard. At the right is the cruiser "Columbia"



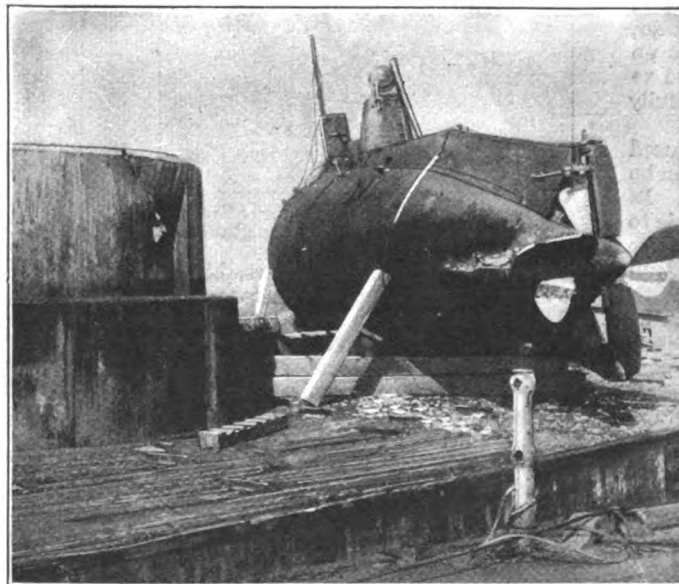
How the waterline belt of 11-inch hull armor is cut away is shown in this close-up view of the battleship "Maine." Above the armor belt note the barbettes emptied of their six-inch rifles

these naval craft, if converted or recommissioned, may not pass from American registry or ownership, and their armament from one-pound quick-firers to the huge 12-inch rifled cannon on the battleships, must be distempered by burning and then cut up into five-foot lengths.

The 13,500-ton *Maine* presents a concrete example of the dismantling and re forging into peaceful plowshares of a battleship that was once the most powerful unit of the Atlantic fleet. The steel hull of this monster weighs about 35 per cent of the 13,500 tons displacement; 26 per cent is armor plate, and the balance of nearly 6000 tons is propelling machinery, armament, ammunition, fuel, and general machinery.

## Armor Plate Cut into Blocks

The armor plate is first taken off the inside shell in pieces weighing from 25 to 40 tons, and swung to an upright position in the yard, where the pieces are cut with oxyacetylene torches into two by five foot blocks that may be readily fed into charging boxes of open-heart furnaces. Because of the valuable alloy content of nickel steel, this is



Tiny granddaddy of all successful submarines, the Holland "A-1 Plunger" is being scrapped on the deck of the partially dismantled monitor "Puritan"

one of the most desirable by products, as it is chiefly used by the automobile industry and for special uses when reformed.

The almost human machinery that operated gun turrets, ammunition hoists, refrigerating systems, and other intricate nerve centers of the floating fortress, is broken up into small pieces that a single workman can readily handle by the use of stone pile-drivers with a striking impact of 100 tons. This small scrap is purchased principally by the gray-iron foundries and treated in combination with low grade iron ore, later appearing, recreated, in the frames of harvesting and other agricultural machinery, engine bases and similar low tensile strength iron products.

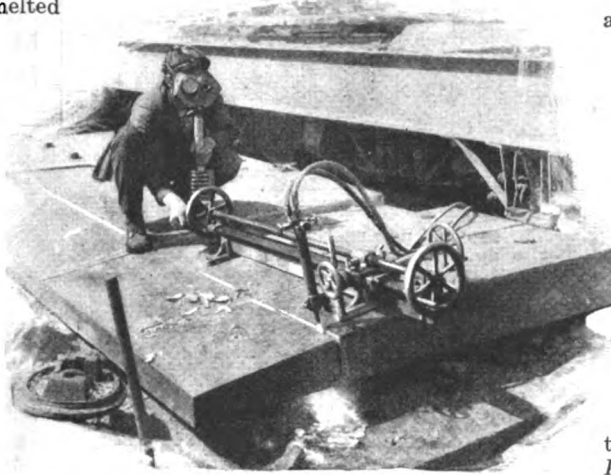
### Junk of Greatest Value

The most precious "junk" is the copper, gun metal, navy brass, manganese bronze, lead, zinc, and navy composition that are assorted into their different grades, melted by the smelters into ingot form and sold to manufacturers of practically everything in the metal trade. Some of the equipment from the *Maine* will take form in new ship castings, steam pumps, and propellers.

Not all of the hulls of these former fighting craft will be broken up. Many will be converted, as in the case of the torpedo boats *Truxton*, *Worden*, and *Whipple*. Re-engined with kerosene-oil burners, these former destroyers are now carrying fruit out of Central America to the United States. Because of the speed these clean-lined greyhounds of the sea can attain with comparatively low powered equipment and their seaworthy qualities, expensive refrigeration machinery has been found unnecessary. In addition they are very economical, saving lighterage cost, because of their light draft and ability



Arrows point to holes burned through 13-inch guns in the main battery of the battleship "Wisconsin" to prevent possibility of their use as deadly weapons



With this machine to guide the oxyacetylene torch, the workman makes a clean, straight cut through a 25-ton strip of 11-inch hull armor, sawing it into five-foot lengths. The torch is moved by the mechanism along a chalk line

to go up shallow rivers on high tide and lay off plantation wharfs for loading.

When not so converted, the destroyers already purchased by the Philadelphia firm—and they number 50 former menaces to Germany's submarines—are ripped apart with powerful chisels operated by compressed-air devices. These pieces are melted and rolled into various shapes for structural steel, rails and sheet plate.

### Old Troopships Are Valuable

Former English troopships that saw long service in the Indian seas, H.M.S. *Malabar* and *Hotspur*, are lying in the berths where the international cup defender *Columbia* and Admiral Farragut's old flagship *Franklin* once lay, when these ships, together with the *Jamestown*, *Santee*, and *Keystone State*, were previously wrecked by the Hitters. The old troopships are very valuable from the standpoint of "scrap," being constructed of the purest wrought iron that is convertible into staybolts, etc.

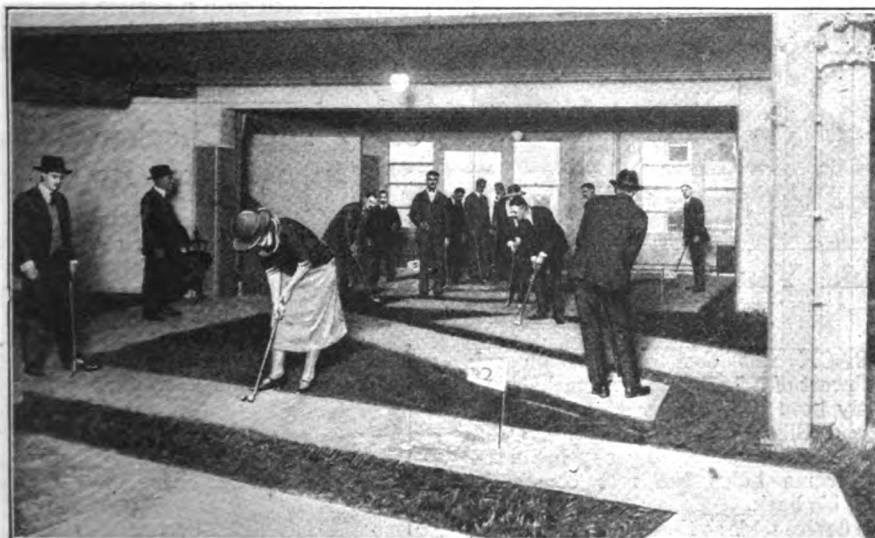
## Golfers Drive over Indoor Bunkers

A NINE-HOLE golf course has recently been installed in a department store in Portland, Ore.

The length of the fairways varies from five to 25 feet, but the putter is not the only club used in the indoor game. To play the "bunker hole," for example, you must drive from a tee over a high bunker and into a net

beyond. To clear the bunker, the ball must be driven with a force that would send it 200 yards on an outdoor links.

The course was built by laying boards over three inches of undulating earth spread on the floor. On the fairways, this earth is covered with boards and canvas, while the "rough" is represented by real turf.



Real turf is used for "the rough" in this nine-hole course, while the fairways are of boards laid over three inches of earth. This miniature golf course is laid out in a Portland, Ore., store

### Adjustable Creeper Gives Comfort



YOU can work comfortably on the flat of your back under the car, if you lie on a garage creeper with a headrest that you can raise or lower by pulling a hand lever.

The end of the creeper consists of a padded cushion about six inches wide, supported by two pairs of flat steel bars, pivoted in their centers, with their lower ends sliding on two round bars extending across the creeper beneath the frame. When the hand lever is pulled, the lower ends of the bars are forced together, raising the headrest. The lever can be locked in any position, leaving both hands free.

NATURAL soaps are found in the root of the Spanish soap root, the soap berry of Chile, South America, and the bark of the soap tree of Peru, South America.