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 The Silver and Brass Sign Industry.—A unrious industry, but
 Ittile unders nod, described and illustrated in detail.—Sillustrations.

peace. It presents a view of the world of science and of difficult, appears more necessary. The very hopes of practical achievement to its readers, the creative side the Administration are defeated by its own act. The economy sound doctrine regards destruction of life those ruined in the crisis brought about by needless tween the States, now that thirty years have elapsed our standing, in a possible war, has been impaired. since its conclusion, still plays its baleful part in iupoverishing the nation. During a part of its continuance its expense was put at one million of dollars per diem. Now it costs nearly one half of that in one single item of revenue expenditure.

passions awakened by war have sunk to rest; but the power has been the controlling element which has ulfinancial effects are still felt and will be felt for years to come unless they are overwhelmed by the weight of it. His conclusions are largely based upon the Euronew misfortunes which may be brought upon us by pean wars of the time of Nelson, and the late civil another war. For, like a lightning stroke out of a war in America. clear sky, an issue is suddenly created between the In view of recent startling and ominous developwould have seemed a week ago, may lead to war. If Great Britain, it will be, we think, timely and interit does, the conflicts of past generations will sink into esting to inquire into the present status of the navies insignificance compared with the new one, and every of the two countries, and also to inquire as to what independent government to an extent which can be no account is taken of ships that possess a speed of measurable only by centuries.

Out of the overgoverned nations have emerged two and dislike to the rulers of almost despotic type which | ing tabulation: are over the older countries. In England, as in the United States, there is true representative government. The maintenance of the royal family is merely the figurehead of a monarchy and need rank as little more than as a harmless extravagance. The real government is as free and as representative as ours. If the two great powers which are representative of the highest degree of freedom in governmental affairs undertake an internecine war, it means the relegation of mankind to a still firmer grasp of despotic or imperial rule.

England in the past has been very aggressive. She has acquired great colonies by methods which her own historians and moralists condemn. Recently she seems to feel that she has enough, and her methods have changed, for the England of to-day is far different from ? the England of fifty years ago. Any accessions of territory she may contend for are sought by far more moderate methods than of old.

Some seventy years ago the Monroe doctrine was enunciated by the United States. This doctrine, opposing the increase of the territory of any European government on the western hemisphere, seems to have been justified at the time by the events in Europe. To-day, pushed to its utmost development, it would make us the guardian of almost all the western hemisphere. We should logically feel that we are at the beck and call of every neighboring South American republic to fight its battles against European powers. This is a pretty serious burden. It may lead to congratulatory messages from the countries whose cause we espouse, but it will act as a constant menace to our peace.

But the Monroe doctrine never will or can lead us into a more fatal consequence than a war with England. Our every interest is so tied up with her that whatever our animus may be, the contest would have the aspect of a civil war. The similarity of natures, the identity of language, the ties of blood relationship between the two countries, the friendship engendered by the great amount of intercourse which has of late years obtained between the two lands, are elements which would give to any contest the nature of fraternal strife. The business aspects of the case . 16674 are no less serious. Our vast exports are sold to Eng land and are carried in English ships. She is our great customer for cereals and cotton and other products in which we act as almost the world's purveyor. If war occurs between us and our best customer, ever blow we strike at her prosperity is a blow at our own

The first week of the war would do incalculable mil lions of damage; the succeeding weeks would see re publican and representative government made contemptible in the eyes of the world, while lives and property would be annihilated in battles of unimagined destructiveness.

The simple message of the President, which message seemed to threaten war, has already had far-reaching consequences. The fall in prices of securities and in produce represents an enormous aggregate. This would tend to bring people to their senses, unless by the perversity of human nature the misfortune be seized upon as an excuse or a reason for incurring others—a species of desperation which may find a precedent easily enough in the workings of human nature.

The finances of the United States, under what seemed to be conservative treatment, were progressing satisfactorily. Difficulties had arisen and had been met by

the issue of bonds, and new issues were contemplated. The SCIENTIFIC AMERICAN occupies a unique posi- All this went on smoothly because of the high credit of tion in the press of the United States. It is devoted the country. Now, a week has changed it all. The to what may in the best sense be termed the arts of further issue of bonds in proportion as it becomes more of mankind having it as an exponent. In political Christmas season of 1895 will be long remembered by and of property as a world's loss, not as the loss only of precipitancy. Already in the impairment of the value the person or persons directly affected. The war be- of securities and in the injury to the country's credit

THE NAVAL RESOURCES OF THE UNITED STATES AND THE BRITISH EMPIRE-A COMPARISON.

Captain A. Mahan, of the United States navy, has pointed out in his celebrated work on the influence of The blue and the gray are again united; the evil sea power in history, that a preponderance of naval timately brought victory to the nation that possessed

United States and England, which, incredible as it ments in the diplomatic relations of this country and quarter of the globe will be involved in a struggle are the battleship-building resources possessed by which will put back the cause of civilization and of each. It should be noted that in the subjoined tables less than 71/2 knots per hour, or that are armed with obsolete smooth bore guns. Ships that are building, powers which represent the greatest freedom of gov-but within measurable distance of completion-such, ernment. These two nations are objects of jealousy for instance, as the Iowa-are included in the follow-

FIRST-CLASS BATTLESHIPS OF THE LINE.

	Total number. United States 4 ships.	Average displacem nt. 10.568 tons.	speed.	Belt armor. 18 in.	Total dis- placement. 42,274 tons.		
•	Great Britain. 29 "	13,000 "	17:47	18 "	376,900 "		
	SECOND-CLASS BATTLESHIPS.						
	United States 3 ships.	5,703 tons.	16.7 knots.	12 in.	, 17,110 tons.		
•	Great Britain. 12 "	9,502	13.68 " 14	to 24. "	114,030 "		
;	THIRD-CLASS BATTLESHIPS.						
l	United States 5 ships.	4,401 tons.	11.9 knots. 7	to 12 in.	22.020 tons.		
•	Great Britain. 11 "	7,075 "	13.43 " 81	to 12 "	77,820 "		
	COAST DEFENSE BATTLESHIPS.						

United States-The 6 knot boats ar med with smooth hore guns are reckoned as obsolete.

Great Britain. 13 ships. 4.040 tons. 11 knots. 8 to 12 in. 52,530 tons. TOTAL BATTLESHIPS OF ALL CLASSES. United States...... 12 ships, with a total displacement of 81,404 tons.

Great Britain 65 In estimating the relative strength of the two navies from the above table, it must be borne in mind that the basis for comparison should be the total displacement, rather than the total number of ships. Displacement is the capital which the naval designer has to go upon; and if he make a judicious distribution of weights, he will always produce the more effective fighting machine out of the bigger ship. If a 10,000 ton and a 15,000 ton ship carry the same armament, the larger vessel will carry that armament more steadily, more speedily, with greater command, and, owing to the wider separation of the individual gun stations, with less exposure to disablement of guns and crew. Estimated on this basis, Great Britain possesses a superiority of fighting power in first-class ships-ofthe line of 9 to 1. In battleships of all classes the superiority is 7½ to 1.

FIRST-CLASS ARMORED AND PROTECTED CRUISERS.

(Of 20 knots speed and upward.) Total dis-placement. Total number. placement. United States. 5 ships Great Britain ... 9 " 7,700 tons 219 knote 38.500 tons 9,233 " 83,100 ** 21.0 FIRST-CLASS ARMORED AND PROTECTED RUISERS,

	(O) 1394 know and under.)						
h	United States none	_	· 	_			
re i	Great Britain 21 ships	7,581 tons	17.0 knots	159,200 tons			
re	SECOND AND T	HIRD CLASS PRO	TECTED CRUISE	Rs.			
se !	United States 14 ships	3,288 tons	18:23 knots	46,028 tons			
3- 9	Great Britain 60 "	3,828 "	19-20 "	229,605 "			
ıt j		LOOKOUT CRUIS	ERS.				
ts	United States 5 ships	1,519 tons	16'73 knots	7,593 tons			
a	Great Britain 19 "	1,907 "	17.00 "	36,240 "			
		GUNBOATS.					
У	United States 7 ships	1,007 tons	16.00 knots	7,300 tons			
n.	Great Britain 34 "	841 "	19.00 "	28,580 "			
]-	TOTAL CRUISERS OF ALL CLASSES.						
e-	United States 31	1 ships, with a to	tal displacement	of 99,421 tons.			
	Great Britain145			·· 586,725 ··			

Estimated, as before, on the basis of displacement, this table shows a preponderance for Great Britain in cruisers of 5½ to 1.

Of merchant steamers which are built to meet the naval requirements for conversion into cruisers, the United States have 4 and Great Britain 26.

TORPEDO BOAT DESTROYERS BUILT AND BUILDING.

		Number.	Displacement.	Speed
,	United States			
•	United States Great Britain	62	250 tons.	28 knots
-		T	ORPEDO BOATS.	
	United States	, . .		1
	Great Britain		•	

By displacement, the preponderance in torpedo boats is 40 to 1.