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THE GOLD MINES OF CALIFORNIA OF NO VALUE TO THE WORLD.

Gold-mining, provided the metal is used for coin, adds nothing to the wealth of mankind. If a man owns a steam engine worth ten thousand dollars, the engine forms this portion of the wealth of the world. And if the man devotes his surplus labor, besides that which is necessary to procure a living, or expends his surplus profits in constructing a second engine of equal efficiency and value, he adds another ten thousand dollars to the wealth of the world. But if he expends the same amount of surplus labor or profits in simply adding to the weight of his engine, without increasing its efficiency or usefulness in any respect, he does not by the operation augment the wealth of himself, of the community or of mankind.

In complex states of society, the innumerable exchanges of property which people mutually desire to make, are effected through the medium of money. The articles which first came into use as money were the more valuable metals; the natural properties of these substances—their indestructibility, portability, &c.—causing them to be sought for this use. As civilization advanced, and the organizations of society became more complex, certain individuals and associations exchanged their own notes, promising to pay either gold or silver or platinum on the presentation of the note, and these notes also came into use as money, being received by persons in exchange for articles of value on the faith that the stated quantity of valuable metal could be obtained for them at any time.

The money in circulation in this country amounts to about two per cent of the whole wealth of the country, and it is probable that in other countries the proportion is about the same. Now the point that we make is, that this proportion (of two per cent) will not be altered by doubling the amount of money in the world; for, prices will advance so as to double the nominal value of other property, and thus the proportion will be maintained. The price of an article is its value relatively to gold, or platinum, or whatever metal is the standard, and prices must vary with all changes in this relative value. If a bushel of wheat is worth as much as an ounce of silver at one time, it may, at another time, be worth as much as two ounces of silver from either of two causes: it may be twice as difficult to get the wheat, or twice as easy to get the silver. If twice as many pounds of gold and silver are thrown into use as money, it will take twice as many pounds to do the same work, and the work will be no better done by the larger quantity than by the smaller. Indeed, it will not be done as well; for one of the properties which make the precious metals convenient for use as currency is their light weight in proportion to their value, and if this is increased they are rendered less serviceable for this use.

A man who becomes rich by manufacturing or trading, generally increases the wealth of the country and of the world to an extent at least equal to his own accumulations, but the labors of the gold-digger add nothing to the wealth of mankind, inasmuch as they increase the weight of the currency without increasing its value. This applies, however, only to that portion of the gold which is used as currency; that which is used in the arts does increase the wealth of the world to an extent equal to the excess of its value above the cost of its production.

WHICH ARE THE BEST WAR SHIPS?

On another page we have given the views of Mr. D. McKay, with respect to the classes of vessels which he considers the best for war purposes. They are very different from those which seem to have been adopted, except in one case, by our naval authorities, Many of his positions are impregnable. Thus, for example, he places speed and power as the leading requisites for an effectual war ship. The advantages which a war vessel that can choose her own distance has over an enemy are self-apparent. We have continually urged this idea upon the attention of the public; and, since the late artillery experiments in England have demonstrated the practicability of entirely piercing through a 4½-inch plate and eighteen inches of teak, with shells, at a distance of 600 yards, great speed in vessels has become a greater necessity than ever. These experiments were made since Mr. McKay wrote his letter, and they must modify the opinions contained in it, in one important feature at least. He advocates wooden vessels plated with iron, and considers them superior to iron steamers. We understand by an iron war vessel one that is built with an iron framing, an interior lining of iron plate, like an entire merchant iron steamer covered with thick wooden planking, and thickly plated outside. His objections to such vessels are not satisfactory, because they are chiefly founded on the fact that iron vessels soon become foul on the bottom, while wooden vessels sheathed with copper keep clean and resist barnacles. This objection is just as good against iron merchant steamers as war vessels, and yet there has not been a wooden screw steamer built in England for more than ten years. The action of the screw tends to open the seams of a wooden vessel and cause leakage. An iron screw steamer, it is asserted by engineers of experience, will keep as tight as a boiler for years, while a wooden screw steamer soon becomes as leaky as a sieve. The rapid fouling of the bottoms of iron ships is undoubtedly a great evil, but this should only increase the efforts of inventors to discover an effectual remedy.

A very strong argument against mere wooden frigates, covered on the outside with plates, is based on the fact that their plates can now be pierced with incendiary and explosive shells, and they may be set on fire by such missiles, while an iron ship is not so subject to such a fate. Mr. McKay states as an argument in favor of wooden ships, that, in case of striking, "a wooden bottom is never injured in the like manner an iron one invariably is." This is contrary to very recent experience. In a letter published in the London *Mechanics' Magazine* (Oct. 3d) it is stated that while the new armor-clad frigate *Defense* was on a late cruise in the Baltic Sea, she struck bottom three times; on two of the occasions the sea bottom was sandy, but the third time the vessel grated upon a rock, while she was steaming at the rate of eight knots per hour. The shock was considerable, as it knocked an officer off the deck bridge, and those who were in their berths were awakened, and rushed upon deck in alarm. When she went upon the rock her bow was heaved up six feet, then she plunged six feet with her stern elevated when she went off. All on board expected that a large hole had been stove in her bottom and that she would leak badly. She, however, continued on her home voyage without any sign of leakage, but after having arrived at Portsmouth, she was at once put into dock and inspected, as all her officers were sure she was much injured. Upon a careful survey of her bottom, every plate and joint was found as sound as when she was launched; the sole damage was six rivets started. The correspondent referred to says, in reference to this case: "It is agreed by all on board that had she been a wooden vessel she would have stuck fast on the rock and injured herself very severely."

Mr. McKay states that the opinions of practical men in Europe are unfavorable to shield or gun-turret ships. It is not the case in America, where practical men have had the best opportunities for examining and studying their peculiarities. Such towers can be applied to any war vessel, no matter how large or fast she may be. The *Warrior* or *La Gloire* could be fitted with turrets just as well as the *Roanoke*. Shot is more liable to glance from the rounded sides of these circular batteries than from the flat sides of the French and English armor-clad batteries. It is believed that the *Roanoke* will be superior to any of the European frigates, on account of her gun towers, combined with her thick side plates and the heavy guns she will carry. Her 15-inch Dahlgrens will throw shot nearly twice as heavy as that of the Horsfall gun, which is the largest in England. The speed of the *Roanoke*, however, will be much less than that of the new European frigates.

The experience of shipbuilders and engineers with armor-clad vessels is very limited, and, in view of this fact, there is a commendable desire among them to examine, study, make comparisons, and collect facts on the subject, rather than adopt hastily, as the best, any of the systems of construction that are now practiced. It is only by collecting reliable facts respecting the construction and particular characteristics of such vessels, that correct conclusions can be arrived at in relation to their merits and defects. Such facts, combined with remarks pertinent to a calm discussion of the question, are contained in Mr. McKay's valuable letter.

A VISIT TO OUR WORKSHOPS—THE CONTINENTAL IRON WORKS.

The manufacture of iron vessels is comparatively a new branch of the engineers' and shipbuilders' business in this country. So far as we are informed, but four such establishments exist of any magnitude; these are the Continental Iron Works at Greenpoint, L. I., the Novelty Iron Works and Messrs. Delamaters of this city, and Harlan, Hollingsworth & Co., of Wilmington, Del. Other places have works wherein some ships of this class have been built, but the foregoing, we think, embrace the principal interests of the country in this department of shipbuilding. We paid a visit to the first one upon the list, a few days since, and were greatly interested in the various details which were pointed out to us by Mr. Thomas F. Rowland, the able director, as also to notice the energy which he manifests in driving forward the important Government contracts entrusted to his charge. The first notable features that arrest the visitor's attention, upon entering, are the vast extent of ground and the great number of men employed in the yard. The various buildings and shops, together with the vessels in course of construction, occupy a space of between seven and eight acres; and in some parts of this vast area so numerous are the workmen (1,200 in all) that locomotion is both difficult and dangerous; while in the appropriate places the machines necessary to accomplish the peculiar work required of them are found busily turning out those iron-clad monsters which we hope to render the admiration of the world. At the Continental Works was launched the famous *Monitor;* here also was built the *Passaic* and the *Montauk*, her consort, both now nearly finished. The *Kaatskill* and *Onondaga* are fast tending toward completion; and the *Puritan* (7,000 tuns), the largest iron-clad ship yet attempted in this country, is in course of construction.

In addition to the large amount of manual labor necessarily employed, the use of improved machinery performs no unimportant part. Here are huge shears that cut through plates of iron an inch thick, as if they were made of lead; here also are immense punches that come down upon those plates, forcing out large metal buttons as easily as a tinner can punch a hole