wood would be effected ; and, if iron were used, the saving would be 5 tuns.

OUR MARITIME DEFENSES.

We paid a visit to the Novelty Iron Works recently, and found a large force of men busily engaged upon the various contracts now under way at that establishment. Some of these engagements are for engines for the Revenue service, the vessels for which are laying at the large dock below. The engines will be of the oscillating class, with cylinders of 40 inches diameter and 40-inch stroke ; fitted with all the recent improvements in modern engineering—including surface condensers, instruments of all kinds for observing the condition of the engine, testing its duty, &c. They are also to have large boiler power, and it is thought that these ships will prove very fast. The Italian frigate, *Re D'Italia*, recently launched from Mr. W. H. Webb's yard, presents an imposing appearance, moored at the wharf alongside the large derrick. She is "top lofty," in sea phrase ; and has all her masts and much of the rigging already set up. The iron mail upon her sides is now in place, and nearly fastened ; though some portions of it (the upper streaks) will only be put on the ship when she arrives in France. The prow is ornamented with a full length figure of Victor Emanuel, who has a sufficiently imposing moustache, and wears a most determined aspect, as though he intended to defy Neptune, and ride over him, as he does over his countrymen—to be not only King of Italy, but King of the Sea.

The engines and machinery of the *Re D'Italia* are first-class, and consist of two 80-inch cylinders, the pistons of which have four feet stroke. They are to have large slide valves, worked by a very simple and elegant arrangement of arms aud levers ; in addition to which there are "tail valves" to each cylinder ; these are merely small slides that enable the engineers to move the large machines with the greatest ease when the eccentrics are thrown out of gear. Two engines of this class are being made at the Morgan Iron Works for a sister ship, also building by Mr. Webb.

The *Dictator*—the large ocean monitor at the Delamater Iron Works—is rapidly approaching a finished state. We are informed that she will be launched some time during the autumn. A strong force of men is at work, although they are not visible in masses, the vessel being so large that they are lost in her. The ship carpenters are busily engaged in putting on the timber backing of the side armor ; it consists of oak logs, about 12 inches square, laid in sections ; in all about five feet, as we are informed : outside of this there will be ten and a half inches of iron, also put on in sections. The engines and turret machinery are well along, and progressing favorably.

The character of the engines is the same as those on all the monitors, with the exception that the cylinders and all reciprocating parts are vertical ; a desirable feature in engines of this size—namely cylinders 100 inches in diameter by 4 feet stroke of piston.

In the state they now are no adequate description can be given of the general arrangement, except to say that the cylinders are set amidship, and the air-pumps aft of them ; that the steam chests are on the outboard side of the cylinders, where the bonnets can be readily removed, and that expansion valves are provided.

We were told by the workmen that one of the cylinders fell down a distance of five feet, while suspended from the shears, which ruined it so that it had to be replaced by one cast for the *Puritan*, consort, now building, at Greenpoint, by Thomas F. Rowland. The cause of the disaster was the breaking of the guy ropes which stayed the shears ; fortunately, no lives were lost. The company incur a heavy expense by this unavoidable accident, which we regret very much ; the completion of the ship will not be delayed by the casualty. The overhang of the armor shelves on the sides of the *Dictator*, is much less than in the monitors, being only some two feet ; while the projection forward and aft is also less than the same parts in the smaller batteries ; we notice that the armor shelves are strengthened by the addition of iron-plate sponsons.

The *Dictator* has an immense screw propeller, of 21 feet 6 inches diameter, and 32 feet pitch ; there is no outboard bearing for the shaft. The boilers are six in number, three on each side, and are of the return tubular pattern. The ship herself is 320 feet in length, 50 feet in width, and 20 feet deep ; there will be two turrets, whose walls are 15 inches thick ; outside diameter to us unknown.

The *Dunderberg*—a wooden vessel, immensely thick and strong in the hull—is assuming shape and form as rapidly as human hands can do the work. Mr. W. H. Webb is her builder, and the singular appearance of the hull, as well as the monstrous projecting ram forward, attracts much attention, and provokes criticism from every one, whether competent to pass judgment or not. The whole ship is solid throughout, frames, floor and bulwarks ; and with solid casemates, solid plating, guns, engines, commander and crew, she will doubtless prove a valuable addition to our national defenses.

There are numbers of other iron-clads in various parts of the city and suburbs, which we have not had time to visit, but which we hope to inspect at an early day.

THE DIGNITY OF LABOR.

Very much has been said, at different periods of the world's history, about the dignity of labor ; and orators and politicians have turned many pretty periods, and rounded sentences with sonorous allusions to the "bone and sinew of the land." The admiration and adulation of these gentry is partly true and partly false, and too often their sentiments are uttered for sinister purposes. In either event, whether the after-dinner speakers mean what they say or not, no lover of his race can withhold his hearty admiration for the sturdy, law-abiding, hard-working mechanic, who toils with the sun, and wrests from his trade a modest but certain support. The little picture of his home, beautified by the taste of his equally frugal wife ; the children who share his hearth and cot : these have been held up to public view, and have been admired and dwelt upon with pleasure, as they should be. This is one aspect of the mechanic's social position ; and another is that one in which, by the universal consent and vote of his fellow-citizens, the artisan aspires and is elected to an honorable office, in which neither political wire-pulling nor trickery are of any value. The dignity of labor is then realized in the reward of industry and honesty, and the preferment which naturally follows in the wake of integrity when manifested in any sphere of life.

But there is no dignity to be found in those laborers who fritter away their time, and reduce their families to want, by hanging around pot-houses, or in loafing about places where idlers resort. There is no moral worth or value in those individuals who lounge about workshops, and condole with their fellows upon the small amount of wages they receive : who endeavor to incite strikes, thereby bringing beggary and ruin upon themselves ; who deprecate and ridicule the efforts of apprentices to improve their spare hours with study ; and who, in brief, embarrass every good and noble movement by sneering and declaiming against it, or by manifesting spite and opposition to moral and physical advancement of every kind. There is no dignity in the laborers who represent this class let them belong to whatever handicraft they may. They stand metaphorically in the position of Samson of old ; with either arm around the columns of the social temple, they topple the whole fabric to its fall, careless that they also are involved in its destruction. If there were any good workmen among those misguided individuals who lately defied the law in this city, they must have been there through terrorism and compulsion, and not from choice ; for the respectable artisan flies from such scenes of chaos, as from an epidemic, and knows only too well the stigma which attaches to a mobocrat.

TREMENDOUS FORCE OF RIFLED PROJECTILES.—During the furious assault upon Fort Sumter, the first shot fired from the 200-pound Parrott rifle penetrated nine feet into the wall facing Sullivan's Island, after first passing through the gorge wall of the fort ; it knocked over a pile of brick upon a steamer outside of the wall, demolished its smoke stack, and caused the boiler to burst, by which casualty four negroes were killed.

UNINFLAMMABLE FABRICS.

A report has been presented to the French Academy of Sciences by M. M. Payen, Valpeau & Rayer, on treating muslin fabrics to render them uninflammable. Therein it is stated that only three salts have hitherto been found which may be successfully employed in preparing ladies' muslin dresses, &c., to prevent them from taking fire. These are the phosphate and sulphate of ammonia, and the tungstate of soda. To apply them, the phosphate of ammonia is mixed with half its weight of the hydro-chlorate of ammonia, and 20 per cent. of this mixture is dissolved in water, in which the muslin is to be immersed. A solution of 7 per cent. of the sulphate of ammonia produces a similar result, and it is the most economical salt that can be employed for the purpose. But the best solution for dresses, &c., which require to be finished with a hot flat-iron, is that of the tungstate of soda : about 20 per cent. of which should be used in the solution. To obtain the best effects, these solutions should be applied to the dresses after they are starched and dried. Acid tungstates, borax and alum, although they render muslins uninflammable, tend to injure the strength of the material. The sulphate and phosphate of ammonia should be employed on cotton and linen fabrics that do not require to be ironed ; the tungstate of soda for those that are to be ironed. The latter is therefore the safest substance for use in families.

STEAM ON CITY RAILROADS

The whole of this city is being girdled and intersected throughout by lines of railway, that, when complete, will afford the utmost convenience for reaching every street and avenue in its confines. The Third Avenue Railroad is worked exclusively by horses, as are all the other lines. The first-named corporation employs nearly 1200 horses ; and, as a matter of course, has to feed and care for that number ; attendants have to be provided, hostlers, drivers, horse-shoers and others. Large buildings are required, covering an immense space, on which the rate of insurance is necessarily high, from the inflammable nature of the contents : in short the maintenance and support of such a vast number of horses requires an immense outlay of capital, and entails enormous expense to keep the concern at work. These details will all be repeated in the "Gridiron" railroad, and the number of animals required for the several routes must be very great. In view of these facts, does it not seem a little strange that, while the ingenuity of man is capable of furnishing an efficient and economical substitute for the use of horses on city railroads, the managers of these should refuse to avail themselves of such an improvement, and humbly jog along in the same way that other old fogies have for years.

In the small space afforded by the platform of the ordinary city car, steam engines might be placed which would do the work of three teams, without a tenth part of the fuss, dirt, labor, and loss of time involved by the use of animal power. The engine wants no stable, comfortably arranged and fitted, to preserve its health, and the oats it demands are not greater in quantity, considering the amount of work it performs, than the rations of the horse ; it is not exposed to the weather, and seldom gets sick, unless badly made and managed, and there is no more danger from its use than there is in the boilers full of water placed beside the kitchen ranges in houses all through the city. The same care and oversight required in one case will answer for the other.

The prejudices of property holders regarding the use of steam, should not be suffered to stand in the way of a great public convenience, for such it would certainly be. The cars could be run much more quickly, with greater certainty of making time without abusing the horse, they would take less room on the track (a consideration of no small importance), and the whole working expenses of the road would be reduced materially : this is we fancy the most interesting part of the matter to stockholders. Why should we not have steam on our city railroads? Now, if ever, is the time to introduce it, when the whole city is to be turned into a line of railway.

A PHILADELPHIA paper notices that one effect of the draft in that city has been to drive away all the organ-grinders.