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There is Nothing New Under the Sun.

As a great general fact, no man can deny the correctness of the above language of Solomon, at least so far as it relates to the human passions and the general events of life; "we see the same scenes which our fathers have seen, and we tell the same tales which our fathers have told." Many new and grand discoveries have been made since the son of David laid the foundations of his unequalled Temple, but there is much that is incontrovertible, even when we apply his words to the inventions that are frequently brought before the public now as things supposed to be new.

Almost every day we see something of this kind; the reason is obvious; comparatively few have had, or do have the time or opportunities of acquainting themselves properly with the history of discovery and invention. Another reason is the want of sound ideas respecting the principles of science; thus one man gets up a machine for heating apartments by compressed air, forgetting that the fuel which drives it will heat the apartment much better and at less expense without the machinery; another gets up a machine to gain power by levers, forgetting that no lever can gain power without losing speed, which amounts to no real gain—a thing well and long understood; another gets up a machine to work by centrifugal force asserting that "this is a power which costs nothing and is generally lost." Some machines are got up for speculating purposes, and many are imposed upon by them; others, and the great majority, are the productions of honest but uninformed men. The latest wonderful invention that we have seen and heard of, is a machine to gain power by centrifugal force. All machinery is just the medium of transmitting force in a certain direction or directions. One way is to transmit it in a straight and another in a curved line; but almost in every machine there is a combination of these lines. The stroke of a piston transmits the power in a straight line to work a pump, but to work a wheel the straight line is mixed with the curved line of the crank. Three revolving gear wheels, connected together, do not transmit the power in circles but in a wavy line. This is the way of transmitting the power, and will easily be comprehended, but as it respects the power itself, there are some very erroneous notions abroad, and not one more so than this one of gaining power by centrifugal force. There is no power gained by machinery, but a loss in whatever amount of friction there may be in the parts. What is centrifugal force? This we will render plain in a very few words. Every body by the well known laws of mechanics has a tendency to move in a straight line, therefore, when any body receives a rotary motion, that is the force made to move in a circular direction, it is continually seeking to fly off at a tangent—in a straight line; this is called centrifugal force. It simply means that the force which has been applied, has been bent out of, and seeks for its natural line of direction; so strong is this tendency to move in a straight line in all revolving bodies, that it oftentimes acts like the blows of a hammer on large swift revolving grindstones, destroying the laws of the cohesion of particles and shattering them to pieces. Many accidents have occurred by driving grindstones, wheels, &c., at too great a velocity. The shaking of the centrifugal sugar machines, and the oscillating of large locomotive wheels, is caused by centrifugal force and is the result of driving them at too high a velocity; but to suppose that any new power is derived from such a source is all nonsense; if such were the case, all that has to be done with a steam engine, is just to put on a most tremendous fly wheel, get it up to a great speed, then put out the fire and leave the fly wheel to do the rest, like the song of the "steam arm," the machinery must go on right on forever.

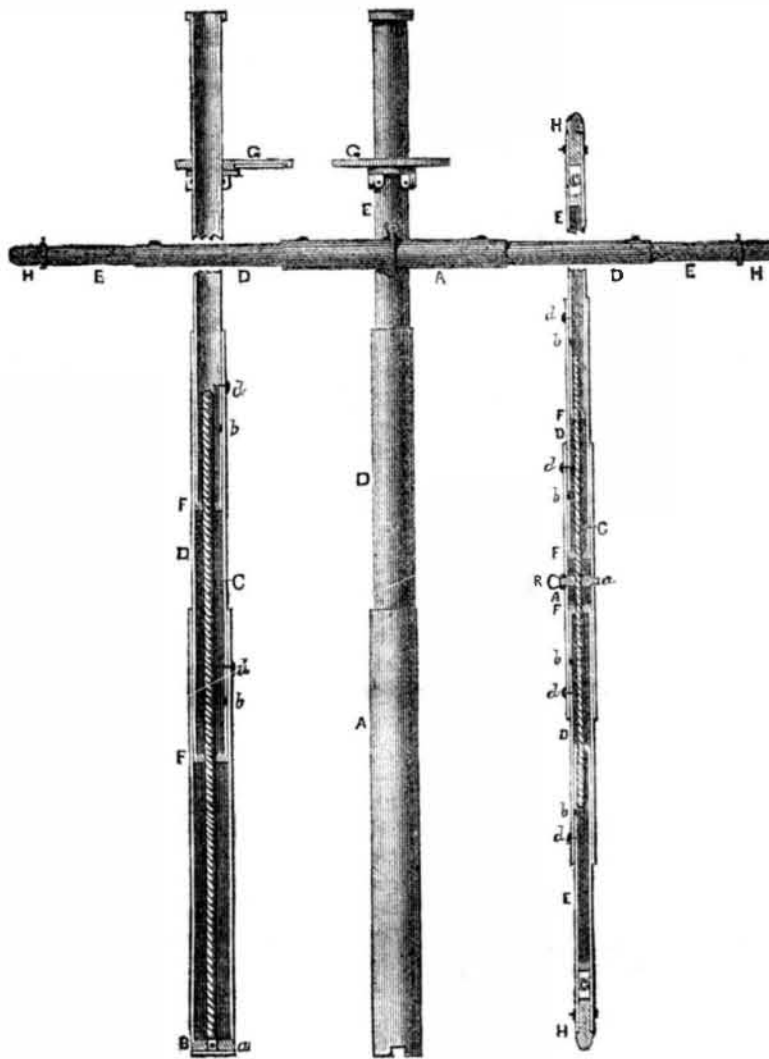
We have indulged in these remarks because we know there is a positive necessity at the

present time for doing so. They are intended to do good, and we have no doubt but they will accomplish the object intended.

Philip Crabbe, Esq., the first manufacturer of lead pencils by machinery, died a few days ago in London at the advanced age of 100 years.

CAPT. BROWN'S TUBULAR WROUGHT IRON EXTENSION MASTS, YARDS, AND SPARS.

Fig. 2. Fig. 1. Fig. 3.



This improvement is the invention of Captain Charles F. Brown, of Warren, Bristol Co., R. I., who has taken measures to secure a patent for the same. This invention consists in the employment of masts, yards, and other spars of wrought iron tubes fitting within one another in a manner similar to the joints of telescopes, the larger tubes forming the larger part or parts where the greatest strength is required, and the innermost or smaller tubes forming the ends, the whole number being secured together by a screwed rod or rods, made secure to the larger outside tube or tubes and passing through nuts in the inner ones. The several tubes can be set in any position by setting screws so that the length of each mast, or spar, may be varied at pleasure. Fig. 1 is an elevation of a lower mast and yard. Fig. 2 is a vertical section of the mast. Fig. 3 is a longitudinal section of the yard placed upright.

The same letters refer to like parts. A is the largest tube, and is the lowest one in the mast; in the yards it is the middle one. B, fig. 2, is a socket nut in which is secured a rod, C, with a thread on its whole length. The rod may be secured firm in its socket nut by a pin, a, passing through to prevent it turning round. The rod, C, in the yard, requires to proceed in both directions from the middle. D and E are inner tubes fitting into one another as represented. At the inner end of each there is a nut, F, so secured as to be incapable of turning within it. These nuts fit the rod, C, and by turning either tube, it may be screwed into or out of the other. In each encasing tube, near its end, there are one or more holes, through either of which a set screw, d, passes and is secured into one of a row of holes, b, in the tube inside of it, the said holes having threads for the reception of the screws, and by these means the length of the mast or yard may be varied; G is the round top, which may be made of wrought, or cast iron and secured to the mast in any suitable manner; H H are plugs of wood inserted in the ends of the smallest tubes, E E, fig. 3, to preserve

their form and give them the required strength for the mortice to receive the sheave, C. Instead of one rod, C, in the yard, separate rods may be used for connecting each pair of tubes. The same mode of connecting the joints may be applied to the mast. The upper masts are to be made in the same way as the lower ones, and to fit into them and be secured by other screw rods secured to the upper joints of the masts immediately below them. The gradual diminution of the size of the tubes, gives the necessary taper to both the mast and yard, and each may be formed of any number of joints necessary for the purpose intended. The masts and spars, when stowed away, can be screwed into one another, or the screw rods may be taken out, and the tubes slipped into one another, thus enabling them to be stowed away in very little space. Any spars may be made in the same way. The advantages of this invention are self-evident, and we have no doubt but it will arrest the attention of nautical men. It will enable sailing vessels to be greatly increased in size, as it is difficult to obtain solid sticks for masts.

The Progress of Our Republic.

The census of the United States, for 1850, is enough to astonish all the world but ourselves—whom nothing can astonish in the way of doing up things slick. The increase of our wealth and population are evidences of our great prosperity. For the past eight years, especially, we have reason to be deeply thankful for the steady and prosperous advancement of our commerce, and internal resources. There have been no sudden fluctuations, and nothing but general progress. Some interests have suffered, but the Republic as a whole has not felt them. How striking the contrast between our country, and the civilized countries of Europe. Our superiority in every respect has been strikingly manifested. We have beheld Europe convulsed from centre to circumference. France has spouted out her race of monarchs and her citizens have made the streets of Paris reek with human gore. Rome cast out her

spiritual ruler, who was only reinstated by the cannon of the Gaul, who, more than once, as in days of old, has become master of the Eternal City, perhaps yet to pay the debt to a more than Cæsar's vengeance. The fields of Italy have been stained with blood, and the cannon of Austria have battered on the walls of Venice. Bloody have been the struggles on the plains of Hungary, and Vienna has smoked with the ashes of the slain. Every nation in Europe but Russia and England have had the knife of civil war bared in the savage contest of father against son and brother against brother; Ireland has lost two millions by the famine and the pestilence, and what country in the old world has escaped some scourge or reverse of fortune? Not one. We have been engaged in war, and we glory not in that, because we are the friends of peace; we have also had the pestilence, but it would seem as if those things which injured and retarded the progress of other nations tended always to advance and prosper ours. Strong are we now in population, and stronger than all other nations in enterprise, and never-tiring onward pushing. In the year 1800 the population of the United States was 3,300,000; it is now 23,500,000.

The number of States then comprising the Union was sixteen; it is now thirty-one. Our territory then was 1,000,000 square miles; it is now 3,200,000. All our present domain west of the Mississippi then belonged to France and Spain, and was an unbroken wilderness. Florida was owned by Spain, and Georgia was the only State on the Gulf of Mexico. West of New York, there were no States but Kentucky and Tennessee, and these had spent most of their feeble energies in bloody strifes with a savage foe. Illinois, Indiana, Michigan, and half of our western States were yet but hunting grounds where Indians roamed unmolested. At that period the total value of all kinds of manufactures and products of industry in the United States hardly exceeded a hundred millions of dollars; the total value now of our products of industry will be about six hundred millions. The exportation of cotton alone has increased from \$5,000,000 annually, to sixty-five and seventy millions.

Our inland lake trade has increased from an amount too insignificant to be estimated, to the enormous value of \$200,000,000 annually. Our foreign marine is now hardly inferior in extent or value to that of Great Britain, and we are now gaining faster than ever on our gigantic rival. Fifty years ago, scarcely one of our present four thousand miles of canal existed, and not one of our present eight or ten thousand miles of railway, or our present sixteen thousand miles of telegraph were either known or dreamed of. In short, under the influence of free institutions, we have grown great and strong, with a rapidity which is enough to astonish and confound even the gigantic ambition of the Czar of all the Russians. The Emperor of Russia is called the colossus of the north; his empire is about three times the area of the United States possessions, with about three times the amount of population. It is about one-fifth greater in area than the empire of Great Britain. On the other hand, the British scepter exercises dominion over one hundred and eighty millions, three times more than Russia. It is the greatest empire at present in the world, and its industrial products are in proportion to its population. Next to England, in productive industry and commercial enterprise stands the United States, but in rapidity of advancement in giant strides to be the first empire in the world, it requires no "mystical lore" to predict that in thirty years hence, the result will be accomplished—the prediction fulfilled.

Mr. J. R. Hind has discovered another new planet in the constellation Scorpio, about eight deg. north of the ecliptic, and forming at the time an equilateral triangle with the stars Scorpio and Libra. It is of a pale bluish color, and its light is about equal to that of a star of the ninth magnitude.

The Pacific, American steamship, having made the three fastest voyages across the Atlantic, her officers are to be presented with handsome presents by Mr. Collins. Right.