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**A WORD ABOUT OURSELVES.**

Probably no other journal in the United States has received more "honorable mention" from the press of the country than the SCIENTIFIC AMERICAN—while it is equally true that this is the only truly successful and reliable journal of the industrial arts and sciences ever undertaken here. We do not often transfer to our columns the complimentary notices which are so freely bestowed upon this journal, but we cannot forbear to insert the following which we clip from the *Buffalo Advocate*:—

"Of late we have received papers which appeared to us to have been set afloat to rival the SCIENTIFIC AMERICAN, published in New York, by Messrs. Munn and Company. We have no disposition to discourage any lawful enterprise, especially in the making of papers, but it does appear to us to be as weak, as it is foolish, for any one to attempt or even think of bringing out a paper that will at all compare with the one noticed above. The proprietors of the AMERICAN are working, enterprising men, and are in possession of facilities for making a first class paper which others could not attain in a score of years. Besides, the polish, beauty, and exquisite taste which marks the appearance of each successive issue of the paper, must be attended with a great outlay, which no new enterprise could afford to expend. To our citizens, and to all, we recommend the SCIENTIFIC AMERICAN."

So far as other journals are concerned we can only remark with Uncle Toby, in *Tristram Shandy*, "the world is wide enough for me and thee." Our business is to pursue the even tenor of our way. As in the past, so in the future, we shall devote all our energies to the interests of our thousands of generous readers and patrons the world over. The SCIENTIFIC AMERICAN circulates in every country on the globe, and is generally acknowledged to be the best popular expositor of the arts and sciences now extant.

The present volume closes with this number. Some of our friends' subscriptions close with it, and as our rule is not to thrust the paper upon those who may not desire to take it, we invariably discontinue sending it whenever the subscription expires. We not only hope that all our subscribers will promptly renew, but we trust also that they will be able to induce some of their neighbors to join with them.

THE PATENT AGENCY DEPARTMENT connected with this journal is unquestionably the most complete and extensive in the world. For nearly twenty years it

has been our privilege to be associated with mechanics, inventors, and manufacturers as counsel for them in the prosecution of claims before the Patent Office.

From a very modest beginning we have gradually enlarged our operations, until they have come to include almost one half the entire business transacted with the Patent Office. Ours is the only patent agency in existence that has a co-operating branch office in Washington through which preliminary examinations are made, and personal supervision given to all such cases as may require it.

In our LEGAL DEPARTMENT attention is given to all matters of litigation affecting the rights of patentees—such as bringing suits for infringement, contesting interferences, prosecuting extensions, preparing all legal documents and papers—indeed there is no branch of the patent business which does not receive our most careful attention. Popular opinion as well as attested facts place the SCIENTIFIC AMERICAN Patent Agency Offices as the first in the world.

**WHERE TO LOOK FOR PETROLEUM.**

A man is sinking a well for petroleum about two miles west of Mount Vernon, in Westchester County, near this city, and has penetrated some 80 feet below the surface. The rocks in this locality are of the taconic formation, which is many thousand feet below any of the oil-bearing rocks. There is no spot on the face of the earth where a well could be sunk with less chance of finding petroleum, while there are thousands of square miles of the oil-bearing formations that have not yet been explored.

We have now in the hands of the engraver a diagram illustrating the position of the rocks in the great basin where petroleum is found, and this will be accompanied by Dr. Stevens's description of the rocks, of their position and location, and of the manner in which they were deposited, all so plain that it will be understood by any one who knows nothing of geology. Indeed, the article will give a better idea of the general position and formation of the rocks which constitute the earth's crust than can be found elsewhere in so few words; and it will indicate clearly the localities in which wells may be sunk with any hope of success. The diagram and description will appear in our next issue probably; if not, the week after.

**THE WAR ENDED.**

Few people realize the inestimable blessings they possess in the close of the war. They miss the accustomed accounts of engagements, and the sight of soldiers in the streets is becoming rare. Flags no longer wave from every house top. The bands that paraded and the regiments that marched away to the front, these are all among the scenes that were. There are no more dreadful battle-fields, no sewing-circles for the soldiers, and few boxes to be forwarded. The foundries have done their work; shot and shell are no longer turned out by the tun, but, figuratively speaking, the iron for them is cast into plowshares, and the sword has been beaten into the pruning-hook. The shipyards are busy on their contracts for merchants, the armories are disbanding their forces, the makers of ordnance are unemployed, and the whole tenor and tone of our daily lives is as suddenly transformed from one of eager and vigilant activity for our national existence as if we had dropped from one sphere to another.

Perhaps the most striking transformation visible in the external appearance of this city is that of the Park, opposite our office. But a few months ago it was full of troops, armed and equipped as the law directs; and cannon, tents, recruiting booths, and bands were too common to attract more than a passing glance. These have all vanished, and where the armed men congregated grass is growing vigorously. Welcome, peace! And happy America that has lived through the scissions and schemes that sought to destroy her.

**THE MOST PLAUSIBLE PLAN FOR NAVIGATING BALLOONS.**

We have before us a large lithograph print, neatly framed and glazed, with this note at the bottom:

"THE AEREON,

or Air Ship, invented and constructed by Solomon

Andrews, M. D., of Perth Amboy, New Jersey, in which he sailed against the wind at the rate of 25 miles an hour; not daring to risk a greater speed until the strength of the material, to meet resistance, was proved. The engraving shows the *Aereon* as she appeared on the 4th of September, 1863, in his fifth and last entertainment, when she traveled 30 miles in 14½ minutes or at the rate of 124 miles per hour, in a spiral circle upwards, when she was lost to view in the clouds. Though hundreds of persons were present when she started, and thousands witnessed the flight, yet no one discovered the means by which she was propelled. She was afterwards destroyed by order of the inventor. The cylinders were made of varnished linen, each one 80 feet long and 13 feet diameter. They contain 26,000 feet of hydrogen gas. She carried up the aeronaut weighing 172 lbs., and 256 lbs. of ballast. Car 12 feet long. What is the motive power, and by what means is the power applied?"

The engravings represent three cigar-shaped balloons lashed together side by side, with a rudder at one end, and the car containing the aeronaut suspended below. In the ascending views the balloon is inclined with the forward end upward, and in the descending views with the forward end downward. This makes the solution of the puzzle sufficiently obvious.

It is well known that the vertical position of balloons is under control; to make them rise it is only necessary to throw out ballast, and to make them descend to permit an escape of gas. Mr. Andrews makes a broad, flat balloon, and having pointed it in the direction in which he wishes to go, stands while it is ascending in the rear end of his car so as to incline the forward end of the balloon upward, when the resistance of the air against the upper side of the balloon causes it to glide forward as it rises. Having risen as high as possible, the aeronaut discharges a quantity of gas, causing the balloon to descend, and at the same time steps to the forward end of the car, thus tipping the balloon with the forward end downward, when the pressure of the air against the lower side during its descent causes the balloon to shoot forward in the same direction as during the ascent. The balloon thus being driven by the force of gravity through the air, it will, of course, be obedient to its rudder, and its course may be governed at will.

This is the only even plausible plan that has ever been suggested for navigating balloons, and it is certainly very ingenious. In regard to the statement, however, that the *Aereon* sailed against the wind at the rate of 25 miles an hour, it would be satisfactory to know by whom and by what methods the velocity was measured, and what was the force of the wind against which it sailed.

**LEATHER BELTS.**

Since publishing an article on leather bands for driving machines we have been in receipt of many letters; one of them we shall publish next week.

We are obliged for this letter and for others on this subject received but not published. The difficulty alluded to in our article of estimating exactly what power is transmitted by a belt is not solved by our correspondent's communication, although he gives so much that is interesting, and is a thinking man. He assumes that the belt (rule 1st,) gives or transmits 22½ H P, but is this an inference or the result of actual experiment, or practice, which is better? A belt transmitting 22½ H P will have to raise 742,500 lbs. at the rate of one foot high in a minute, and that the force exerted is materially changed by the conditions the belt works under is very certain from the data furnished by Mr. Cooper.

A 12-inch belt running on a 5½-foot pulley at 45 revolutions per minute would be very slack not to transmit more than 12-horse power. We know of an 11-inch belt that daily transmits, from a 4-foot pulley running 60 per minute, the power exerted by an 11-inch cylinder and 30-inch stroke running 45 revolutions per minute with 50 pounds of steam. In this comparison the advantage is with the 5½-foot pulley, for the speed of the belt over it, in lineal feet, is 780, while the smaller pulley runs 753 feet per minute. The power thus carried off by this belt (vertical) without an idler pulley is, by the rule for estimating the powers of steam engines, 29-horse power.

Let it be understood that we do not criticise our