

# Scientific American.

THE ADVOCATE OF INDUSTRY, AND JOURNAL OF SCIENTIFIC, MECHANICAL AND OTHER IMPROVEMENTS.

VOLUME 5.]

NEW YORK MARCH 16, 1850.

[NUMBER 26.

THE  
**Scientific American,**  
CIRCULATION 14,000.

PUBLISHED WEEKLY.

At 128 Fulton Street, New York, (Sun Building,) and  
13 Court Street, Boston, Mass.

BY MUNN & COMPANY.

The Principal Office being at New York.

Barlow & Payne, Agents, 89 Chancery Lane, London  
Geo. Dexter & Bro., New York City  
Stokes & Bro., Philadelphia.  
R. Morris & Co., Southern.

Responsible Agents may also be found in all the  
principal cities and towns in the United States.

TERMS—\$2 a year—\$1 in advance, and  
the remainder in 6 months.

## Rail Road News.

### St. Louis Pacific Railroad.

The Republican gives the amount of subscriptions, as far as known, at \$434,000, and says that it is thought that there are other subscriptions not yet returned by the canvassing committees, which may swell the amount to \$500,000.

### Mobile and Ohio Railroad.

On the 27th ult. an election of the people was held at Mobile, to decide whether the corporate authorities of that city should subscribe \$300,000 to the stock of the Mobile and Ohio Railroad, the sum to be raised by levying a tax on the real estate of the city.

The Ogdensburg, N. Y., Railroad, has executed a mortgage of its property, for the benefit of all its bond-holders. The trustees are, James Savage, J. J. Dixwell, of Boston, and G. N. Seymour, of Ogdensburg. The road will be finished in all, next fall; it has been built at small cost, in consequence of the favorableness of the grade.

A locomotive exploded on the Troy and Schenectady Railroad on the 11th inst. The engineer, W. Wiggins, was killed. It was a comparatively new engine, built by Norris.

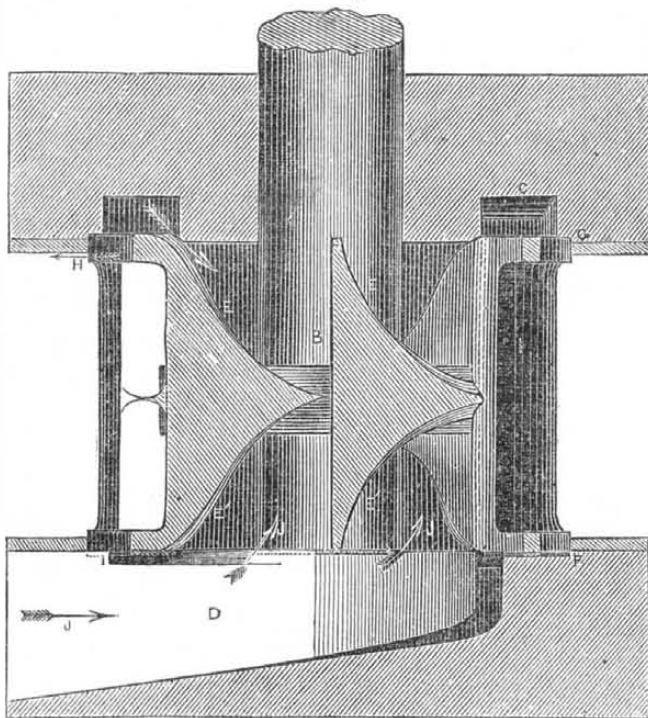
The Lowell, Mass. Railroad, for the last eleven years, has netted 8 per cent dividends every year.

In Pensacola, Florida, \$200,000 has been subscribed, for a railroad, from that place to Montgomery, Alabama.

### Lake Nicaragua.

Lake Nicaragua is described as a magnificent stream, and scenery on its borders is remarkable for beauty. The banks near the sea are low, and are covered with palms, which look like so many giant plumes. Higher up, the banks are more elevated, and covered with a dense mass of verdure, coming down like a wall to the very edge of the water. These are broad leaved plantain, the gigantic cecia, the slender cocoa palm, besides an hundred other strange varieties, twined and bound together with vines, covered with bright flowers, and hanging their long pliant tendrils from every stem. On this mass of impenetrable verdure, which never fades, parrots and noisy macaws glance in and out; long neck cranes mounted on the sandbars; bright green inguanas looked down from the overhanging limbs, and queer monkeys hang by their tails and chatter vociferously. The lake Nicaragua, is a remarkable fine body of water; nearly as large as lake Ontario. On the north, are the undulating slopes grassy hills of Chartales, the paradise of the cattle raisers—on the south, for a long distance, are the rugged hills towards Costa Rica, the abode of the untamed Indians; the fine department of Nicaragua, lately the seat of terrible commotions; the department of Grenada, with its indigo and cocoa estates and its volcanic peaks. In the midst of the lakes rises the regular cone of Ometne, a very fine mountain, and by its side the volcano of Maderia, capped with clouds.

## IMPROVEMENT IN WATER WHEELS.—Fig. 1.

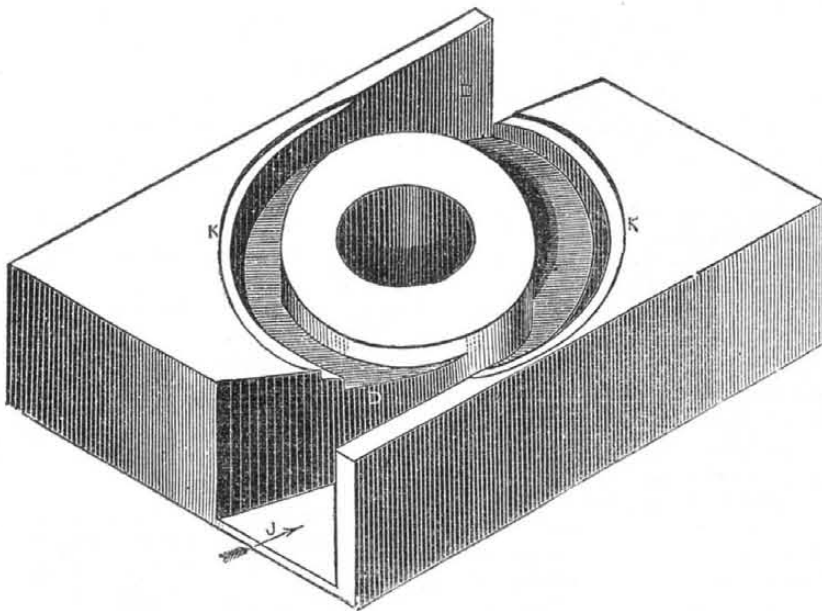


This improvement on Water Wheels is the invention of Mr. W. T. Collier, of Old Fort, McDowell Co., N. C. The wheel is a double acting submerged one, employing the re-active force of the water.

Figure 1 is an inside view, with the outer

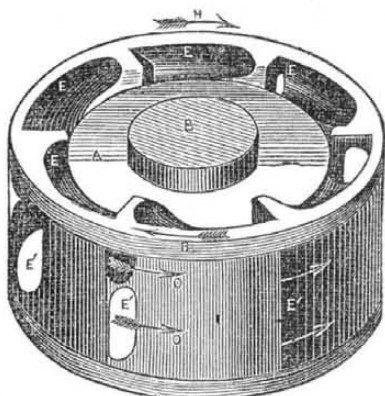
casing removed. Fig. 2 is a plan of the lower shute. Fig. 3 is a perspective view of the Wheel. The arrows indicate the direction and motion of the water, and will serve to give a clear view of its action. The same letters refer to like parts on the three figures.

Figure 2.



The wheel has two set of buckets, one above and one below, set at opposite angles but discharging in the same direction, and each set

FIG. 3.



is supplied by a separate water draft or shute. The pressure below counteracts the pressure

above, to balance and poise the wheel shaft truly, at all times—a very important consideration, especially in grist mills. A is the end of the wheel; B is the shaft; E E— are the upper tier of buckets, and E1 E1— the lower tier; D is the lower water shute. The upper one, C, is of the same construction. The arrows, J J, represents the entering water, and O O the discharges; H H, shows the direction of the wheel's motion. The shutes are capable of receiving and conducting the water at either end. The shaft passes through proper guide boxes in the shutes. The wheel fits snugly into the case, K K, and is fitted to run freely, but snugly in it, as represented by the letters, G P, fig. 1.

The construction of this wheel is so simple, and its operation is so well defined by the arrows, that it requires no farther description either of its construction or operation. It may be made of wood or cast iron, or a combination of these materials. The manner of its opera-

tion removes the friction from the lower step or bearing, thus making the wheel shaft more durable, less liable to breakage, makes it run more steady, and consequently its working power is greatly increased. With a low head and plenty of water, re-action wheels are by far the best, and have been the means of extending all kinds of manufactories throughout our country, by their peculiar adaptation to the propelling of machinery, in situations unfavorable to other kinds of wheels. Every improvement in prime motors, such as water wheels and steam engines, is of incalculable benefit to mankind. A small improvement in the water-wheel and steam engine confers more direct benefit upon mankind than the invention, in toto, of many new machines. An invention that would save three per cent on a steam engine, would save millions in the aggregate, to the whole country. We therefore welcome the smallest improvement in a prime motor, as a great improvement. Mr. Collier has applied for a patent. Information respecting his wheel may be obtained by letter (p. p.) addressed to him, as above mentioned.

## Useful Receipts.

### Cure for Stammering.

At a recent meeting of the Boston Society of Natural History, Dr. Warren stated a simple, easy, and effectual cure of stammering, which is known to be generally a mental, and not a physical defect. It is, simply, at every syllable pronounced to tap at the same time with the finger; by so doing, the most inveterate stammerer will be surprised to find that he can pronounce quite fluently, and by long and constant practice he will pronounce perfectly well. Dr. Warren said that this may be explained two ways—either by a sympathetic and consentaneous action of the nerves of voluntary motion in the finger, and in those of the tongue, which is the most probable. We know, as Dr. Gould remarked, that a stammerer who cannot speak a sentence in his usual way, can articulate perfectly well when he introduces a rhythmical movement, and sings it,—or it may be that the movement of the finger distracts the attention of the individual from his speech, and allows a free action of the nerves concerned in articulation.

[It is well known that some men who cannot speak a single sentence without stammering, will recite pieces which they have committed to memory, with grace and the utmost correctness. Stammerers sing correctly and talk tolerably well, the most of them when describing coolly, something with which they are familiar. When excited or abashed, the plague of stammering is then painfully manifest; with some it is a natural defect—with some it is an acquired habit. The latter can be cured with self-culture, studying not to think what they shall say, but calmly, how to say it. A stammerer is generally quick of thought, with his mind ahead of his tongue; it therefore requires great discipline to cure such a habit in him; but it appears to be reasonable, that those who stammer from a sympathetic habit merely, can be cured.]

So perfect were the Egyptians in the manufacture of perfumes, that some of their ancient ointment, preserved in an alabaster vase in the museum in Alnwick, still retains a very powerful odor, though it must be between 2,000 and 3,000 years old.

A piece of Lead Ore, weighing 1,500 lbs., was recently received at New Orleans from Arkansas. The ore is said to yield 120 ounces of silver to the ton.