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See Advertisement on last page.

Poetry.

For the Scientific American.

OUR DISTANT FRIENDS.

BY MARSHALL S. PIKE.

When morning flings her rosy beams,
High up the orient-bordered skies;
On pleasure's wings, from happy dreams,
Life wakes to hope and realize,
But friendship's link seems broke in twain,
As distance with its varying art,
Makes fancy think fond hope is vain,
And pictures sorrow to the heart.

Then noontide's ray of golden hue,
Comes streaming through the firmament,
And brilliant day illumines the blue,
Which seems o'er earth convexly bent.
The pleasant past was so like this,
Joy thought the future to control;
But changes fast, brought us from bliss,
And centred sadness in the soul.

Now slumbers hush again the world,
And darkness gathers for the night;
As beauty's blush 'mid tresses curl'd,
Is hid away from glaring sight
While midnight dwells in dewy air,
And stillness reigns so calmly sweet;
Dear memory tells its earnest prayer,
That distant friends may soonest meet.

THE ANGEL OF PATIENCE.

BY J. G. WHITTIER.

To weary hearts, to mourning homes,
God's meekest angel gently comes;
No power hath he to banish pain,
Or give us back our lost again,
And yet, in tenderest love, our dear
And Heavenly Father sends him here.

There's quiet in that angel glance,
There's rest in his still countenance;
He mocks no grief with idle cheer,
Nor wounds with words the mourners ear,
But ills and woes he may not cure,
He kindly teaches to endure.

Angel of patience sent to calm
Our feverish brows with cooling palm;
To lay with hope the storms of fear,
And reconcile life's smile and tear:
The throbs of wounded pride to still
And make our own our Father's will.

Oh! thou who mourned on thy way,
With longings for the close of day,
He walks with thee that angel kind,
And gently whispers, "Be resigned!"
Bear up, bear on, the end shall tell
The dear Lord ordereth all things well!"

A well ordered house has been truly compared to a watch, all the wheels and springs of which are out of sight, and it is only known that they exist, and are in order, by the regularity with which their results are brought about.

"I can't bear children," said Miss Prim, disdainfully. Mrs. Partington looked at her over her spectacles mildly before she replied "Perhaps if you could you would like them better," she at last said.

Deciduous trees are those whose leaves fall every year, as opposed to evergreens.

GUYON'S WATER WHEEL.

There are many modifications of the tub wheel, yet who can say with regard to their construction, that we have arrived at perfection. Is it not rather a fact that in regard to the construction, operation and mechanical effect of reaction water wheels, that there is but little true knowledge among practical men and far less among the merely scientific, for the latter class are dependent on the former for the collection of experiments. It will afford no matter of wonder then, if much has yet to be discovered amid a host of conflicting opinions, and that Mr. Guyon's Wheel will be a valuable acquisition to practical hydraulics. Its economical construction demands attention, and its operations by the following description will be more easily appreciated by being better understood.

EXPLANATION.—This is a perspective view of the wheel geared on a frame to a vertical shaft. F F, are posts of the frame. O O, is the water trunk. A A, are the solid buckets which branch out from the centre to the periphery B, and the water is discharged through open buckets or orifices just inside of B. The manner in which the water is applied to this wheel is peculiar. It is admitted on the one side by a valve in the bottom of the trunk at V, and passes down a spout which will be seen in the engraving, falls on the wheel near the periphery opposite the shaft, and striking the sides of the discharge buckets quickly passes out ridding the wheel as quickly of useless weight after having performed its work. The

wheel is convex, so that the solid or inside buckets A A, are incline planes for the purpose of quick discharge. The discharge buckets are also incline planes, for they are beveled out towards the spout that admits the water and the inlet of the discharge of one bucket is exactly above the outlet of discharge of the other, taking advantage in this manner of the law which governs non elastic fluids in their discharge through orifices as the point at which water expands and exerts expansive force is upon the long end of the lever, the circumference of the wheel. By having a valve on the bottom of the trunk at V, one half of the water is allowed to pass round the trunk and is applied on the other side opposite by another spout, or it can be applied from the dam or fountain direct on both sides by R R, only by having a back water gate L on the other side, to send back the water down the spout. The two streams of water fall upon the wheel in different directions, yet both upon the same sides of the buckets equalizing the friction.

The advantages of this wheel are, the simplicity of construction, its easy application to small streams without the expense of making a dam, economical considerations well worthy of attention, and no doubt it will receive it from all those interested in such things.

The inventor is Mr. Henry G. Guyon of this city, who has already patented more than one useful invention, and who has made application for a patent for this wheel.

THOMPSON'S LIFE BOAT.

The above engraving is a representation of Mr. Nathan Thompson's Life Boat. It was exhibited at the Fair, and attracted no little attention. The principle upon which this boat is constructed is by applying hollow false bows and sides to a boat, which shall act as buoys and in all cases render the boat to which they are attached, incapable of sinking. These buoys are portable and are made so as to be fitted to any boat, converting thereby a common boat in a few minutes into a life boat. A A, are portable bows, being hollow chambers made either of wood or galvanized iron. B, is a side buoy, and by the lashings it will be observed, that all the buoys are connected together. Some may object to the lashing not being strong enough in cases where such a boat is required; but all know with what facility and strength sailors can use the rope to make all taut. The tubes C

are openings into the chambers (each bow is divided by a partition through the centre,) for the purpose of righting the boat if it should turn over. There are valves also on the bottom of these tubes opening outward which can soon clear the chamber of water, when the boat is righted. The two small caps observed near the open part of the boat, are openings into two portable lockers, for holding instruments such as compass, charts, &c., and also provisions. These are important considerations. A boat of this kind can be always ready for any emergency, and yet it can very soon be transformed into a common boat for common purposes, while a common boat can as easily be made a life boat. As a surf boat it is invaluable.

The inventor belongs to this city, and has made application for a patent.

RAIL ROAD NEWS.

Railroad Receipts.

The receipts for passengers and freight on the Long Island Railroad, during the month of September, amounted to \$15,413 77, being an increase of \$3,033 40 over the corresponding period of last year.

The receipts of the Erie Railroad for the month of September, were \$23,782 70, being an increase of \$5,430 71 over last year.

The receipts of the Fall River Railroad for the last four months before September, were \$42,599.

Hudson River Railroad.

This road is steadily progressing towards completion. Fifty five miles of it from this city are under contract. We hope to see this road constructed, and well constructed, in the most rapid manner possible. It will test the economy of railway and water transportation.

Railroad Sale.

The Tusculum, Courtland, and Decatur Railroad, Alabama with all its appurtenances, fixtures, &c., was sold a few days since, under a decree from the U. S. district court to satisfy the claim of Prime, Ward, & Co., of New York, who are the holders of the bonds of the company to a large amount. The road was bid off by an agent of the New York company, we are informed at forty-one thousand six hundred dollars. What disposition is to be made of the road we are not informed.

Crampton's Narrow Gauge Engine.

Crampton's great locomotive engine, the Namur, having high driving wheels and low boiler, run lately on the London and North Western Railway, making the extraordinary speed of 75 miles an hour, and all done, says the Railway Chronicle, "smoothly and safely."

Atmospheric Railway.

On the South Devon Railway, England, a speed of 67 miles per hour was lately obtained with a 30 ton train and 60 miles with a 50 ton train, 36 miles with a 100 ton train.

It is recommended in the London Patent Journal to use rope, or wire, attached to a bell on the locomotive engine, the rope to run through the train and be at the command of the conductor to warn the engineer to stop or go on, in case of accidents. This plan has been long in use on our railroads.

Telegraphs.

Some mean rascals have stolen about 600 feet of the telegraph wire on the Western line near Rochester.

New Line.

Hon. Amos Kendall and Mr. Smith, have lately visited Louisville, Kentucky, and made arrangements for building a line of Morse's telegraph from New Orleans through Nashville, Lexington and Maysville, to Wheeling and Baltimore, with spurs to Louisville, Cincinnati and Pittsburg, the whole to be under one company, and to be finished at the earliest possible period.

Buffalo and Milwaukee Line.

The line of telegraph between Buffalo and Milwaukee, a long route, is rapidly approaching towards completion.

Troy and Montreal Line.

It is calculated that the line from Montreal to Troy, N. Y. will be completed in about three months. At present messages from Buffalo have to come round by Buffalo.

Man.

The ancient philosopher defined man to be a cooking animal. A more modern one says he is a book-making animal: but we think the Cleveland Herald has hit it, which says: "Man is a reasoning animal who paints with the sun-beams, travels by steam, talks by lightning, speculates in breadstuffs and swaps handsaws and jackknives."

Hair has been transplanted from one part of the oody to another.