

Scientific American.

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

Vol. 4.

New York, December 16, 1848.

No. 13.

THE
SCIENTIFIC AMERICAN :

CIRCULATION 11,500.

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.

TERMS—\$2 a year—\$1 in advance, and
the remainder in 6 months.
See advertisement on last page.

Poetry.

SONG OF LIGHTNING.

Away, away, through the sightless air—
Stretch forth your iron thread ;
For I would not dim my sandals fair
With the dust ye tamely tread ;
Aye, rear it up on its million piers—
Let it reach the world around,
And the journey ye make in a hundred years
I'll clear at a single bound !

Tho' I cannot toil like the groaning slave
Ye have fetter'd with iron skill,
To ferry you over the boundless wave,
Or grind in the noisy mill ;
Let him sing his giant strength and speed :
Why, a single shaft of mine
Would give that monster a flight, indeed,
To the depths of the ocean brine.

No, no ! I'm the spirit of light and love,
To my unseen hand 'tis given
To pencil the ambient clouds above,
And polish the stars of heaven.
I scatter the golden rays of fire
On the horizon far below—
And deck the skies where storms expire,
With my red and dazzling glow.

The deepest recesses of earth are mine—
I traverse its silent core ;
Around me the stary diamonds shine,
And the sparkling fields of ore ;
And oft I leap from my throne on high
To the depths of the ocean's caves,
Where the fadeless forests of coral lie,
Far under the world of waves.

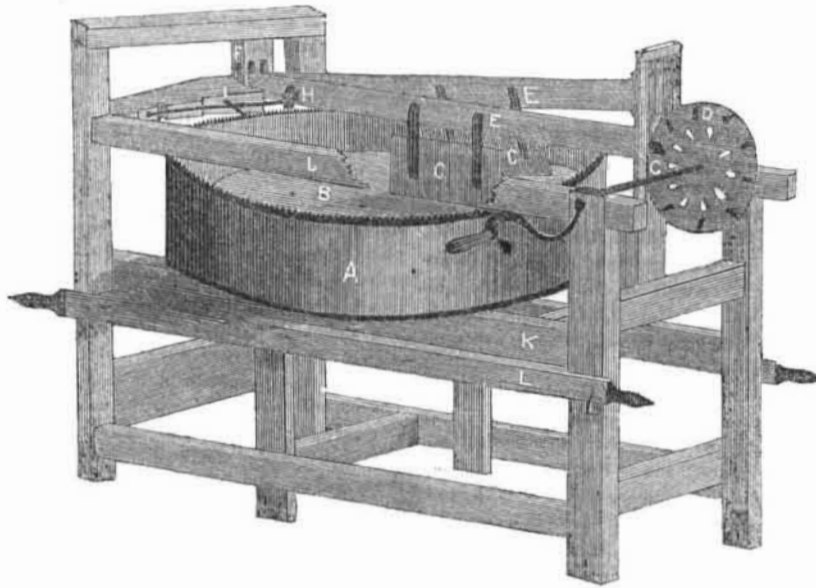
With a glance I cleave the sky in twain,
I light it with a glare,
When fall the boding drops of rain,
Through the darkly curtained air ;
From the Alps' or the highest Andes' crag,
From the peaks of eternal snow,
The dazzling folds of my fiery flag
Gleam o'er the world below.

Ye tremble when my legions come—
When my quivering sword leaps out
O'er the hills that echo my thunder-drum,
And read with my joyous shout :
Ye quail on the land or upon the seas,
Ye stand in your fear aghast,
To see me burn the stalwart trees,
Or shiver the stately mast.

The hieroglyphs on the Persian wall,
The letters of high command,
Where the prophet read the tyrant's fall,
Were traced with my burning hand ;
And oft in fire have I wrote since then,
What angry Heaven decreed—
But the sealed eyes of sinful men
Were all too blind to read.

At last the hour of light is here,
And kings no more shall blind,
Nor the bigots crush with craven fear,
The forward march of mind ;
The words of truth and freedom's rays
Are from my pinions hurled,
And soon the sun of better days
Shall rise upon the world.

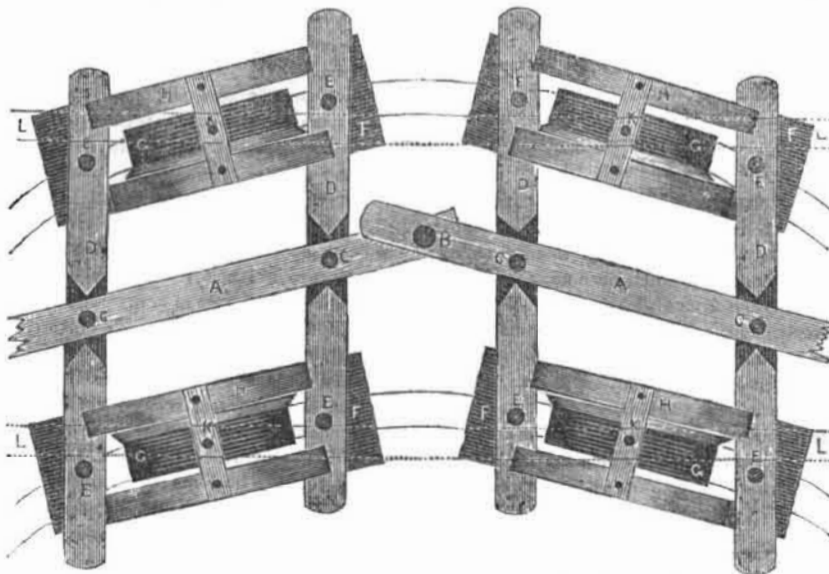
NEW MEAT CHOPPER.



A number of machines have been constructed for the purpose of mincing meat for sausages and "mince collops," &c. and among others of a like nature, but not a like construction, we present an engraving of one that is very simple and which practically operates well. A, is a large round block of wood fixed firmly upon a table, or as we have represented it, on a strong frame K. This block has a strong upright stationary iron shaft, which runs through its centre from below in an opening in the block large enough to allow it to move round. This shaft does not extend to the top of the block but just far enough to keep it steady. B, is the inside of the block on which the meat is placed to be chopped. C C, are two knives, secured by bands on two reciprocating arms E E. These arms are secured or made fast in the stock F, by a bolt. D, is the cam wheel that lifts the arms of the knives, and G is the shaft of said wheel operated by the handles so as by a rotary motion to give the knives a reciprocating motion—This is done by small projections called wipers, cast on the wheel D; which wipers have their sides that catch into the ends of

the arms E E, of a convex form, to lift the said arms and let them fall upon the block, each arm being lifted alternately for that purpose. D has a set of wipers cast upon each side to operate the two arms, which are kept a small distance apart by a partition in the frame. J, is a cross beam with part of it removed to show the knives. The block is moved round so as to let all the meat come under the knives. This is done by having a small rack of iron fixed on A, like a rim, and this rack shifts the block round the space of one notch by the stroke of each knife, according to the angle at which each knife is dropped on the block by the wheel D, and two palls, one H, of which is now seen, but the other is hid from view. These palls operate in a way well known to every mechanic, feeding round the block in a very simple manner. Any person might construct a machine of this kind themselves and make it all of wood but the knives. The wipers on D, might be made of wood set in a shaft to lift up the arms E E alternately, and the block might be moved round by hand without employing palls or a rack on the rim of the block.

ANOTHER RAILROAD TRUCK FOR NARROW CURVES.



This engraving represents a very simple arrangement for turning short curves, invented by Mr. John H. Quail, of Philadelphia, and patented a few years ago. The curved lines is the track, and the truck is now moving over the said curve. The dotted lines L L, is the bottom frame of the car, which is attached to the truck by vertical pivots K K K K, on a line of intersection with the axles. The said pivots pass through cross pieces, which

join two elliptical springs H, provided for each wheel and placed above each wheel frame. G G, are the wheels, each of which has a separate axle and is placed in a separate frame or bearings formed of two longitudinal and two cross beams D D, one beam above and one below F, with a solid bolster in the middle, on which rests and is secured the jointed motive lever A A. This lever is united to the frame by pivot bolts C C C C, and it is joint-

ed in the middle by a pivot B, passing through the ends at that part, the one formed with a crotch and embracing the other (which has a slot in it,) between. It will be observed that the construction of this truck gives it great flexibility, an idea of which is better conveyed by the engraving, than all we could say about it. The chief advantage claimed for this truck is the manner in which the wheels in all cases conform to the track, fitting close to the rails, so that there will be no lateral motion, and thus prevent the spreading apart of the rails, "also, as the bearings are directly over the points of contact, between the wheels and rails—the cars must run more steady on curves than those of common construction." This is the opinion of some good mechanics. There is no danger at least of the axles breaking.

We have now a short communication on hand on the subject of railroad curves, which we shall publish next week, and which expresses some opinions and views akin to those we hold ourselves.

RAIL ROAD NEWS.

Hudson River Railroad.

The Hudson River Railroad extending from this city to Albany, is in rapid progress towards completion. In going up the Hudson the line is only once lost sight of, viz: some few miles above Sing Sing, where it makes a detour into the interior, and does not reappear on the margin of the river for the space of about ten miles.

The road will be open fifty miles—taking the terminus on 14th street this city, as the starting point—by the middle of next July, and the entire distance to Albany will probably be laid with rail within two years. It is a work of immense labor. Between this city and Poughkeepsie full 3000 feet of solid rock had to be cut through or tunneled, and about two-thirds of this arduous task is accomplished. Then there were innumerable inlets to be bridged or crossed by raised causeways, faced with sea walls, and much of this work has also been done. The locomotive, in dashing through "Sleepy Hollow," the dream-land of Rip Van Winkle, will puff smoke almost into the windows of Washington Irving's Swiss cottage, pass within a few rods of James K. Paulding's castle, throw its sparks among the young trees in Mr. Livingston's plantation, and take liberties with the real estate of half a dozen other millionaires. The entire cost of the road will be about \$7,500,000, and it will be the straightest railway in the country, only diverging eight miles in the hundred from a right line.

Some think that the Hudson river day boats will not be able to run in competition with the cars on this road. Passengers starting hence in the morning for Albany will be there by noon, and after transacting business for a couple of hours, may come back to this city in time for tea! Four hours to four and a half hours will be the running time, and the fare each way to be \$1.50.

But we have strong doubt of the ability of this road to compete with the River Boats. If it can carry passengers for less than three dollars each, we can only pronounce the other railroads in this and other states, "to be shaving mills." No railroad that we know of can carry passengers for one cent per mile not even one in the heart of this city.

The Directors of the Madison Indianapolis Railroad at a meeting recently held, "unanimously ordered, that it shall not hereafter be competent for any officer of this Company to cause or permit any car of this Company to be run on the Sabbath for any purpose whatever; and that the President of this Board give notice that hereafter the cars of this company will not be run, either for passengers or freight, on the Sabbath."