

# Scientific American.

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

VOLUME 5.]

NEW YORK OCTOBER 20, 1849.

[NUMBER 5.

THE  
Scientific American,  
THE  
BEST MECHANICAL PAPER IN THE WORLD.  
CIRCULATION 12,000.  
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  
TERMS—\$2 a year—\$1 in advance, and  
the remainder in 6 months.

## Rail Road News

### Road to the Pacific.

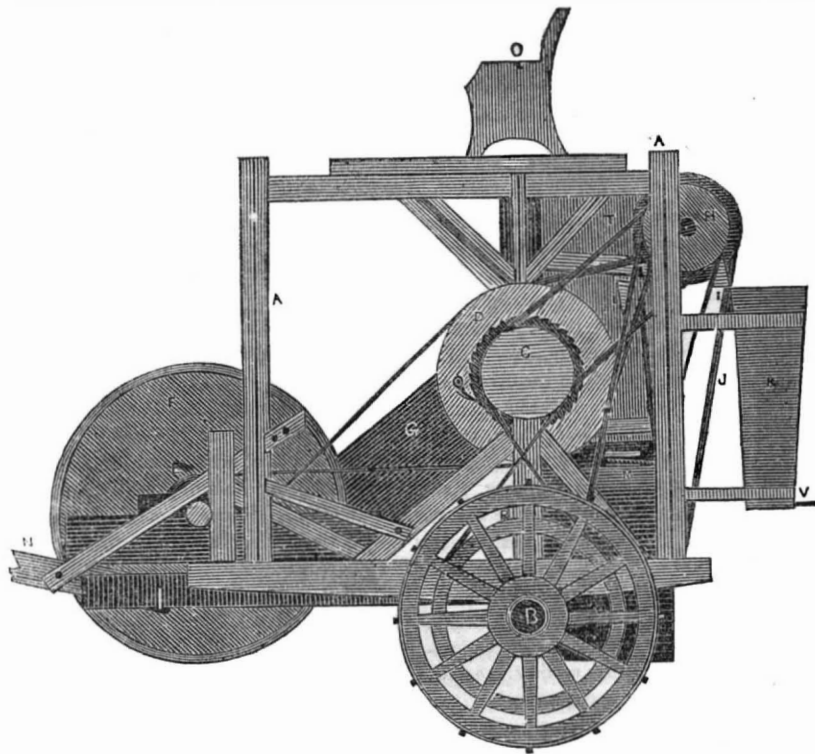
The subject of a Railroad to the Pacific is now engaging much of the public attention. That a railroad from the United States to the future States on the Pacific, will have to be built at no distant day, no one doubts, but the way to do this, and the most proper route to be adopted, are subjects which will require no small amount of reflection, examination, eye, and exploration too. We take no part in the discussion of this or that scheme to build an Atlantic Pacific Railroad. We believe that the times are not yet ripe for its construction, and it will be better to wait a year or two before any scheme is finally adopted. If it would be profitable to have a road built to the Pacific—that is, if it can be demonstrated, that it will pay a fair profit, there is plenty of capital to build it, and would build it. If it would not pay, then what is the use of building it. The undertaking is a great one, and it should be viewed in all its bearings, with calmness and impartiality, and this cannot be done until we have more light upon the subject. Has there been a survey of any route made yet—we mean a survey by civil engineers, who have planned and calculated the whole expenses of bridges, inclines, &c. ? Not one. We cannot give an opinion upon the expense nor the difficulties of building such a road, nor can any other person that we know of. It will require the survey of three different routes, by competent engineers, to produce a work upon which we can safely rely for accurate information, regarding the exact amount of funds required to construct such a road.

There is another point upon which information is desired, viz., its payability. New York and Boston would be little benefitted by it as cities—in fact it would not be of any benefit to them at all, as sea-ports. Is there an underwriter here who supposes for a moment that he could bring tea cheaper from Canton to this city, by first carrying it to San Francisco, unloading it, and then bringing it by railroad across the Continent, than merely to ship it direct by the longest route around the Cape of Good Hope to this city ? We trow not. Neither France nor Egypt have yet become depots for the British India merchant trade, although the overland routes by them is much shorter than by a Pacific Railroad. We believe that a railroad will be absolutely necessary in two years, for the union of our Atlantic with our Pacific States, but as far as it regards the splendid and alluring prospects that have been held out by some, to absorb all the East India trade of Europe by such a railroad, it is all hypothetical.

### Reduction of Fare on the Jersey Railroad.

We see it stated in some of our exchanges, that the Camden and Amboy Railroad Company have reduced their fare to three cents a mile. We believe that this company see the necessity of wise measures. The public are in need of such a Citizen of Burlington for this

## REMBERT'S REAPING, THRESHING, AND SEPARATING MACHINE.—Figure 1.



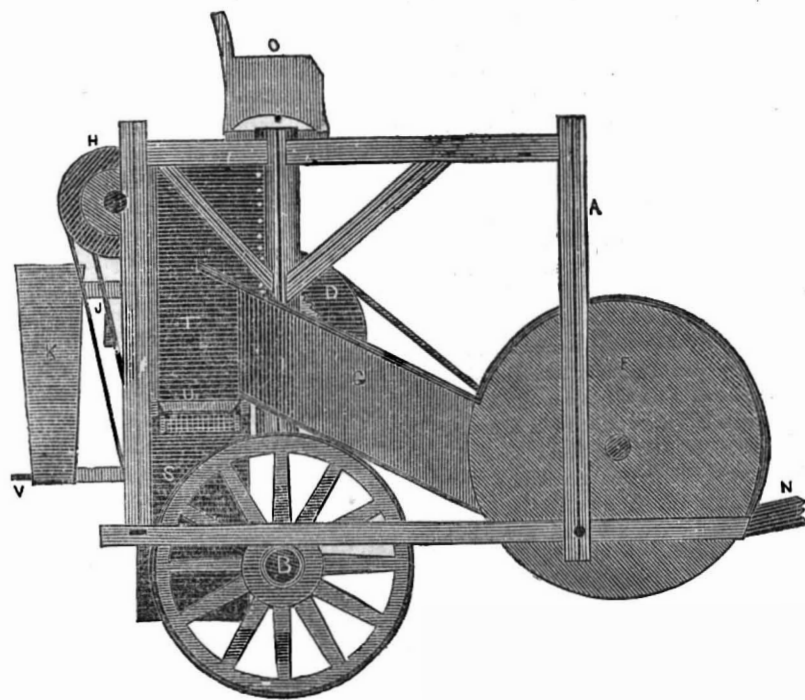
This machine is the invention of Mr. S. S. Rembert, of Memphis, Tennessee. Its design and object is to cut the grain, thresh, and separate it on the field, at one operation. For this purpose he has combined machinery to execute three different operations, and all to be done by drawing the wagon, or apparatus,—the whole machinery receiving motion from the wagon wheels. Mr. Rembert has for a long time devoted his attention to the perfecting of his machinery, which is now brought to a workable and efficient state, and he has taken measures to secure it by patent, believing

that it will prove highly useful, and come into general use.

As it takes a number of cuts to explain the construction and operation of this machine, we are obliged to extend the description to the invention page.

Figure 1 is a side elevation, showing one side of the machine, and figure 2 a side elevation of the opposite side. On the other page is a back or end view in figure 3, and figure 4 is a section showing the thresher and a side view of the cutting scythe, or reaping blade. The same letters refer to like parts on all the

Figure 2.



figures, and this is the reason why we have to refer to the cuts on the other page in this introduction. A is a stout frame fitted up on the wagon, with upright, transverse and diagonal braces to support the machinery. B is the wagon wheel; it has pins or projections on its periphery, to make it adhere to the ground while passing over it. C is a ratchet pulley on a drum, which is driven by a band from a pulley, R, on the inside of the wheel

B. D is a pulley on the drum of C, from which passes a band over the pulley, E, to drive the threshers, which move in the inside of the case, F. The front of this case is open, and at its bottom, projecting outwards, there is the scythe or cutting blade, while the threshers come down and wipe the straw inwards, bending it over the cutting scythe and biting it inwards. G is the trunk up which the  
(Continued on Fourth Page.)

## Useful Receipts.

### The Chlorides of Gold.

Great difficulty has hitherto occurred in preparing the chloride of gold, of the yellow and red colours, perfectly soluble in water, and without suffering reduction. The following processes are recommended for this purpose :

1st. In order to prepare the yellow salt of gold, take aqua regia prepared with three parts of hydro-chloric acid, one part of nitric acid, and one of distilled water. Then put one part of pure gold into a porcelain capsule with a plate of glass and heat it in a salt water bath, the heat being continued till red vapours cease; the cover is then to be removed, and if the gold is not entirely dissolved, some aqua regia is to be added to it, the capsule being again covered, the heat is to be continued till vapor ceases to appear; the glass plate must then be removed and replaced by folds of blotting paper, the heat being continued in the bath, until a glass rod, upon being immersed in the capsule, becomes covered with yellow solid chloride of gold.

The capsule is then to be removed from the salt water bath and the chloride of gold soon crystallizes in small prismatic crystals, of a fine yellow colour, with an orange tint. The chloride thus obtained is perfectly soluble in water without reduction; it is successfully employed in Daguerreotype and other operations.

The red chloride of gold (res-chloride) is prepared in the same manner, except that the aqua regia employed is prepared with two parts of hydro-chloric, and one part of nitric acid.—the operation is not commenced by acting upon gold with excess of aqua regia on a sand bath, the salt water bath not being used until the gold is entirely dissolved; the remainder of the operation is conducted in the same manner as that for the yellow chloride.

### To soften Putty, and remove Glass without Breaking.

As it is often of importance to glaziers, and others to remove glass from frames without breaking it, they will be glad to know that a very strong solution of caustic potash, or caustic soda, applied round the panes for a few hours by laying upon them an old rag dipped in the solution, will have the desired effect.

[The potash combines with and separates the oil from the whitening of the putty, thus forming a soap.]

### To Preserve Leeches.

At the bottom of the jar containing the leeches, place a layer about half an inch thick of common sand, well washed to remove any extraneous matter.

Ground Coffee should be kept in a tight vessel; if this is not done, it soon loses its fine flavor—the aroma disappears with its volatile oil.

### Health—How to Preserve it.

Medicine will never remedy bad habits. It is utterly futile to think of living in gluttony, intemperance, and every excess, and keeping the body in health by medicine. Indulgence of the appetite, and indiscriminate dosing and drugging, have ruined the health and destroyed the life of more persons than famine, sword and pestilence. If you will take advice, you will become regular in your habits, eat and drink only wholesome things, sleep on a mattress, and retire and rise very regularly.—Make a free use of water to purify the skin, and when sick take counsel of the best physician you know, and follow nature.

We have received a short account of the Fair of the Baltimore Institute, from a correspondent. It could not appear this week.