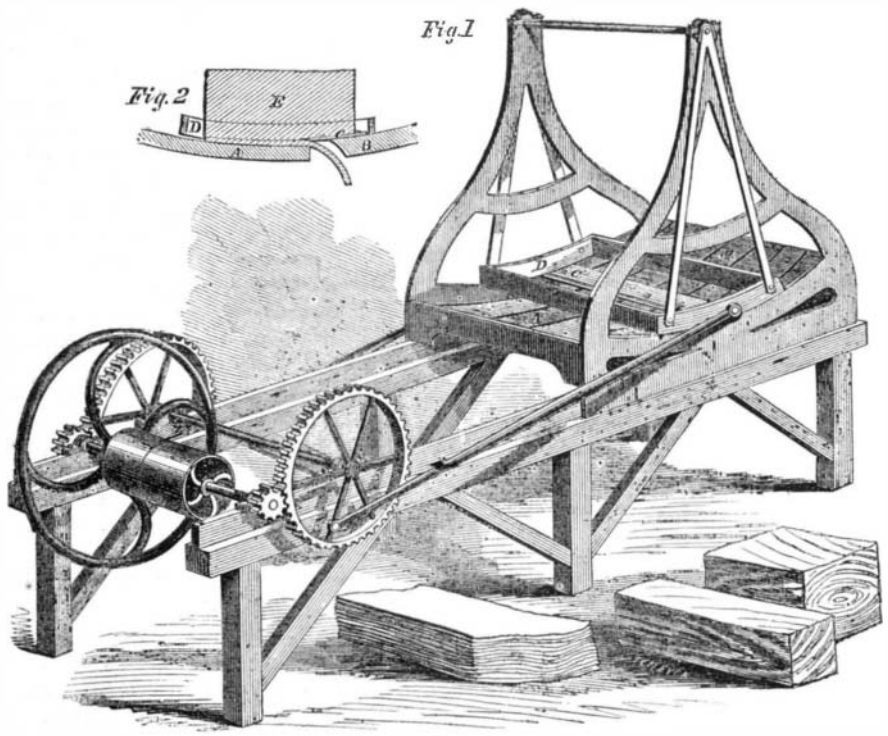
COOK'S IMPROVED VENEER AND THIN LUMBER CUTTER.

The machine here illustrated for cutting veneers and thin boards operates on the principle of a plane, the veneer being cut like a shaving from the bolt, by a thin steel edge. Its construction is clearly represented in the engraving.

Two stationary concave beds, A and B, Figs. 1 and 2, are firmly secured to a suitable frame, and to the edge of the upper bed, B, is fastened a sharp steel cutter, C. An open box, D, without top or bottom, is suspended concentrically with the curve of the beds, so as to swing just above them. Now, the bolt E, Fig. 2, to be cut into veneers, is placed loosely into the swing box, with its end towards the edge of the cutter, when, as the frame swings forward, a veneer is shaved off from the lower side of the bolt, as shown in Fig. 2. As the frame is drawn back by the machinery, the end of the block drops down in front of the knife ready for a second slice to be taken off, and thus the work proceeds till the whole bolt is cut.



COOK'S IMPROVED VENEER CUTTER.

The inventor states that he has one of these machines running, and that it operates in the most admirable manner, that it will cut, not only veneers from 1-25th of an inch in thickness upwards, but that it does good work in cutting thin boards for drawer bottoms, door panels, &c., up to a thickness of ⅛ of an inch.

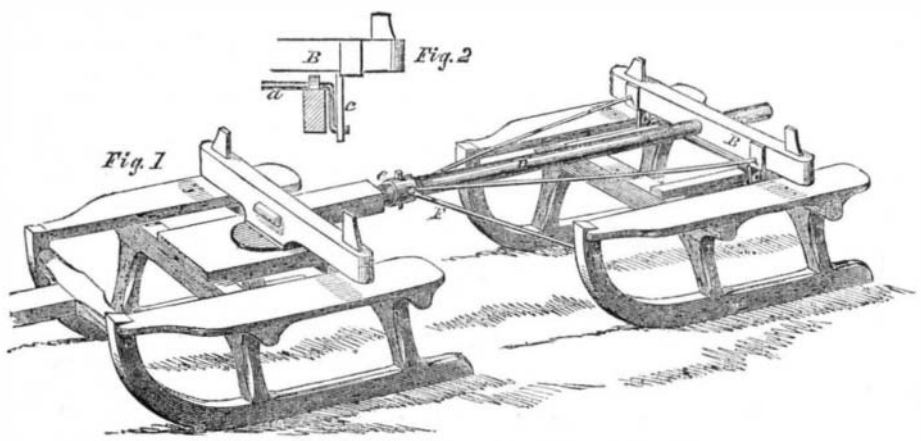
The patent for this invention was granted, through the Scientific American Patent Agency. Feb. 3, 1857, and an application is now pending before the Patent Office for an improvement on the inventor's first patented machine. For machines or patent rights, or other information in relation to the matter, inquiries may be addressed to the inventor, Peter Cook, at Tonawanda, N. Y.

STONE-BREAKING MACHINES.—A correspondent of the London *Engineer* states that the most efficacious mode of breaking stones is a chemical process by which the stones are first heated and then split by the action of sulphur. We have a better system than this in New York. In the Central Park, there is machinery on the same principle of Battin's coal breaker, driven by a steam engine, which breaks stones into small pieces for macadamizing the roads of the park, and we are positive that the stones are thus broken, and passed through a screen to gage the different sizes, at a less cost than the expense of fire that would be required to heat the stones for their treatment with sulphur. The mechanical system has also the advantage over the chemical one by the certainty with which the stones are broken and separated into certain sizes for use. By the chemical process no uniformity of action can be attained. It is our opinion that one or more of such machines may be economically employed in constructing macadamized roads in any part of the world.

DISASTROUS BREAKDOWN.—The steamer *Connecticut*, of the Norwich line, on her last trip from this city, met with an accident to her engine which totally disabled her. The working beam broke just forward of the air pump center when the piston was near its upper center, leaving the piston free to jump out of the cylinder, which it did, carrying with it the cylinder head and bursting the cylinder itself in three places. The spring beam was demolished, and the piston rod, some seven inches in diameter, bent nearly at right angles. The wrought iron strap which surrounds the beam skeleton was the part which gave out first, being, at the point of rupture, 6¾ inches by 5 inches. The guides did not escape injury in the general havoc, the foot of one of them being broken off. The damage is extensive to the engine, involving the replacement of the following parts, all of them costly to manufacture: A new piston, cylinder, working beam, cylinder cover, and probably one guide and spring beam. The Morgan Iron Works, of this city, have the repairs in progress.

IMPROVED SLEIGH COUPLING.

It is well known that the bodies of long sleighs are apt, in passing over uneven ground or inequalities in the snow, to be twisted or wrenched, and thus rapidly destroyed. To avoid this destruction, R. Sutton, of East Avon, N. Y., has devised the coupling for sleigh runners illustrated in the annexed cuts, by which plan the runners are allowed to rock freely under the body, while the body maintains a comparatively level and even position; thus not only preserving the body from being strained and broken, but also securing greater ease and comfort to the occupants.



SUTTON'S IMPROVED SLEIGH COUPLING.

In this plan, a bolster is placed on each pair of runners, the forward bolster resting on a metallic plate, and being secured to the runners by a king bolt, in the ordinary manner. The other bolster is secured to the back runner in the manner clearly represented in Fig. 2. An iron rod, *a*, passes across the upper side of the runner, to which it is secured by loops, so that it may rock, and is bent down at each end, forming two cranks. To the lower side of the bolster *b*, are rigidly attached two pendents, through the lower end of which the cranks of the rod, *a*, pass, forming double and very easy joints. The reach, D, is made cylindrical in most of its length, and passes through the back bolster and through the metal ring, *e*. This ring is attached to the forward part of the back runner, by two rods, *f*, and is braced from the ends of the bolster, B, by two other rods, as shown. This mode of connecting the back runners with the reach is necessary in order to allow the rocking back and forth of the runners on the crank of the rod, *a*. A pin passes through the reach to prevent the ring from slipping too far back.

The patent for this invention was secured, through the Scientific American Patent Agency, on the 14th of June, 1859, and further information in relation to it may be obtained by addressing the inventor as above.

IRON VERSUS WOODEN WALLS.—The London *Times*, in an article upon the necessity of iron-cased ships for the British navy, thinks that it will be announced next Session that the navy must be reconstructed. "It has been proved," says our cotemporary, "that an iron-plated vessel, steaming 13 knots, is possible, and that such a vessel must destroy any number of *Marlboroughs* and *Royal Alberts*. The *Gloire*, built at Toulon, is the new wonder, and, unless we would see the ocean in the power of our rivals, we must begin at once to build *Gloires* in such numbers as to defy rivalry." But, although the necessity of this reconstructive process in the navy is thus announced by the leading organ of Great Britain, there are at present no less than 42 vessels of war, carrying from 1 to 91 guns, being built on the old principle. It is, however, stated that a large steel plated iron vessel, a rival for the *Gloire*, is about being laid down at Chatham, the dock in which this gigantic vessel is intended to be built being one of the largest at any of the royal establishments; but, notwithstanding its great size, means will have to be taken to increase its length before the new ship, which is to be upwards of 400 feet in length can be commenced. The whole of the ironwork required in the construction of the vessel will be prepared at Chatham dockyard, and, in order to meet the increased demand which will be made on the smiths' department, additional furnaces will be required to be erected contiguous to the dock, and a number of fresh hands taken on. As soon as the new vessel has been fairly commenced, the work is to proceed without intermission, the authorities being anxious that the first of the steelplated shot-proof vessels may be afloat early in the ensuing year.

APPLYING SULPHUR TO GRAPE VINES.—A series of experiments with the application of sulphur to grape vines to prevent the attacks of the vine parasite were made in France this year, by M. Mercieul, of La Tour, St. Gelen, who has sent an account of the results to the Academy of Sciences. He removed about a foot of soil round the stems of the same vines, but did not go any deeper than the filaments of the roots. A handful of sulphur was then sprinkled into this cavity, most of which was placed upon the stem. This was in the month of August last, and the vines so treated were made healthy, while those which were not so treated were much affected with the blight. Mr. Mercieul recommends winter as the best season for applying sulphur-