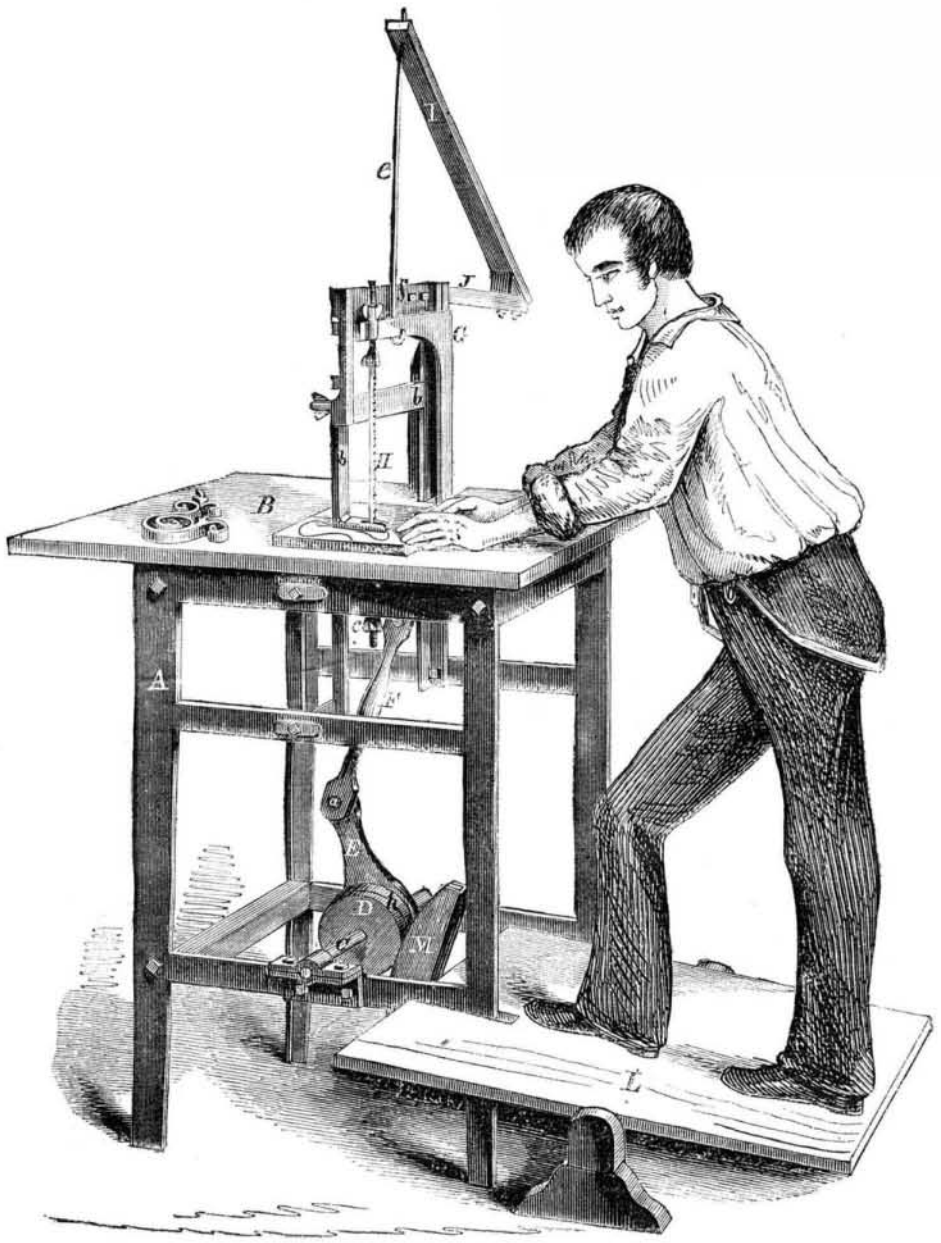
IMPROVED SCROLL-SAWING MACHINE.

There are many places where steam-power is not attainable, and, even if it were, it would not be economical to use it, as the work to be done is so small; but yet a machine that could be worked by a man, and, at the same time, give him perfect control over the work, would be of great use in many a small workshop. Such a machine is the subject of our engraving, which is a perspective view, and it is the invention of Edw. Beck, of Allentown, Pa. It is a scroll-sawing machine, operated



BECK'S SCROLL-SAWING MACHINE.

by the weight of the workman, his hands being perfectly free to guide the work to the saw, and to move it to cause the saw to follow the pattern.

A is a rectangular frame, having a bed or platform, B, on its upper-face, and C is a shaft which is placed horizontally in the lower part of the frame and has a pulley, D, firmly keyed to it. To one side of this wheel or pulley an arm, E, is attached, the shaft, C, passing though the center of the arm, E. To the upper end ot E, a pitman, F, is attached by a pin, *a*, the upper end of the pitman being attached to a saw-frame, G, which is fitted between suitable guides, *b b*. In the frame, G, a saw, H, is secured, and it is strained by nuts, *c*, which are placed on the eyes or sockets, in which the ends of the saw are secured; the saw works through a hole in the bed, B. To the upper end of the saw-frame, G, a spring, I, is attached by a link, *e*. This spring is secured to a band that is attached to an upper cross-piece, *f*, of the guides, *b b*. To the lower part of the frame, A, two horizontal projecting-pieces are attached. At opposite sides of the frame, A, and between these two pieces, a rock-shaft is placed, on which a treadle-platform L, is secured; to the front end of the platform a curved bar, M, is attached, the face or outer side of which forms a part of a circle, of which the rock-shaft is the center. The bar, M, has a strap, *h*, attached to each end of it, and straps are also attached to the pulley, D, and pass around it in opposite directions.

The operation is as follows: the operator stands on the platform, I, and gives it a vibrating movement by inclining his body alternately to either side of the rock-shaft. This movement of the platform gives, through the medium of the bar, M, straps, *h h*, and the wheel, D, a reciprocating, partially-rotating movement to the shaft, C, and arm, E, and the latter, through the medium of the pitman, F, gives a reciprocating movement to the saw, H. The spring, I, serves as an equalizer, and performs a function similar to a fly-wheel.

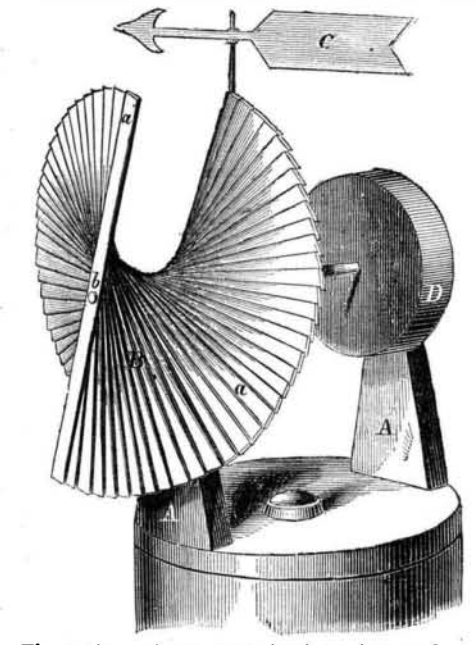
From this description, the simplicity and utility of the machine will be at once perceived; and any further information can be obtained by addressing the inventor, as above. The patent is dated June 8, 1859.

CALIFORNIA COAL.

From published reports in several of our California exchanges we think it cannot be doubted that there are large coal deposits in Sacramento county, and that these are of the utmost consequence to the "Golden State," in regard to obtaining fuel for steam engines, to operate quartz mills, and all other kinds of machinery employed for manufacturing purposes. No State can ever become great in manufactures without a plentiful supply of fuel. A very thick seam of coal, partaking partly of the nature of lignite, is stated to have been lately discovered on the eastern border of Sacramento county; it is of a brown color, highly bituminous, burns with a gentle flame, and is admirably adapted for generating steam and for parlor grates and stoves.

IMPROVED WIND AND WATER WHEEL.

All of us, in our childhood's days, have been eager for a piece of paper, a pair of scissors and a pin, and we all recollect how, when these materials were obtained, the paper was sliced, the corners bent over, the pin pushed through into the end of a stick, and we had a windmill with which we were amused for hours.



The subject of our engraving is an improved toy of this kind. Two standards, A, are provided and a shaft or pin, B, rests on them in suitable bearings, and on the end of this shaft a number of thin slats, *a*, are placed, so as to form a spiral wheel, B. These can be placed to catch as much wind as desired, and in any direction. But as we gradually pay more attention to this invention we discover that it is capable of great utilitarian application and may, by being constructed of pieces or slats, *a*, of a sufficient size, be used either as a water wheel or a wind wheel, and that if it be placed on either a vertical, a horizontal or an inclined shaft, it will give off nearly the whole effective power of the water or wind. It is not liable to get out of repair and can be constructed by any carpenter for a mere trifle, and when more or less power is required or the wheel has to be regulated to the impelling force, the requisite number of slats can be folded together and the wheel reduced in size. For a wind wheel, as we have represented it, it can have a vane C, and a pulley, D on the shaft *b*, to enable the power to be communicated to the machinery.

The inventor is W. H. Benson, of Wetumpka, Ala., and any further information may be had by addressing S. A. Heath & Co., Inventors' Exchange, 37 Park-row, New York. The patent is dated January 25, 1859.

ASPHALT FOUNDATIONS FOR WALLS.—A correspondent of the London *Builder*, highly recommends a layer of asphalt as the foundation for the walls of buildings, in damp situations. It may also be used in place of hydaulic cement, or common mortar for the joints of bricks in walls built underground, as it can withstand a very great pressure without cracking, when it becomes dry, and it prevents damp rising in the walls. By capillery attraction moisture will ascend through the pores of common brick and mortar, but not through asphalt, hence the capability of the latter for walls erected in wet situations. It has been successfully employed in the underground walls of stores built along the docks in New York. It is applied hot by dipping the edges of the brick into it, then laying them up in the wall.

STEAM CANAL-BOATS.—We have received a letter from Mr. L. Hatfield, of Cuyahoga Falls, Ohio, in reference to the steam canal-boat *Enterprise*, noticed in our columns a few weeks since. We stated that it had been built at Akron, but our correspondent informs us that the hull was built at Peninsular, by Mr. Payne, and the engine and all the machinery were planned and made in Mr. Hatfield's machine-shop. The machinery and boiler of this boat only weigh 4,200 lbs., and occupy but a very small space of the stern. It has two propeller wheels, three feet in diameter, which make but little swell in the canal, and we are assured that "it is a complete success."