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Gravel Walls.

A correspondent inquires of us if gravel walls for houses have been a failure, and if they have, thinks the fact should be extensively circulated as a matter of useful information. We have been told that gravel walls for houses have one bad feature, namely, they admit a great amount of moisture during long rain storms. But for this defect (which can be remedied by a coating of cheap mastic cement,) we are assured they are both cheap, handsome, and durable. But we wish it to be distinctly understood, that no material, however strong, beautiful and cheap it may be for walls, should ever be employed for house building if it does not exclude the moisture in wet weather.

Another Scientific Expedition.

Professors More and Francis, of Iowa, have gone on an exploring tour to the Andean regions of the Equador. The object is geographical and geological research. They will spend some months among the volcanic regions of the Andes, respecting which little is now known. Such men extend the area of useful knowledge; we wish them success, and a safe return from their perilous enterprise.

New Barrel Head Machine.

Our engraving illustrates an invention for cutting out and planing barrel heads, by N. W. Robinson, of Keeseville, N. Y. The drawing is from a working machine now on exhibition at the American Institute Fair, Crystal Palace, N. Y., where its operations attract great attention. The rough boards are fed in on one side of the machine, and transformed, with great rapidity, into round barrel heads, planed, beveled, and finished in the most perfect manner.

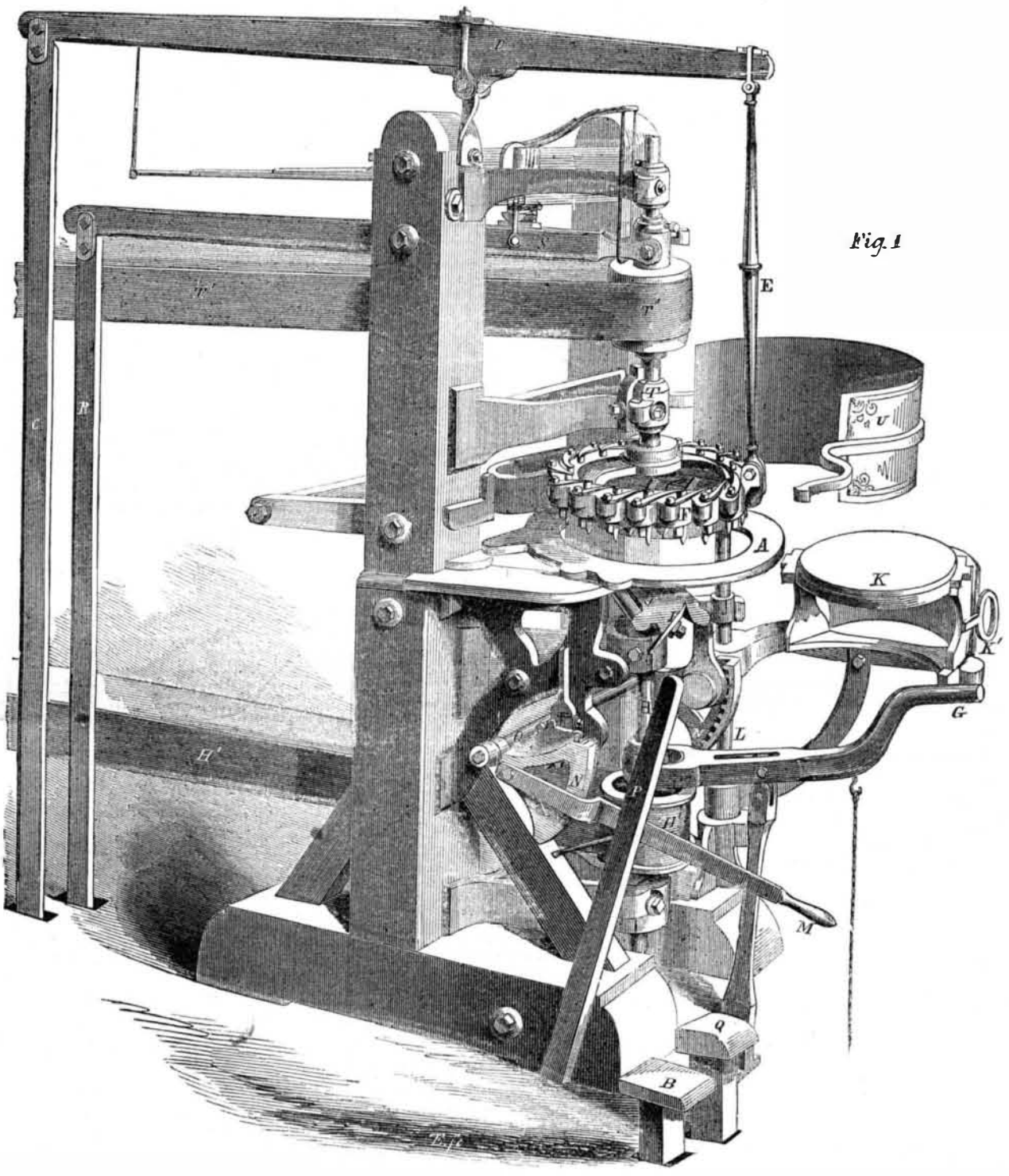
The heads may be composed of two or more pieces, and the boards, laid side by side, are fed in by rollers, upon the ring bed, A, where they rest. B is a pedal, connecting, beneath the floor, with rod C, and by lever D with rod E. The latter, at its lower end, connects with another ring, F, whose periphery is furnished with a series of clamps or points, each clamp being separate and pressed down by a spring. The boards having been fed in upon ring A, the operator pushes down pedal B, with his foot, which causes ring F, with its many clamps, to press down upon the boards and hold them fast.

The operator now presses down the clutch lever, G, which lifts the revolving shaft, H, and brings the cutters, I, up through ring A, against the under side of the boards. The cutters, I, mark the circle of the barrel head, and cut half way through the boards. The cutter head, J, to which the cutters, I, are attached, is so made that the cutters may be set further in or out from the center, and be thus accommodated to the cutting of different sized heads.

As soon as the cutters, I, have operated, they are lowered, and the swinging bed, K, which is supported and swings on shaft L, is swung under ring A. Lever M is now raised, and by acting through segments, N, and shaft, O, lifts shaft L, carries bed K up through ring A, and presses it against the under surface of the board. Swing bed K thus forms a firm under support for the barrel head. When lever M is raised, it locks into a notch in rod P, and continues to hold bed K against the bottom of the boards.

MACHINE FOR CUTTING AND PLANING BARREL HEADS.

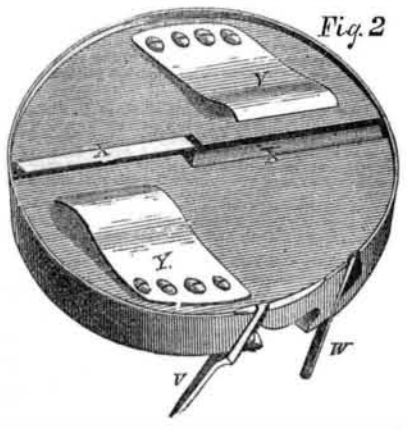
Fig. 1



The operator now presses down pedal Q which, through rod R and lever S, acts on shaft T, and brings its lower end down through ring F, upon the upper surface of the boards. The lower end of shaft T is furnished with cutters which complete the operation, by cutting through the boards, beveling the edges of the head and planing off its surface, all at once, leaving the head perfectly finished. Lever M is now released, bed K lowered and swung out, leaving upon its surface the barrel head complete. K′ is the handle by which K is swung in and out. Shaft T is revolved by means of belt T′, and shaft H by belt H′. U is a swinging cover, to prevent the chips and shavings from flying about.

Fig. 2 is an enlarged view of the bottom of the tool holder at the extremity of shaft T, by means of which the head is planed, beveled and cut out. In this figure V is the cutter which does the beveling; W cuts out the head, and X are the planes, which smooth the surface; Y are springs which rest on the barrel head and hold it down.

Fig. 2



This machine is strong, substantial, and operates with the greatest success. It dresses the heads to a uniform thickness, or the thickness may be varied at pleasure. We are informed that one man can cut and finish from 150 to 200 heads per hour, with one of these machines, and more with the assistance of auother person. The clamps on ring F being all independent, and each pressed down by its own spring, permits the clamping and cutting of heads, out of boards of different thicknesses, at the same time. The handling and sorting of the stuff is thus saved. Neither is it necessary to saw the boards up into short pieces, for the machine works up long boards equally as well as short. We are told that by the common hand method of making barrel heads, a man can only make 80 or 100 per day, but by the use of this machine he can make from 1500 to 2000 heads in the same time. The cutters are all arranged so as to be adjustable to cut different sized heads; they may be also easily taken out for grinding, &c. Flat or crowning heads may be cut, as described. Price $500 and up. For further information apply at the Palace or address the inventor as above. Patented May 6, 1856.

The total amount of foreign emigration to the United States from 1819 amounts to 4,212,624, up to December, 1855. Of these 2,343,445 were natives of Great Britain and Ireland.

Boone's Cordage Machine is advertised in another column.