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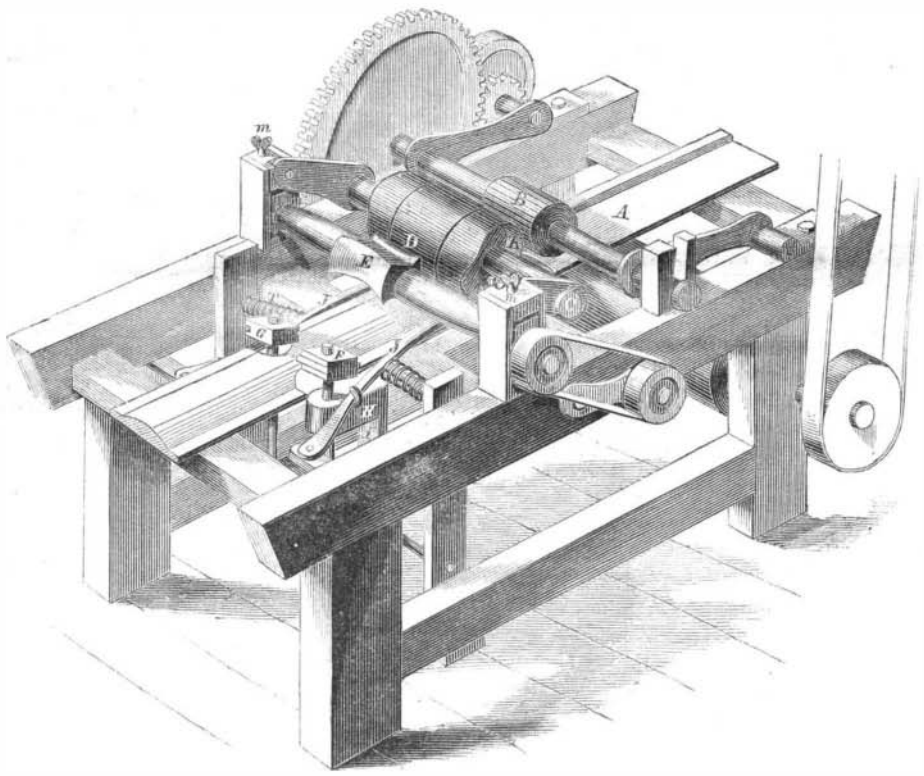
IMPROVED STAVE MACHINE.

We have, in the annexed engraving, the picture of a compact machine, in which the various motions for shaping, jointing, dressing, tonguing and grooving a stave are effected by the most direct and simple contrivances.

The stave is placed upon the bed-plate, A, and carried along by the feed roll, B, over a convex cutter not shown in the engraving; thence forward under the concave cutter, E, and between the two vertical cutters, F and G, one of which forms a groove in one edge of the stave while the other fashions a tongue upon its opposite edge. The vertical cutters, F and G, are carried apart and drawn together to make the stave tapering, by a very simple arrangement. The journal boxes of each are secured to an upright plate, I, which is pivoted at its lower end, and the upper journal box, H, is secured by a hook to the long lever, J, which is pivoted at one end and has the opposite end pressed against the cam, H, which is secured to the shaft of the pressure roller, D; thus the cutters, F and G, are moved apart and drawn together in correspondence with the onward motion which the stave receives from the feed roll, B. Spiral springs, L L, press the journal boxes, K K, together when the turning of the cams permits this approach. The position of the cams upon the shaft is varied for different widths of staves, the cams being held in place by set screws. A complete set of cams is provided to vary the taper of the staves to casks of different sizes. The thickness of the stave is regulated by the position of the upper cutter, E, the journal boxes of which are raised or lowered by means of the screws, *m m*. The feed roller may be pressed down either by weights or springs.

The patentees say that they have a machine in operation and that it works beautifully, producing staves very rapidly and in great perfection. They say also that they find it well adapted to many other purposes, such as making molding, sash and blinds, &c., as it will dress four sides of any stuff at the same operation, and can be arranged to any taper desired. The machine may be made of any strength, and is exceedingly simple and sure in its operation.

The inventor of this machine is James Decker, who has assigned the invention to himself and A. P. McRae. The patent was procured, through the Scientific American Patent Agency, Sept. 27, 1859, and further information in relation to it may be obtained by addressing Decker & McRae, at Reidsville, Ga.



DECKER'S IMPROVED STAVE MACHINE.

THE CARDING MACHINE—A TRULY GREAT INVENTION.

In manufacturing cotton and woolen goods, unless the raw material is properly cleaned and carded, no fine threads can be spun; and, as a consequence, the highest qualities of cloth cannot be produced. Skillful manufacturers who wish to produce superior fabrics are very careful of the carding operations through which the fibrous material is first made to pass. A few years ago, both French and English cloth manufacturers found themselves limited to a quality of goods inferior to those which they desired to make; and they perceived that they could not progress a single step without some new invention to improve the carding machines. Having become deeply impressed with this idea, the cotton manufacturers at Mulhausen (France) took the best steps possible under the circumstances to secure the object desired—they offered a prize of 5,000 francs to the person who would invent a combing machine that would prepare cotton in a superior manner for the spinning operations. A Frenchman named Josue Heilman—a native and rich citizen of Mulhausen—was incited, from a natural mechanical taste, to contend for this prize, not for the small amount of the reward, but from a thirsting desire to make the invention. Being an enthusiast, he actually spent his whole fortune ($100,000) in constructing the machine, for the paltry prize of a few thousand francs that had been offered, and yet he had not fully succeeded. In this stage of his career he went to England, and found some enterprising manufacturers in Manchester, who advanced him money to carry on his experiments, but after several years' struggling to accomplish his object—working and planning day and night, on his machine, assisted by his son—he failed. There was always some defect in the operations which prevented the desired results being secured. Heilman was almost ready to give up the struggle in despair, and he left England and went back to his native place, a poor and almost heart-broken man, having reduced himself and family to poverty in pursuit of an invention which still eluded all his efforts. The idea of inventing such a machine, however, had taken complete possession of his mind, and one evening, while pondering over the subject at his fireside, he observed one of his daughters combing her long hair and drawing it out between her fingers at full length. At once the brilliant idea was suggested that he might invent a perfect combing machine to imitate the same motions. Incited by this beautiful thought, he renewed his efforts with great vigor, and, after several years' labor, he completed his invention, and it was again brought before the Manchester manufacturers, who quickly appreciated its merits. Six cotton companies united together and purchased the right to use it for $150,000; and an equal number of woolen manufacturers paid a like amount to him for wool; while a single manufacturer paid $100,000 for its use to comb flax for making lace thread. This machine combs a lock of cotton through from end to end; it places the fibers parallel with one another; it separates the long ones from the short, and unites them both in separate slivers. It has effected a most wonderful improvement in preparing cotton and wool for spinning fine yarns; and the English manufacturers have secured very great advantages from it.

We regret to state that poor Heilman did not live long to enjoy the wealth which at last flowed in so suddenly upon him. Scarcely had his labors on the combing machine been completed when he died, and his son, who had shared all his privations, soon followed him to the grave. Like a warrior and patriot who had died on the battle-field, with the voice of victory sounding on the gale, so departed Josue Heilman from the "battle of life." It frequently happens thus with inventors and other benefactors of mankind. Upon inquiry, we have not been able to ascertain whether any of these combing machines have yet been introduced into this country. Our manufacturers should devote more attention to the preparation of their cotton, so as to advance in the spinning of fine yarns, because coarse goods are more affected by changes in the price of the raw material than the finer fabrics.

KANSAS, THE LAND FOR MACHINE FARMING.—A correspondent, writing to us on business matters (from Lancaster, Kansas), thus closes his letter:—"I wish to say a word about the country I am in. It lies 10 miles due west of Atchison. We are just commencing to build and open farms. I think it is the most beautiful land and the best adapted for machinery-farming of any that I have ever seen. I often look over these vast, rich, undulating prairies and think of the *steam plow*; there is no rock, root or ravine to be found for miles, or in a thousand acres. Timber is rather scarce; it is only found along the creeks in sufficient quantity for fire-wood. There is at present a heavy emigration to Pike's Peak gold regions, and all the travel from Leavenworth and Atchison passes through this point. Some days more than a hundred persons pass through. It is no humbug now, as every express brings from $10,000 to $20,000 worth of gold, and I have conversed with several that have made handsomely. Atchison is the nearest starting point from the Missouri river, as the road from Leavenworth passes within five miles of Atchison, which is distant from the former 30 miles. There is also a railroad completed to the latter from St. Joseph."