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Improved Broom-handle Lathe.

The machine herewith illustrated is one of a large class of ingenious wood-working tools for which our mechanics have obtained a world-wide celebrity. The details and operation of the machine will be readily understood by referring to the letters affixed to the several parts. The iron frame, A, carries the counter-shaft and the pulleys thereon, from which the motion is transmitted to the cutters above. The shaft, *a a*, are provided with the grooved rollers, *b*; these seize the stuff to be turned, when placed on the table, *c*, and presented to them; there are similar ones on the other end, driven by the same spur wheel that operates the first-mentioned feed roller. There are also spur wheels on the roller shafts inside of the bearing, one of which may be seen at *d* engaging with the wheel, *e*. The bevel gear, *f*, and pinion drives the shaft on the side of the frame; it is provided with a head containing cutters, for the purpose of rounding the ends of the handles when finished.

Fig. 1.

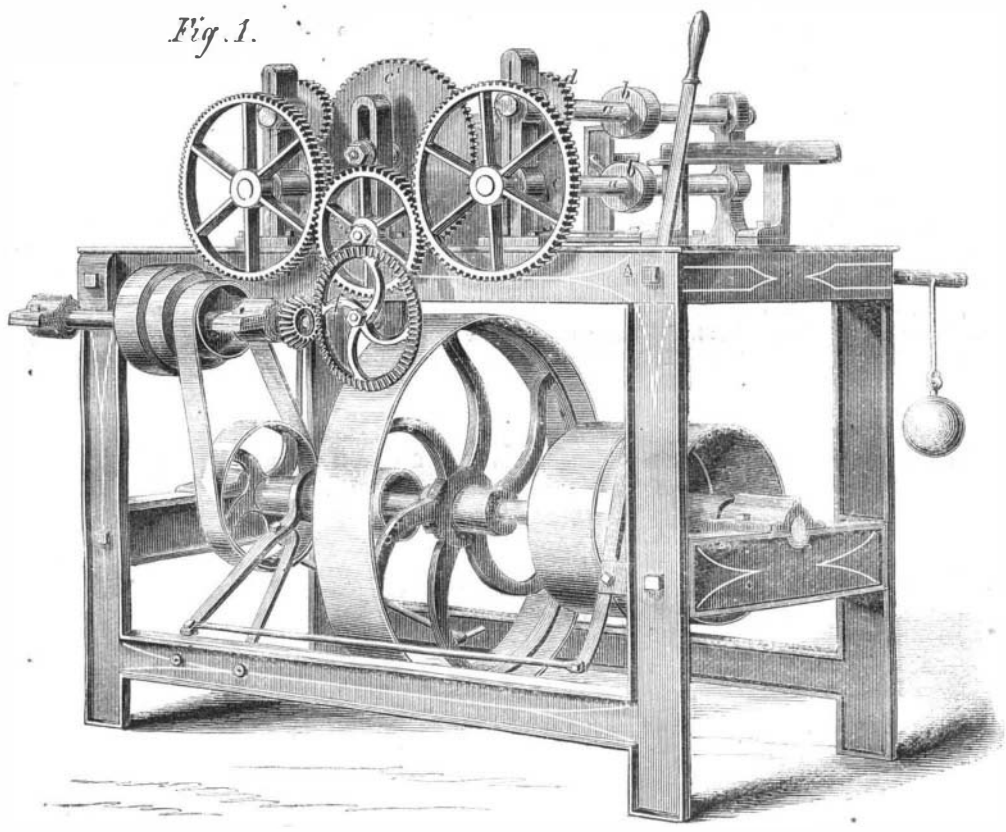
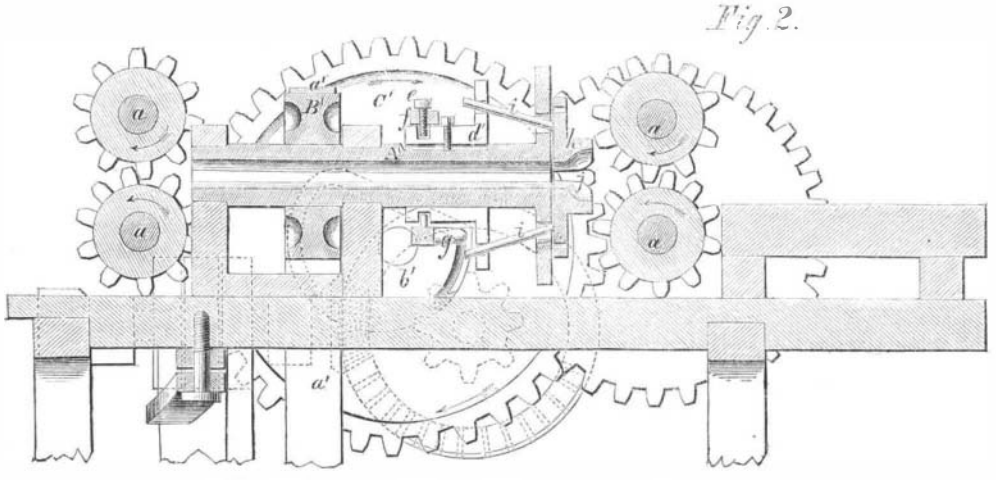


Fig. 2.



PRESCOTT'S PATENT BROOM-HANDLE LATHE.

Fig. 2 is a section of the machine, and shows very clearly the cutting apparatus. The hollow spindle, A′, is driven by the belt, *a′*, on the pulley, B′. The feed shafts, *a a*, are shown in section, and revolve in the direction indicated by the arrows. The cam groove, *b′*, is cast in the wheel, *c′*, and works the sliding collar, *d*, this collar has an annular groove in its periphery into which a pin, *e*, works; this pin is set in the short arm of the forked lever, *f*, pivoted to the table. The long arm, *g*, of this lever projects under the spindle, and passes into the cam groove in the side of the spur wheel; the sliding collar, *d*, will therefore receive its motion on the hollow spindle, from the groove in the spur wheel through the agency of the lever. The knife block, *h*, is secured to the outside of the flange in the spindle, and as the sliding collar moves back and forth on the hollow spindle, by the lever working in the cam, the blocks open and shut through the means of the pins, *i*. The cutters, *j*, in the blocks have beveled knife edges, which cut away the wood and round the stick as fast as it is fed in by the rollers. These are the main features of this lathe. The operation is as follows:—

When the power is communicated by shifting the belt, through the medium of the levers, the spur wheels, shafts, feed rollers and cutters revolve with great velocity. The wood is then fed in by the table to the rollers, and passed into the hollow mandrel. Here the knives reduce it to shape, the taper being given by the cam and sliding collar. The ends of the handle are then rounded by a cutterhead on the shaft at the side, and the process is then complete. The details of this machine are well contrived, and it would seem to be a very efficient tool. Patented through the Scientific American Patent Agency, Oct. 8, 1861, by Peter Prescott, of Boonville, N. Y., of whom further information regarding the purchase of rights or machines may be had.

MILLING AND THE DRESS OF STONES.

We have recently published quite a number of communications from practical millers, on the dressing of stones and the grinding of grain. These have been furnished by persons residing in almost every section of the country; and some of them have stated that they had been engaged in the milling business for many years. In comparing these communications they are found to leave the subject in a very confused state. One correspondent is in favor of a straight dress on the stones; another in favor of a circular dress. One approves of deep channels at the skirt; another advocates shallow channels. The subject has been presented in various phases, and many different opinions have been expressed upon it; and from such evidence we judge that various modes of milling are practiced, but we have not been able to learn which is the best.

We have a few suggestions to make to millers, which, if acted upon, we think will not be unprofitable in leading to more correct ideas on such important questions. In a mill, for example, where several runs of stones are employed, let two pairs of the same size and quality be set apart for experiments. Let these be tested together with different dresses in grinding the same quality of grain, and a correct record kept of their performances, say for three months. In this manner the merits of the different dresses will be fairly tested. In two mills where the stones are run at different speeds, and where they may be employed upon grain of different qualities, no fair comparison can be instituted.

A FIRST cargo of silk from Japan arrived at Lyons, France, last month. It reached Europe, not by the Chinese seas and India, but by the Pacific and the Isthmus of Panama. The silk crossed the Isthmus by railway, and was again embarked on the Atlantic.