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IN ADVANCE

PATENT UNIVERSAL JOINTER.

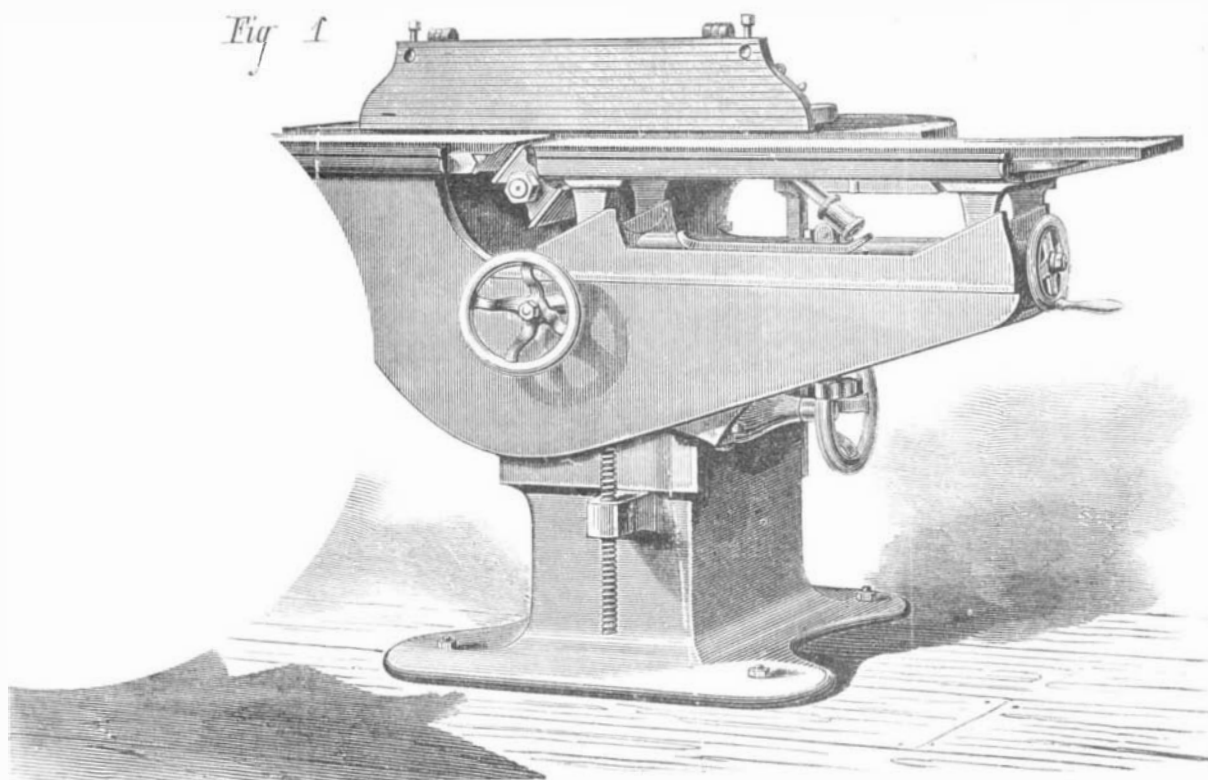
Messrs. Bentel, Margedant & Co., of Hamilton, Ohio, are the inventors and manufacturers of so many excellent machines, which, from time to time, have found prominent places in our columns, that, in adding another invention to the list, we think that no higher commendation will be necessary to secure for the device the careful attention of the reader, than to refer to it as the handiwork of the above-mentioned firm. In wood-working machinery, there is an abundant field for the resources of the inventor; but judging from the frequency with which improvements in that class of mechanism have, of late, been brought to our notice, it is evident that there is no lack of ability and genius being devoted to the production of not only new machines but useful and successful improvements on well known machines.

Among those who have done a great deal in this line of invention, the above-mentioned manufacturers deserve to be placed foremost in rank. The device last produced by this firm is a planer, and is termed by the manufacturers the Universal Jointer. It will plane out of wind, parallel or taper, joint, square, bevel, and make a perfect glue joint, also a rolling joint. It will square; it will raise and finish one or both sides of a panel at the same operation with square, bevel, scotia, cove, or ogee raise; it will gain and flow, making a square, bevel, or round gain or groove, from $\frac{1}{8}$ inch up to 8 inches wide; it will make straight, bevel, and elliptical moldings, and rabbet any cut from $\frac{1}{8}$ to $1\frac{1}{2}$ inches deep, and $3\frac{1}{2}$ inches wide. It will corner, bevel, hand match, smooth, bead, flute, chamfer, round, nose, saw, bore, and rout; and all of this work is done on the single machine by merely changing heads, the labor of a moment.

The heavy iron body of the tool is cast in one solid piece, and, while occupying very little floor room, is a rigid support of the machine. The table frame, although heavy, and also cast in one piece, can, nevertheless, be easily brought to any required height, raising both tables of the machine at once, keeping, if required, the given attitude of the tables. The latter are both adjustable. The table in front of the cutter head, which is raised and lowered independently of the table in rear of the latter, or of the table frame, can be moved to or from the cutter head, and at any distance from the same, raised or lowered, or otherwise adjusted. The table, in brief, raises always towards, and lowers from, the cutter head. Back of the two front tables, there is a third table (also adjustable by means of a hand screw), which serves to rest long material upon when gaining, cross cutting, or sticking circular or elliptical molding. The same table serves as a rest for the adjustable fence or guide for planing square, or beveling, and for other purposes. The other side of this machine, shown in Fig. 2, is provided with a boring and routing table, which can be raised and lowered by means of a hand screw. The different kinds of boring and routing can be done here, it being no matter whether the front side of the machine is being used or not at the time.

The machine is suitable for light and heavy work, and therefore will be useful for railway car builders, agricultural carriage and wagon works, planing mills, house builders, sash, door, and blind, furniture, and cabinet, factories.

Two sizes are being made, the one to plane 6 inches and the other 8 inches wide, and are warranted and guaranteed in every particular as to the capacity, quality, and finish of the work. If required, countershafts for the same can be furnished. The pulley on the cylinder should make 3,800 revolutions per minute.



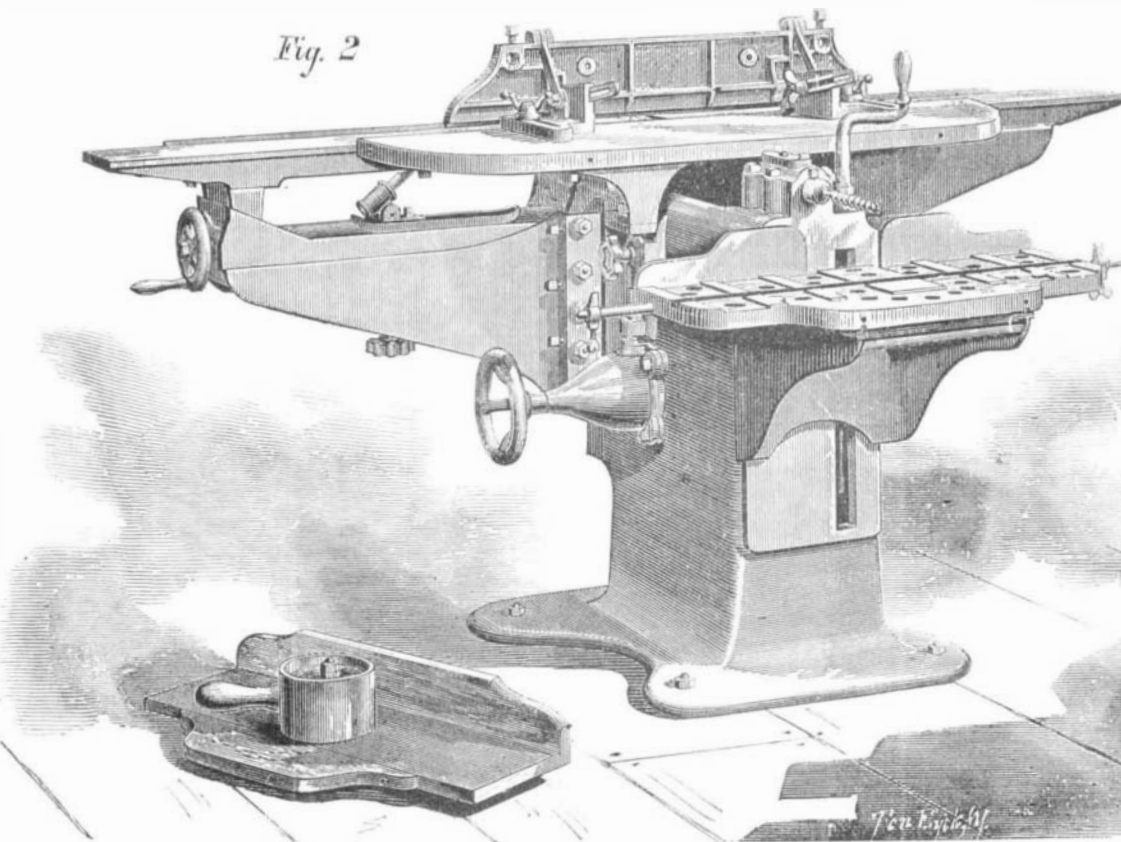
PATENT UNIVERSAL JOINTER.

The body of this very useful machine is so designed that the belt may be brought from below or from a different position on the side. This enables the tool to be placed in an upper story and the belt to be led up to it, thus economizing room, a point of considerable importance in many manufactories.

The device is covered by three patents, the latest dated April 7, 1874, and all obtained through the Scientific Ameri-

can Patent Agency. For further particulars, address the manufacturers as above.

dered eye protectors unnecessary. The coil, it is needless to say, was welded effectually; the very floor, although its foundations are on a rock, vibrating with the tremendous blows. The force, wielded by but a dozen men at the lever of the crane, was astounding; yet the hammer was subject to a steam power more formidable than itself. In their anxiety to see the next process, the visitors passed hurriedly through the heavy turnery and sighting room, where they might have seen thick slabs of metal peeled off the partly built guns, as apples are peeled by a dessert knife. The party, without bestowing more than a passing glance at the great guns on the lathes, went into the open air to witness the shrinking on of the breech coil of a thirty-five tun gun. Lying side by side, smiling in their new polish, lay a remarkable collection of guns ready for use. The largest cannon was the famous thirty-eight tun gun, the heaviest yet completed. The Woolwich infants (thirty-five tuns) were an interesting family of four; of twenty-five tun guns there were twenty-five, and twenty of eighteen tuns. After these frightful engines of destruction, no one troubled himself much with the smaller cannon, whose name was legion.



No two persons can actually see the same rainbow, as each receives the light from different drops of rain.

tato vines were very quickly and effectively cleaned of the above insect by a couple of guinea fowls, and she thinks that these industrious and persevering bug pickers might be very advantageously employed wherever potatoes are grown.

REMEDY FOR THE COLORADO POTATO BUG.—Mrs. Samuel Deforce, of Businessburgh, Belmont county, Ohio, writes us that her po-