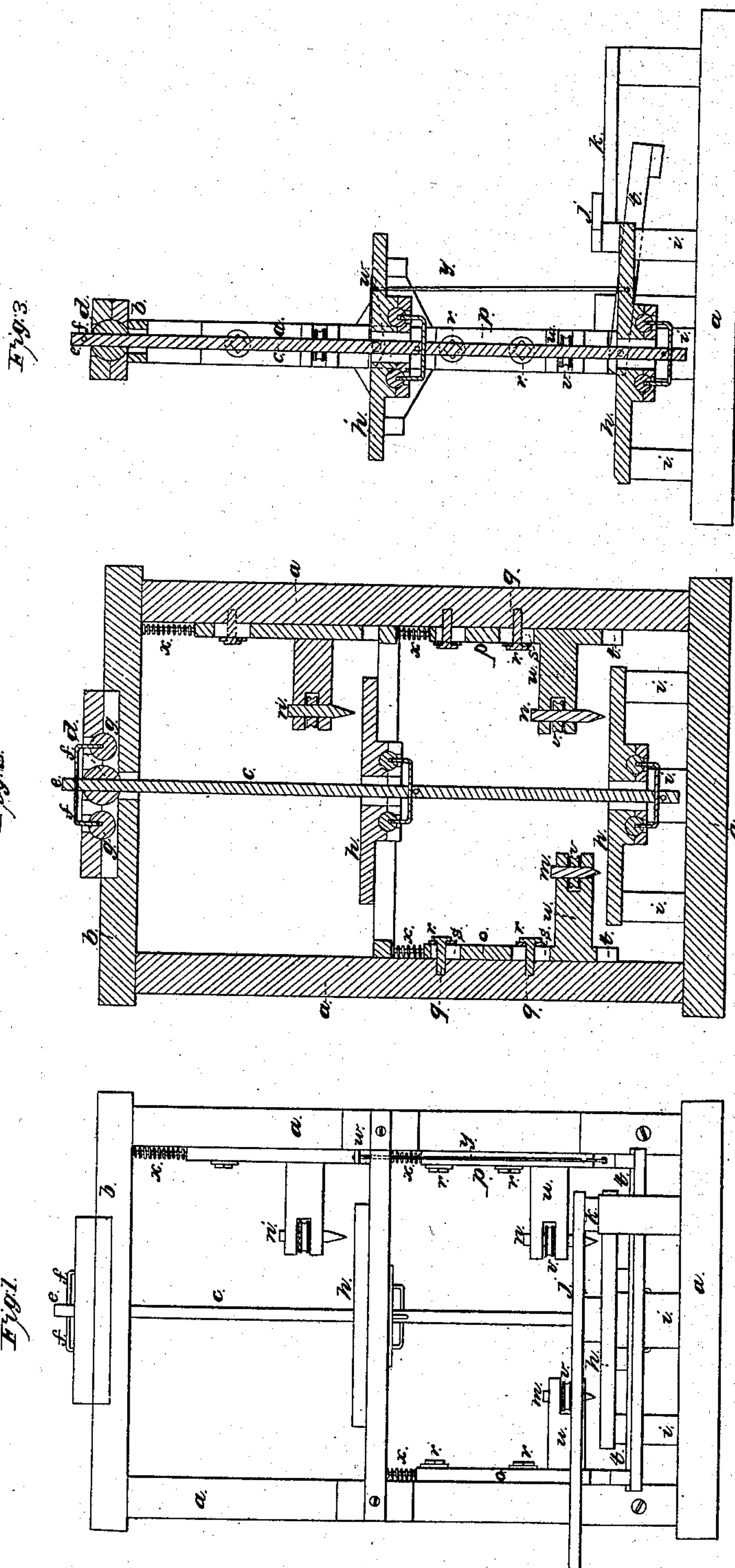


L. S. CHICHESTER.  
CARVING MACHINE.

No. 8,141.

Patented June 3, 1851.





# UNITED STATES PATENT OFFICE.

L. S. CHICHESTER, OF WILLIAMSBURGH, NEW YORK.

## CARVING-MACHINE.

Specification of Letters Patent No. 8,141, dated June 3, 1851.

*To all whom it may concern:*

Be it known that I, LEWIS S. CHICHESTER, of Williamsburgh, in the county of Kings and State of New York, have invented certain new and useful Improvements in Carving-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

10 Figure 1 is a front elevation of the machine; Fig. 2 a longitudinal vertical section, and Fig. 3 a cross vertical section.

The same letters indicate like parts in all the figures.

15 The object of my invention is to produce a machine for carving by which articles may be carved not only the same size as the pattern, but also of larger and smaller size, and in the same machine and at the same  
20 time and from the same pattern.

With this view my invention consists in the use of a pendent lever suspended from a ball and socket joint to the lower end of which is appended by another ball and  
25 socket joint the movable table upon which the pattern and block to be carved are placed, when this is combined with a pointer, or tracer permanently fixed in the frame of the machine, and so arranged over  
30 the pattern and block that the pointer shall follow all the sinuosities of the pattern, and at the same time, by means of its connection with the tracer, produce from the block of wood or other material on the table  
35 an exact counterpart of the pattern.

My invention also consists in combining by means of arms with the lever suspended from a ball and socket joint, the use of auxiliary balls working in accurately fitting  
40 spherical sockets, one on each side of the center of motion of the ball and socket joint for the purpose of preventing the lever from rotating or changing the position of its center of motion. The connections of the  
45 movable tables, upon which the carving is done with the pendent lever is also effected in the same manner. And my invention also consists in combining with the pendent lever in the manner described or in any  
50 other equivalent manner any number of tables, each combined with a permanent cutting tool, by which means, in the same machine and at the same operation, different sized articles may be carved from one pattern, those to be smaller than the pattern  
55 being carved on a table nearer the center of

motion than that upon which the pattern is placed and combined with their tracer, and those which are to be larger than the pattern on tables farther from the center of  
60 motion of the lever, but arranged and combined with it in the same manner.

In the accompanying drawings *a* represents a frame composed of two standards connected by an upper cross piece *b* from  
65 which the lever *c* for operating the tables is suspended. The lever *c* works by a ball-and-socket joint *d*; the upper end *e* of the lever *c* is provided with two arms *f*, *f*, at right angles to the lever and with their ends  
70 bent down, and each fitting into a small sphere *g* *g* which move freely in spherical sockets in the cross piece *b*. The object of this arrangement is to prevent the pendent lever *c* from vibrating on its axis or on any  
75 line passing through the center of its motion. The movable table *h*, is attached to the lower end of the lever *c* by an arrangement like that just described and is so adjusted as to rest constantly on four or more  
80 standards *i* which form a bed upon which it is moved. This table is operated by means of a lever *j* attached to it and to a crank arm *k*.

The traces *m*, and cutter *n* are arranged  
85 respectively in side pieces *o* and *p*, attached to the vertical sides of the main frame by pins *q*, and screw nuts *r*, so as to admit of play up and down in the slots *s*. The lower ends of these side pieces *o*, *p*, are connected with a treadle *t* by which they are  
90 operated to guide the pointer over the irregularities and sinuosities of the pattern. The tracer *m*, and cutter *n*, are arranged respectively in the arms *u*, *u*, of the side pieces  
95 *o*, *p*, and are each provided with a small pulley *v* to which a rapid motion is communicated from any first mover.

By the arrangement which has been described, by means of the hand lever *j* the  
100 table containing the block and pattern is operated, the pattern being moved under the tracer, while the latter moves over every point of its surface, being operated by means of the treadle. The same motions  
105 which are communicated to the tracer, being also by means of the arrangement communicated to the cutter, and as both the tracer and cutter are operating at the same distance from the center of motion of the pendent lever it follows that the articles produced will not only be precisely similar to  
110



the patterns but will also be exactly equal to it in every dimension.

If it be desired to produce from a given pattern a carving precisely similar to it  
 5 but of smaller proportions, the pattern is placed under the tracer on the lower table and the block from which the carving is to be produced under the cutter  $n'$  which is connected with the pendent lever  $c$  and the  
 10 upper table  $h'$  precisely as has been described of the lower table, the same mode of combining the table and lever  $c$  being also employed. The relative proportion which is to exist between the pattern and  
 15 the carving to be produced must determine the distance which the table  $h'$  is to be from the center of motion. The proportional vertical motions required by the cutter  $n'$  are derived from the treadle, the distance be-  
 20 tween the two tables determining the length of the arm  $w$  of the rocking lever which gives the vertical motions to the side pieces containing the pointer and tracer of the secondary table  $h'$  by means of the connec-  
 25 tion ( $q$ ). The side pieces are all provided with springs  $x$  which keep the points of the tracer and cutter always bearing against the pattern and block respectively.

It will be obvious that large carvings can  
 30 be produced by this machine from small patterns as well as small carvings from large patterns, and that both large and small

carvings may be produced from any pattern in one machine at the same time.

What I claim as my invention and desire 35 to secure by Letters Patent is—

1. The use of the pendent lever suspended from a ball and socket joint in combination with a horizontal table for the pattern and block, the said table being affixed to the 40 end of the pendent lever by a ball and socket joint, the whole being arranged with respect to the tracer and cutter, substantially in the manner and for the purpose described.

2. I also claim preventing the pendent 45 lever from changing its center of motion or from rotating on its own axis or on any line passing through the center of its motion by the use of the bent arms working in balls in spherical sockets, substantially as 50 described.

3. I also claim combining with the pendent lever two or more tables, substantially in the manner described or in any other substantially the same, and arranged each with 55 a tracer and cutter respectively, in order that large carvings may be obtained from a small pattern, or vice versa, or both at the same time and with the same machine substantially as described.

LEWIS S. CHICHESTER.

Witnesses:

ALEX. PORTER BROWNE,  
 WM. BISHOP.