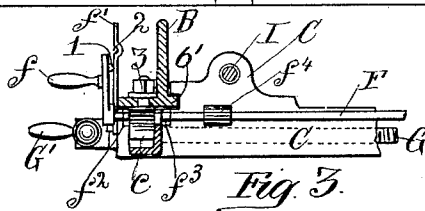
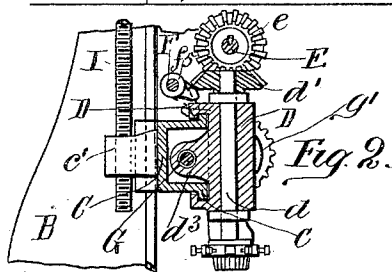
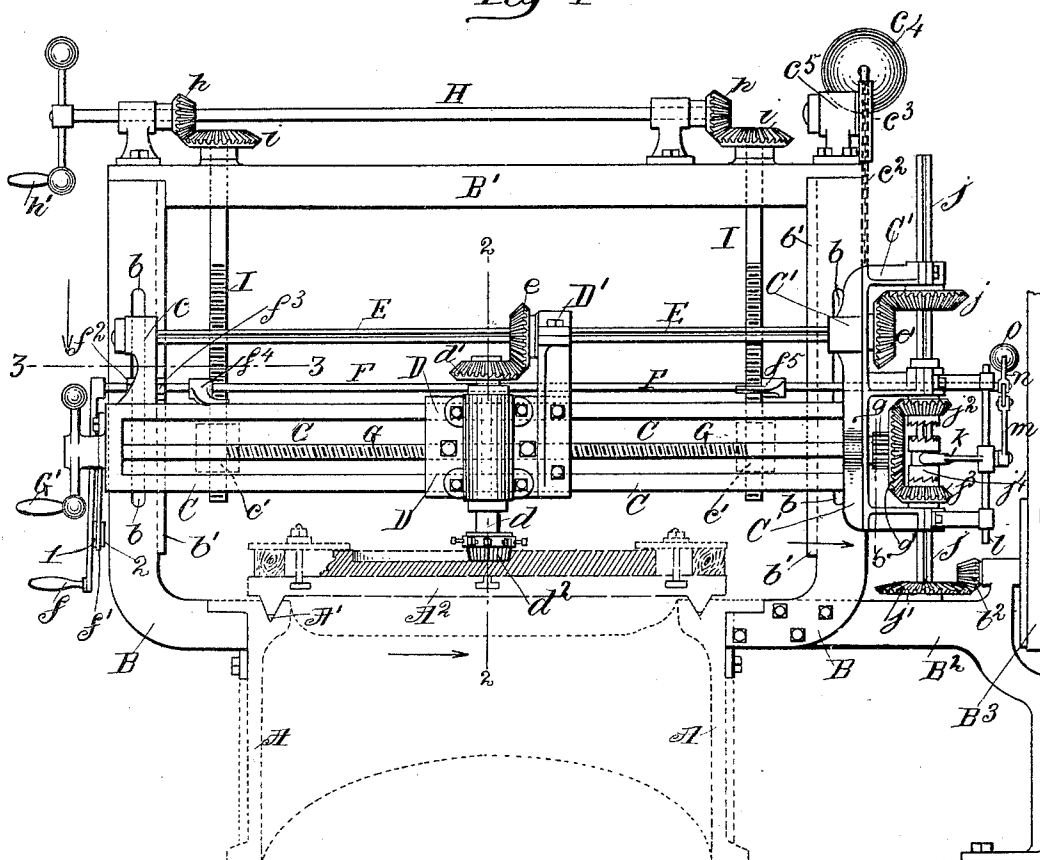


2 Sheets—Sheet 1.

MARBLE MOLDING AND DISHING MACHINERY COMBINED.

Patented Oct. 13, 1891.

Fig 1



Witnesses

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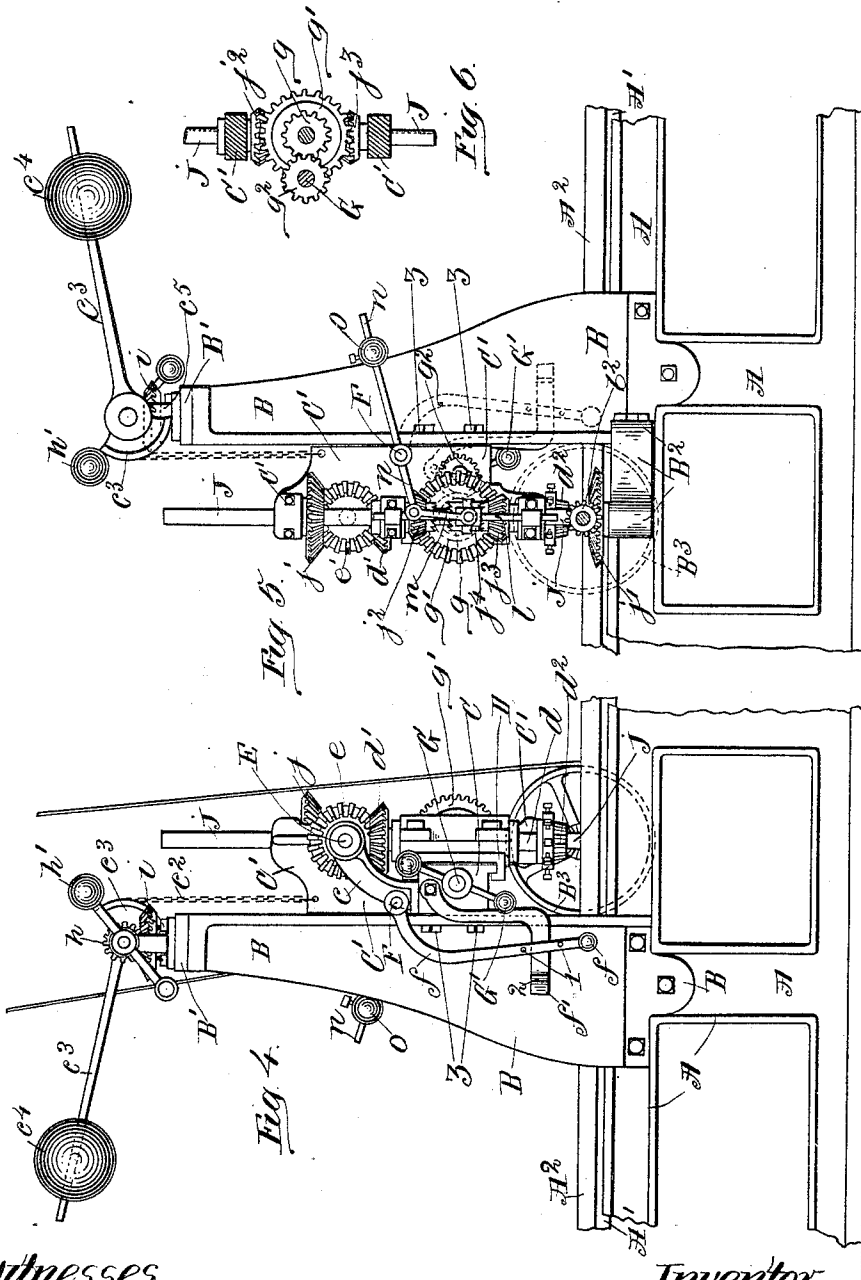
By Thomas W. Hilday
his Attor.

E. L. CONKEY.

MARBLE MOLDING AND DISHING MACHINERY COMBINED.

No. 461,094.

Patented Oct. 13, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD L. CONKEY, OF REVERE, ASSIGNOR OF ONE-HALF TO CHARLES E. HALL & CO., OF BOSTON, MASSACHUSETTS.

MARBLE MOLDING AND DISHING MACHINERY COMBINED.

SPECIFICATION forming part of Letters Patent No. 461,094, dated October 13, 1891.

Application filed August 11, 1891. Serial No. 402,375. (No model.)

To all whom it may concern:

Be it known that I, EDWARD LOGAN CONKEY, a citizen of the United States, and a resident of Revere, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Marble Molding and Dishing Machinery Combined, of which the following is a specification.

The objects of my invention are, first, to construct an auxiliary mechanism to be attached and secured to any work-feeding table bed or frame, such as planer-beds, &c., to dish or mold marble, &c.; second, said attachment to be operated by an independent belt-connection; third, the tool-carriage to have a transverse motion at right angles with the feed-table and a vertical movement, all independent with each other, and, fourth, said carriage to have an automatic stop-motion. These objects I attain by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation illustrating the attachment drawn in accordance with my invention. Fig. 2 is a vertical detail section on line 2 2, Fig. 1. Fig. 3 is a plan detail section on line 3 3, Fig. 1. Fig. 4 is a front side elevation. Fig. 5 is a rear side elevation. Fig. 6 is a detail section on line 6 6, Fig. 1, illustrating the two spur-gears that transmit motion to the carriage worm-shaft.

Similar letters refer to similar parts throughout the several views.

A denotes the bed or frame, which has guides ways A', that the work-carrying table A² may be moved by suitable mechanism back and forth in a straight line. This frame or bed A carries two upright frames or stanchions B, that are secured thereto and braced by the cross-brace B'. Said stanchions support a cross-slide C, to which is fitted a carriage D, which carries the rotary tool-shaft d, that has secured thereon the bevel-gear d', which is actuated by the bevel-gear e, feathered to the continuous splined shaft E, which is supported by the arms c D' and yoke C'. Said shaft E has secured thereon the bevel-gear e', that meshes with the gear j, feathered to the splined shaft J, which transmits uniform motion to the tool-shaft d when the cross-slide C is raised or lowered, to wit: To enable the setting of the cutting-tools d², that are eight in number,

the cross-slide C can be raised, carrying with it the carriage D, yoke C', bevel-gears e', j, j², j³, g', e, and d', spur-gears g and g², together with the tool-driving shaft E, shipping-shaft F, 55 levers m and n, rod i, and support c, which is secured to the cross-slide C, and sustains the shipping-shaft F, which has provided thereon friction-nuts f³ and f² on each side of support c, to prevent the clutch j⁴ from working out of its engagement, and which is actuated by the fork k, secured to rod l, and operated by the link m and lever n, which carries the counter-balance-ball o to regulate the friction caused by the nuts f² f³. Said lever n is secured 65 to the shipping-shaft F, which has secured thereon fingers f⁴ and f⁵, by which the clutch j⁴ is drawn out of engagement, thereby imparting no motion to the carriage D; but which does not interfere with the rotary motion of the tool-shaft d. Said fingers or dogs f⁴ and f⁵ receive their motion from the carriage D as it nears the stanchions B by simply coming in contact with its top, which throws the aforesaid fingers f⁴ and f⁵ to one side, respectively. In case it is required to traverse only a certain distance the operator can control the aforesaid by use of the shipping-lever f, which has secured thereon a projection 1, that snaps within an opening 2 on projection 80 f', regulating the outward swing of shipping-lever f. Said cross-slide C, as before stated, can be raised or lowered, to wit: by the handle h', which is secured to the shaft H; also, bevel-gears h, that are in mesh with gears i, 85 respectively, thereby imparting motion to worm-shafts I, that enter nuts c', secured on the cross-slide C. There being more weight at one end of cross-slide C it is necessary to equalize the same, which is accomplished by 90 the segment c³ and adjustable weight c⁴. The former has its fulcrum within the standard c⁵, which is secured to the top of stanchions B, and is connected to the yoke C' by the chain c².

The carriage worm-shaft G has secured thereon handle G', which can be operated by the workman when the double-feathered clutch j⁴ is disengaged from the hub of either gear j² and j³, which run loose upon shaft J, 100 thereby transmitting a reversed motion to carriage worm-shaft G when the feathered

clutch j^4 has been shipped to its opposite hub, as represented in Fig. 1, which illustrates the clutch j^4 engaged with the hub of gear j^3 , which meshes with bevel-gear g' , that has the spur-gear g , secured thereto, engaged with spur gear or follower g^2 , that is secured upon carriage worm-shaft G, which imparts the required motion to the carriage D by the worm-shaft passing through a nut d^3 , secured on the rear side of said carriage D.

Openings b are to prevent the operator from raising or lowering the cross-slide C too much, which is attained by passing a bolt 3 from the cross-slide through opening b . Said bolt 3 is provided with a nut and washer 3 to enable the workman to rigidly secure the cross-slide C to any elevation within the limits given by the openings b . The projection b' is fitted to the cross-slide C, forming a guideway for same, as illustrated in Fig. 3.

Arm B^3 is secured to the stanchion B and floor, which is designed to carry a loose and fixed pulley B^3 , on the shaft of which is secured the bevel-gear b^2 , that transmits motion to the driving-shaft J through the bevel-gear j' .

Having described my invention, I claim—

1. In a dishing-machine, the stanchions B, brace B' , shaft H, bevel-gears h and i , worm-shafts I, segment c^3 , adjustable weight c^4 , standard c^5 , openings b , projections b' , lifting-handle h' , vertical splined driving-shaft J, bevel-gears j' and b^2 , arm B^3 , and fixed and loose driving-pulleys B^3 , in combination with the cross-slide C, provided with bolts 3, guideways b' , vertical nuts c' , said cross-slide C having yoke C' and arm c secured to same, movable carriage D, worm-nut d^3 , worm-shaft G, tool-shaft d , cutters d^2 , bevel-gears d' and e , handles G' and f , shipping-shaft F, provided with friction-nuts f^2 and f^3 , fingers or dogs f^4 and f^5 , lever n , weight o , link m , rod l , fork k , feathered double clutch j^4 , loose bevel-gears j^2 and j^3 , spur-gear g , compound with bevel-gear g' , spur gear or follower g^2 , secured to the aforesaid carriage worm-shaft G, splined shaft E, arm D' , bevel-gears e' and j , the former secured to shaft E and the other feathered on the vertical splined driving-shaft J, chain c^2 , arm f' , recess 2 on the same, and projection

1 on handle f , substantially as described, and for the purpose set forth.

2. The stanchions B, brace B' , shaft H, bevel-gears h and i , worm-shafts I, segment c^3 , adjustable weight c^4 , standard c^5 , openings b , projections b' , lifting-handle h' , vertical splined driving-shaft J, bevel-gears j and b^2 , arm B^3 , fixed and loose pulleys B^3 , cross-slide C, provided with bolts 3, guideways b' , vertical nuts c' , yoke C' , arm c , movable carriage D, worm-nut d^3 , worm-shaft G, tool-shaft d , cutters d^2 , bevel-gears d' and e , handles G and f , shipping-shaft F, provided with friction-nuts f^2 and f^3 , fingers f^4 and f^5 , lever n , weight o , link m , rod l , fork k , feathered clutch j^4 , loose bevel-gears j^2 and j^3 , spur-gear g , compound with bevel-gear g' , spur-gear or follower g^2 , secured to the aforesaid carriage worm-shaft G, splined shaft E, arm D' , bevel-gears e' and j , the former secured to shaft E and the other feathered on the vertical driving-shaft J, chain c^2 , arm f' , recess 2 on same, and projection 1 on handle f , all substantially as described, in combination with a bed or frame A, which has suitable guideways A' , that the work-carrying table A^2 may be moved by suitable machinery back and forth in a straight line, as set forth.

3. In a dishing or molding machine, the shipping-shaft F, handle f , arm f' , projection 1, recess 2, arm or bearings c , friction-nuts f^2 and f^3 , fingers or dogs f^4 and f^5 , lever n , ball o , link m , rod l , fork k , clutch-feathered spline j^4 , and splined vertical driving-shaft J, in combination with the loose gears j^2 and j^3 , compound gears g and g' , spur-gear or follower g^2 , carriage worm-shaft G, handle G' , nut d^3 , carriage D, tool-shaft d , cutters d^2 , bevel d' and e , splined shaft E, arms c and D' , keyed bevel-gear e' , feathered bevel-gear j , yoke C' , chain c^2 , to connect onto a segment support by the stanchions, having a weight to equalize the unequal weight of each end of the cross-slide C, guideways b' , bolts 3, and cross-slide C, as set forth.

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Witnesses:

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