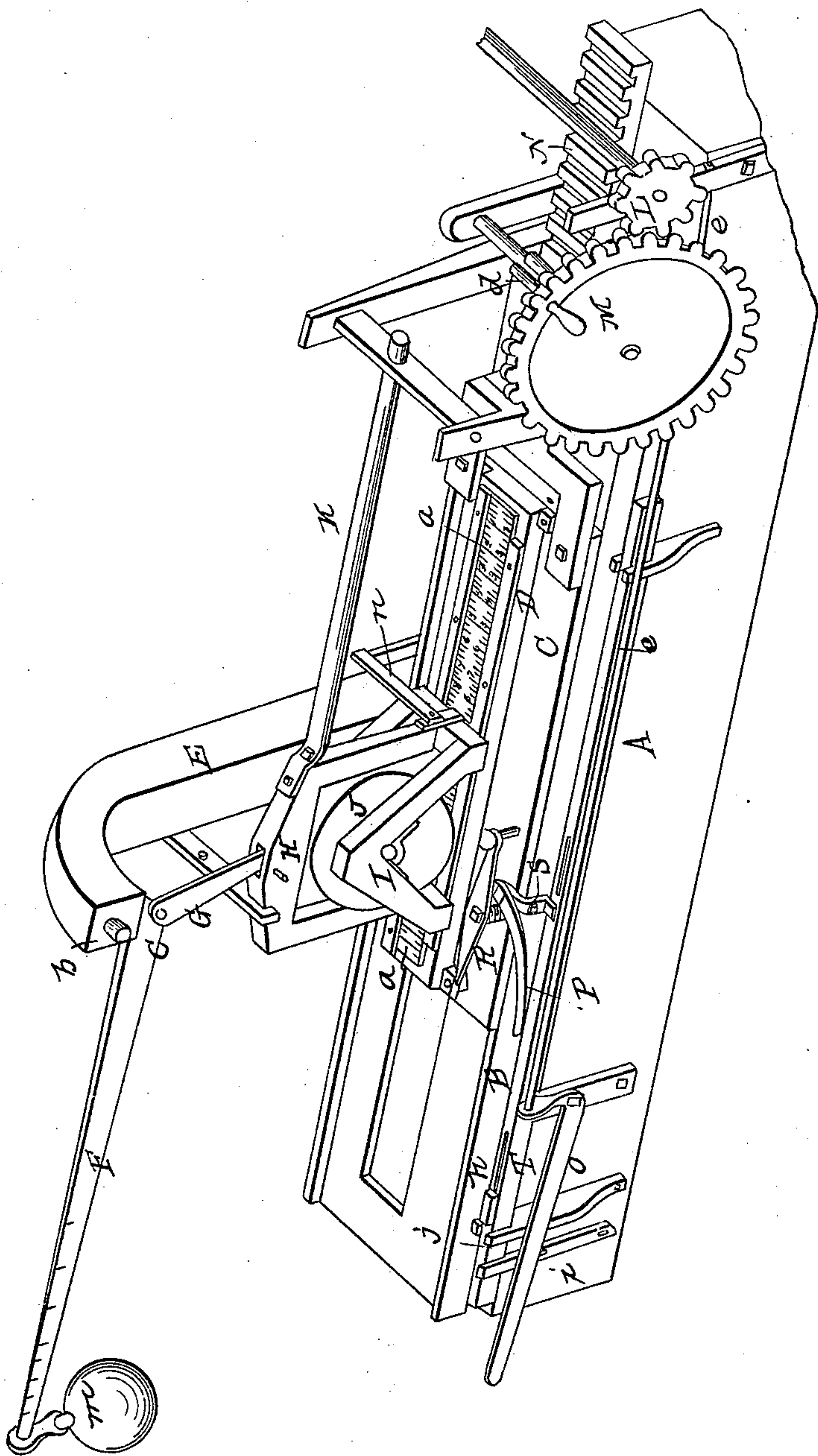


GEORGE & MILLINGTON.
Graduating Carpenters' Square.

No. 6,684.

Patented Aug. 28, 1849.



UNITED STATES PATENT OFFICE.

D. J. GEORGE AND N. MILLINGTON, OF SOUTH SHAFTSBURY, VERMONT.

GRADUATING CARPENTERS' SQUARES.

Specification of Letters Patent No. 6,684, dated August 28, 1849.

To all whom it may concern:

Be it known that we, DENNIS J. GEORGE and NORMAN MILLINGTON, of South Shaftsbury, in the county of Bennington and State of Vermont, have invented a new and Improved Method of Graduating and Figuring Carpenters' Squares by Machinery; and we do hereby declare that the following is a full and exact description.

10 The nature of our invention consists in providing as many chases as we desire to impress different configurations on the different sides of the bar and tongue of the square—which chases are filled up with
15 properly fitted steel dies (after the manner of printing types) being correctly graduated, so as to make all the divisions and subdivisions suitable for the sides upon which the impression is to be made—and
20 then placing the side of the square on to the face of the dies and passing it under a roller press to give the impression. But to enable others skilled in the art to make and use our said invention, we will proceed to give a
25 more particular description of its construction and operation reference being had to the annexed drawings, which form a part of the specification.

A is a very firm bed piece, of suitable
30 length and width. B, iron ways at least twice the length of the square. C, the carriage, which is moved longitudinally by a rack and pinion. D, the chase, on each side of which the dies and figures are arranged. *a, a*, the dies, made of plates of
35 steel, of proper thickness to mark the least divisions into which the square is graduated, having blunt edges, of proper widths to mark the eighths, quarters, halves and
40 inches and set up in the chase like printing types—leaving an irregular space through the center of the chase;—and to confine the dies and figures firmly in their places—this space through the center is filled nearly
45 to the top of the dies with melted lead. E, a strong iron clasp, made fast to the bush side of the bed piece at the center of the ways, an angle at the bottom extending under the bed piece;—the upper end projecting with a curve over the center of the
50 ways; and under the front end of which the lever F, turns on the pin *b*. G, the fulcrum, is attached to the lever by the pin, *c*, on which it turns, resting on and being
55 attached to the yoke H, which spans the roller, resting on, and being attached to, the

cross, or bottom bars of the frame, by the bolts *v*, on which the yoke and frame may turn, allowing the roller to bear with equal force, on the two edges of the square, which
60 may be of unequal thickness. I, the frame, on which the roller J, is suspended, receives the pressure from the yoke, on the cross or bottom bars, below the shaft of the roller and as near the square as may be. The
65 frame, being stayed by the brace *n*, and turning on the bolt *v*, prevents the roller from moving crosswise of the square; keeps it on the tracks, and allows the upper part of the roller and shaft to move longitudi-
70 nally; to cant down and give an impression on a thin edge, and, to gain an erect position with ease.

NOTE.—Experience has shown that, if the bars of the frame are above, or on a level
75 with, the shaft, and braced as above, when the roller is canted down by the unequal thickness of the edges of the square, the roller must necessarily slide crosswise of the square—diverging more or less from
80 the track which, under a heavy pressure from above, it does not readily regain. But when the frame is brought as low as may be, and braced as above so that the roller, at the point of contact with the square, can-
85 not be moved, crosswise of the square, (the upper part of the roller and shaft being at liberty to move longitudinally) an equal pressure is given to both edges of the square, though they be of unequal thickness.
90

J, is the roller about 8 inches diameter, the periphery of which should be turned so as to bear hardest on the edges of the square; and under which the square is made to pass on the face of the dies—being pressed down
95 by the weight *m*, on the lever F.

K, a brace bolted to the yoke and turning at the other end in a cross piece to steady and keep the roller and frame in place. L, the spur wheel, which turns the cog wheel
100 M, and is shipped into, and out of, gear by the angular lever O, to which it is connected by the rod *e e*. M, a cog wheel on the shaft of which is the pinion *d*, which acts on the rack N, and moves the carriage back
105 and forth under the roller. N, the rack. O, the angular lever by which the spur wheel is shipped out of gear. *e e*, the connecting rod. P, an arm screwed to the carriage, to support the tongue of the square.
110 R, a clasp, with spiral spring, to hold the square on the face of the dies, while passing

under the roller. S, a stop which is screwed to the carriage and strikes the block *h*, moving the slide T, back—and also moving the spur *i*, from under the spur *j* on the angular lever O, by which means the spur wheel is shipped out of gear, and the carriage is stopped. T, the slide. *m*, the weight acting on the lever, by which the pressure is given. *n* and *o*, braces to steady the frame on which the roller is suspended. *v*, the pin or bolt by which the brace is attached to the yoke and frame.

Operation: The machinery being arranged, the dies set in the chases as above described, one of the chases is screwed down to the carriage, in its place, and the square laid on to the face of the dies, with the tongue toward you, and resting on the arm P, and the end of the spring clasp resting on the tongue near the angle of the square. The spur wheel is now brought into gear by the angular lever O, and the square on the carriage is made to pass from right to left, under the pressure of the roller J, having sufficient weight on the lever F, to make a full impression on the side. When the square has passed out from under the roller, the stop S, strikes against the block *h*, which throws the spur wheel out of gear; the lever F is raised by a treadle and the square taken out, leaving a full impression; and by

the same process the set you have on hand is graduated on one side. The chase, arranged for the other side of the bar is then placed on the carriage and the other side stamped in like manner, as also the sides of the tongue.

NOTE. The roller will, in all cases, be brought on at the angle or thick end of the square and pass off at the thin end, or both bar and tongue.

What we claim as our invention and desire to secure by Letters Patent is—

1. The method of spacing or graduating metallic squares or rules with steel types, or dies, and with or without figures, in combination with the roller press suspended in a frame so that the weight or pressure shall be brought below the center, and as near the plane of the periphery of the roller as may be consistent with strength to bear the pressure.

2. The arrangement of the roller-frame and yoke so as to be raised or lowered by the lever F, all as above specified, and for the purposes therein mentioned.

DENNIS J. GEORGE.
NORMAN MILLINGTON.

Witnesses:

AARON DENIO,
DAVID E. BLOWERS