

No. 749,801.

PATENTED JAN. 19, 1904.

D. J. MURNANE & R. W. DAVIES.

TABLE FOR GRINDING, SMOOTHING, AND POLISHING GLASS.

APPLICATION FILED DEC. 6, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

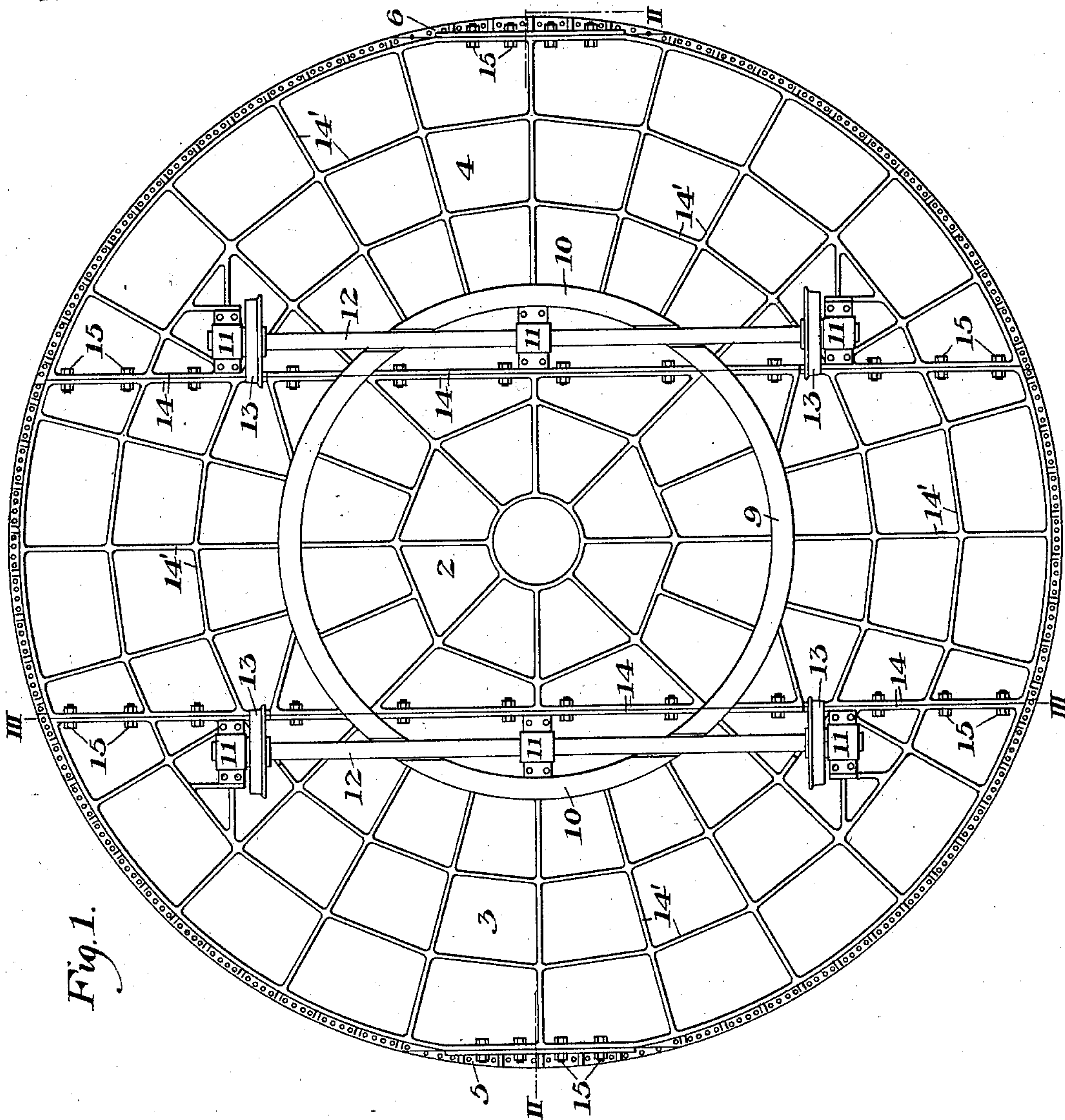


Fig. 1.

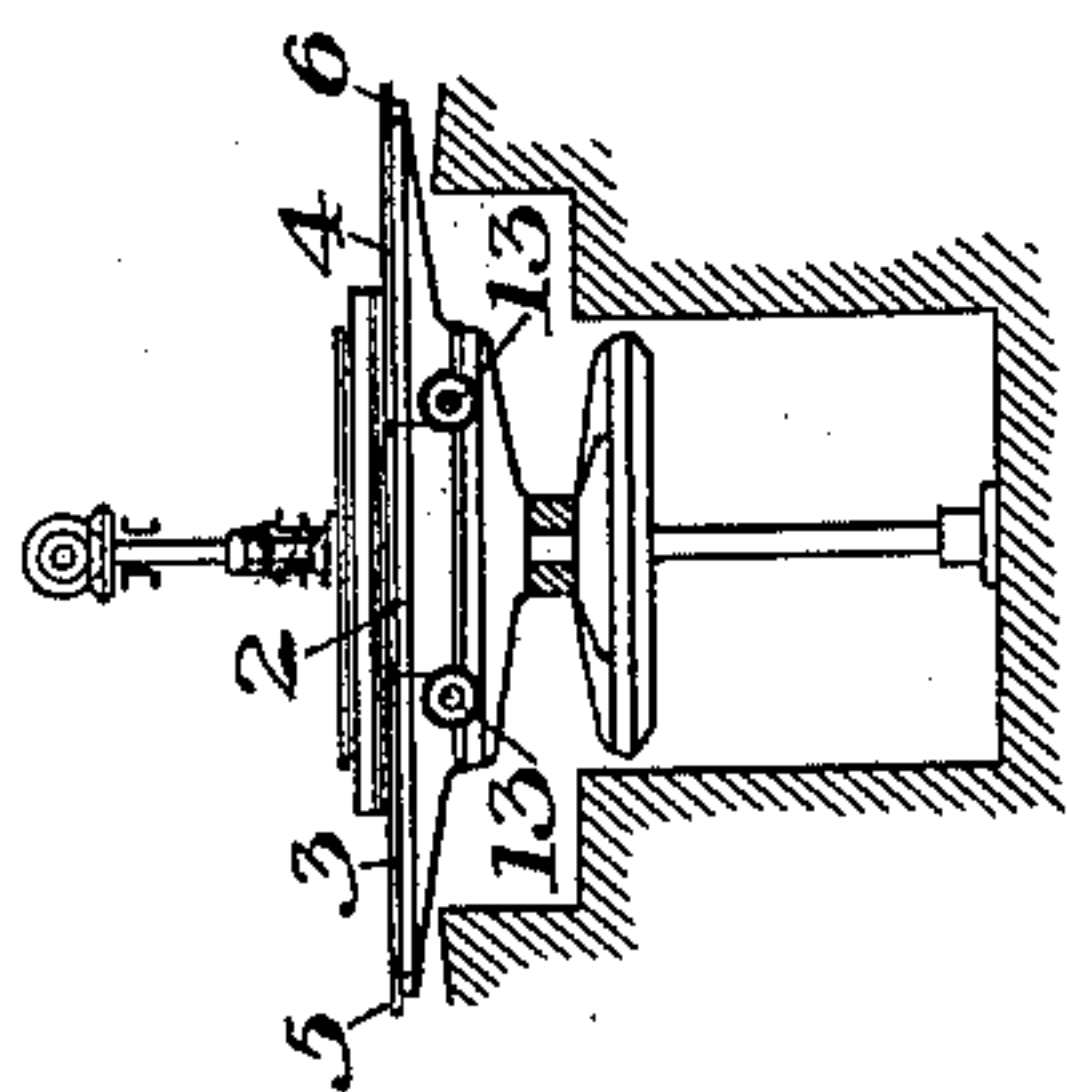


Fig. 4.

WITNESSES

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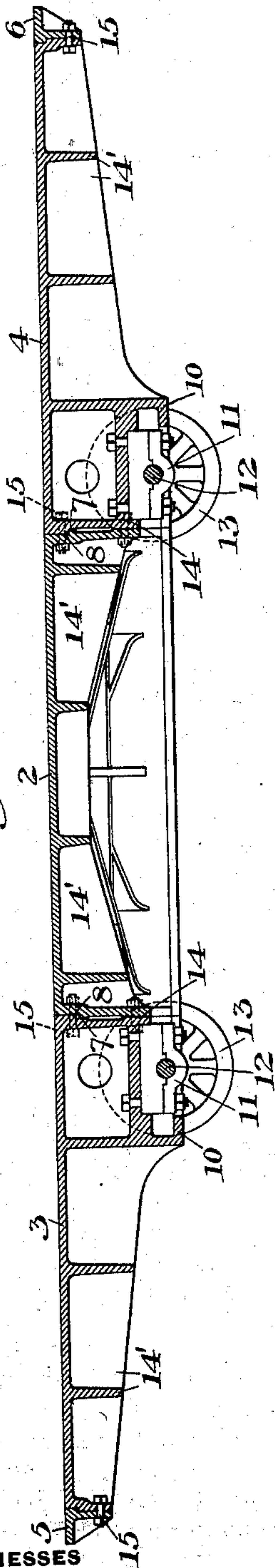
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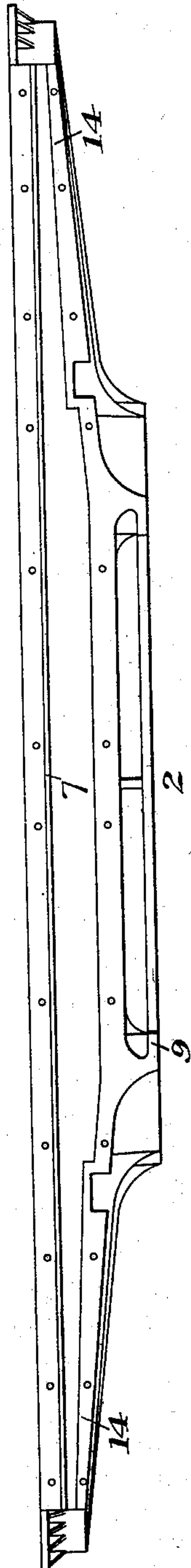
Fig. 2.



WITNESSES

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Fig. 3.



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UNITED STATES PATENT OFFICE.

DANIEL J. MURNANE, OF KIRKWOOD, MISSOURI, AND RODERICK W. DAVIES,
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TABLE FOR GRINDING, SMOOTHING, AND POLISHING GLASS.

SPECIFICATION forming part of Letters Patent No. 749,801, dated January 19, 1904.

Application filed December 6, 1902. Serial No. 134,197. (No model.)

To all whom it may concern:

Be it known that we, DANIEL J. MURNANE, of Kirkwood, St Louis county, Missouri, and RODERICK W. DAVIES, of Avonmore, West-
moreland county, Pennsylvania, have invented a new and useful Table for Grinding, Smoothing, and Polishing Glass, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a bottom plan view of the deck of the grinding-table constructed in accordance with our invention. Figs. 2 and 3 are vertical sections on the lines II II and III III, respectively, of Fig. 1; and Fig. 4 is a diagrammatic side elevation showing the general arrangement of the table.

The tables which have been used on machines for grinding, smoothing, and polishing glass have not been perfectly plane on their surfaces nor have they been adapted to be so. Even with the slow-running machines heretofore employed this has been a serious evil, resulting in breakage of the glass plates, and with the recently-invented tables, in which not only does the table rotate, but the runners also are rotated independently of the table and at a higher rate of speed, inequality of the table becomes a matter of still more serious moment.

The purpose of our invention is to overcome this difficulty by providing a table whose surface is accurately plane and true and the supports of which are accurately faced and parallel relatively to the top, so that the surface will occupy precisely the same plane in every part of its rotation. Heretofore in the making of these tables they have either been formed of radial segments which are bolted together or with a central disk to which outer radial segments have been secured. In either case it has been extremely difficult to machine the different parts of the table, so that when assembled they would give a true plane surface, and although the table when assembled has been ground off on its top to make it as level as possible this grinding does not give

an accurate top, and the tables have always given trouble for this reason. Our invention overcomes these difficulties; and it consists in making the table in a plurality of transverse non-radial sections which can be accurately planed, so that when assembled a plane and true surface is afforded.

It further consists in forming the bearings for each shaft on the same section of the table, so that these bearings are planed accurately relatively to each other and to the table-top. It further consists in providing an interfitting rabbeted joint between the edges of the sections to insure their alinement and hold them rigidly exactly in position, and it also consists in the construction and arrangement of the parts as hereinafter more fully described and claimed.

Our table is made of a plurality of sections. In the drawings we show five such sections, (numbered 2, 3, 4, 5, and 6.) These sections are non-radial, the section 2 constituting the central portion, the sections 3 and 4 the side portions, and the sections 5 and 6 the outermost side sections. The sections 5 and 6 may be made integral with the sections 3 and 4, thus giving a table in three parts, the five parts being used on account of the limitation in the width of the ordinary planers. At the parallel joints between the sections 2, 3, and 4 the section 2 is recessed downwardly from its top, forming a shoulder 7 at each side, and the sections 3 and 4 are formed with corresponding projections 8, which fit in the recessed portions and rest on the lower shoulders, thus constituting a rabbeted joint.

The ring 9, upon which the table rests on the driving-spiders during rotation, is transversely divided, the portions 10 10 being formed integrally with the sections 3 and 4, while the remaining portions of the ring are formed integrally with the central portion 2. The bearings 11 11 for each of the shafts 12, carrying the supporting-wheels 13, are formed on the sections 3 and 4. The set of three bearings for each shaft are thus on the same section. The sections are formed at the joints with depending ribs or webs 14, thus giving

broad parallel bearing-faces between the sections, and the sections are preferably formed with radial and circumferential depending ribs or webs 14' in the usual way to secure 5 stiffness.

In the manufacture of the table the different sections are cast, and the sections are then planed on the bottom, the top, and the edge or web portion for the joints. The joints 10 are all preferably parallel, and the reciprocating planing-tool, which can be regulated to a very small fraction of an inch, will give an accurate relation between the bearings, the ring portion, and the upper face and will 15 also give a plane surface on the upper face. As the bearings for each shaft are on the same section, they are planed in accurate alignment at the same machining operation. The sections are then secured together with bolts 20 through the interfitting rabbeted portions along their edges, the central section assisting in supporting the side sections by means of these rabbets. Bolts 15 are used; but the only work required of them is to clamp the 25 sections together, the strain being taken by the rabbeted joints. When the sections are assembled and secured together, the table will present an accurate plane upper face throughout, and the different portions of the supporting-ring will be in accurate alinement with 30 each other and parallel with the table-surface. Therefore when the table is put in use and rotated its surface will travel in an exactly uniform horizontal plane, and as the glass carried thereby is thus held and rotated uniformly the danger of breakage is reduced to a minimum even when the table or the runners of the machine are driven at very high speed. This is not only an advantage in respect of the saving of breakage which has 40 heretofore been caused by the edges of the runners coming abruptly into contact with high portions of the glass, but by preventing the existence of such high portions we are enabled to expediate the grinding operation very 45 considerably, because the runners can be brought at once to bear on the glass and no time is lost in grinding off the high portions thereof which are caused by inequality of the

table. We also produce in this way a better 50 quality of glass because of the uniform thickness which the evenness of the table enables us to obtain.

The advantages of our invention result from the forming of the table in a plurality of transverse sections with parallel edges, since this 55 enables them to be planed accurately and give true bearings and a plane upper face. The necessity for grinding the table is obviated and a better deck afforded than can be obtained 60 by such grinding.

Variations may be made in the form and arrangement of the sections, in their number, in the arrangement of the bearings, &c., without departing from our invention. 65

We claim—

1. A glass-supporting table or deck formed of a plurality of planed transverse non-radial sections; the edges of the sections extending 70 entirely across the table at one side of the center, and being straight and parallel to each other; substantially as described.
2. A glass-supporting table or deck formed of a plurality of transverse sections the edges of all the sections being parallel with each 75 other and extending in straight lines across the table; substantially as described.
3. A glass-carrying table or deck formed of a plurality of sections having rabbeted joints extending across the table on non-radial lines; 80 substantially as described.
4. A glass-carrying table or deck formed of a plurality of non-radial sections, said table having a supporting-ring formed on the under side of the several sections, and planed parallel 85 with the surface; substantially as described.
5. A glass-carrying table or deck formed of a plurality of sections with planed parallel edges, and a planed supporting-ring transversely divided at the joints; substantially as 90 described.

In testimony whereof we have hereunto set our hands.

DANIEL J. MURNANE.
RODERICK W. DAVIES.

Witnesses:

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