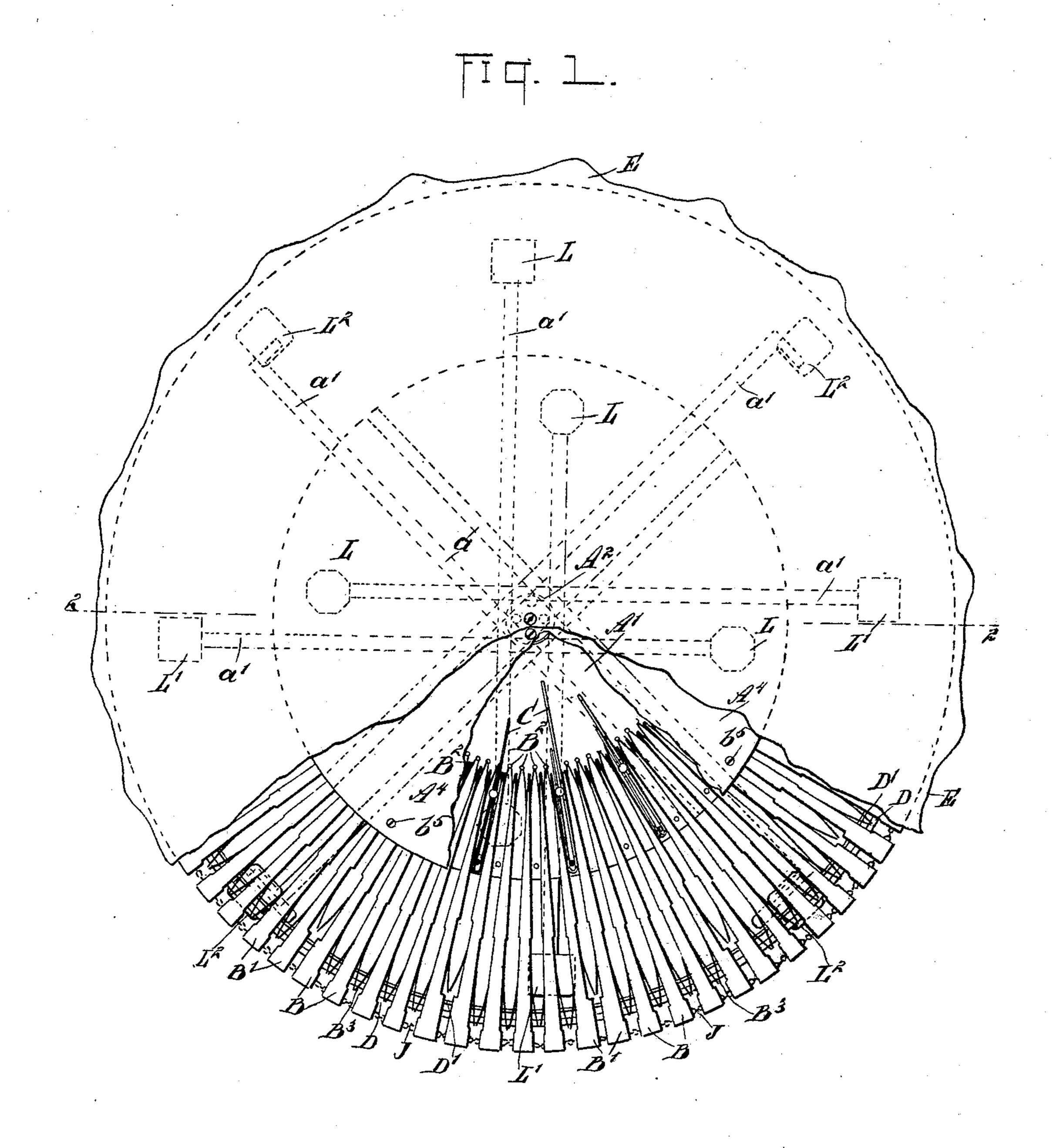
(No Model.)

5 Sheets—Sheet 1.

C. POUPON. EXTENSION TABLE.

No. 606,084.

Patented June 21, 1898.



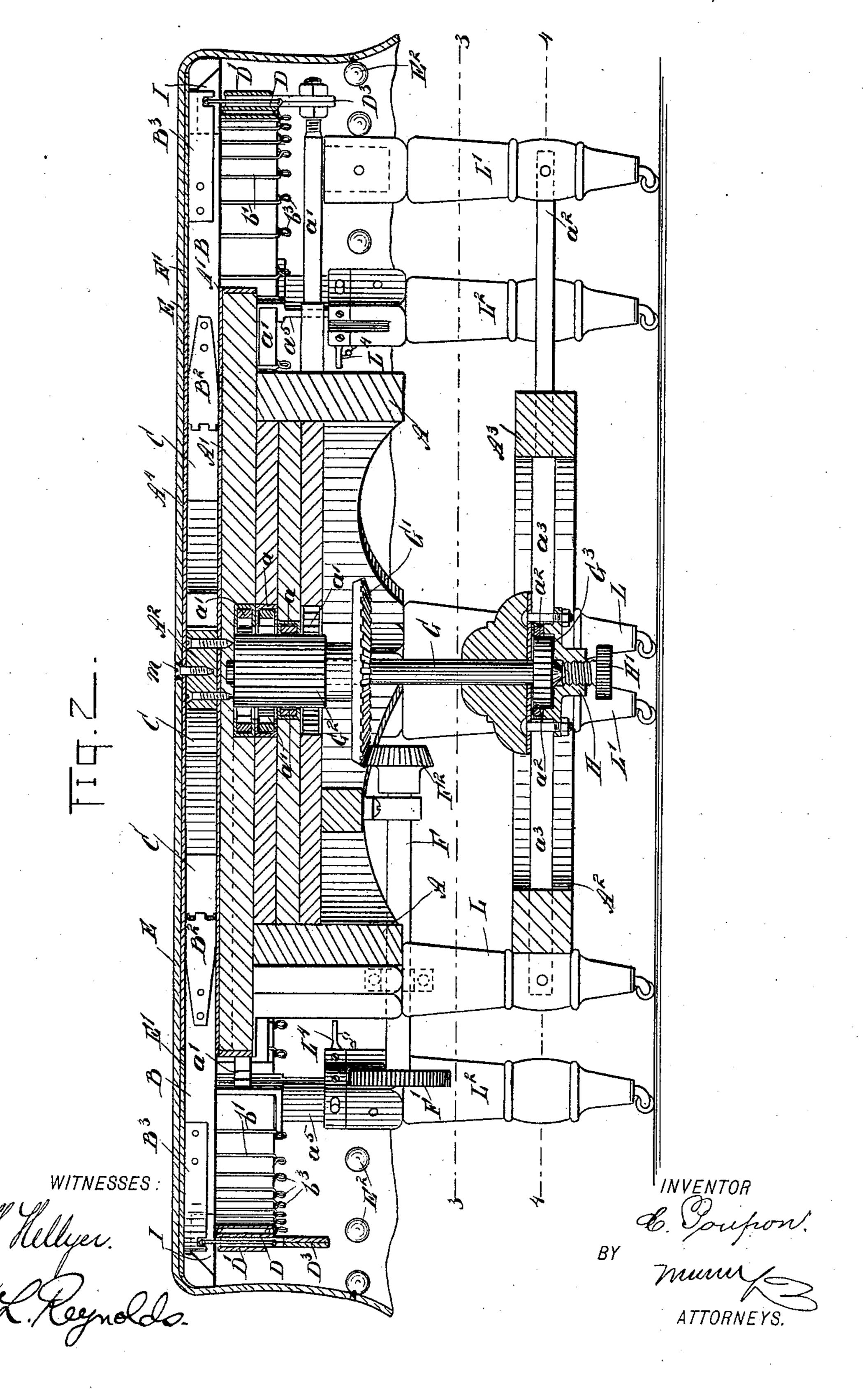
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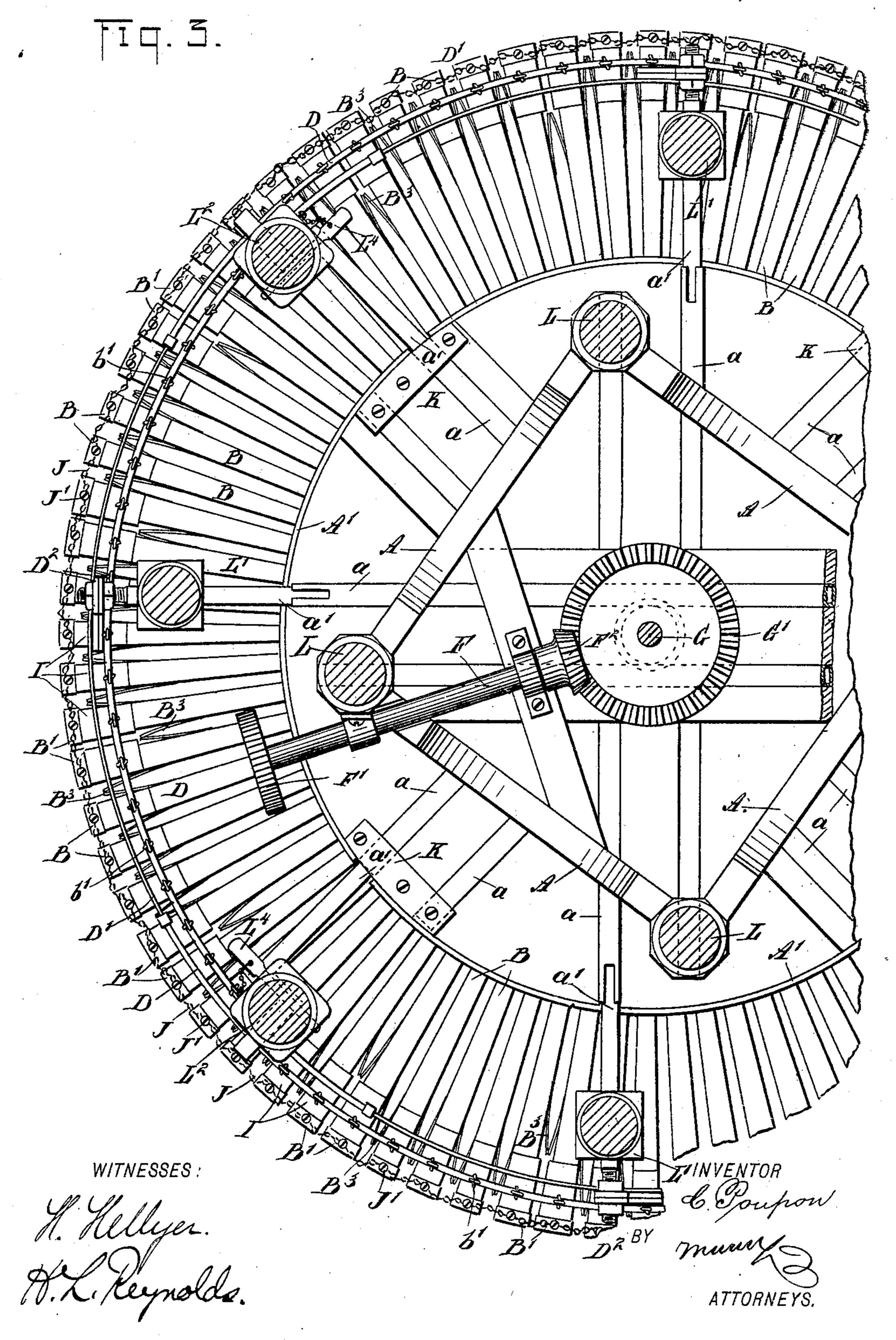
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Patented June 21, 1898.



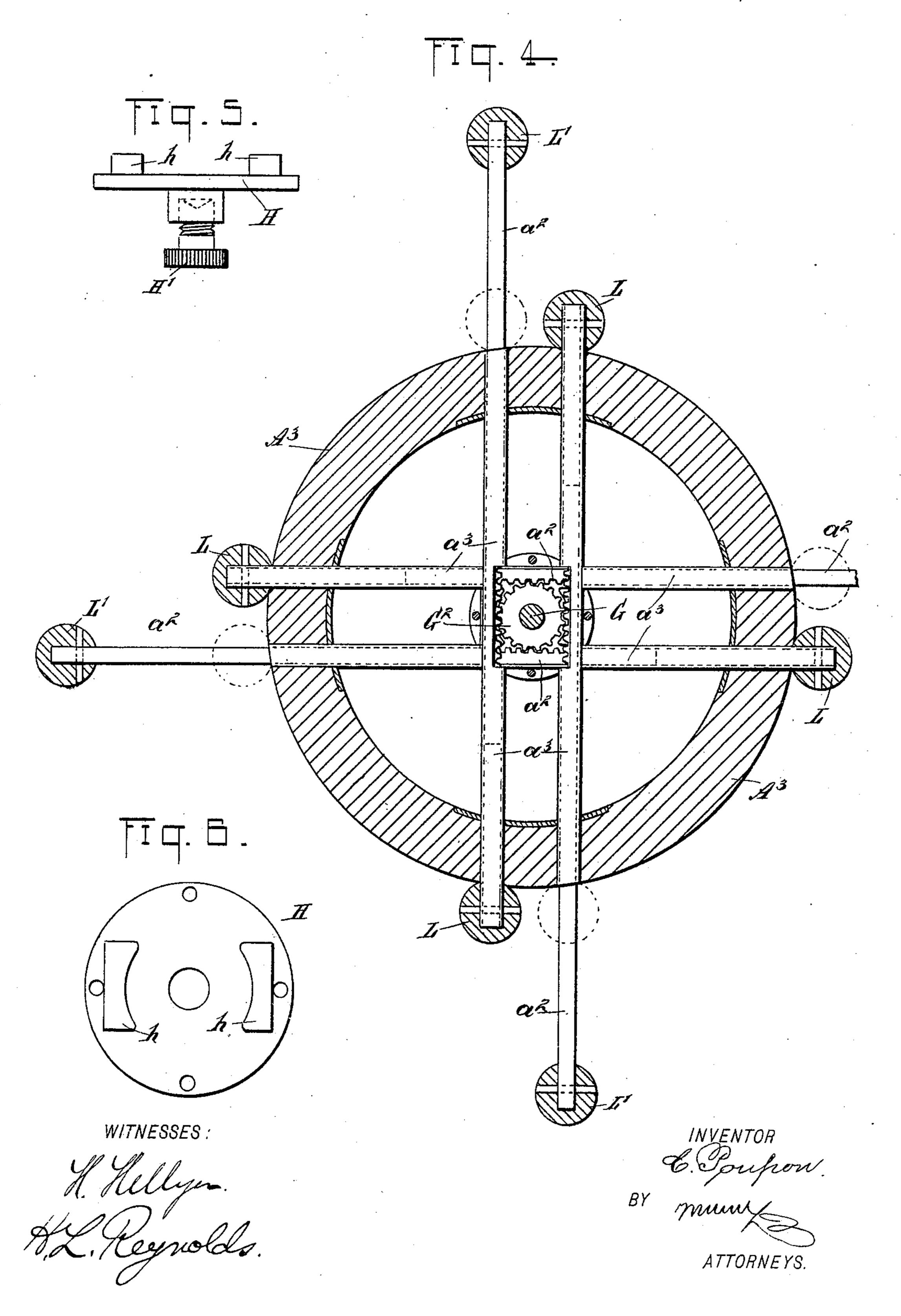
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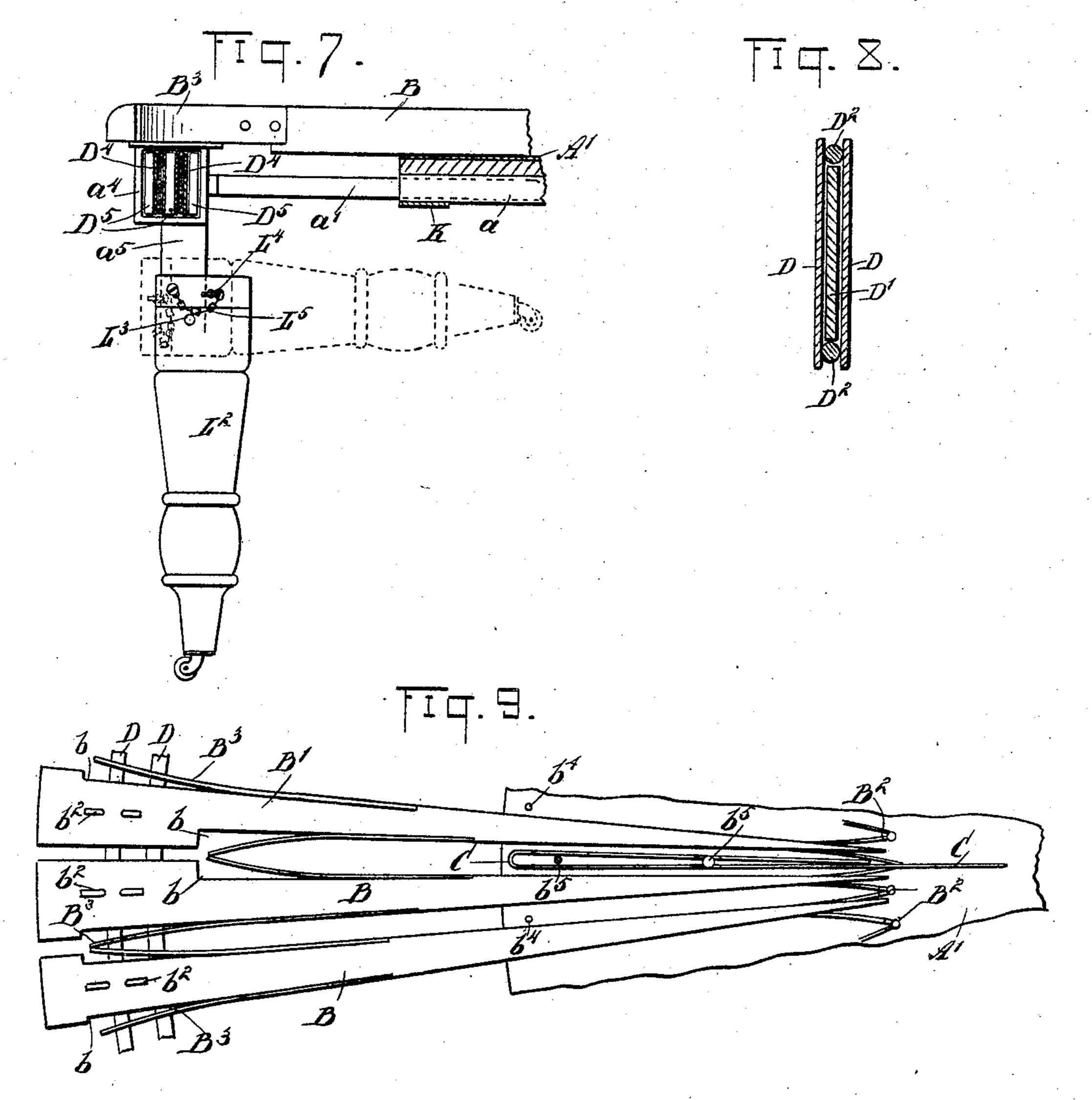
No. 606,084.

Patented June 21, 1898.



No. 606,084.

Patented June 21, 1898.



WITNESSES :

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### United States Patent Office.

CHARLES POUPON, OF EAGLE LAKE, FLORIDA.

#### EXTENSION-TABLE.

SPECIFICATION forming part of Letters Patent No. 606,084, dated June 21, 1898.

Application filed June 7, 1897. Serial No. 639,738. (No model.)

To all whom it may concern:

Be it known that I, CHARLES POUPON, of Eagle Lake, in the county of Polk and State of Florida, have invented new and useful Im-5 provements in Extension-Tables, of which the following is a full, clear, and exact de-

scription.

My invention relates to an improvement in extension-tables, particularly those which are 10 circular in form, and has for its object to enable the table to be adjusted to any diameter within its capacity by simply turning a crank or adjusting-wheel. This table has its top formed of a large number of sectors, which 15 are so connected and guided that they may be moved on radial lines inward and outward. The central portion of the table, or the surface of the table when adjusted to its smallest size, is formed of a thin metal plate, which 20 covers the sectors and from beneath which they project when the table is extended.

My invention also comprises, in connection with these sectors, adjustable rails or rings, which support the outer ends of the sectors, 25 and to which are attached the adjusting means and legs for supporting the outer ends of the sectors. These sectors are also provided with springs to separate them when they are extended and also with a flexible connector by 30 which undue separation thereof is avoided. The arms or bars which are attached to these rings and to the legs lie in a subtantially radial direction. The bars are toothed and engage with a central pinion by which all of 35 the bars are forced outward or inward at the same time and at the same rate.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter and pointed out

40 in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a top plan view of a table, showing a portion of the table-cloth and of the central metal plate broken away. Fig. 2 is a cross-sectional elevation taken upon the line 2 2 of Fig. 1. Fig. 3 is a partial bottom plan 50 view taken upon the line 3 3 of Fig. 2. Fig. 4 is a sectional plan view of the lower portion of the table, taken upon the line 44 of Fig.

2. Figs. 5 and 6 are an elevation and plan view of the disk which supports the central shaft. Fig. 7 is a detail elevation showing 55 one of the pivoted legs and the connection of the adjusting arm or bar to the supportingrings and to the sectors. Fig. 8 is a crosssection of one of the adjustable rings, and Fig. 9 is a detail plan view of a small section 60

of the table-top.

The central frame of the table consists of the four legs L, which are connected near their lower ends (see Figs. 2 and 4) by the ring A<sup>3</sup> and at their upper ends by a frame, 65 which, as shown in the drawings, particularly in Figs. 2 and 3, consists of the four bars A. To the upper part of this latter frame is fixed a circular top A', which should be nearly the size of the smallest dimensions 70 of the table. On the upper side of the top A' and in the center thereof is placed a hub  $A^2$ , which should be of a thickness correspond-

ing with the depth of the ribs C.

The sectors B are made very narrow, so 75 that when the table is expanded the space between any two of the sectors will be comparatively small and when the table is covered with a thick table-cloth the space will not be noticed. The sectors B are drawn to 80 a sharp edge at their inner ends and when in their innermost position are close to or in contact with the central hub A<sup>2</sup>. In this position the sides of the sectors are in contact, and the sectors are also mostly, if not wholly, 85 beneath the thin metal plate A4, which lies immediately above them. This plate A4 is secured by the screw m to the hub  $A^2$ . The outer portions of the plate are also secured to the outer portion A' of the table-top by means 90 of pins or bolts  $b^4$ , (see Fig. 9,) passing through the plate and between the sectors. Upon the top A' are also secured a series of radial plates C, held in position by the screws or bolts  $b^5$ . These plates C also lie between sectors and 95 serve as guides to secure radial movement of the sectors, but several sectors are located between adjacent plates. The sectors on either side of the plates C are made slightly wider than the others and are cut away a lit- 100 tle more, so as to accommodate the plates C. These plates C also support the top plate  $\Lambda^4$ .

The inner ends of the sectors B are provided with hinges B2, which consist of thin

metal plates attached at their ends to the sides of the sectors. The object in hinging the sectors is twofold—to support and brace them and to prevent them from falling off at 5 the edge when fully extended by means of a pin inserted between the sectors and near the edge of the supporting table-top, as will hereinafter appear. The plates B<sup>2</sup> are bent so as to act as springs to separate adjacent sectors 10 and are pivoted to each other at their free or inner ends. The sectors are also provided with springs B<sup>3</sup>, which are similar in construction to the plates B<sup>2</sup>, but are not hinged. The sides of the sectors are recessed, as shown 15 at b, to provide room for these springs, those sectors between which the plates or ribs C are placed being recessed more than the others for the purpose previously mentioned. This is clearly shown in Fig. 9. Too great 20 an extension of the sectors is prevented by the pins  $b^4$ , which connect the plate  $A^4$  and the table-top A'. The joint of the hinges will engage the pins  $b^4$  when the sectors have reached their full extension and prevent fur-25 ther movement of the sectors.

The outer ends of the sectors B are fastened by means of wire staples or loops b' to the adjustable rings D and D', which rings are shown in cross-section in Fig. 8 and in bottom 30 plan in Fig. 3. Each ring is divided into sections. One section consists of two bars D, which are separated a short distance from each other, so as to form a recess or cavity between them. As shown in Fig. 8, this is 35 accomplished by placing a wire D<sup>2</sup> of proper thickness between the two plates near each edge. The other section of the ring consists of a single bar or plate D', which has its end entering the space in the other section. Each 40 of these sections should preferably not be larger than a quarter of a circle, thus forming four sections for a ring, two of which are hollow and the other two solid. The ends of the solid sections enter the hollow or tubular 45 sections, so that the ring may be expanded or contracted, the single bar entering the hollow between the double bars.

The sectors are attached to the double section by means of the loops or staples b'. The 50 ends of these loops or staples pass through the sector and are bent down at their upper ends, as shown at  $b^2$  in Fig. 9. Their lower ends may also be provided with rings  $b^3$ , made by twisting the loops or staples. The rings 55  $b^3$  may be used for receiving hooks placed in the edge of the table-cloth, whereby the edge of the table-cloth will be supported and prevented from dropping as far as it would otherwise do when the table is contracted. As 60 previously stated, two of these adjustable rings D D' are provided and are arranged so that the double section of one corresponds with the single section of the other. The upper surface of the single section will not be 65 quite as high as the upper surface of the double section.

The use of two rings DD' and the arrange-

ment of their sections as described makes a continuous ring of the double sections or those having their edges highest, and the sectors 70 are supported upon these sections. The staples b' also should be upon this section, as if they were upon the single section they would engage the end of the double section when the ring was contracted.

The upper portion of the frame of the table is provided with a number of tubes a, which form guides for the movable arms a'. In the drawings I have shown eight of these arms arranged evenly about the circle. The arms 80 a' do not pass exactly through the center of the table, but a little to one side, so as to be tangent to the adjacent pinion G<sup>2</sup>, the arms within the guides a being toothed upon their inner portion and engaging the teeth of the 85 pinion  $G^2$ . The two guides  $\alpha$ , extending parallel and in opposite directions, are placed in the same plane; but each set of guides is, however, placed in a different plane. This results in there being four sets placed in dif- 90 ferent planes, all engaging the toothed wheel G<sup>2</sup>. The wheel G<sup>2</sup> is mounted upon a shaft G, supported at its lower end by an adjusting-screw H' and a cap H, which is bolted to the frame of the table. The bolt H' is threaded 95 and may be raised or lowered to adjust the position of the shaft G.

At its lower end the shaft G is provided with a pinion G<sup>3</sup>, of the same size as the pinion G<sup>2</sup> and meshing with two sets of arms  $a^2$ , which ico at their outer ends are attached to the lower ends of the legs L'. These arms  $a^2$  are toothed upon their inner ends and slide in the guides a<sup>3</sup>. The shaft G is also provided with a bevelgear G', which meshes with a bevel-pinion  $F^2$ , 105 mounted upon a horizontal shaft F. The outer end of this shaft extends to a point where it is accessible and has a hand adjusting-wheel F' or is otherwise arranged so that it may be engaged by a crank to turn the same. By 110 revolving the shaft F it is clear that the arms a' and  $a^2$  will all be forced outwardly or inwardly and at the same rate. The outer ends for each alternate one of the arms a' are rigidly connected by means of the plates D<sup>3</sup> with 115 the center of the hollow sections D of the adjustable rings. The ends of these sections are slidably connected, as shown in Fig. 7, with the upper portion of the movable tablelegs adjacent thereto on each side by means 120 of the rollers D<sup>5</sup>, which are pivoted in an inclosing frame fixed to the end of the bar a'. These rollers lie on each side of the hollow sections D of the adjustable rings and permit free endwise movement therebetween. As 125 the legs and arms are forced outward the sectors B are carried along therewith.

The springs B<sup>2</sup> and B<sup>3</sup> between the sectors B force them apart, and the expansion due to the increased diameter of the table is taken 130 up a little between the sectors. The outer ends of the sectors are joined to each other by means of a chain J or other flexible connector, which is attached to each sector by

means of the screws J'. This construction limits the space which may occur between adjacent sectors and prevents too large an open-

ing at any point.

At the bottom of the sectors, near their outer ends, are placed small plates I, which lie between the sectors and the rings D. These plates take up the wear due to the slight sliding movement of the sectors upon the rings. 10 Four of the outer set of legs are pivoted to the outer ends of the arms a' and to the rings D, as shown clearly in Figs. 2 and 7. Plates  $a^5$  are fixed to the arms a' and also to the rings D. The upper ends of the legs L<sup>2</sup> are slotted 15 to receive these plates and are pivoted thereto by a pin  $L^3$ . The plates  $a^5$  are locked in upright position by means of pins L4, which may be placed in horizontal holes located just inside the edges of the plates  $a^5$  and above the 20 pivot-points of the legs L<sup>2</sup>. By removing the pins L<sup>4</sup> the legs L<sup>2</sup> may be swung to the horizontal position. The parts are so proportioned that when this is done the holes through which the pins L<sup>4</sup> are inserted will then be just out-25 side the outer edges of the plates A<sup>5</sup>, and if the pins be inserted the legs will be held in a horizontal position. The pins L<sup>4</sup> are secured to the legs L<sup>2</sup> by means of short chains L<sup>5</sup>, so that the pins cannot become lost. The ele-30 vated position of the legs L<sup>2</sup> is shown in Fig. 7 by dotted lines. The object of pivoting the plates and legs is to permit the legs to be drawn nearer to the center than would otherwise be possible, as without this arrangement 35 the legs would engage the lower ring  $A^3$  before they reached their innermost position. This, however, may be avoided by otherwise designing the frame of the table.

In using the table herein shown and de-40 scribed it should be provided with a cloth E having considerable thickness or body, and thus bridge the gaps caused by the expansion of the sectors and cause the spaces between the sectors to be concealed. Moreover, the 45 portion of the cloth lying outside of the plate  $A^4$  should be thicker than that portion upon the plate, and in this way the ledge which would otherwise be formed at the edge of the plate will be obliterated. This is secured by 50 adding an extra layer or layers E' of material beneath the body of the cloth outside the cover-plate  $A^4$ . The thickening of the tablecloth comes upon that portion which is upon

the sectors and increases the thickness of the 55 cloth where it is needed to bridge the spaces between the sectors. The cloth is preferably secured to the table at its center by any convenient means, as by the screw m. The outer edge of the cloth may be provided with hooks

60 to engage the eyes  $b^3$  upon the lower ends of the staples b'. Preferably, however, the outer overhanging edge of the cloth will be provided with weights E<sup>2</sup>, which will hold the same down. As the table is contracted the

65 edge of the cloth will drop lower, while when it is expanded the cloth will be raised. The

same cloth will therefore answer for the table in either adjustment.

I have herein shown my device as applied solely to a circular table. I do not, however, 70 wish to be limited to its application to a circular table only, as it may be applied to tables which are of other forms.

The use of the term "sectors" herein is not intended to imply that the part so designated 75 is a mathematically correct sector, but that its general outline resembles a sector or triangle two of the sides of which correspond substantially with radii of a circle. These sides are recessed to receive the springs and 80 guiding-ribs; but they nevertheless resemble a sector in their general outline.

Having thus described my invention, I claim as new and desire to secure by Letters

Patent—

1. A table having its top composed of a central cover-plate and a series of sectors retractible beneath the cover-plate said sectors all lying and moving in the same plane, means for uniformly moving them outward on radial 90 lines, and fixed radial ribs forming guides controlling the position of said sectors and supporting the cover-plate.

2. A table having a central fixed structure, extension members comprising sectors flexi- 95 bly connected to each other, and means for synchronously moving them in a radial direc-

tion.

3. A table having a top comprising sectors flexibly connected to each other, means for 100 synchronously moving them outward in a radial direction, and a central cover-plate adapted to cover said sectors when in their retracted position.

4. A table having a central fixed structure, 105 extension members comprising sectors movable on radial lines and flexible connections between their outer ends limiting their sepa-

ration.

5. A table having a central fixed structure, 110 extension members comprising sectors movable on radial lines and springs between the sectors pressing the same apart.

6. A table having a central fixed structure, extension members comprising sectors hinged 115 to each other at their inner ends, and all oc-

cupying the same plane.

7. A table having its top formed of a central cover-plate and sectors movable on radial lines, and springs between the sectors press- 120 ing the same apart, substantially as described.

8. A table having its top composed of a central cover-plate and sectors hinged to each other at their inner ends, substantially as described.

9. A table having its top composed of a central cover-plate and sectors hinged to each other at their inner ends, and means for synchronously moving the sectors outward or inward, substantially as described.

10. A table having its top composed of a central cover-plate and sectors hinged to each

other at their inner ends, fixed guides for the sectors, and means for synchronously moving the sectors outward or inward, substantially as described.

5 11. A table having its top composed of a central cover-plate and sectors, and springhinges connecting the inner ends of the sec-

tors, substantially as described.

12. A table having its top composed of a 10 central cover-plate and sectors, spring-hinges connecting the inner ends of the sectors, and means for synchronously moving the sectors in a radial direction, substantially as described.

13. A table having its top composed of a central cover-plate and sectors having shallow recesses on their sides, and flat springs within said recesses and forcing the sectors

apart, substantially as described.

20 14. A table having its top composed of a central cover-plate and sectors movable on radial lines, and connections between the outer ends of the sectors and defining their maximum spread, substantially as described.

15. A table having its top formed of a central cover-plate and sectors movable on radial lines, and a chain attached to the outer ends of the sectors and defining their maximum spread, substantially as described.

16. A table having a central fixed structure, extension members comprising sectors hinged to each other at their inner ends, and a chain attached to the outer ends of the sectors and defining their maximum spread, substantially 35 as described.

17. A table having a central fixed structure, extension members comprising sectors hinged to each other at their inner ends, means for synchronously moving the sectors outward 40 and inward, and a chain attached to the outer ends of the sectors, and defining their maximum spread, substantially as described.

18. A table having a central fixed structure, extension members comprising sectors hinged 45 to each other at their inner ends, fixed guides for the sectors, means for synchronously moving the sectors inward and outward, and a chain attached to the outer ends of the sectors and defining their maximum spread, sub-

50 stantially as described.

19. A table having a central fixed structure, extension members comprising sectors movable on radial lines, springs between the sectors and pressing the same apart, and a chain 55 attached to the outer ends of the sectors and defining their maximum spread, substantially as described.

20. A table having a central fixed structure, extension members comprising sectors mov-60 able on radial lines, springs between the sectors and pressing the same apart, and means for synchronously moving the sectors outward or inward, substantially as described.

21. A table having a central fixed structure, 65 extension members comprising sectors movable on radial lines, springs between the sectors and pressing the same apart, fixed guides for the sectors, and means for synchronously moving the sectors outward or inward, substantially as described.

22. A table having a central fixed structure, extension members comprising sectors movable on radial lines, springs between the sectors and pressing the same apart, means for synchronously moving the sectors outward or 75 inward, and a chain attached to the outer ends of the sectors and defining their maximum spread, substantially as described.

23. A table having a top comprising sectors, means for synchronously moving the sec-80 tors outward or inward, guiding-ribs lying between sectors, and a thin plate above the sectors and upon the guiding-ribs, and secured to the table at its center, substantially as de-

scribed.

24. A table having a top comprising sectors, guiding-ribs between the sectors, means for simultaneously moving the sectors outward or inward, a central hub having its upper surface level with the tops of the ribs, go and a thin plate covering the sectors and ribs and fixed to the central hub, substantially as described.

25. A table having a top comprising sectors, guiding-ribs between the sectors, means 95 for simultaneously moving the sectors outward or inward, a central hub having its upper surface level with the tops of the ribs, and a thin plate covering the sectors and ribs, and fixed to the central hub and at its outer 100 edge to the table by pins passing through between the sectors, substantially as described.

26. A table having a central fixed structure, extension members comprising sectors, an expansible ring connected to said sectors, and 105 means for expanding and contracting said

ring, substantially as described.

27. A table having a central fixed structure, extension members comprising sectors, an expansible ring connected to said sectors, radial 110 rods engaging said ring at intervals, and means for moving the rods inward or outward at will, substantially as described.

28. A table having a central fixed structure, extension members comprising sectors, an 115 expansible ring connected to said sectors, toothed rods extending from the center outward and engaging said ring at intervals, a central pinion engaging said rods, and means for turning the pinion, substantially as de- 120 scribed.

29. A table having a central fixed structure, extension members comprising sectors, an expansible ring, staples upon the sectors embracing said ring, and means for expanding 125 and contracting said ring, substantially as described.

30. A table having a central fixed structure, extension members comprising sectors, an expansible ring consisting of overlapping bars 130 sliding upon each other, staples upon the sectors and embracing said ring, and means for expanding and contracting the ring, substantially as described.

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31. A table having a central fixed structure, extension members comprising sectors, an expansible ring consisting of outer and inner parts which telescope, staples upon the sec-5 tors embracing said ring, and means for expanding and contracting the ring, substantially as described.

32. A table having a central fixed structure, extension members comprising sectors, two 10 expansible rings, one within the other, each ring being composed of sections which telescope, the inner section of one ring being located adjacent to the tubular or outer section of the other ring, and staples attached 15 to the sectors and embracing the outer or tubular sections of the rings, substantially as described.

33. A table having a central fixed structure, extension members comprising sectors, an ex-20 pansible ring, staples upon the sectors embracing the said ring, arms extending from the center outward and engaging said ring, and means for operating said arms simultaneously, substantially as described.

34. A table having a central fixed structure, extension members comprising sectors, two expansible rings one within the other, each ring being composed of sections which telescope, the inner section of one ring being lo-30 cated adjacent to the tubular or outer section of the other ring, staples attached to the sectors and embracing the outer or tubular sections of the rings, arms extending from the center outward and engaging said rings, and 35 means for extending or withdrawing said arms simultaneously, substantially as described.

35. A table having a central fixed structure, extension members comprising sectors, two expansible rings one within the other, each 40 ring being composed of sections which telescope, the inner section of one ring being located adjacent to the tubular or outer section of the other ring, staples attached to the sectors and embracing the outer or tubular sec-45 tions of the ring, toothed arms extending from the center outward and engaging said rings, a central pinion engaging said arms, and means for turning said pinion, substantially as described.

36. A table having a central fixed structure, extension members comprising sectors, two expansible rings one within the other, each ring being composed of sections which telescope, the inner section of one ring being lo-55 cated adjacent to the tubular or outer section of the other ring, staples attached to the sectors and embracing the outer or tubular sections of the rings, toothed arms extending from the center outward and engaging said бо rings, a central shaft carrying a spur-pinion engaging said arms, a bevel-pinion, a horizontal shaft having a bevel-pinion engaging the first-named bevel-pinion, and means for turning the shaft, substantially as described.

37. A table having a central fixed structure, extension members comprising sectors, an

expansible ring connected to said sectors, toothed arms extending from the center outward and engaging said rings, a central shaft carrying a spur-pinion engaging said arms, 70 a bevel-pinion, a horizontal shaft having a bevel-pinion engaging the first-named bevelpinion, and means for turning said shaft, substantially as described.

38. A table having a central fixed structure, 75 extension members comprising sectors, an expansible ring connected to said sectors, arms extending from the center outward and connected to said ring, means for extending and withdrawing said arms, and legs connected 80 to said arms, substantially as described.

39. A table having a central fixed structure, extension members comprising sectors, an expansible ring connected to said sectors, toothed arms extending from the center out- 85 ward and connected to said ring, a central pinion engaging said arms, means for turning said pinion, and legs connected to the outer ends of said arms, substantially as described.

40. A table having a central fixed structure, extension members comprising sectors, two expansible rings one within the other, each ring being composed of sections which telescope, the inner section of one ring being lo- 95 cated adjacent to the tubular or outer section of the other ring, loops attached to the sectors and embracing the outer or tubular sections of the rings, arms extending from the center outward and connected to said rings, 100 means for extending and withdrawing said arms, and legs connected to the outer ends of the arms, substantially as described.

41. A table having a central fixed structure, extension members comprising sectors, two 105 expansible rings one within the other, each ring being composed of sections which telescope, the inner section of one ring being located adjacent to the tubular or outer section of the other ring, loops attached to the sec- 110 tors and embracing the outer or tubular sections of the rings, toothed arms extending from the center outward and engaging said rings, a central shaft carrying a spur-pinion engaging said arms, a bevel-pinion, a hori- 115 zontal shaft having a bevel-pinion engaging the first-named bevel-pinion, means for turning said horizontal shaft, and legs connected to the said arms and rings, substantially as described.

42. A table having a central fixed structure, extension members comprising sectors, expansible rings connected to said sectors, arms extending from the center outwardly, means for extending and withdrawing said arms, and 125 rollers connected to the outer ends of said arms and embracing the rings, substantially as described.

43. A table having an expansible top, legs supporting the expansible outer sections of 130 the said top, toothed arms extending from the center outward and connected to said legs at

120

top and bottom, central pinions engaging said toothed arms, and means for turning said

pinions, substantially as described.

44. A table having an expansible top, legs 5 supporting the expansible outer sections of said top, toothed arms extending from the center outward and connected to said legs at top and bottom, central pinions engaging said toothed arms, a common shaft for said pin-10 ions, a horizontal shaft provided at its outer end with means by which it may be turned, and bevel-gears connecting the two shafts, substantially as described.

45. A table having an expansible outer sec-15 tion, legs pivoted thereto, and means by which the pivoted legs may be locked in a horizontal or vertical position, substantially as de-

scribed.

46. A table having an expansible outer sec-20 tion, arms extending from the center outward and connected to the expansible outer section to operate it, means for moving said arms

synchronously, legs pivoted to the outer ends of said arms, and means for locking the arms in either a horizontal or vertical position, sub- 25

stantially as described.

47. A table having an expansible top section composed of sectors, means for moving said sectors inward or outward, and peripherally-expansible supporting-rails extending 3° about the table beneath said sectors, substan-

tially as described.

48. A table having an expansible top section composed of sectors, means for moving said sectors inward or outward, expansible 35 supporting-rails extending about the table beneath said sectors, and shoes attached to the under side of the sectors, and engaging said rails, substantially as described.

CHARLES POUPON.

Witnesses:

J. S. PRICE,

J. J. PLATTEN, Jr.