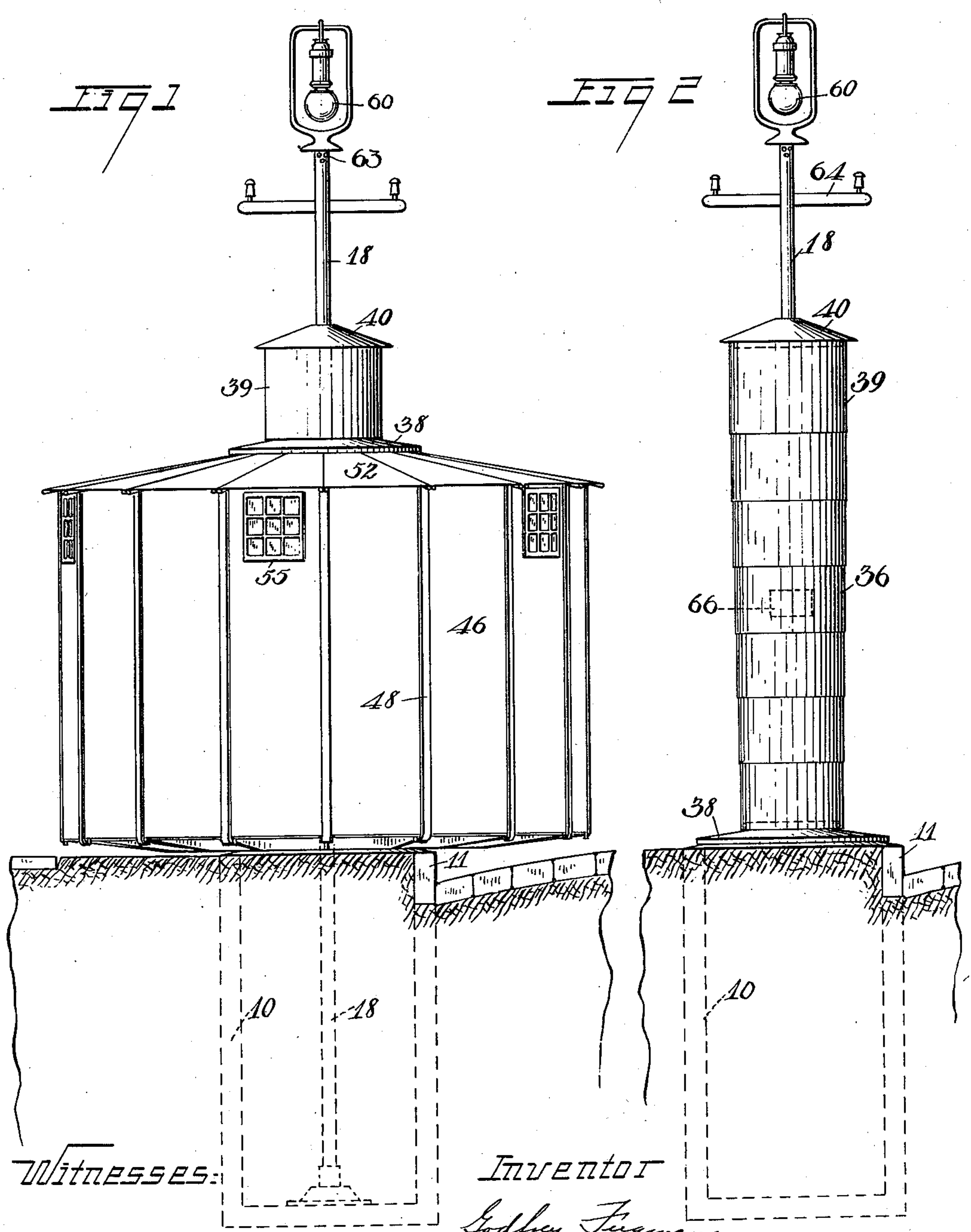


G. FUGMAN.
 COLLAPSIBLE BUILDING.
 APPLICATION FILED JAN. 22, 1910.

981,992.

Patented Jan. 17, 1911.
 4 SHEETS—SHEET 1.



Witnesses:
 Brennan West.
 Oliver M. Kappeler

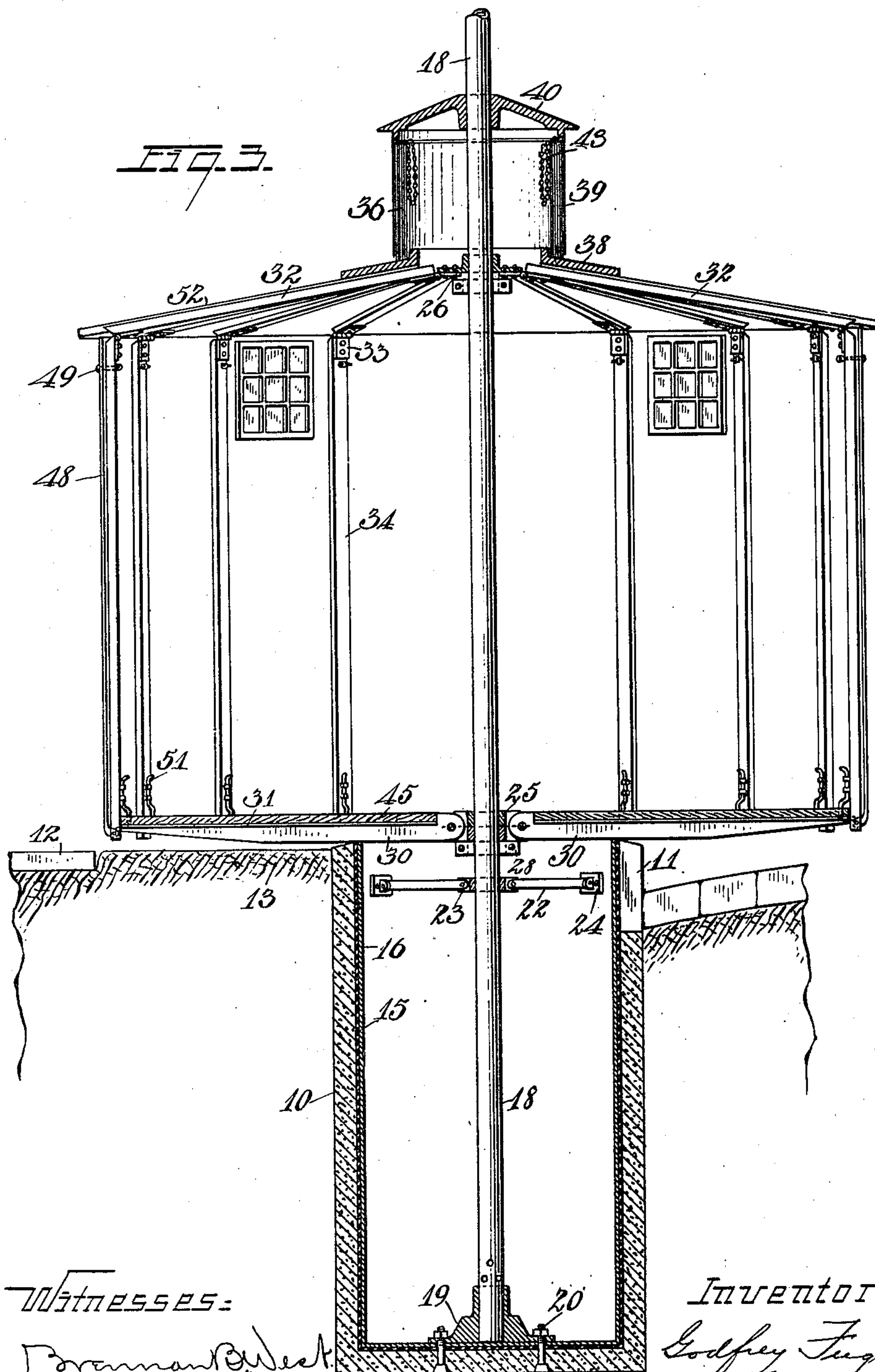
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4 SHEETS—SHEET 2.



Witnesses:

Bernard West
Oliver M. Kappeler

Inventor

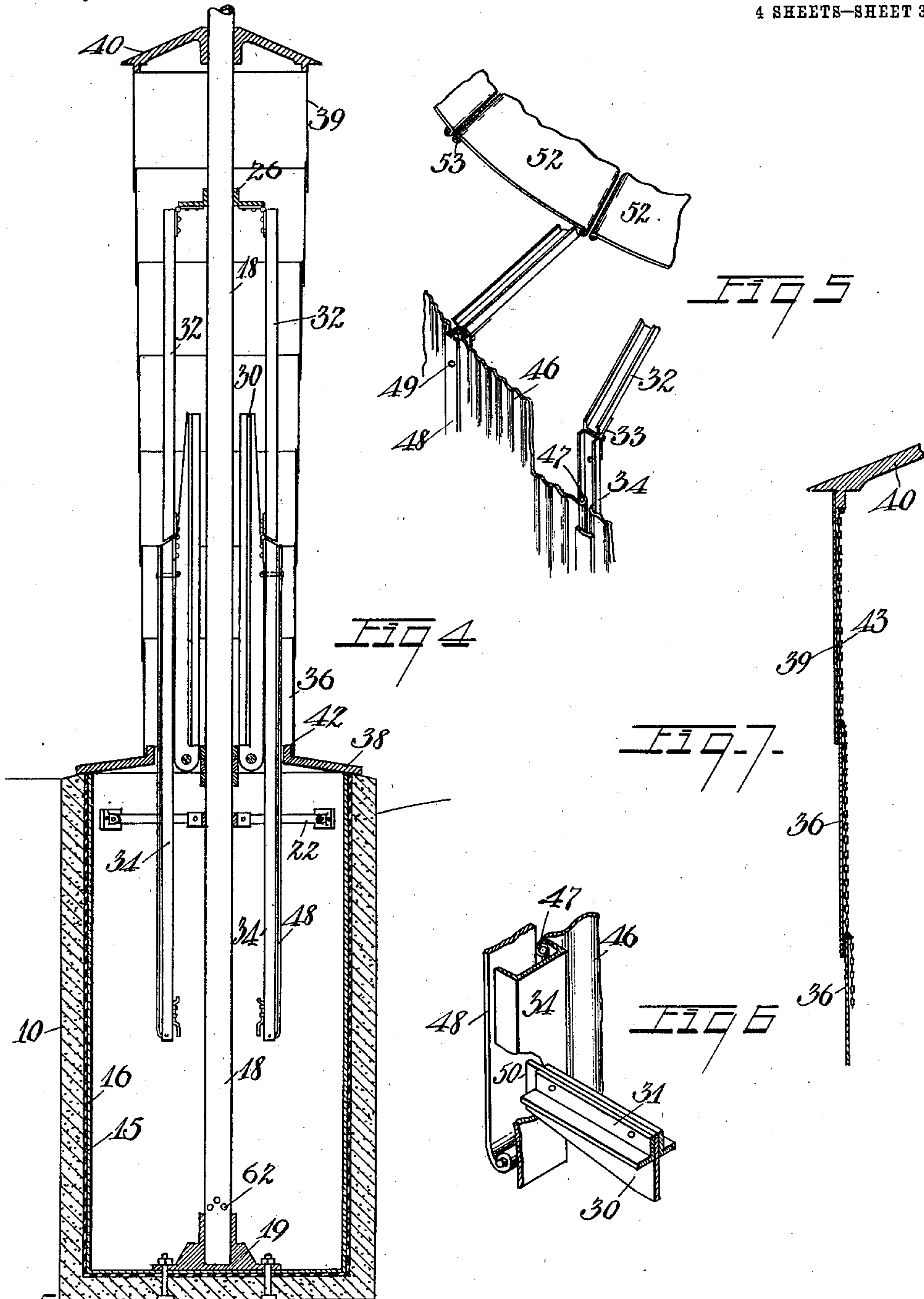
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4 SHEETS—SHEET 3.



Witnesses:

Brennan B. West.
 Oliver M. Kappeler

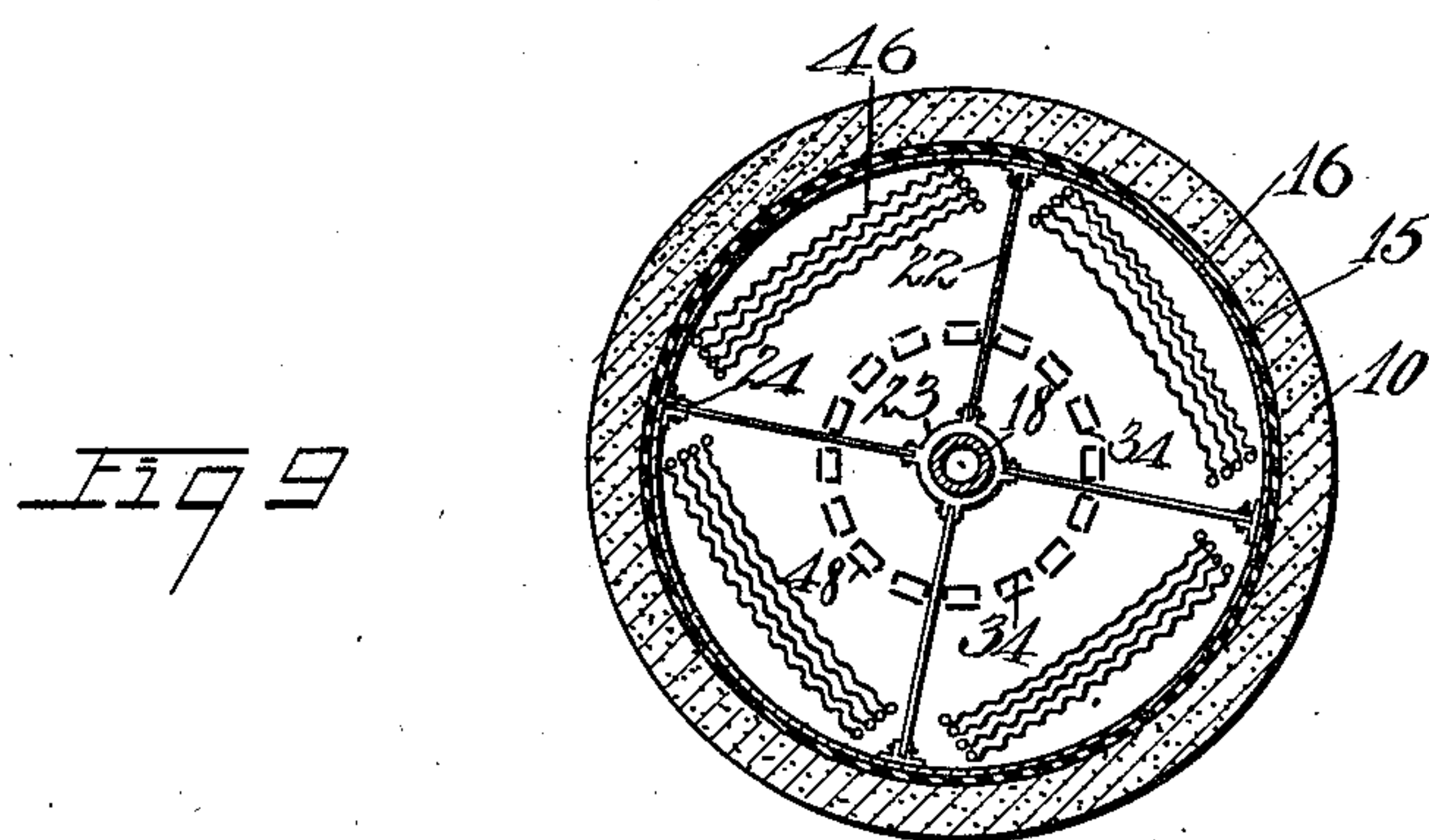
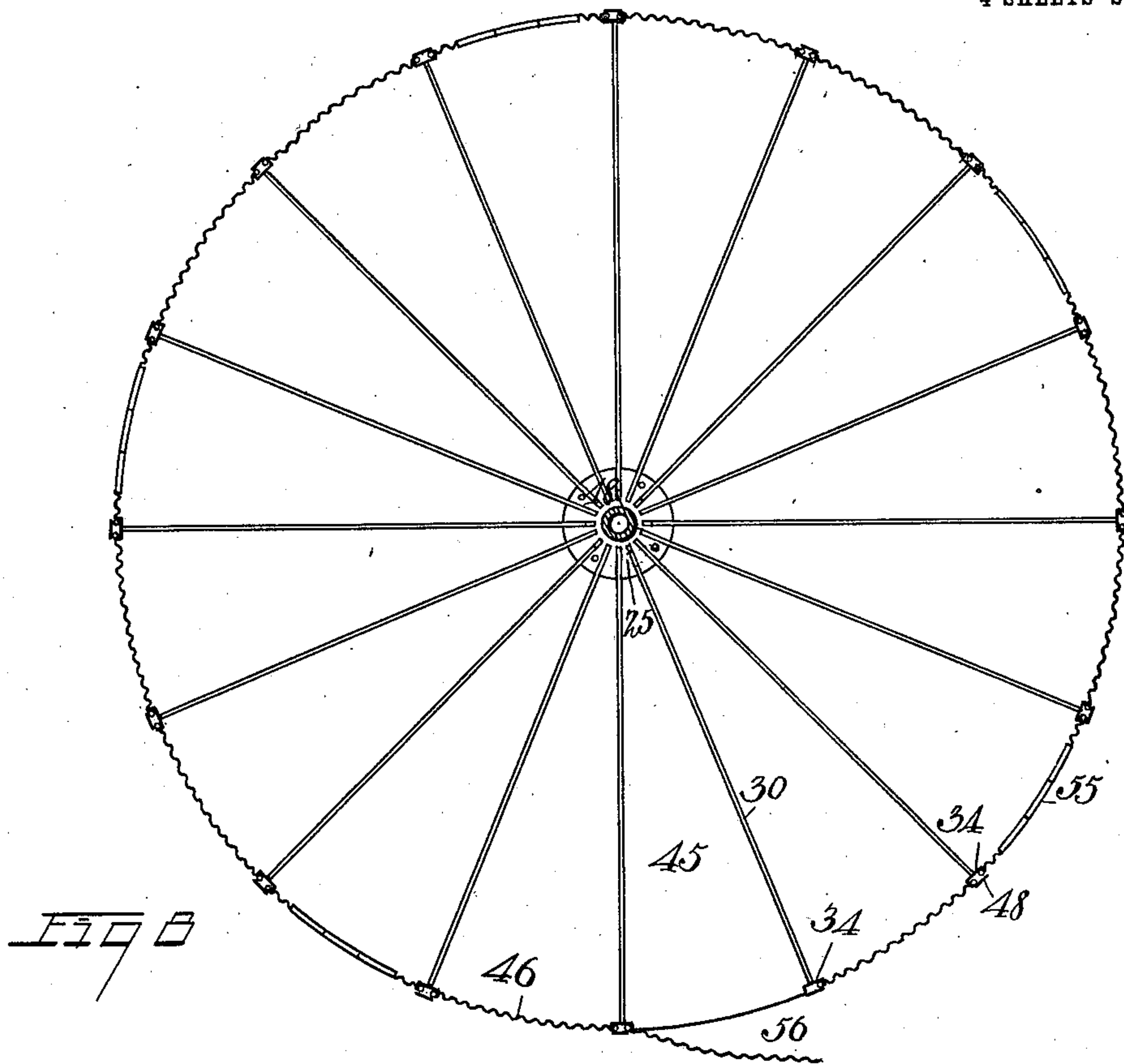
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4 SHEETS—SHEET 4.



Witnesses:

Brennan B. West.
Oliver M. Kappeler.

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UNITED STATES PATENT OFFICE.

GODFREY FUGMAN, OF CLEVELAND HEIGHTS, OHIO, ASSIGNOR TO ANNA L. F. FUGMAN,
OF CLEVELAND, OHIO.

COLLAPSIBLE BUILDING.

981,992.

Specification of Letters Patent. Patented Jan. 17, 1911.

Application filed January 22, 1910. Serial No. 539,456.

To all whom it may concern:

Be it known that I, GODFREY FUGMAN, a citizen of the United States, residing at Cleveland Heights, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Collapsible Buildings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

One of the objects of this invention is to provide a building in such form and of such construction that it may be easily collapsed into a very small space for storage and easily returned to extended position.

Another object is to provide a suitable casing for the collapsed building.

Another object is to provide such building with a skeleton permanently secured to a central structure about which the parts may be collapsed.

Another object is to provide such building with a pit over which the extended building stands and in which the parts of it may be lowered and stored when the building is collapsed.

Another object is to combine the building and pit with a central hollow pole which may ventilate the pit and carry electric wires for the building, the building being adapted to be collapsed about the pole.

The invention comprises the means by which I attain the above objects, or any of them, as well as other features contributing to the efficiency of my collapsible building, as will be hereinafter explained.

My invention may be particularly well embodied in a voting booth, which, when in use, stands adjacent to a city curb and overhangs the roadway and the parking between the roadway and the sidewalk, and which, when not in use, is collapsed about a central stationary pole into a pit beneath the building, the parts in such collapsed form being suitably incased. This is the embodiment of the invention shown in the drawings and which will now be more fully explained.

In the drawings,—Figure 1 is a side elevation of my building in its extended form; Fig. 2, a side elevation in the collapsed form; Fig. 3 is a vertical central section of the building extended; Fig. 4 is a similar view of the building collapsed; Fig. 5 is a fragmentary perspective view of the con-

struction adjacent to the junction of the roof and the wall, the roof being elevated to disclose the supports beneath; Fig. 6 is a fragmentary perspective view adjacent to the junction of the wall with a floor beam; Fig. 7 is a vertical section through a portion of the telescoping casing; Fig. 8 is a sectional plan of the building, taken between the floor and the roof; and Fig. 9 is a horizontal section through the pit near its upper end.

In the form shown in the drawing, the building is round and stands over and cooperates with a round pit, though it is to be understood that other shapes may be used if desired.

As shown in the drawings, 10 represents the wall of a pit in the ground located adjacent to the curb 11 and between it and the sidewalk 12. If preferable conditions exist, this pit is cut in the parking adjacent to the curb, a strip of parking 13 remaining between the pit and the sidewalk. The location of the pit, however, with reference to the curb and sidewalk depends on the local conditions. The pit preferably has a concrete wall 10, a water-proof lining 15, of asphalt or other suitable material, and a steel inner shell 16. The concrete, asphalt and steel not only form the vertical walls of the pit, but also extend across and form a water-tight bottom.

Extending centrally in the pit is a pole 18 which is preferably a hollow steel tube suitably footed at the base of the pit. As shown in the drawing, the tube extends at its lower end into the pedestal 19 which is suitably bolted to the bottom of the pit, as indicated by the bolts 20. The central pole is braced near the upper end of the pit by brace bars 22 which are shown as bolted at their inner ends to a collar 23 surrounding the pole, and at their outer ends to eared blocks 24 secured to the steel shell 16. Any or all of the brace bars 22 may be made easily removable by removing the bolts at their ends to allow greater access to the pit, where parts of the building are stored, as hereinafter explained.

Secured to the pole 18 at a point adjacent to the top of the pit is the collar 25 provided with a series of radial notches which are occupied by the inner ends of floor beams 30 pivoted to the collar. These floor beams are adapted to stand horizontally, as shown

in Fig. 3, and rest intermediately on the upper end of the steel shell and wall of the pit, and thus constitute cantalivers carrying the floor. On the other hand, when the building is to be collapsed, these floor beams are folded up into vertical positions about the pole, as shown in Fig. 4.

Secured to the central pole a suitable distance above the floor 25 is a collar 26 to which are hinged roof beams or rafters 32. The vertical beams or studs 34 are hinged at their upper ends to the roof beams, and at their lower ends are adapted to foot on the floor beams when the building is expanded, as shown in Fig. 3. When the building is collapsed, the roof beams 32 and the wall beams 34 hang down vertically, the latter depending into the pit, as shown in Fig. 4.

From the above description it will be seen that the skeleton of my building, comprising what may be called the joists, rafters and studs, is adapted to either occupy the natural positions in a building or be folded about the central pole. When so folded, these parts are adapted to be inclosed by a telescoping tubular casing comprising a series of sheet metal rings 36 which extend from an annular cap or cover member 38 upwardly into the cylindrical sheath 39 carried by a conical member 40 rigidly secured to the pole above the collar 26. Accordingly, when the skeleton is collapsed and incased it gives the appearance shown in Fig. 2.

When the building is collapsed, the cover plate 38 extends over the upper end of the pit and closes the same, and the various tubular sections 36 extend from this cover plate upwardly to the sheath 39. The lowermost section 36 is adapted to stand over a flange 42 of the cover plate. The sections 36 may be held in their extended positions as shown in Figs. 2, 4 and 7 by suitable chains 43 anchored to the conical member 40 and to the upper end of each section 36, or other means may be employed for this purpose, as will be well understood. When the building is expanded, the cover plate 38 and all the various sections 36 are raised so that the sections stand within the sleeve 39, as shown in Fig. 3, and the cover 38 extends over the roof and forms a suitable cap. For clearness of illustration, several plies of the chains 43 are omitted in Fig. 3, and they are all omitted in Fig. 4.

When the skeleton of the building has been expanded, as described, with the casing collapsed into the sheath 39, and the rafters, studs and joists occupying their natural positions, all that remains to complete the building is to insert panels for the floor, wall and roof. These panels may vary in construction, according to the style of building desired. As shown, the floor panels are wood, the wall panels of corrugated metal, and the roof panels of substantially flat

metal. The way by which these panels are held in place may also be varied as desired. The form shown, however, possesses advantages and is included within my invention, though I do not wish to be limited thereto.

As shown in the drawings, the floor beams 30 are made of vertical strips reinforced near their upper edges by outwardly extending angle beams 31 riveted to their opposite sides. The floor panels 45 are wooden members made in sector shape and lie between successive beams and rest on the horizontal flanges of the angles 31, the vertical edges of the panels abutting the vertical flanges of the angles, and the top surface of the panels being substantially flush with the top of the angles and the strips 30.

To prevent the flanges 31 of adjacent beams interfering with each other when the floor beams are folded, the pivots of the floor beams in the collar 25 may be staggered or alternately offset. This pivoting may conveniently be accomplished by making the pintles rigid with the floor beams and making the collar in two sections one above the other and mutually recessed to receive such trunnions. The collar sections may be bolted together and to another collar 28 tightly clamped on the pole, or other securing means may be employed, as desired.

The rafters and the vertical beams are preferably channels with their flanges projecting upwardly and outwardly, respectively, as shown in Figs. 3 and 5. These members may be hinged together by strap hinges 33 riveted to them near their junction, as shown. The wall panels may be corrugated metal plates 46 having rolled-over edges 47, the edges of adjacent panels being adapted to occupy the same channel of one of the uprights 34.

To hold the wall panels in place, I provide each upright member 34 with a strip 48 hinged to the upright member near its lower end, and, when in place, bolted to the upright near its upper end as by a bolt 49 passing through the strip 48 and the upright between the adjacent rolled-over edges 47 of the panels. This construction enables the panels to be very easily put in place by unbolting and turning down the strips 48, after which the return of these strips to their vertical position and the bolting of their upper end holds the panels securely. The uprights 34 are suitably secured, when the building is expanded, to the ends of the floor beams 30. As shown, this is accomplished by having an opening made in the webs of the channels 34 through which the ends of the floor beams project, as shown at 50 in Fig. 6, the uprights being locked to the floor beams or to the floor, as, for example, by sliding bolts (shown conventionally at 51 in Fig. 3) carried by the inner sides of the channels and adapted

to engage holes formed in the floor beams by cutting notches in the upper edges of the vertical strips between the flanges of the angle beams 31.

5 The roof panels 52 are shown as flat sector-shaped metal members having rolled-over edges 53 adapted to occupy the channels of the roof beams 32. When these are in place, their weight, together with the
10 weight of the cap 38 and the surmounting casing sleeves 36, is sufficient to hold the roof members down securely on the rafters, and their rolled-over edges in the channels prevent their sliding outwardly. Some of
15 the wall panels may be provided with suitable windows 55 carried by them, and in place of a portion of one of the panels there may be a suitably hinged door 56, as will be readily understood.

20 When the panels of the floor and roof are removed they may be conveniently stored in the annular space between the depending side members of the collapsed frame and the wall of the pit. This is
25 illustrated in Fig. 9, in the case of the side panels. The other panels are omitted for clearness of construction, but it will be readily understood that they may be similarly stored. The upper edge of the wall
30 is preferably inclined, as shown, so that it is adapted to shed water. The pit is thus kept dry when the building is stored, as well as when it is expanded.

As heretofore referred to, my building is
35 especially well adapted for a voting booth. It has always been a troublesome matter in cities to store voting booths when not in use; the expense of the storage is great; the expense of hauling between the place of
40 storage and the precinct of use is also great, and the wear and tear on the building, consequent both on its exposed condition during storage and on the haulage, is a third item greatly augmenting this expense. My
45 invention does away entirely with the expense of both the storage and the hauling and saves the wear and tear consequent upon both.

My invention provides not only the
50 permanent location for the polling place, but, from its character, is a reminder to citizens of the location, even when collapsed. The number of the ward or precinct may conveniently be painted on the sheathing 39
55 and thus be visible at all times.

Another advantage of my invention is that electric wires may be permanently connected with supports on the pole, so that
60 when the booth is expanded there need be no delay in connecting telephones or electric heaters, for example. Furthermore, the pole furnishes means for carrying a permanent city light, as the electric light indicated at 60 in Figs. 1 and 2. The pole, being
65 hollow, also furnishes a continuous ven-

tilation for the pit, there being openings 62 and 63 in the pole near its ends for this purpose. The base of the lamp frame may form a shedding crown over the openings 63. The pole may carry a suitable cross arm 64
70 for insulators for the wires.

As the structure is a permanent location, it may be conveniently used for a police call or fire alarm call, or similar use. In such case it is only necessary to provide
75 one of the sleeves 36 with a suitable opening in which may be mounted the call box or a door having a call box on it, or a push-button or other arrangement, as desired. The dotted lines 66 on the fourth sleeve
80 from the bottom in Fig. 2 are taken as indicating such door or call box.

It will be seen that my booth when stored or expanded is neat in appearance, and it
85 may be located where the city will be required to pay no rental; that even when collapsed it is useful, and that it may be expanded and made ready for use very quickly and with little labor.

With the growing adoption of the referendum principle by States and cities, and the consequent increasing number of elections, the saving resulting to a city by the employment of my collapsible booth over
90 the old method, is enormous.

Having thus described my invention, what I claim is:

1. The combination with a pit, of a collapsible building adapted when expanded to overhang the top of the pit and when collapsed to come entirely within the area of
100 the pit with parts stored therein.

2. The combination with a suitable pit, of a building adapted to stand over the pit, and means for collapsing the building partially
105 into and partially out of the pit and a casing for the part out of the pit and a cover for the portion of the pit unoccupied by the collapsed pit of the building.

3. The combination with a pit, of a stationary pole rising therefrom, a collapsible building surrounding the pole and adapted to be expanded over the pit or collapsed about the pole partly into the pit, and a
115 cover for the pit.

4. The combination of a pit, a stationary pole permanently located substantially at the center thereof, and a collapsible building surrounding said pole and having frame members carried thereby.
120

5. In a collapsible building, the combination of a central pole, and members adapted to carry one of the surfaces of the building, which members are mounted on and collapsible about said pole, and a pit in which the
125 pole is secured and from which the pole rises and in which such surface may be stored.

6. In a collapsible building, the combination of a stationary member, a skeleton frame pivotally connected with said member, panels
130

removably carried by the frame, and a pit located beneath such building and adapted to carry the panels when removed.

7. The combination of a pit, a pole rising therefrom, a collapsible building surrounding said pole and having frame members carried thereby, said pole being footed on the bottom of the pit, and braces between the pole and the side walls of the pit.

8. A building having a floor, walls and roof removably carried, and having a collapsible skeleton frame pivotally carried, a permanent central support for carrying the frame, and a pit from which the support rises.

9. A building having a floor, walls and roof removably carried, and having a skeleton frame collapsible about a non-portable central support.

10. The combination, with a non-portable center support, of a skeleton frame collapsible thereabout, and surface members carried by said frame.

11. The combination, with a permanent center support, of a skeleton frame collapsible thereabout and comprising floor beams, roof beams and uprights, and surface members carried by said frame and comprising floor panels, roof panels and wall panels.

12. The combination with a center pole, floor beams carried thereby and adapted to be folded into substantially vertical position alongside of the pole or folded into substantially horizontal position, and a removable floor panel adapted to rest on the floor beams.

13. The combination with a center pole, floor beams hinged thereto and adapted to be folded upwardly into substantially vertical position around the pole or folded downwardly into substantially horizontal position, and removable floor panels adapted to rest on the floor beams.

14. The combination with a collapsible building of a telescoping casing therefor, said casing being supported in its telescoped condition by the building when the building is extended, and distended to incase the building, when the latter is collapsed.

15. The combination, with a centrally collapsible building, of a casing therefor, consisting of a series of sleeves, and means for supporting said sleeves above the roof of the building when expanded.

16. In a collapsible building, the combination of a non-portable center pole, frame members adapted to extend therefrom, or be collapsed above the same, and a telescoping casing for the frame members.

17. In a collapsible building, the combination of a stationary member, a skeleton frame pivotally connected with said member, panels removably carried by the frame, and a telescoping casing for the folded frame.

18. In a collapsible building, the combination of a center pole, frame members adapt-

ed to extend therefrom or be collapsed about the same, a telescoping casing for the frame members, and a sheath for the telescoping casing carried by the pole.

19. The combination, with a central pole, of the frame members of a collapsible building pivotally carried by the pole, a telescoping casing for such frame members surrounding the pole, and a tubular sheath carried by the pole above the roof of the building and adapted to receive such telescoping casing when condensed.

20. In a collapsible building, the combination of a permanently located tubular sheath, foldable frame members beneath the same, telescoping sections adapted to be elevated within said sheath, and a cap at the base of the lowest section, said cap and sections being adapted to be elevated to stand above the roof of the building.

21. The combination of a collapsible building, a pit over which the extended building stands, said pit being adapted to receive portions of the building when collapsed, and a casing for the collapsed portion not in the pit, said casing being telescoped and supported by the building when the building is extended.

22. The combination, of a stationary central pole, a skeleton frame adapted to be collapsed about the pole, a pit from which the pole rises, a casing for such frame when collapsed, and a cover for the pit.

23. The combination, of a central pole, a skeleton frame pivoted thereto and adapted to be collapsed about the pole, a telescoping casing for such frame when collapsed, and a pit from which the pole rises.

24. In a collapsible building, the combination of a permanently located tubular sheath, telescoping sections adapted to be elevated within said sheath, a pit, a cap at the base of the lowest section adapted to cover said pit, said cap and sections being adapted to be elevated to stand above the roof of a building over the pit.

25. The combination, of a central pole, a skeleton frame pivoted thereto and adapted to be collapsed about the pole, a telescoping casing for such frame when collapsed, a sheathing permanently carried by the pole into which the sections of the casing may be collapsed, a pit surrounding the pole, and a cap for the pit adapted to engage with the bottom section of the casing.

26. The combination of a hollow pole, a collapsible building about the same, and a storage pit beneath the building, said pit being ventilated by said pole.

27. The combination of a pit, a hollow pole rising therefrom and adapted to ventilate the pit, a collapsible building adapted to surround the pole or be stored to some extent in the pit, and means for covering the pit when the parts are so stored.

28. The combination of a hollow pole, a collapsible building about the same, and a storage pit beneath the building, the pole being footed on the base of the pit, and braces between the pole and the side of the pit, said pit being ventilated by said pole.

29. The combination of a round storage pit, a pole footed on the base of the pit and rising axially thereof, braces between the pole and side wall of the pit and frame members for a collapsible building pivoted to said pole above the pit.

30. The combination with a collapsible building, of a suitable pit therebeneath, a cover for the pit supported by the building, and means for storing a portion of the building in the pit and permitting the cover to descend and close the pit.

31. The combination with a collapsible building, of a suitable pit which the building is adapted to overhang when the building is expanded and within the area of which the building may collapse with a portion of the building stored within the pit.

32. The combination of a central pole, floor beams hinged thereto and adapted to fold upwardly about the pole, roof beams hinged thereto and adapted to fold downwardly about the pole, and upright beams hinged to one of the sets of beams first mentioned.

33. In a collapsible building, the combination of a central pole, roof beams pivotally carried thereby, upright beams pivoted to the roof beams, and floor beams pivoted to the pole, the lower ends of the upright beams being adapted to connect with the outer ends of the floor beams.

34. The combination of a central pole, a collar thereon, floor beams hinged thereto and adapted to fold about the pole, a second collar on the pole, roof beams hinged thereto and adapted to fold about the pole, and uprights adapted to cooperate with both beams.

35. In a collapsible building, the combination of a central pole, a collar thereon, roof beams pivotally carried thereby, upright beams pivoted to the roof beams, a second collar on the pole, and floor beams pivoted thereto, the lower ends of the upright beams being adapted to connect with the outer ends of the floor beams.

36. In a collapsible building, the combination of a central pole, beams hinged thereto, uprights hinged to said beams, paneled sides adapted to engage the upright beams, and upright strips for holding the paneled sides to the upright beams.

37. In a collapsible building, the combination with a movable floor and roof, of a channel beam, a strip hinged thereto, a pair of adjacent panels having edges formed to extend into such channel and adapted to be held therein by the said strip.

38. In a collapsible building, the combination with a movable roof, of a channel member, a pair of panels having rolled edges adapted to occupy the channel, a strip hinged to the flanges of said channel and adapted to cover said edges, and means for securing said strip to the web of the channel.

39. In a collapsible building, the combination with a movable floor, of a channel member, a pair of removable panels having edges adapted to occupy the channel, and a strip hinged to the channel and adapted to overlie said edges and confine the same within the channel.

40. In a collapsible building, the combination with movable wall beams of roof beams in the form of upwardly facing channels hinged thereto, said beams radiating from a common center, and sector-shaped roof panels having edges adapted to occupy such channels.

41. In a collapsible building, the combination with removable side panels of roof beams in the form of upwardly facing channels hinged thereto, said beams radiating from a common center, sector-shaped roof panels having edges adapted to occupy such channels, and an annular cap adapted to rest on the panels.

42. In a collapsible building, the combination of a central pole, roof beams pivotally carried thereby and radiating therefrom, and a movable annular cap adapted to surround the pole and rest on the roof beams when the building is expanded and move downwardly over such beams when collapsed.

43. The combination, in a building, of a central pole, pivoted floor beams radiating therefrom, and sector-shaped floor panels adapted to cooperate with consecutive beams.

44. In a collapsible building, the combination with a removable side wall, of floor beams radiating from a common center and having flanges projecting on opposite sides, and sector-shaped floor panels adapted to stand between consecutive beams and rest on said flanges.

45. In a collapsible building, the combination, with a stationary central pole and a collapsible frame pivotally supported thereon, of removable parallel-sided wall panels, removable sector-shaped roof panels and removable sector-shaped floor panels.

46. As a new article, a permanently located collapsible voting booth having a central pole, a skeleton frame pivoted thereto, and a telescopic case adapted to cover the frame when collapsed.

47. As a new article, a permanently located collapsible voting booth combined with a pit in the ground between the curb and sidewalk over which such booth stands when expanded and in which parts of it may be

stored when collapsed, the depth of the pit being substantially equal to the height of the building when expanded, and a cover for the pit.

- 5 48. As a new article, a permanently located collapsible voting booth combined with a pit in the ground between the curb and sidewalk over which such booth stands when expanded and in which parts of it may be
10 stored when collapsed, and a telescoping cas-

ing carried by the roof of the building when expanded and surrounding portions of it not stored in the pit when the building is collapsed.

In testimony whereof, I hereunto affix my 15
signature in the presence of two witnesses.

GODFREY FUGMAN.

Witnesses:

JAS. O'NEAL,

BRENNAN B. WEST.