

No. 877,397.

PATENTED JAN. 21, 1908.

C. A. BRINLEY.

REEL.

APPLICATION FILED JULY 15, 1907.

2 SHEETS—SHEET 1.

FIG. I.

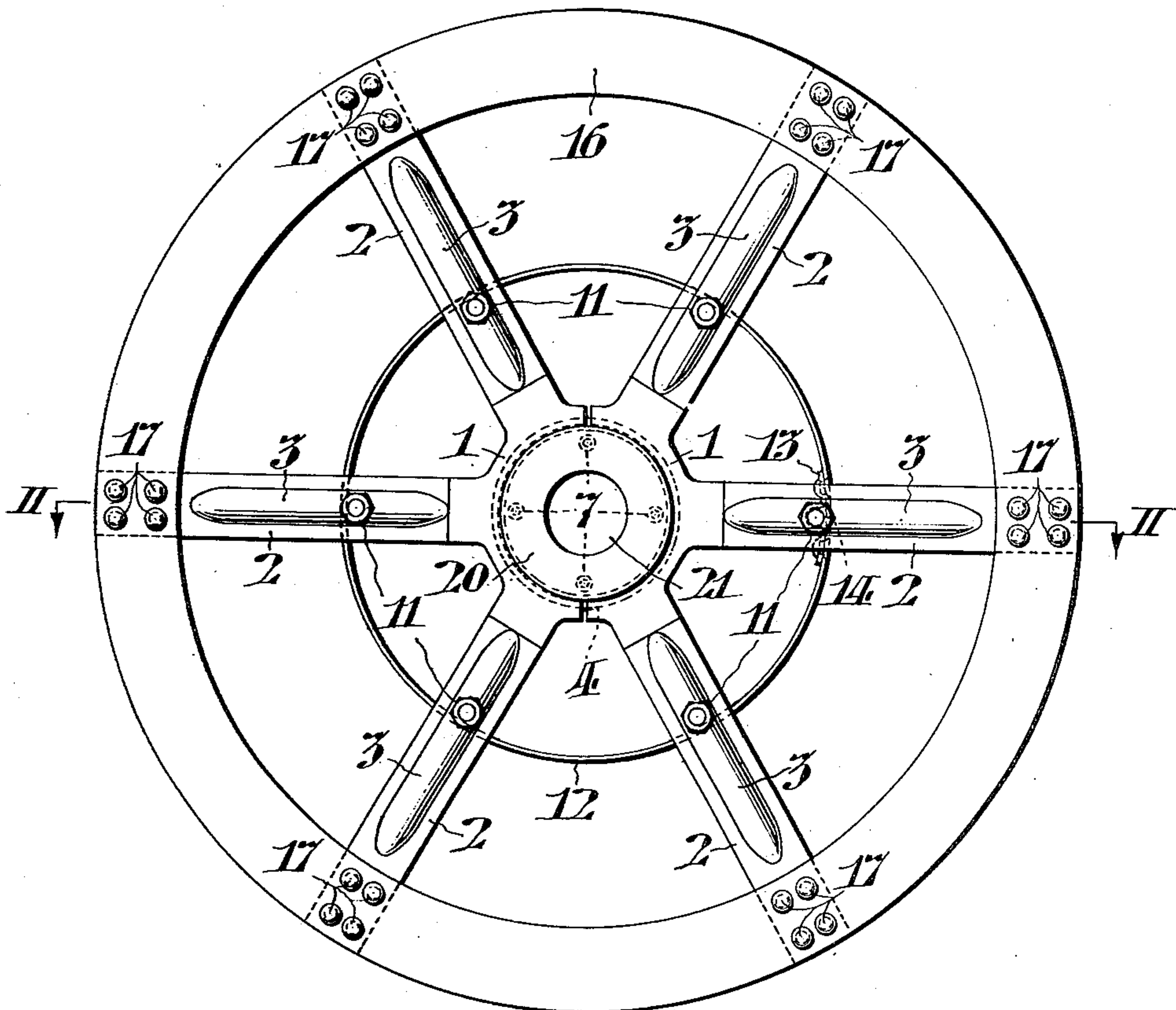


FIG. II.

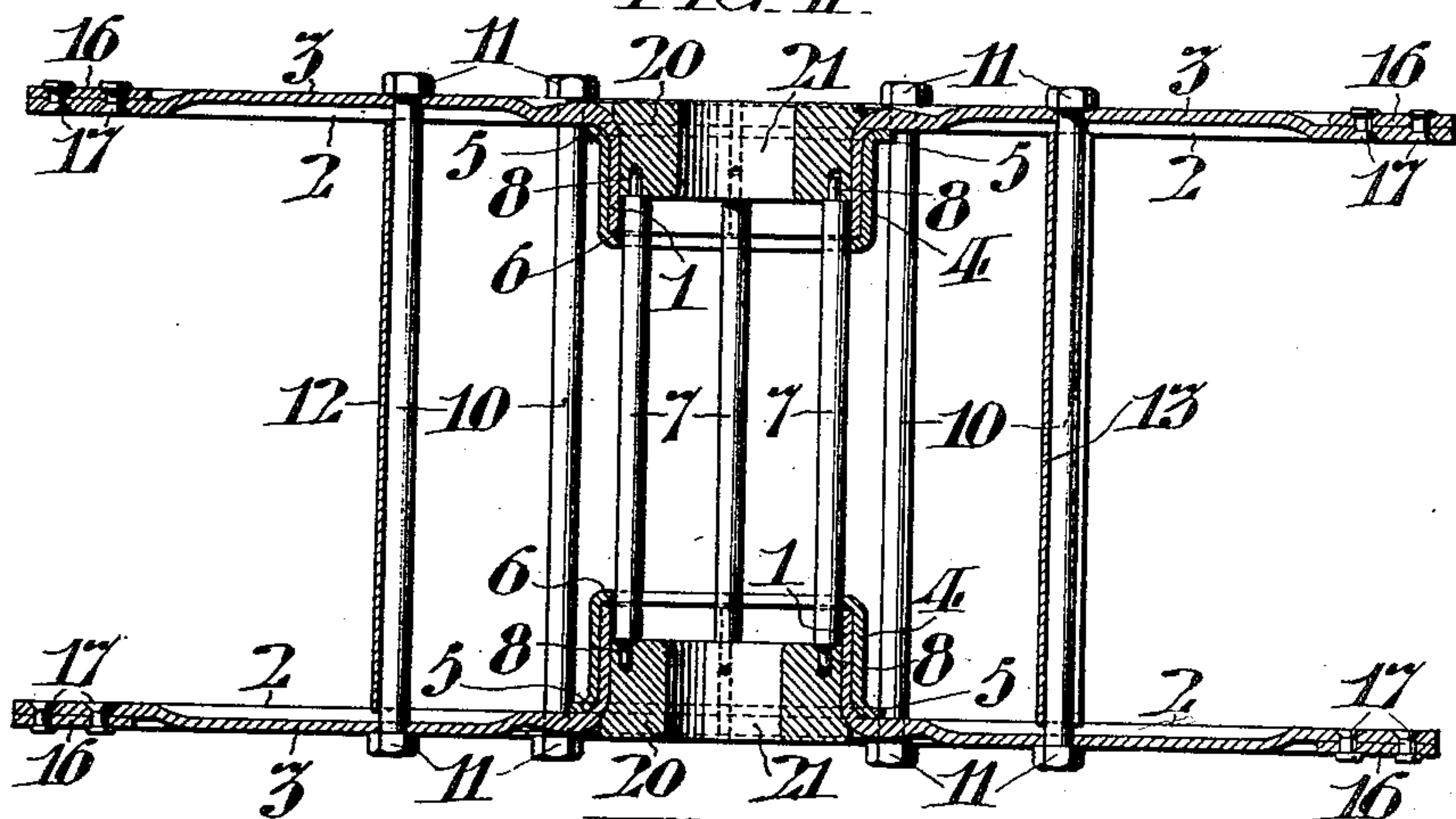


FIG. III.

WITNESSES:

John C. Bergner.
Wm. J. Spork.

INVENTOR:
CHARLES A. BRINLEY,
By Haley & Paul
Attorneys.

No. 877,397.

PATENTED JAN. 21, 1908.

C. A. BRINLEY.

REEL.

APPLICATION FILED JULY 15, 1907.

2 SHEETS—SHEET 2.

FIG. IV

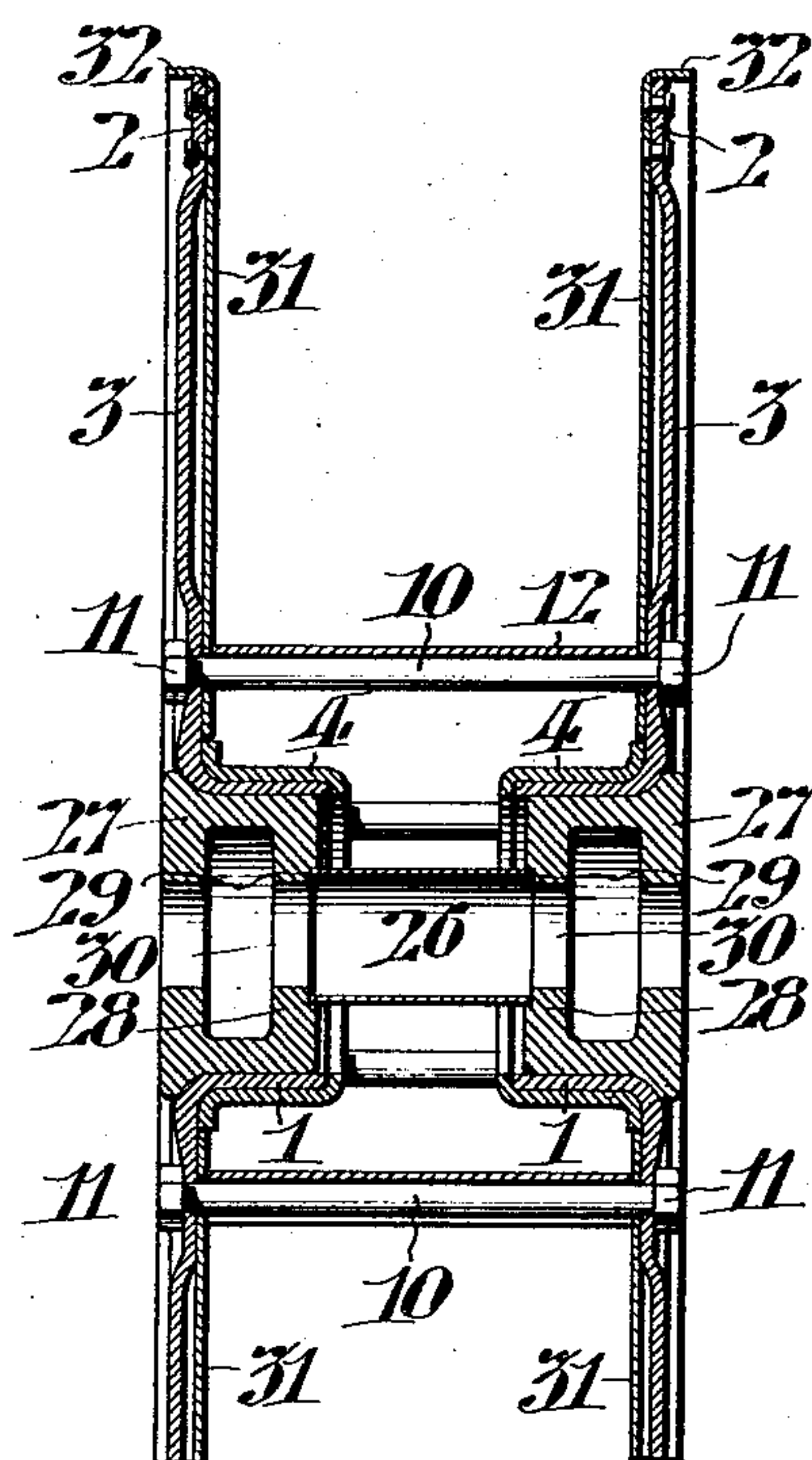
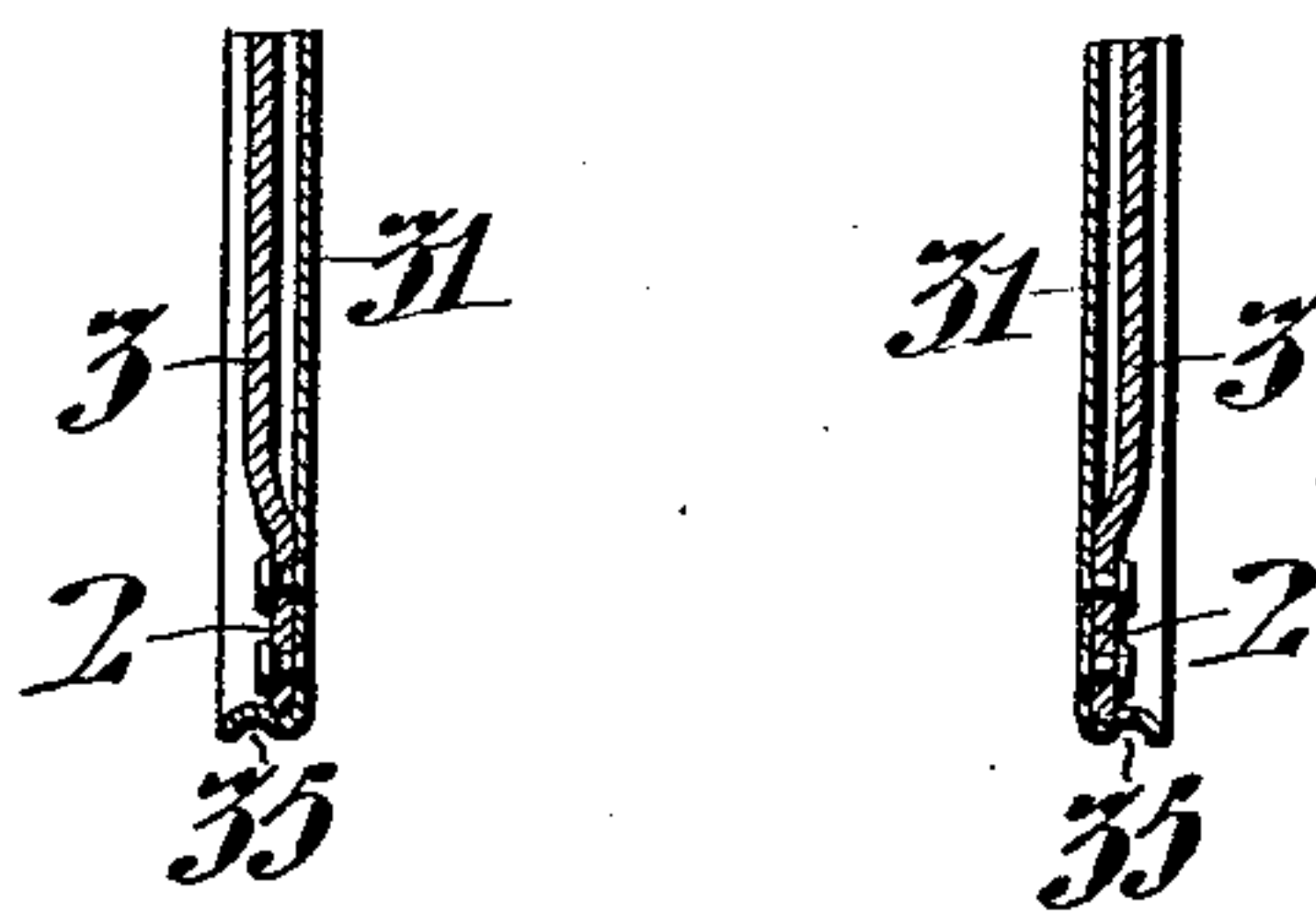


FIG. V



WITNESSES:

John C. Burgher.
Wm. J. Spierl

INVENTOR:

CHARLES A. BRINLEY,
By *Malley & Paul*,
Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES A. BRINLEY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE AMERICAN PULLEY COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

REEL.

No. 877,397.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed July 15, 1907. Serial No. 383,792.

To all whom it may concern:

Be it known that I, CHARLES A. BRINLEY, residing at No. 247 South Sixteenth street, in the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Reels, whereof the following is a specification, reference being had to the accompanying drawings.

10 In said drawings, Figure I represents an end elevation of a reel embodying my improvements. Fig. II is a longitudinal section on the axial plane indicated by the line II—II, in Fig. I. Fig. III is a partial longitudinal section on a similar plane, showing additional features. Fig. IV is a longitudinal axial section showing another feature, and Fig. V is a partial section on a similar plane, showing still another feature.

20 In Figs. III, IV, and V, a number of the parts are identical with those shown in Figs. I and II, and hence are indicated in each instance by the same numerals.

My invention relates to reels and similar 25 devices, such for instance, as are employed for the coiling of wire, etc., and the object is to provide a structure which combines the advantages of lightness and strength and affords great economy in manufacture. The 30 material employed is preferably steel throughout the greater portion of the structure, and the characteristics of the more important elements are such as to permit the production thereof by the use of dies and presses.

35 Referring to what may be considered the simplest type of the structure, shown in Figs. I and II, it will be seen that the two end elements, or heads, of the reel are similar in construction, though facing in opposite directions, and the detailed description of one 40 will therefore be sufficient.

Each head comprises a two-part spider, each of the halves of said spider consisting of a central semi-annular band 1, and a plurality of radial arms 2, the arms on each half-spider being in this instance three in number. Said arms are integral with the band, but are arranged in a plane at right angles to the peripheral surface of the band. 50 To stiffen the arms, longitudinal dished regions may be formed therein, as indicated at 3.

A ring 4, having an outwardly turned flange

5, at one edge, and an inwardly turned flange 6, at the other edge, encircles the semi-annular bands 1, 1, of the half-spiders, holding them together and clamping them upon a hub-piece 20, which may be of cast metal, and which is forced into rigid engagement with the inner surfaces of said bands. The hub-piece is provided with an axial opening 21, in order to permit the mounting of the reel upon a shaft or axis. The outwardly turned flange 5, of the ring 4, fits snugly within the angular recess at the junction between the arms and the bands, while the inwardly turned flange 6, of said ring, laps over and incloses the inner edges of said bands.

Distance pieces, or other separating means, 70 are interposed between the two heads, said means comprising in this instance, four rods 7, having reduced ends 8, which fit snugly in cavities on the opposite inner faces of the hub-pieces 20, the rods being arranged in quadrant relation between the hub pieces. 75

The two heads are held together by means of tie-rods 10, in this instance six in number, said rods extending across between corresponding pairs of arms, through which the threaded ends of the rods protrude so as to engage with screw nuts 11.

A cylindrical sheet metal drum 12, surrounds and is supported by the outer surfaces of the tie rods 10, the two ends of the sheet, which constitutes the drum, being secured together and held against rotary motion by means of a strap 13, which embraces one of the rods 10, and is riveted to the sheet near the meeting edges thereof, as indicated at 14. 85

The outer extremities of the arms 2, on each head of the reel, are preferably provided with an annular rim 16, secured by means of rivets 17. 95

By the above described construction it will be seen that although the structure is built up from a number of parts, relatively few differing elements are required, and that these are simple in structure and can be combined with great ease. 100

The structure shown in Fig. III, consists in the addition of elements whereby the heads of the reel, instead of being entirely open between the arms (as in the structure shown in Figs. I, and II), are provided with 105

flat annular facing plates 22, applied upon the inner sides of the arms, and extending from the outer ends thereof to a region within the periphery of the drum.

5 Near their outer edges, the plates are fastened to the arms by any convenient means, such as the rivets 25, which also serve to secure the rim 16, to the latter. The plates are also held in place by means of the tie-
10 rods 10, which pass through close fitting holes formed therein, and by means of the ends of the drum 12, which bear against the surfaces of the plates 22, at the region adjacent to these holes.

15 I will now describe the structure shown in Fig. IV, in which, as before stated, many of the parts are identical with those above specified and are consequently indicated by the same numerals. Thus, the heads consist of the two-part spiders having semi-
20 annular bands 1, and spokes 2, the half-spiders of each head being clamped together, as before stated, by means of the rings 4, and the heads being connected by tie rods 10. The hub pieces 27, however, in this instance,
25 are of somewhat different form, each being provided on its inner face with an inwardly projecting deep annular flange 28, having an annular recess 29, around the axial opening 30. This recess forms a seat for the
30 separating means, which, in the present instance, consists of a hollow cylinder, or pipe, 26, whose ends fit snugly within the recesses 29, of the opposite hub-pieces. A further
35 feature consists in the fact that the facing plates (in this instance marked 31), are carried beyond the ends of the arms 2, and turned over or flanged outwardly, as indicated at 32. In this instance, it will also be
40 noted that the rim 16, shown in Figs. I, II, and III, which connects the outer extremities of the arms is omitted.

Referring now to Fig. V, another feature is shown, consisting in the fact that the out-
45 wardly turned periphery of the facing plate is upset so as to form an external grooved flange 35, adapted to receive a driving belt, in case it is desired to rotate the reel by this means.

50 While I have referred to rivets, as a convenient means for connecting various of the above described parts, I contemplate the use of electric welding for that purpose, and of course do not limit myself to the use of any
55 particular securing device.

Having thus described my invention, it is proper to state that I recognize the fact that the half-spiders, as well as certain other individual elements of the structure above de-
60 scribed, are not in themselves new, and I do not claim any of them individually.

I claim:

1. In a reel, the combination of two heads, each comprising a pair of half-spiders, said
65 half-spiders each consisting of a semi-annular

band having radial arms arranged in a plane at right angles to the peripheral surface of the band; means for securing the half-spiders of each head together; separating means inter-
posed between said heads; and a plurality of
70 tie-rods connecting opposite pairs of arms on the respective heads.

2. In a reel, the combination of two heads, each comprising a pair of half-spiders, said half-spiders each consisting of a semi-annular
75 band having radial arms arranged in a plane at right angles to the peripheral surface of the band; means for securing the half-spiders of each head together; a pair of hub pieces secured within the bands of the respective
80 heads; separating means interposed between said heads; and a plurality of tie-rods connecting opposite pairs of arms on the respective heads.

3. In a reel, the combination of two heads, each comprising a pair of half-spiders, said half-spiders each consisting of a semi-annular
85 band having radial arms arranged in a plane at right angles to the peripheral surface of the band; means for securing the half-spiders
90 of each head together; separating means interposed between said heads; a plurality of tie-rods connecting opposite pairs of arms on the respective heads; and a drum inclosing
95 said tie-rods.

4. In a reel, the combination of two heads, each comprising a pair of half-spiders, said half-spiders each consisting of a semi-annular
100 band having radial arms arranged in a plane at right angles to the peripheral surface of the band; means for securing the half-spiders of each head together; separating
105 means interposed between said heads; a plurality of tie-rods connecting opposite pairs of arms on the respective heads; a drum inclosing said tie-rods; and facing plates secured to the faces of the arms.

5. In a reel, the combination of two heads, each comprising a pair of half-spiders, said half-spiders each consisting of a semi-annular
110 band having radial arms arranged in a plane at right angles to the peripheral surface of the band; means for securing the half-spiders of each head together; separating means inter-
115 posed between said heads; a plurality of tie-rods connecting opposite pairs of arms on the respective heads; a drum inclosing said tie-rods; facing plates secured to the faces of the arms; and an outwardly flanged rim upon the outer periphery of said facing plates,
120 overlapping the ends of said arms.

6. In a reel, the combination of two heads, each comprising a pair of half-spiders, said half-spiders each consisting of a semi-annular
125 band having radial arms arranged in a plane at right angles to the peripheral surface of the band; means for securing the half-spiders of each head together; separating means inter-
posed between said heads; a plurality of
130 tie-rods connecting opposite pairs of arms on

the respective heads; a drum inclosing said tie-rods; facing plates secured to the faces of the arms; and outwardly flanged rims upon the outer periphery of said facing plates, one
5 or both of said rims having an annular groove arranged outside of the arms, substantially as set forth.

In testimony whereof, I have hereunto signed my name, at Philadelphia, Pennsylvania, this tenth day of July 1907.

CHARLES A. BRINLEY.

Witnesses:

WM. R. SIMPSON,

CHARLES E. BRINLEY.