

(No Model.)

A. FULLER.
MARINE ENGINE GOVERNOR.

No. 323,314.

Patented July 28, 1885.

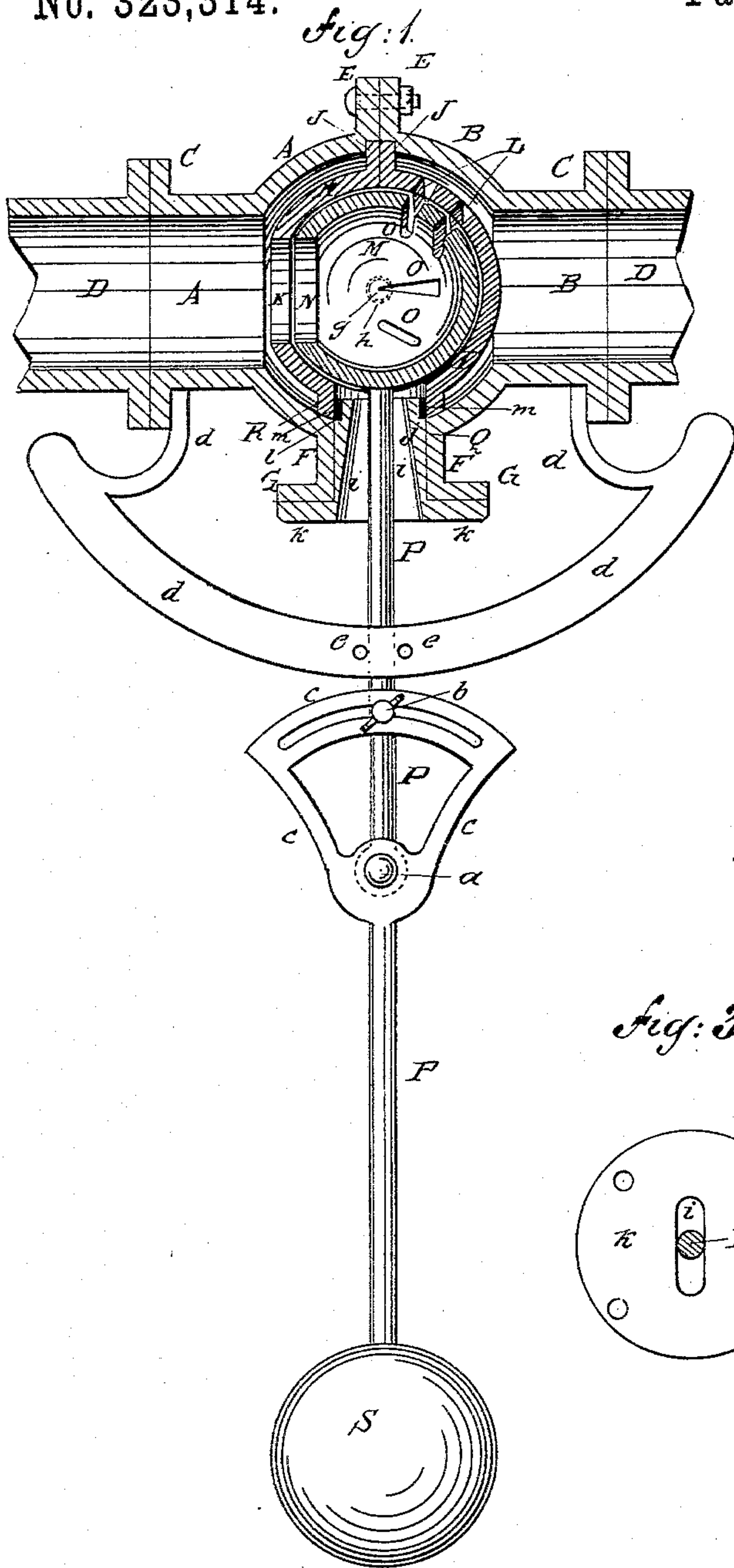
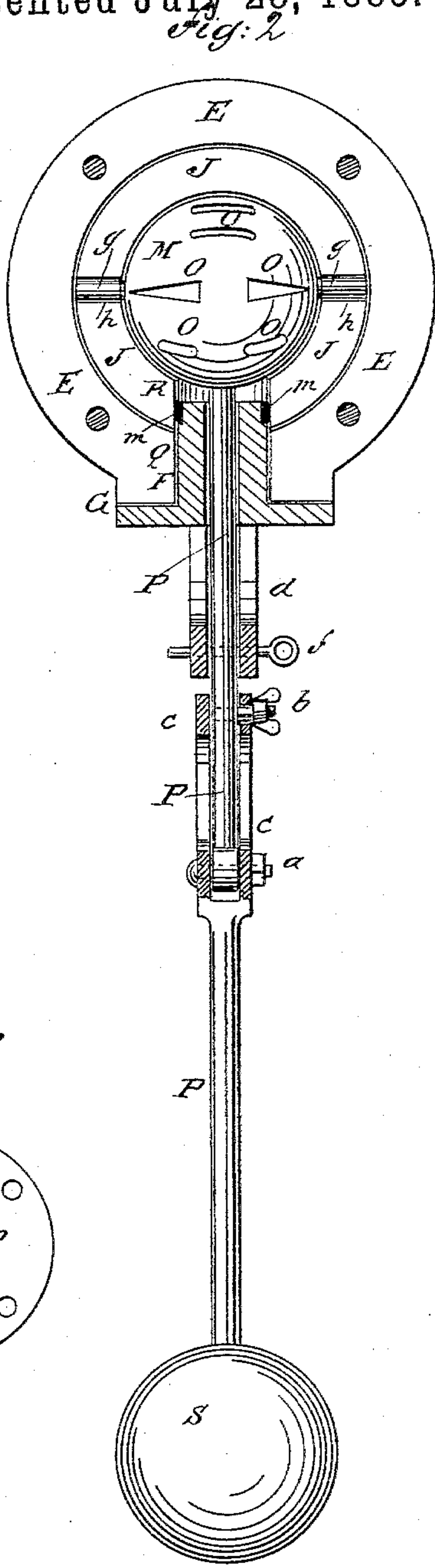
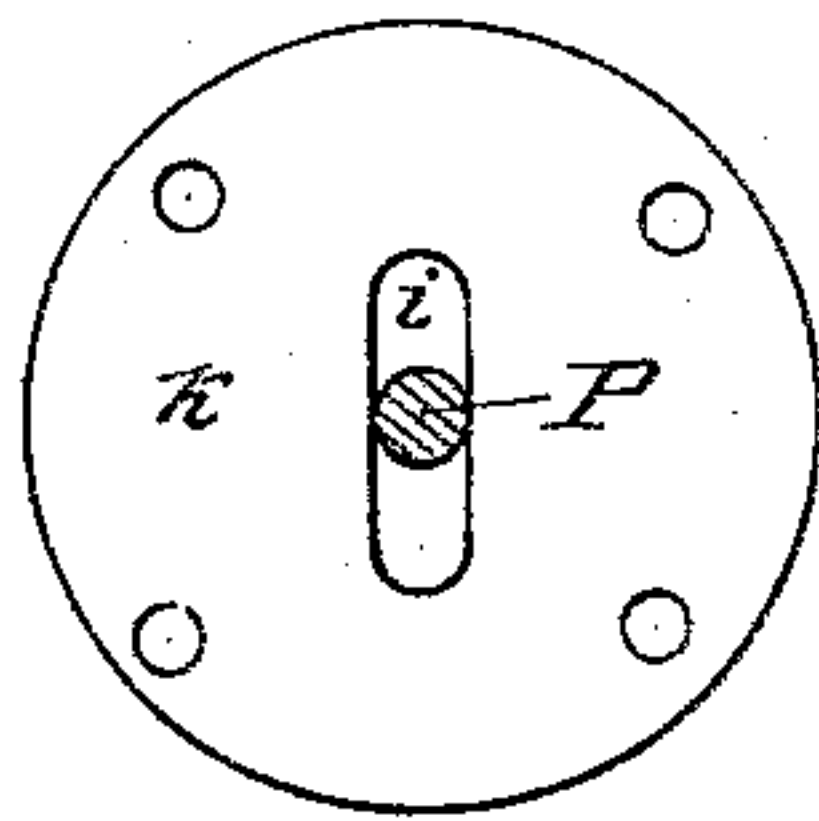


Fig: 3.



WITNESSES:

Charles Nida
C. Sedgwick

INVENTOR:

A. Fuller
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ASPINWALL FULLER, OF NEW YORK, N. Y.

MARINE-ENGINE GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 323,314, dated July 28, 1885.

Application filed October 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, ASPINWALL FULLER, of the city, county, and State of New York, have invented certain new and useful Improvements in Marine-Engine Governors, of which the following is a full, clear, and exact description.

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

Figure 1 is a sectional side elevation of one of my improved marine-engine governors. Fig. 2 is an elevation of one part of the same, the slotted gland and the two quadrants being shown in section. Fig. 3 is a bottom view of the slotted gland, the weight-carrying stem being shown in section.

The object of this invention is to improve the construction of the marine-engine governors for which Letters Patent No. 297,343 were issued April 22, 1884, in such a manner as to make them more reliable in operation.

The invention consists in a marine-engine governor made in two parts connected by a pivoting-bolt, a clamping-bolt, and a slotted quadrant, whereby the said governor can be readily adjusted to operate when the vessel is loaded more heavily at one end than at the other.

With the shell and the weight-carrying stem is connected a quadrant having pin-receiving holes, whereby the governor can be locked from operating, or prevented from operating, when one end of the vessel rises. With the flanged collar of the shell is connected a flanged gland having a flaring slot for the passage of the weight-carrying stem, and a rabbet around its inner end to receive a packing to prevent steam from escaping around the stem from between the stationary sphere and the movable sphere. In the stationary sphere are formed bearings to receive gudgeons formed upon or attached to the opposite sides of the movable sphere at right angles with the plane of the quadrants, whereby the said movable sphere is prevented from rotating upon the axis of the stem, and thus getting out of place and preventing the perforations of the spheres from registering properly, as will be hereinafter fully described and claimed.

A B represent the two parts of the shell or case of the governor, which have flanges C at their outer ends for convenience in connecting the said ends with the adjacent flanged ends of a steam or exhaust pipe, D. The adjacent ends of the parts A B of the shell are flared into spherical or globular form, and are provided with flanges E to receive the bolts for securing the said ends to each other. In the lower side of the shell A B is formed an opening, Q, provided with a fixed collar, F, having a flange, G, at its outer end.

Within the shell A B are placed semi-spherical plates H I, which have flanges J around their edges to fit into the rabbeted edges of the parts A B of the shell, and an opening, R, at the lower side corresponding with the opening Q in the shell A B. The outside diameter of the sphere H I is less than the inside diameter of the shell A B, to form a space to receive steam. In the center of the part H is formed a large opening, K, and in the other part, I, are formed a number of small openings, L, which may be circular, oval, square, or of other desired shape.

Within the sphere H I is fitted a sphere, M, which is made hollow and has an opening, N, in one side, corresponding with the opening K in the said sphere H I. In the other side of the sphere M is formed a number of openings, O, corresponding in shape, number, size, and position with the openings L.

Upon the lower side of the sphere M is formed, or to it is rigidly attached, a stem, P, which passes out through the openings R Q in the sphere H I and shell A B, and has a weight, S, attached to its lower end, of sufficient gravity to hold the stem P in a vertical position and the sphere M stationary, and causing the sphere H I to turn upon the sphere M as the vessel pitches. The movement of the sphere H I upon the sphere M partly or wholly closes the openings L O, partly or wholly shutting off steam, and slowing or stopping the engine.

The stem P is made in two parts secured to each other by a pivoting-bolt, a, and a clamping-bolt, b. The lower part of the stem P has a quadrant, c, formed upon it, which is slotted to receive the lower end of the upper part of the said stem. The pivoting-bolt a passes through the lower end of the upper part of

the stem P and through the lower part at the center of the circle of which the quadrant *c* forms a part. The clamping-bolt *b* passes through the upper part of the stem P and through a curved slot in the arc of the quadrant *c*, as shown in Figs. 1 and 2.

With this construction, should the vessel be so loaded as to be lower at the bow or stern, the clamping-bolt *b* is loosened and the lower part of the stem P is allowed to take a vertical position, when the clamping-bolt *b* is again tightened, and the governor will operate in the same manner and as effectively as if the vessel were on a level keel.

The upper part of the stem P passes through a slotted quadrant, *d*, the arms of which are formed upon the lower side of the outer parts, A B, of the shell.

In the quadrant *d*, upon the opposite sides of its center and at such a distance apart as to receive between them the stem P, are formed two holes, *e*, to receive pins *f*, to hold the governor from operating, when desired. One of the pins *f* can be removed, when desired, to cause the governor to operate when one end of the vessel rises, the other pin, *f*, preventing the said governor from operating when the other end of the vessel rises. Upon the centers of the opposite sides of the sphere M, and at right angles with the plane of the quadrants *c d*, are formed gudgeons *g*, which rock in bearings *h* in the adjacent edges of the parts of the sphere H I, to prevent the sphere M from rotating upon the axis of the stem P, and thus getting out of place, and preventing the perforations L O from registering properly.

The upper part of the stem P passes through a flaring slot, *i*, in a gland, *j*, inserted in the collar F. The lower end of the gland *j* is provided with a flange, *k*, for convenience in securing the said gland to the flange G of the said collar F. The gland *j* is so arranged that its slot *i* will be in the plane of the quadrants

c d, and its forward end has a rabbet, *l*, upon its outer side to receive a packing, *m*, to prevent steam from escaping around the stem P.

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

1. In a marine-engine governor, the combination, with the weight-carrying stem P, made in two parts, of the pivoting-bolt *a*, the clamping-bolt *b*, and the quadrant *c*, substantially as herein shown and described, whereby the governor can be readily adjusted to operate when the vessel is loaded more heavily at one end than at the other, as set forth.

2. In a marine-engine governor, the combination, with the shell A B and the weight-carrying stem P, of the quadrant *d*, having pin-receiving holes *e*, substantially as herein shown and described, whereby the governor can be locked from operating or prevented from operating when one end of the vessel rises, as set forth.

3. In a marine-engine governor, the combination, with the flanged collar F G, the stationary sphere H I, the movable sphere M, and the stem P, of the flanged gland *j*, having a flaring slot *i*, and a rabbet, *l*, around its inner end, substantially as herein shown and described, whereby the said stem is made to oscillate in the same plane and the escape of steam is prevented, as set forth.

4. In a marine-engine governor, the combination, with the stationary sphere H I, having bearings *h*, and the movable sphere M, of the gudgeons *g*, substantially as herein shown and described, whereby the said sphere is prevented from rotating upon the axis of the stem and thus getting out of place and preventing the perforations from registering properly, as set forth.

ASPINWALL FULLER.

Witnesses:

GEO. V. HARLESTON,
ROBT. B. SCHULTZ.