No. 657,034. Patented Aug. 28, 1900.

H. SHUART.

REVOLVING ASCENDING AND DESCENDING OBSERVATORY PLATFORM.

(No Model.) (Application filed June 5, 1900.)

2 Sheets—Sheet 1.

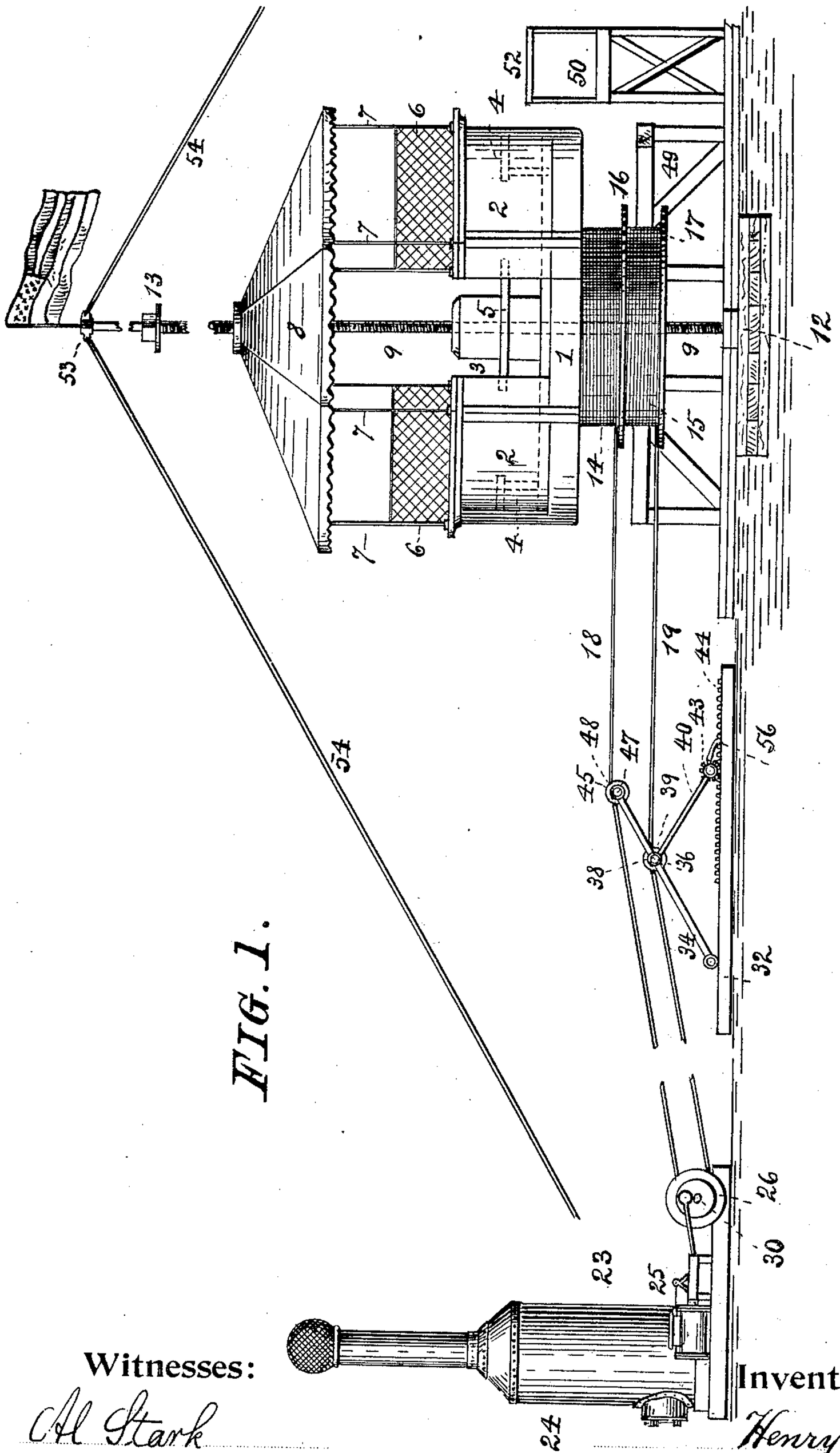

FIG. 1.

Witnesses:

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Julian Stark

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FIG. 2.

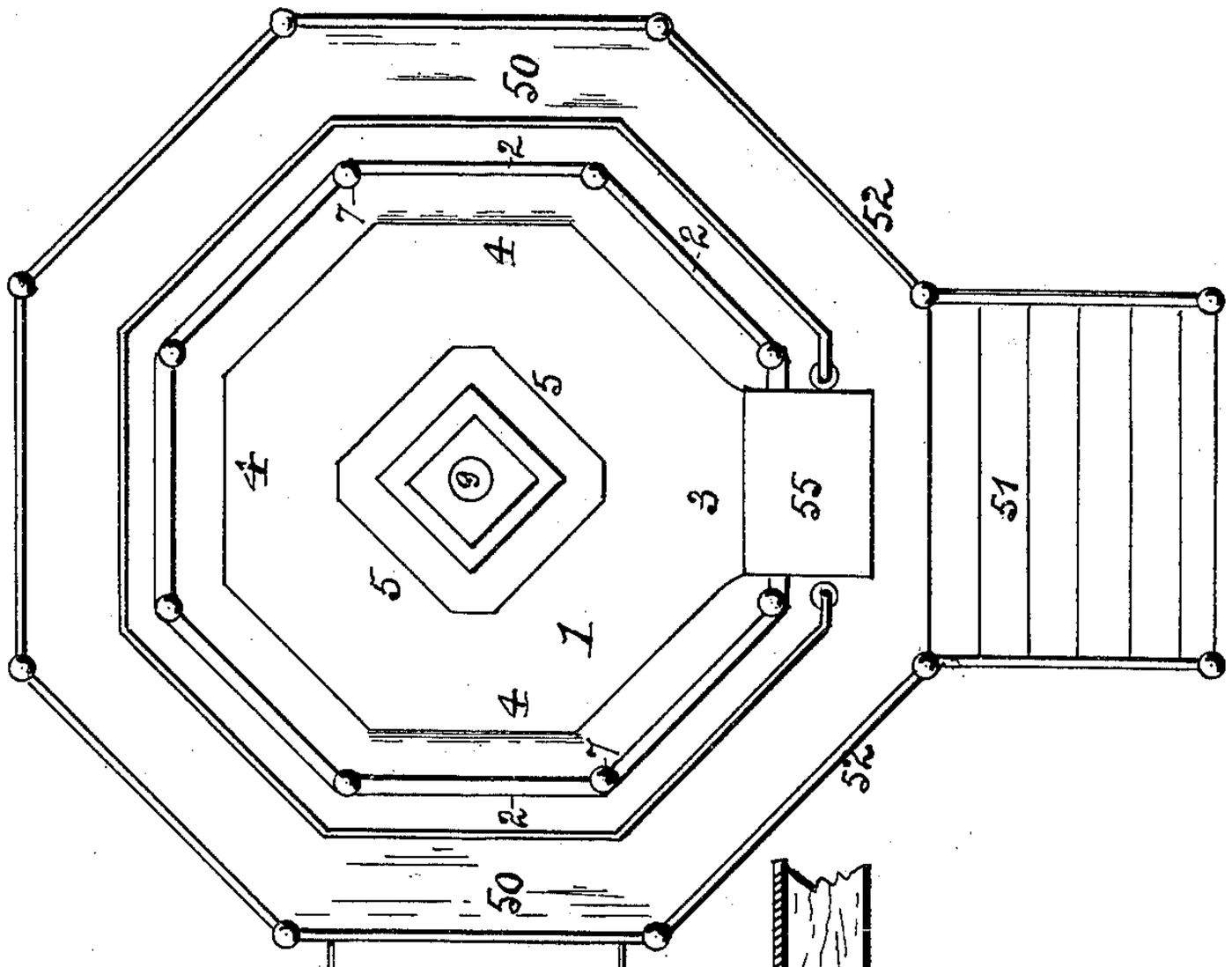

FIG. 3.

FIG. 4.

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UNITED STATES PATENT OFFICE.

HENRY SHUART, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO AUSTIN E. SHUART, OF SAME PLACE.

REVOLVING ASCENDING AND DESCENDING OBSERVATORY-PLATFORM.

SPECIFICATION forming part of Letters Patent No. 657,034, dated August 28, 1900.

Application filed June 5, 1900. Serial No. 19,124. (No model.)

To all whom it may concern:

Be it known that I, HENRY SHUART, a citizen of the United States, and a resident of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Revolving Ascending and Descending Observatory-Platforms; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheets of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has general reference to improvements in portable revolving ascending and descending observatory-platforms; and it consists, essentially, in the novel and peculiar combination of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claims.

In the drawings already referred to, which serve to illustrate this invention more fully, Figure 1 is an elevation of the device. Fig. 2 is a plan of the same. Fig. 3 is a sectional elevation of a fragment of the lower end of the central stationary shaft or screw and a part of its foundation. Fig. 4 is a sectional elevation of a portion of the platform and the rope pulley or drum for revolving said platform.

Like parts are designated by corresponding reference-symbols in all the figures.

The object of this invention is the production of an efficient device for recreation and observation purposes, consisting of a platform provided with seats and adapted to revolve around a fixed vertical spindle having a helical or screw-thread around its periphery and suitable means for revolving said platform, whereby the latter while revolving is caused to ascend and descend, and thereby provide a novel and delightful means for recreation and enjoyment to the persons seated upon the platform.

The reference-numeral 1 in the drawings designates the platform. It is a suitable wooden structure of circular or polygonal external contour and properly inclosed by vertical walls 2, within which there is an opening or openings 3, serving as a passage to the platform, seats 4 and 5 being provided for the persons to assure their comfort while upon this device.

6 is a wire screen secured to stanchions 7 to guard against a passenger falling over the vertical walls, while 8 is a canopy to protect them from the inclemencies of the weather.

9 is a screw of comparatively-large diameter and suitable pitch. It is of considerable length, and it has at its lower end an angular portion 10, fitted into a metallic socket-plate 11, secured to the foundation-timbers 12, and near its upper end a projecting collar 13, properly affixed thereto to serve as a stop for the platform, as will hereinafter more fully appear.

14 and 15 represent a rope-drum consisting of an upper and lower section separated by an external projecting flange 16, and also provided with a similar flange 17 at its lower edge, both flanges serving as guards, the one marked 16 to prevent the rope 18 from winding upon the section 15, while the lower flange 17 serves to prevent the rope 19 from leaving said drum. This drum may be made of wood and of sufficient diameter to receive the length of rope necessary to revolve the platform a sufficient number of times. When made of wood, a very deep and strong nut (not shown) to engage the screw 9 is secured to the platform; but this drum may also be made of metal, and when thus constructed it will be provided with a central hub 20, having an internal screw-threaded bore to pass the screw 9 (said hub in this case forming a nut) and at its upper periphery a flange 21, to which the platform 1 is properly secured by screws 22 or in any other desirable manner.

23 is a power hoisting-engine. As shown, it consists of a vertical steam-boiler 24, an engine 25, and a pair of hoisting-drums 26 and 26^a, mounted upon shaft 27 and provided with spur-gearing 28, engaging pinions 29, mounted upon the engine-shaft 30. A friction-clutch mechanism 31 upon the engine-shaft 30 serves to connect either of the two pinions 29, and thereby to revolve the same and through the pinion and its spur-wheel the respective hoisting-drum 26 or 26^a. The ropes 18 and 19 are secured with one end to

the respective drum-sections 14 and 15 and with the other end to the hoisting-drums 26 and 26ª, and to properly guide these ropes upon the drums 14 and 15 a guiding device is introduced, consisting of a suitable frame-foundation, to which are pivoted by the pivot-plates 33 two uprights 34 and 35, having near their upper ends eyes 36 and 37, through which a round bar 38 is passed, upon which revolves a guide-sheave 39 to guide the rope 19. Upon this bar 38 are also pivoted two brace-bars 40 and 41, the latter being connected at their lower ends by a rod 42, carrying a pinion 43, engaging a rack 44, fastened upon the foundation-timbers 32 and operating in a manner hereinafter to be described. On the upper end of these uprights 34 and 35 are further eyes 45 and 46, through which is passed a rod 47, carrying a guide-sheave 48 to guide the rope 18.

49 is a frame structure below the platform 1. Its object is to support the latter when at its lowermost position, while 50 is a gallery around the platform structure and provided with suitable railing 52 and stairs 51, leading from the ground to the gallery.

The upper end of the vertical screw 9 is provided with a fixture 53, to which a sufficient number of guy-rods 54 are secured, which are properly anchored and serve to retain the vertical screw in a perpendicular position, turnbuckles (not shown) in these guy-rods being desirable to adjust the screw 9 and to tension the guy-rods.

In operation the persons desiring to use the device ascend the steps to the gallery, and thence pass over a gangway 55 to the platform, where they take position upon the seats 4 and 5. The signal to start being given by an attendant, the engineer starts the engine and throws the friction-clutch so as to engage one of the two pinions 29, and thus cause the proper hoisting-drum to revolve. Assuming that sufficient length of rope 19 has been wound upon the drum-section 15 and also sufficient rope 18 wound upon the hoisting-drum 26ª and that the hoisting-drum 26 is the one driven by the engine, the rope 19 will begin to wind upon the hoisting-drum 26 and unwind from the drum-section 15, thus causing the platform to revolve and at the same time to ascend, while in the meantime the rope 18 will unwind from the hoisting-drum 26ª and wind upon the platform drum-section 14 until the platform reaches the stop 13 near the upper end of the screw 9, when further movement will be arrested. If now the clutch will be thrown over so as to engage the opposite pinion 29 and cause the revolution of the hoisting-drum 26ª, the revolution of the platform will be reversed and the latter will descend until it reaches the frame structure 49 at the lowest point of descend, when it will be stopped and the people on the platform allowed to depart.

It will be observed that, as shown in the drawings, the device for guiding the driving-ropes 18 and 19 to the platform-drums 14 and 15 is actuated by an attendant sliding the lower end of the brace-rods 40 41 nearer to or farther away from the fulcrum-pivots of the uprights 34 35 either by pushing or pulling them along or by actuating the pinion 43 by inserting a rod into one of the holes in the hub of said pinion, and thereby turning the same.

In order to secure against any accident to the guiding device, a dog 56 upon the rod 42 engages the rack 44 and holds the brace-rods 40 41 in position.

Having thus fully described this invention, what is claimed as new, and desired to be secured by Letters Patent of the United States, is—

1. A revolving ascending and descending observatory-platform consisting, essentially, of a vertical fixed screw, a platform surrounding said screw and having a nut engaging therewith, a two-section rope-drum beneath said platform, ropes upon said drum, suitable mechanism for revolving said platform, and suitable means for guiding said ropes upon the said platform-drums, as specified.

2. In a revolving ascending and descending observatory-platform having rope-driving mechanism for revolving the same, the device for guiding the ropes to the platform-drums consisting, essentially, of a foundation-frame, two uprights pivoted at their lower ends to pivot-plates secured to said frame, two rods connecting said uprights, guide-sheaves upon said rods, brace-bars pivoted to said uprights at one end and having a rod connecting their lower ends, and suitable means for moving the brace-rods, as stated.

In testimony that I claim the foregoing as my invention I have hereunto set my hand, in the presence of two subscribing witnesses, at Buffalo, New York, this 11th day of May, 1900.

HENRY SHUART.

Attest:
AL STARK,
JULIAN STARK.