

No. 816,094.

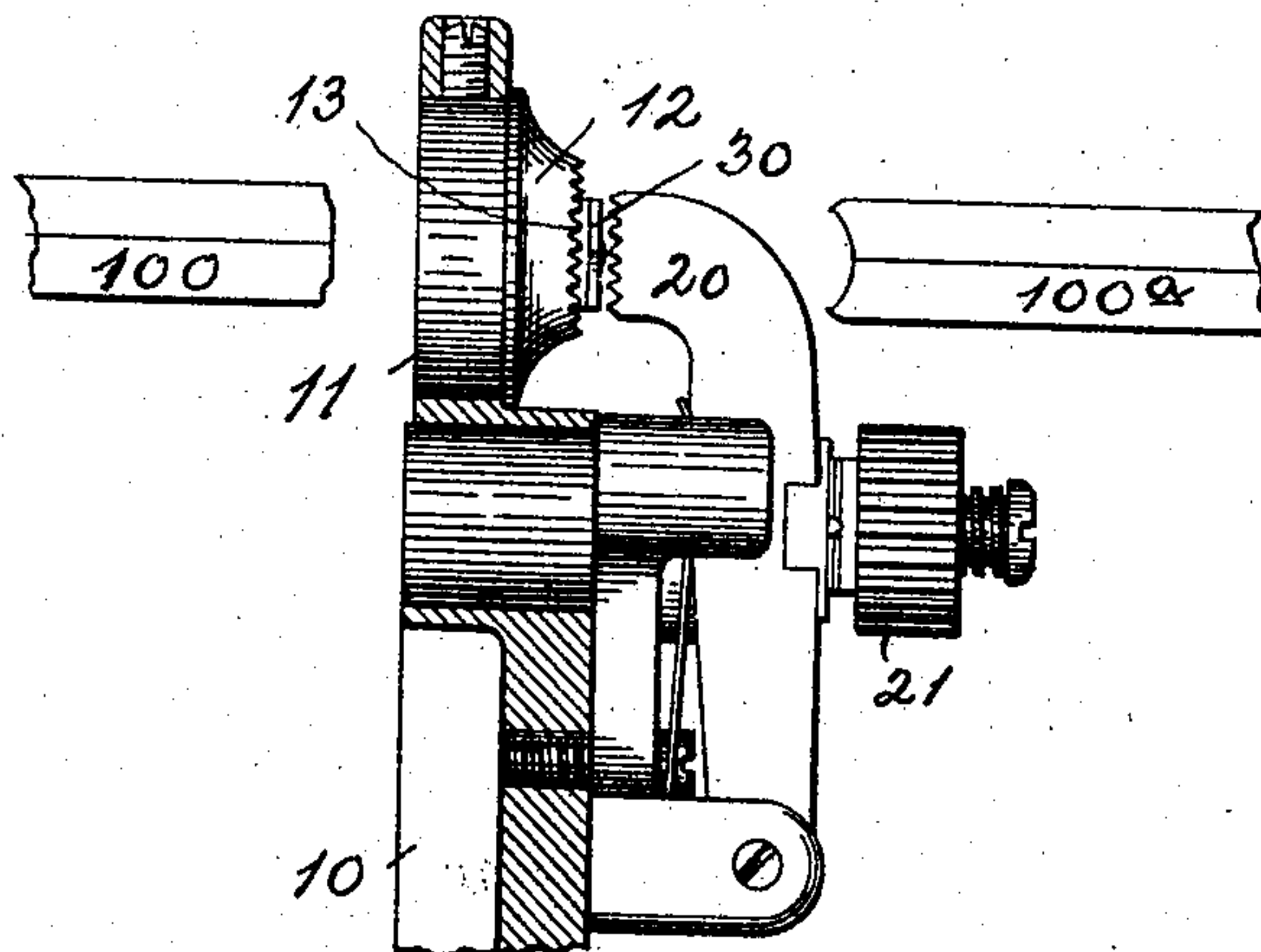
PATENTED MAR. 27, 1906.

J. HORMBY.

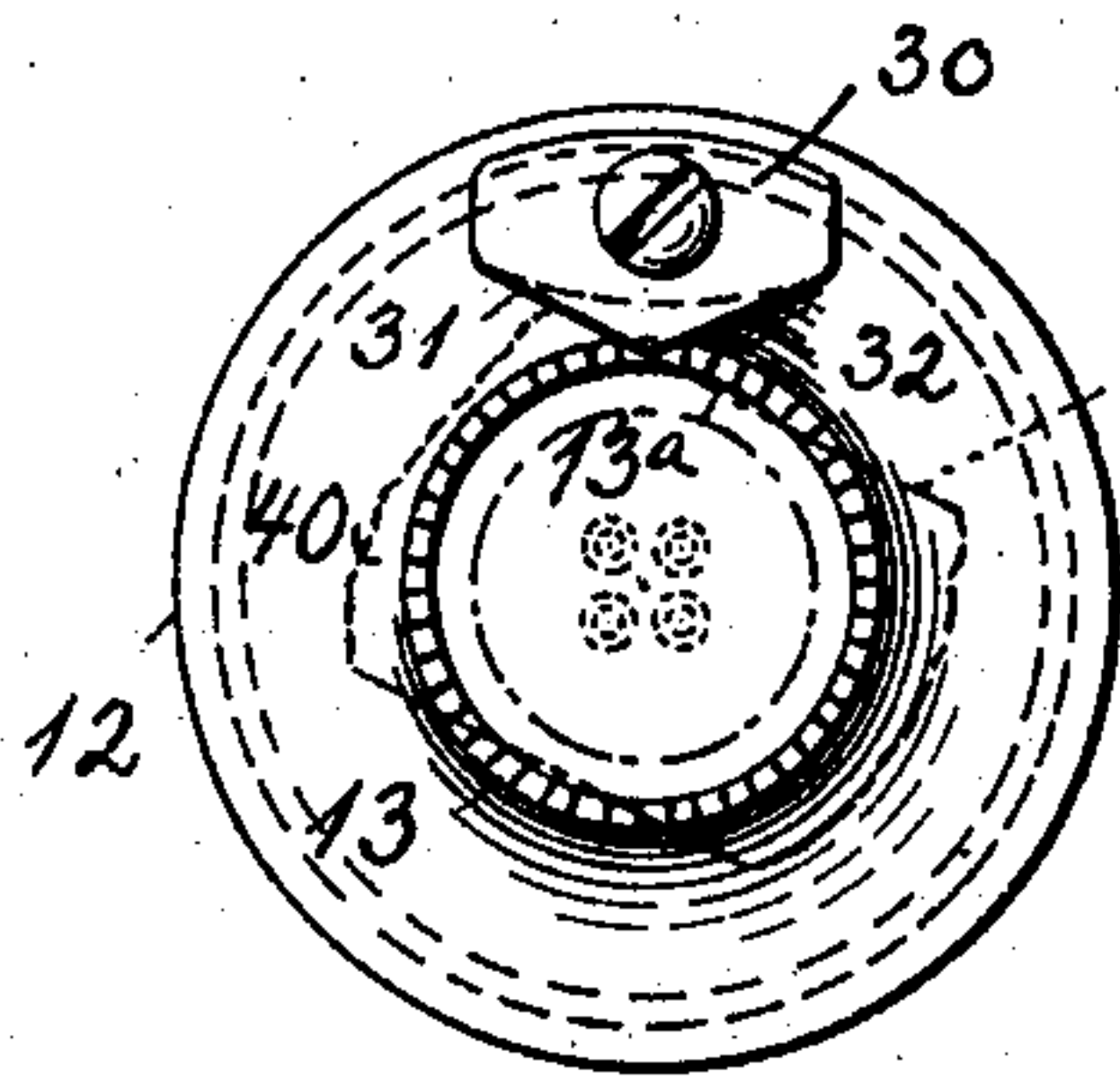
GRIPPING DEVICE OR CARRIER FOR BUTTON MAKING MACHINES.

APPLICATION FILED APR. 28, 1904.

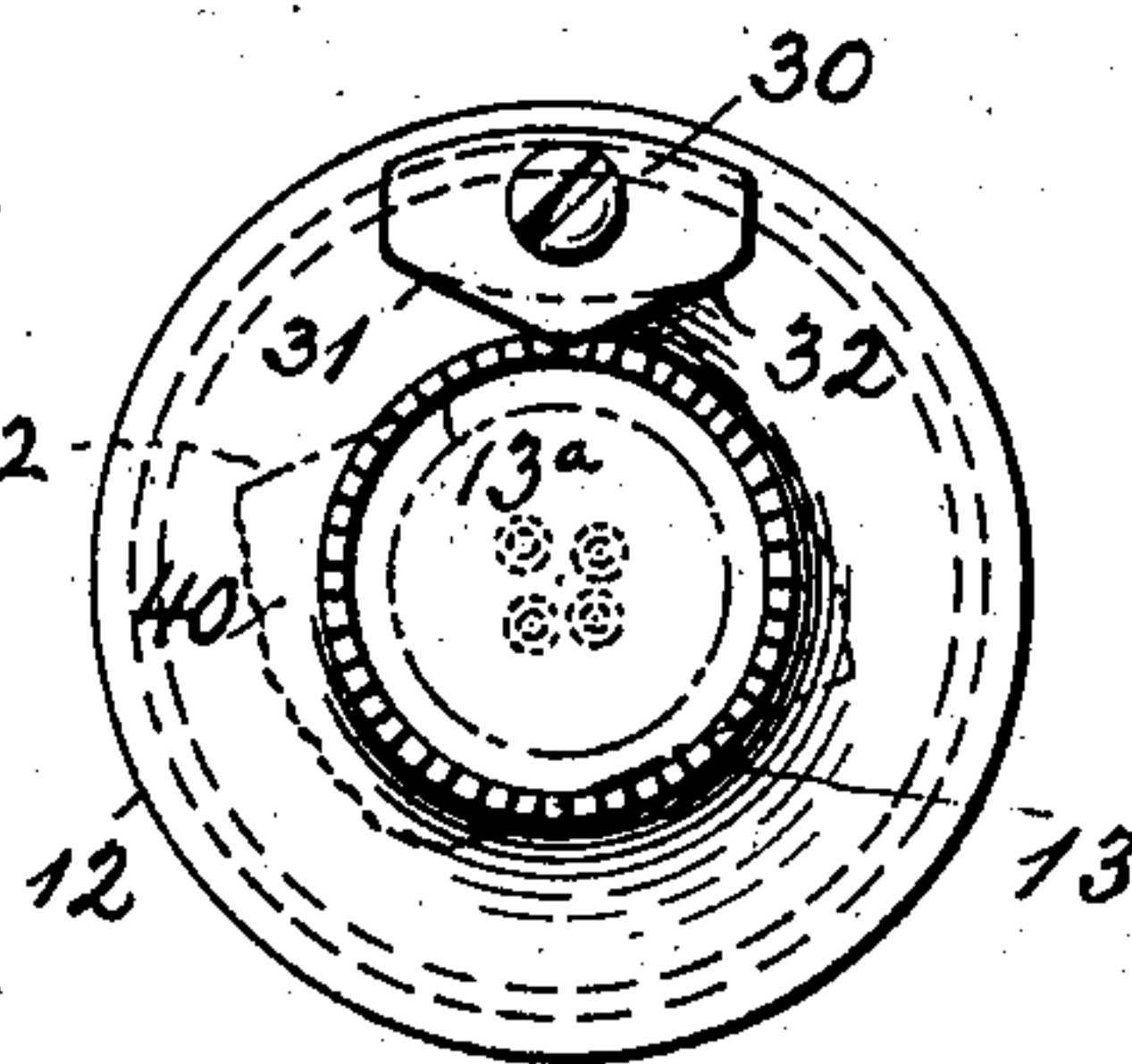
*Fig. 1*



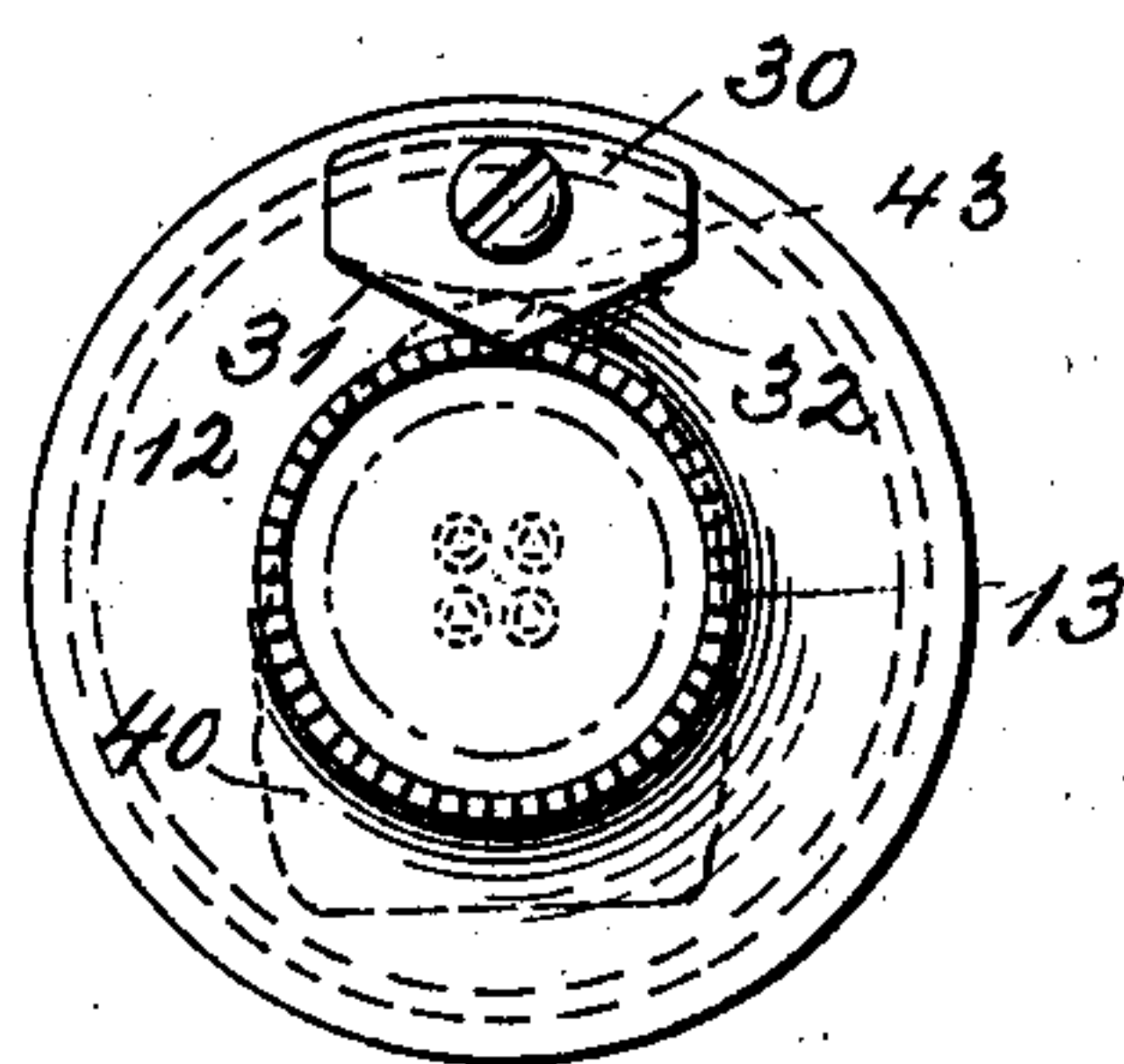
*Fig. 2*



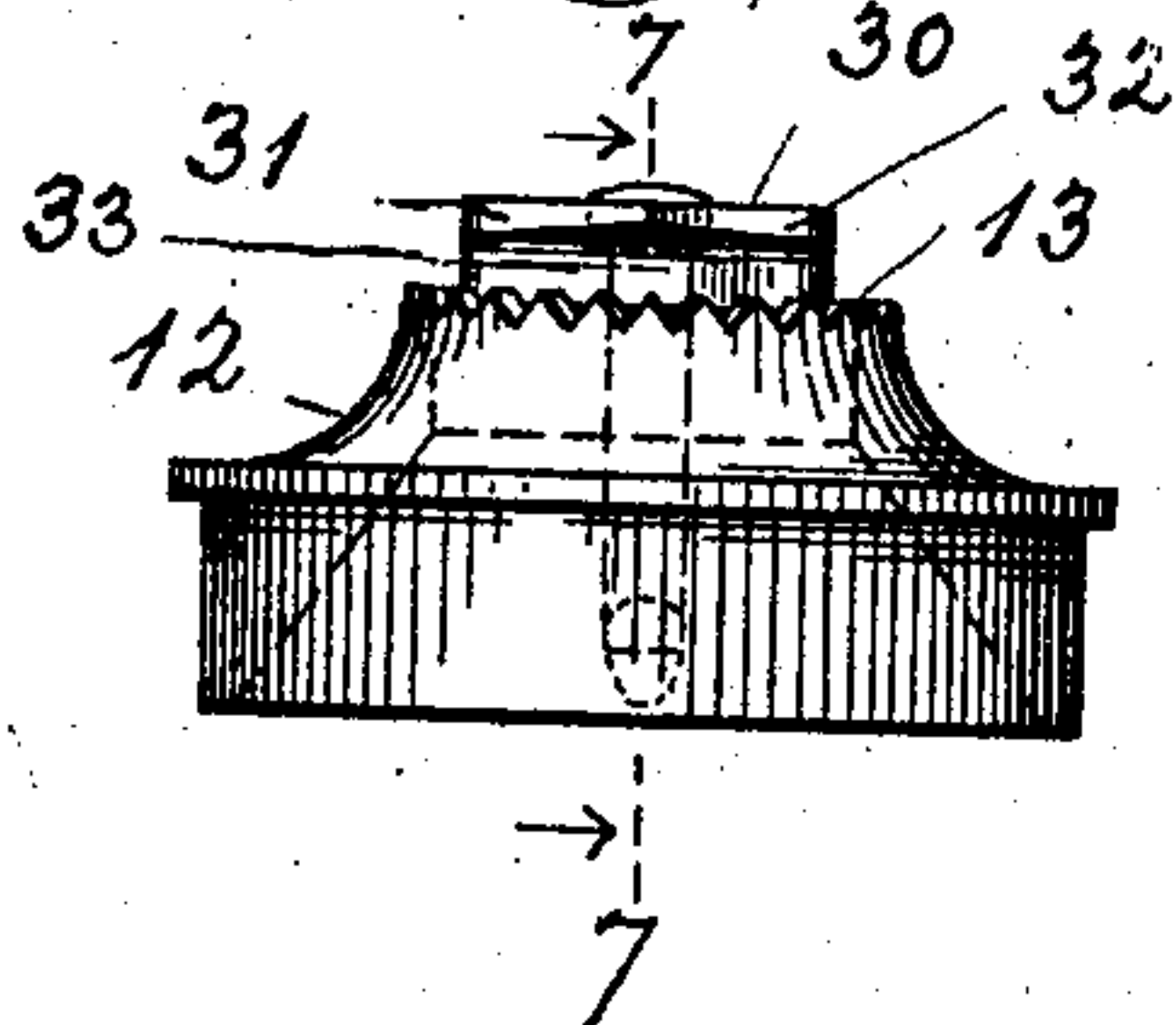
*Fig. 3*



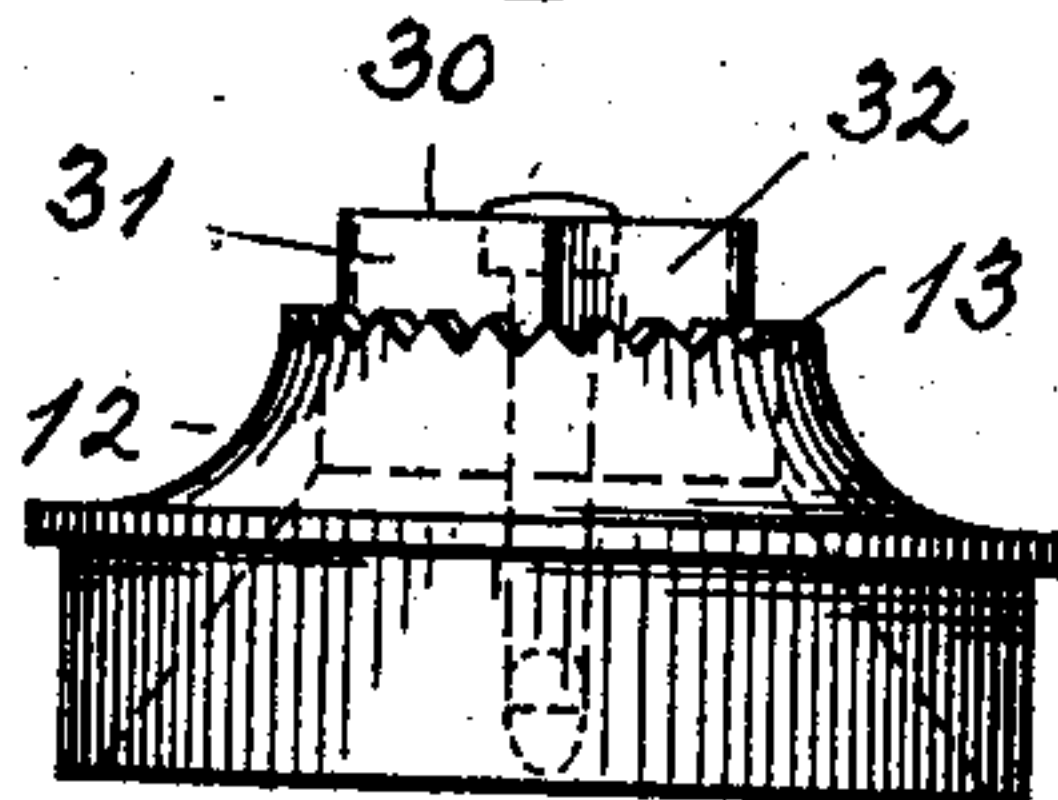
*Fig. 4*



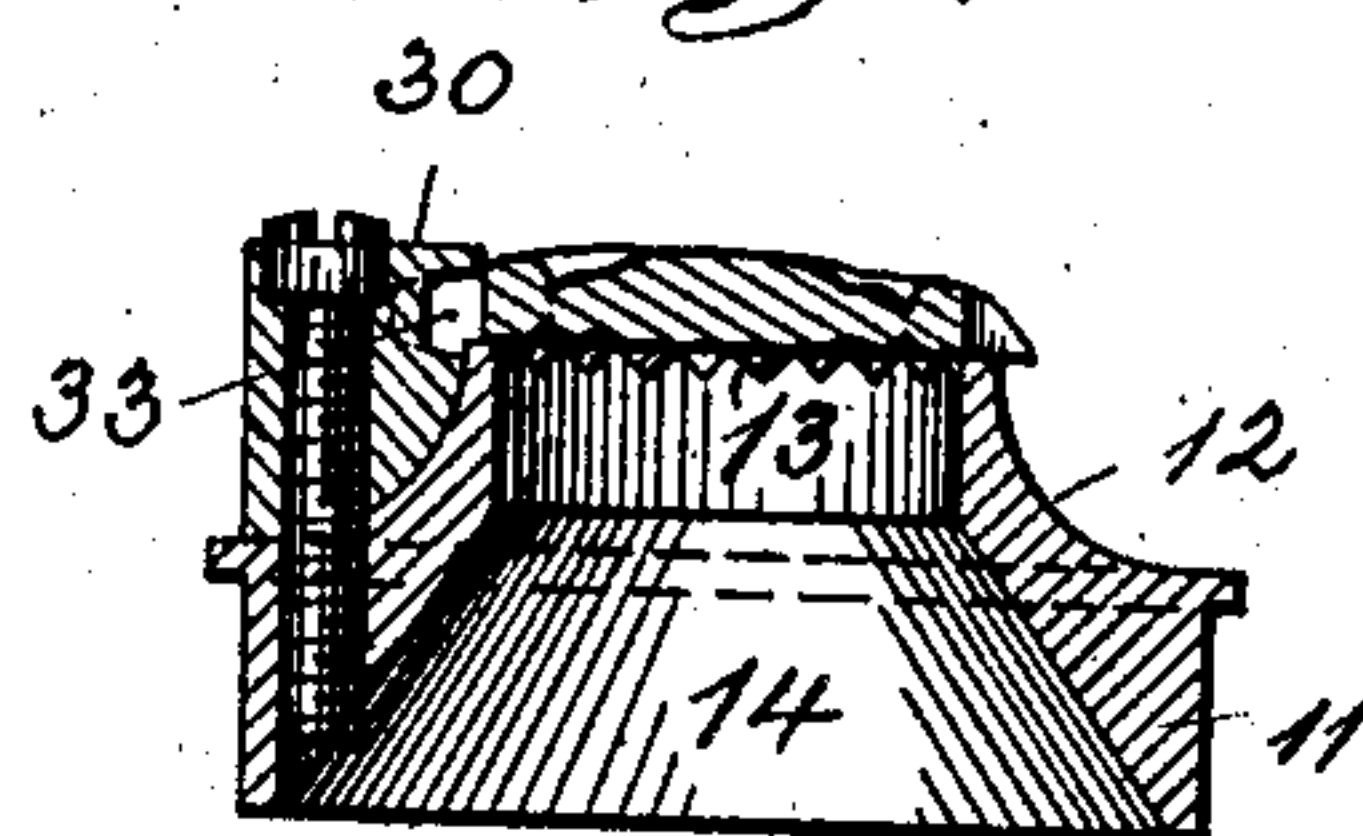
*Fig. 5*



*Fig. 6*



*Fig. 7*



Witnesses  
*Samuel R. Baird*  
Alan M. Donnell.

John Hormby Inventor  
By His Attorney William R. Baird



# UNITED STATES PATENT OFFICE.

JOHN HORMBY, OF WOONSOCKET, RHODE ISLAND, ASSIGNOR TO THE  
BUTTON MACHINERY COMPANY, OF NEW YORK, N. Y., A CORPORA-  
TION OF NEW YORK.

## GRIPPING DEVICE OR CARRIER FOR BUTTON-MAKING MACHINES.

No. 816,094.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed April 28, 1904. Serial No. 205,309.

*To all whom it may concern:*

Be it known that I, JOHN HORMBY, a citizen of the United States, and a resident of Woonsocket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Gripping Devices or Carriers for Button-Making Machines, of which the following is a specification.

My invention relates to grips for button-making machines; and its novelty consists in the construction and adaptation of the parts.

October 4, 1898, there were issued to me Letters Patent of the United States No. 611,811 for a button-making machine, which comprised, among other instrumentalities, a grip consisting of a pair of jaws adapted laterally to hold the slabs of ivory-nut out of which the buttons were made during the sundry drilling and cutting operations, each jaw being suitably apertured to give access to the operating-tools, one of said jaws being fixed and the other movable. This was combined with means adapted to lock the jaws against the ivory slab, so that the latter would be firmly held while the tools were cutting or drilling it. This machine has gone into somewhat general use and relatively unskilled labor is employed in its operation. The ivory-nuts are ovoid in shape, and in order to cut the nut up most economically, so as to produce the greatest number of buttons for a given volume of material, it is frequently necessary in placing the slabs in the grip to use more judgment or skill in their adjustment than the average operator possesses. This is especially true concerning the manipulation of pieces cut from the end of the nut transverse to its longest axis. These pieces frequently contain material sufficient for just one button and no more, and it requires considerable skill to place them within the jaws of the grip, so that the button is perfectly cut and no part of it is cut into and spoiled. In order that the operators not possessed of the necessary skill in manipulation may yet be able accurately to place the ivory slabs in the grip, and thus to save them from the waste, is the purpose of this invention. To that end I provide the fixed jaw of the grip with a guide or gage adjacent to the annular toothed aperture through which the operating-tools are given access to the slab, which is so arranged that when the slab is placed against this guide it

must be in proper position with respect to the tool-aperture to make a complete and perfect button. The principle determining the location of the slab is that the surface of the guide, if prolonged, would be tangent to the inner periphery of the tool-aperture. In addition I provide the guide in some cases with a recess or notch, which will engage the converging edges of an ivory slab and bring it to a proper position to cut the button therefrom when it is not of the shape to properly be placed in position by causing it to rest against the straight edges of the guide.

In the drawings, Figure 1 is a side elevation and partial section of the grip and adjacent parts. Fig. 2 is an enlarged plan view of the fixed jaw provided with the improved guide and showing in dotted outline a slab against its left edge. Fig. 3 is a similar view showing a slab against its right edge. Fig. 4 is a similar view showing a slab engaged in its notch. Fig. 5 is a front elevation of the jaw provided with the notched guide. Fig. 6 is a similar view of the same without the notch, and Fig. 7 is a section on the plane of the line 7 7 in Fig. 5.

In the drawings, 10 represents a portion of the head or carrier upon which the grip is mounted and by which it is moved. This may be mounted to rotate as in the form of button-machine described in Letters Patent No. 611,811, above referred to, or to reciprocate or to move in any desired way, whereby the apertures in the grip may be brought opposite the operating-tools, (represented at 100 100<sup>a</sup>), or it may be stationary and the tool may be movable. The relative arrangement of these parts forms no part of this invention and is within the skill of an ordinary mechanic to suit the circumstances of any particular case. It is also not necessary to show the remainder of the carrier or head or the mechanism by which it is actuated in order to understand the present invention.

A fixed jaw 11 is secured to the carrier 10 in any suitable manner, as by screws or bolts, or it may be made integral therewith, and is provided with an annular piece 12, furnished with teeth or serrations 13 on its inner side and provided with a tool-opening 14 to permit of access of the operating-tools.

A movable jaw 20 is arranged in close proximity to the fixed jaw. The form in which I



prefer to use it is mounted on the carrier-head 10, so as to move with the fixed jaw, and provided with means, as the pinion 21, whereby it may be caused to move toward and  
5 away from the fixed jaw, so as to grasp the ivory slab between them. The precise means employed for this purpose may be varied as circumstances shall require and forms no part of this invention.

10 Toward the rear of the fixed jaw and beyond the tool-aperture when the jaw is in position to receive an ivory slab is arranged the guide or guard above referred to and which forms the main feature of the invention which  
15 is the subject-matter of this application. This consists of a projection 30, secured to or made integral with the fixed jaw and provided with two edges 31 and 32, each of which is in a plane substantially tangent to the periph-  
20 ery 13<sup>a</sup> of the tool-aperture. It is also provided with a notch or recess 33 next to the surface of the carrier, so that the sloping edges of a slab placed in said recess cause the slab to be accurately guided across the tool-  
25 aperture.

As has been stated in the foregoing portion of this description, the slabs from which the buttons are cut are frequently, at least, somewhat egg-shaped, and in many instances one  
30 side thereof will be better adapted for the front of the button than the other side, or one edge will provide a surface which can be guided by the tangential side of the guide, while the opposite edge will not present a sur-  
35 face suitable to be guided by said tangential edge. Frequently, also, the button must be cut from one end of the slab, the other end of said slab being of less diameter or of less thickness than is suitable for such purpose  
40 while affording a projecting part adapted to be held by the operator in placing the slab in position to be formed into the button. It will be seen that the plurality of guiding-sur-  
45 faces each tangential to the tool-aperture and converging to a point and the recess arranged beneath the junction of said surfaces and having its wall which engages the edge of the slab located sufficiently back of said junction to provide a broad surface to engage the  
50 pointed edge of the slab inserted in said recess provides a guiding means of simple construction adapted to guide across the tool-aperture a slab of any of the various and ordinary shapes thereof, so as to present to the  
55 tools that portion of the slab from which the button must or should be cut. This adaptability of the guide to the various shapes of such slabs is, furthermore, increased by reason of the fact that the recess 33 is of gradually-decreasing depth from its open to its closed sides, which decrease in the depth there-  
60 of is formed by decreasing the thickness of the guide toward its point, as shown best in Figs. 5 and 7.

65 In Figs. 2, 3, and 4 ivory slabs 40 are indi-

cated in dotted outline. In Fig. 2 the one edge 41 of the slab is shown as having been brought to bear against the edge 31 of the projection 30. In Fig. 3 the edge 42 is shown against the edge 32, and in Fig. 4 the lip 43 is  
70 shown as engaging the notch 33. When the slabs are in these positions, it will be observed that the tool-aperture 14 is completely covered, and a button may be cut out of the slab equal in diameter to the diameter of said  
75 aperture.

— What I claim as new is—

1. In a button-making machine, means for holding a button-slab having a tool-aperture, and means for guiding said slab to a prede-  
80 termined position across said aperture, said guiding means being arranged at one side of said aperture and having a plurality of converging guiding-faces each of which extends  
85 approximately at a tangent with said aperture and is adapted to engage an edge of said slab so as to bring a predetermined part of the slab across said aperture.

2. In a button-making machine comprising a fixed jaw having a tool-aperture, a guide  
90 for the slab to be operated on adapted to bring a predetermined part of the slab to register with the tool-aperture, comprising a projection of the jaw located at one side of said aperture and having a plurality of edges  
95 each of which starts at the periphery of said aperture and extends off from the same substantially at a tangent thereto.

3. In a button-making machine, comprising a fixed jaw having a tool-aperture, a guide  
100 for the slab to be operated on, adapted to bring a predetermined part of the slab into registration with said aperture, said guide having adjacent to said aperture a recess adapted to receive and engage a pointed edge  
105 of said slab.

4. In a button-making machine comprising a fixed jaw having a tool-aperture, a guide  
110 for the slab to be operated on adapted to bring a predetermined part of the slab to register with the tool-aperture, comprising a projection on the jaw having an edge in a plane substantially tangent to the periphery of the tool-aperture and a recess adapted to receive and engage with the edge of the mate-  
115 rial slab.

5. In a button-making machine comprising a fixed jaw having a tool-aperture, a guide  
120 for the slab to be operated on adapted to bring a predetermined part of the slab to register with the tool-aperture, comprising a projection on the jaw having a plurality of edges each in a plane substantially tangent to the periphery of the tool-aperture and a recess adapted to receive and engage with  
125 the edge of the material slab.

6. A button-making machine, comprising a jaw having a tool-aperture and a guide for the slab to be operated on, said guide being  
130 arranged at one side of said aperture and hav-



ing a plurality of converging guiding-faces  
which extend approximately at tangents  
with said aperture and also having a recess  
beneath the junction of said faces, the wall of  
5 said recess opposite said jaw being inclined,  
substantially as described and for the pur-  
poses set forth.

Witness my hand this 26th day of April,  
1904, at Woonsocket, in the county of Provi-  
dence and State of Rhode Island.

JOHN HORMBY.

Witnesses:

JEFFERSON ALDRICH,  
JOSEPH ZULEG.