

J. J. BARANOWSKI.

Machines for Making Plated Capsules.

No. 137,403.

Patented April 1, 1873.

Fig.1.

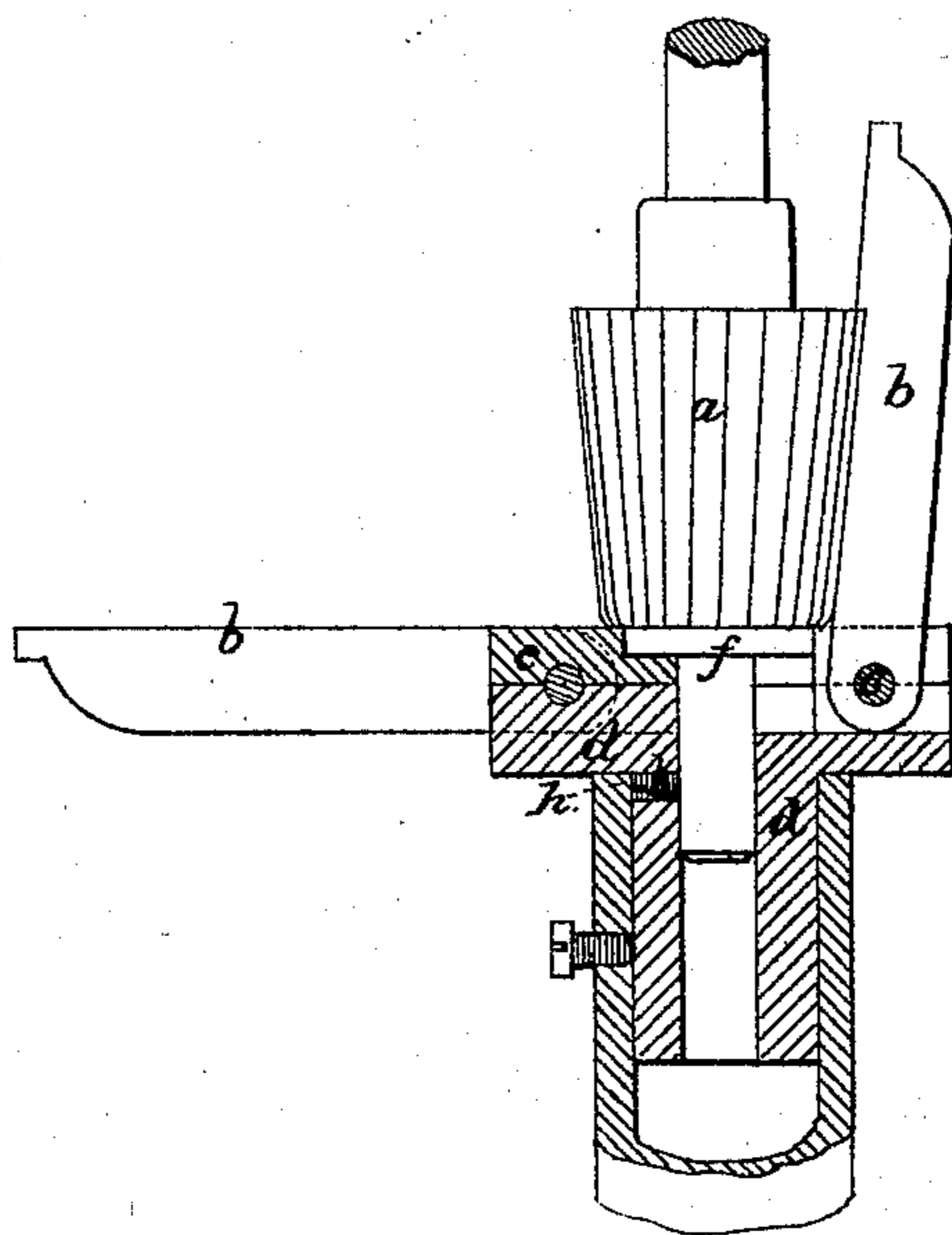
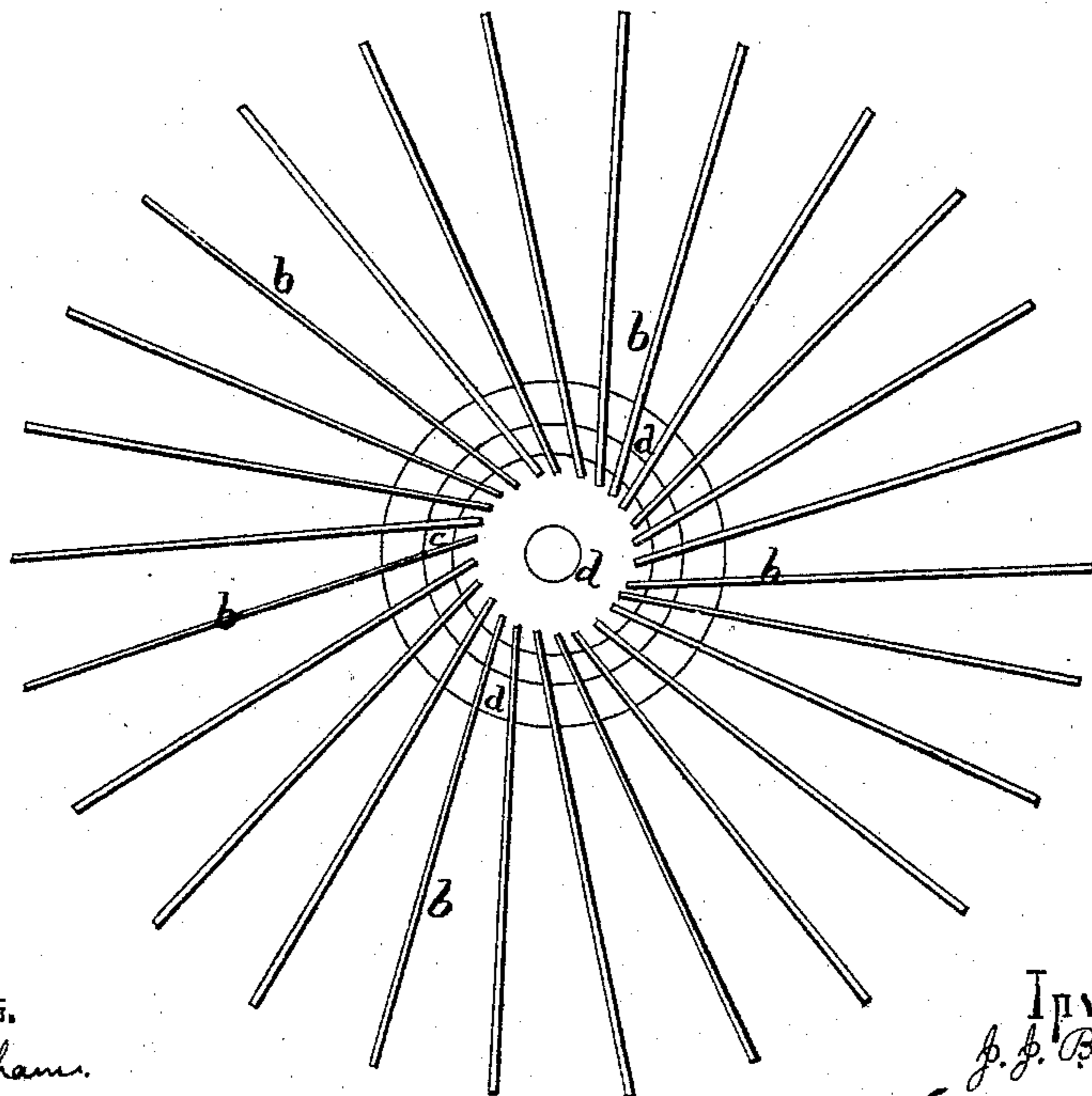


Fig.2.



Witnesses.  
M. W. Frothingham.  
L. H. Latimer.

Inventor.  
J. J. Baranowski,  
By his Attorneys  
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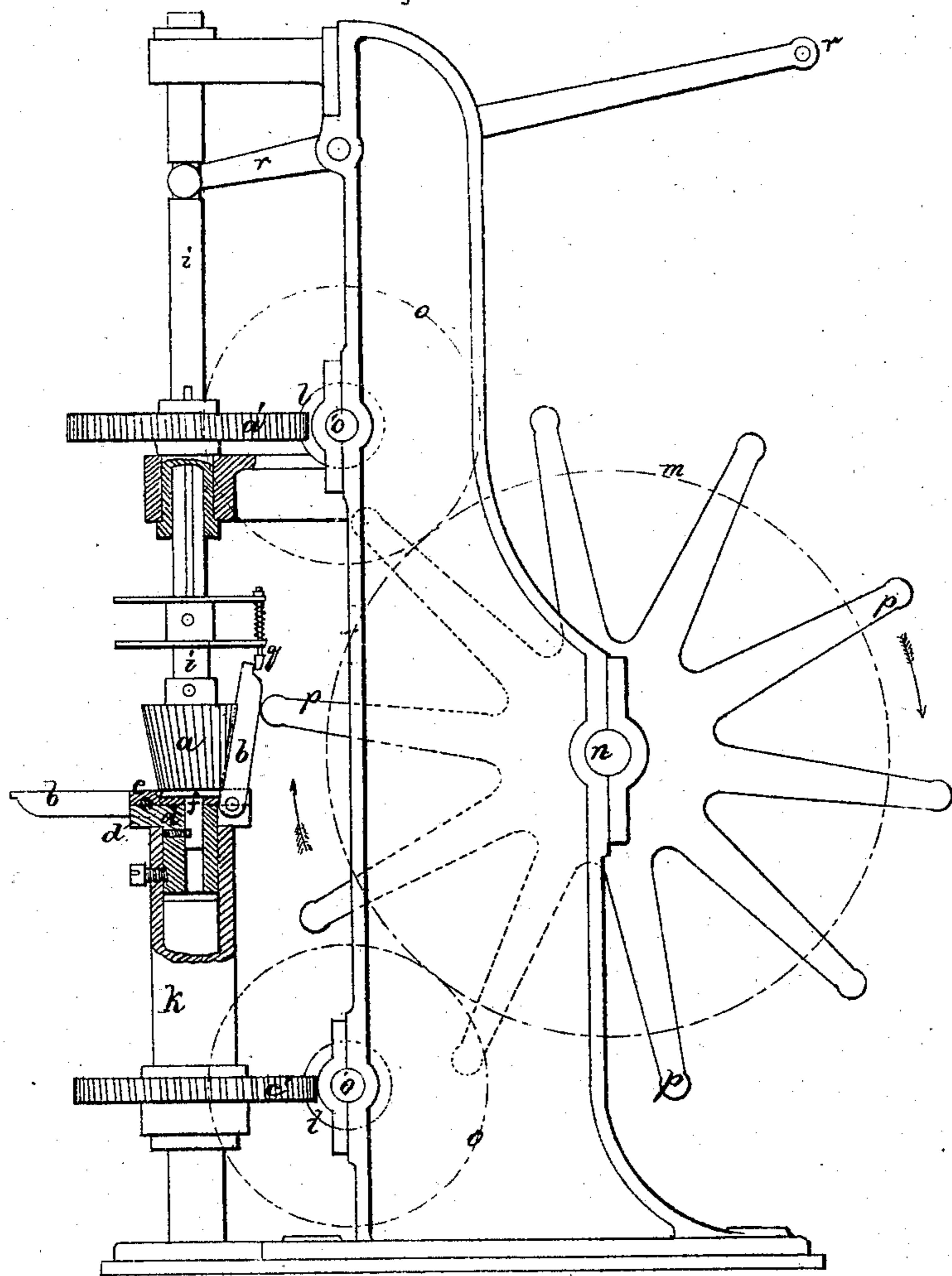
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Fig 3.



Witnesses:  
M. W. Frothingham.  
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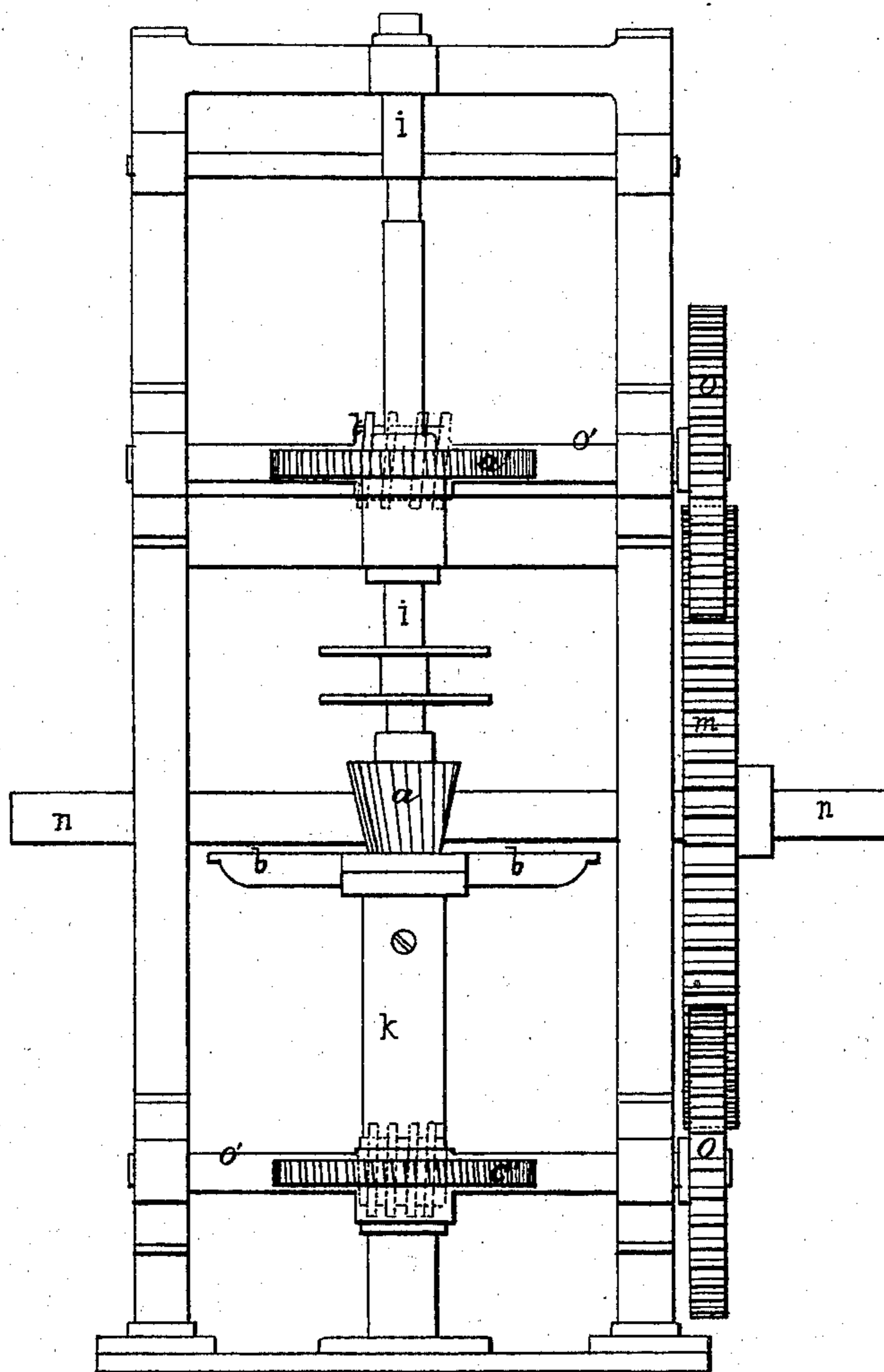
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Fig: 4.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

JEAN JOSEPH BARANOWSKI, OF LONDON, ENGLAND, ASSIGNOR TO DAVID HUNTER BRANDON, OF PARIS, FRANCE.

## IMPROVEMENT IN MACHINES FOR MAKING PLAITED CAPSULES.

Specification forming part of Letters Patent No. **137,403**, dated April 1, 1873; application filed January 3, 1873.

*To all whom it may concern:*

Be it known that I, JEAN JOSEPH BARANOWSKI, of 38 Southampton Buildings, Chancery Lane, London, have invented a new and Improved Machine for Manufacturing Plaited Capsules, applicable to bottles and other usages; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

For the manufacture of my capsules, I make use of disks of sheet metal or other appropriate material sufficiently thin and flexible to enable their being plaited on their entire circumference, the said plaits being formed to radiate direct from the axis of the capsule or from a point slightly eccentric with the said axis.

The principal features of my new machine consist in a cone having as many grooves cut in it as the capsule is to have plaits, and in a ring furnished with a like number of movable blades. The principle of this fabrication consists (by means of these two organs, between which I place a blank or disk) in transforming this said blank into a capsule by means of the blades, which lift up its annular part and compress it into the grooves formed in the cone; and I call attention to the fact, as one of the most essential points of this manufacture, that each plait must be formed successively by a blade, and that each blade, directly it has effected its plait, must be maintained in its place on such plait until all the blades shall have been raised, and have thus completed a perfect capsule.

In the three sheets of drawing accompanying this specification, Figure 1 represents an elevation, partly in section, of the cone and annular ring, Fig. 2 being a plan of the ring. In these figures, *a* is the cone, divided in twenty-six grooves, and *b* the blades, representing the same number. These latter are articulated on a stationary ring, *c*, whose lower part is lodged in a piece, *d*, and its upper part in a cover, *e*, these two pieces which constitute the ring being coupled together by means

of a central button, *f*, which is itself retained in place by the screw *h*. These two pieces *e* and *f* are not represented in the Fig. 2.

In order to impart the requisite motion to these two mechanical parts, I make use of a machine represented in lateral elevation at Fig. 3, and in front elevation at Fig. 4. The cone *a* and ring *c* are, as it will be seen, mounted vertically one under the other, the former on a shaft, *i*, and the latter on a sleeve, *k*. These two pieces are caused to rotate simultaneously by the endless screws *l l*, which gear in the wheels *a'* and *c'*, said screws themselves receiving their motion from the big wheel *m* keyed on the main shaft *n*, and which gears into two pinions, *o o*, keyed on the shafts *o' o'*, on which are fixed the screws.

The blades *b* are raised one by one by the arms *p p*, which project from a wheel keyed on the main shaft *n*, the speed of which is so regulated that on the passage of each arm a blade presents itself to be raised. *q* is a little spring-catch, serving to maintain each blade in its position in the groove of the cone. To this end, on the blade being lifted, it raises up this catch, through the contact of its beveled edge, and, as soon as it has arrived at the position indicated in Fig. 3, the catch, impelled by its spring, descends rapidly, and thus locks it. When the capsule has been thus completed by the entire rotation of the cone and ring, the shaft *i* has only to be lifted, by means of the lever *r*, to liberate, first, the whole of the blades, which fall by the effect of their gravity, and then to remove the plaited capsule from the cone. Another disk or blank is then placed between the cone and ring, the cone is lowered, and the operation is repeated as above described.

In order to illustrate my invention, I have represented and described a capsule of twenty-six plaits; but it is obvious that said number of plaits is in no way limited, but can vary more or less, according to circumstances.

Having thus described the nature of my invention and the best means that I am acquainted with for carrying the same into practice, I claim—

1. The combination of the grooved cone *a*

with a ring of articulated blades, *b*, operating to form the plaits successively, substantially as described.

2. A rotating star-wheel, *p*, for successively raising the said blades *b*, as above described.

3. The self-acting clip *q*, for maintaining each blade *b* closed on its plait on its being raised by one of the arms of the star-wheel.

4. The general arrangement of parts *n*, *m*, *o o*, *l l*, *a'*, and *c'*, for imparting the requisite motion to the machine.

J. BARANOWSKI.

Witnesses:

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WALTER SCARGILL.