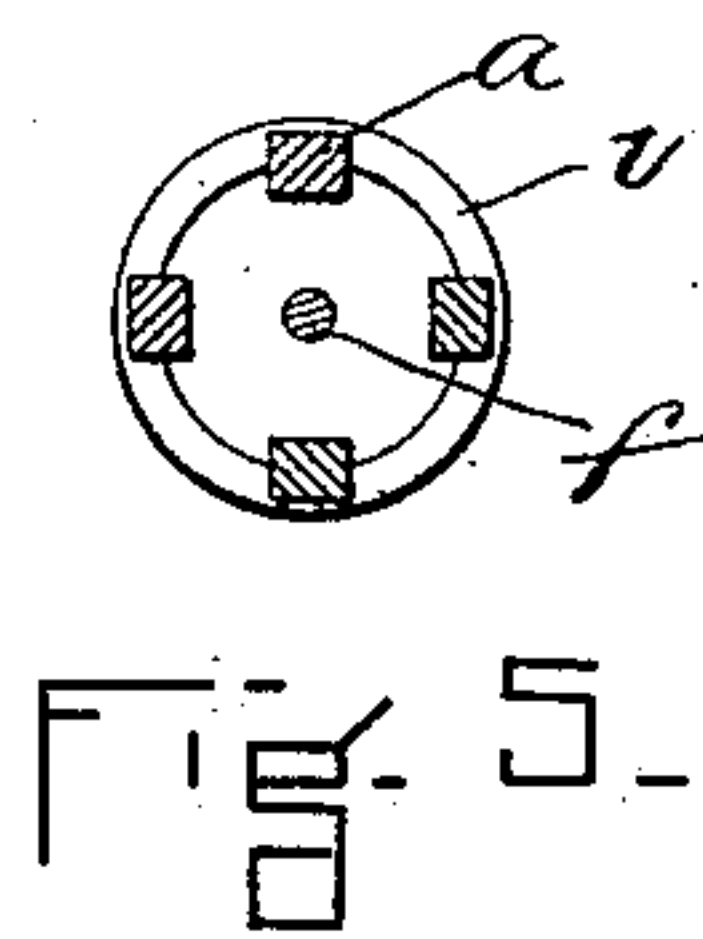
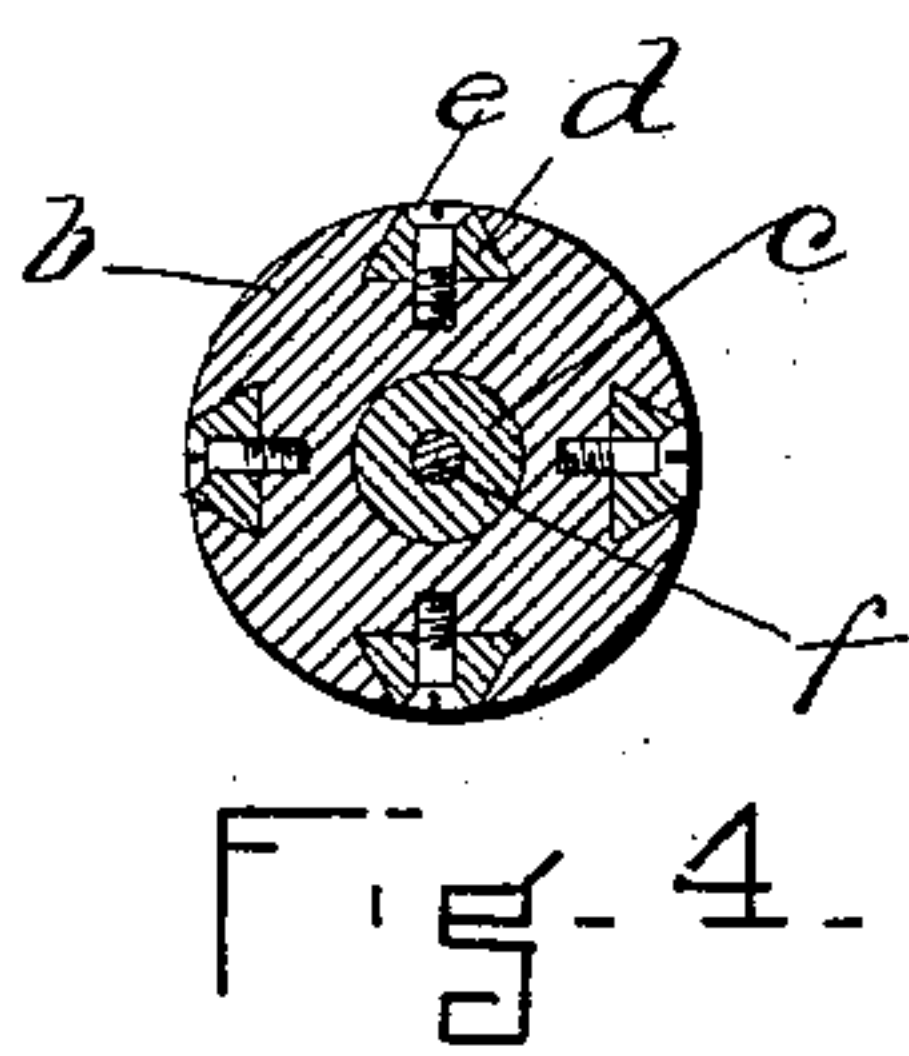
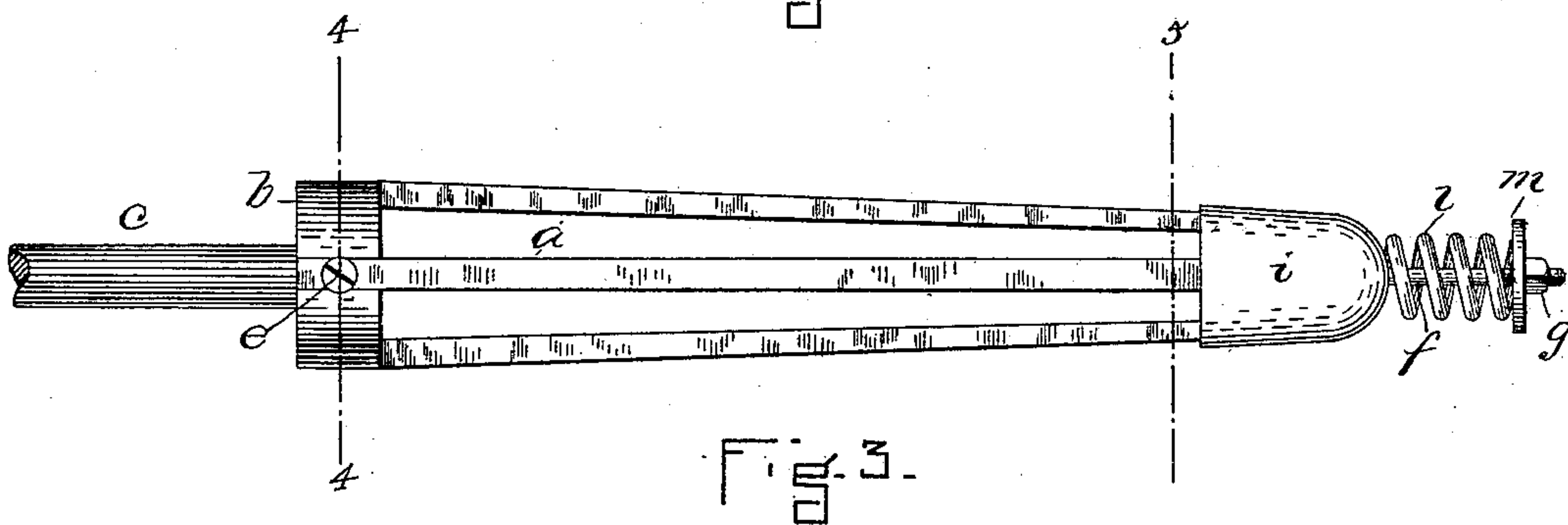
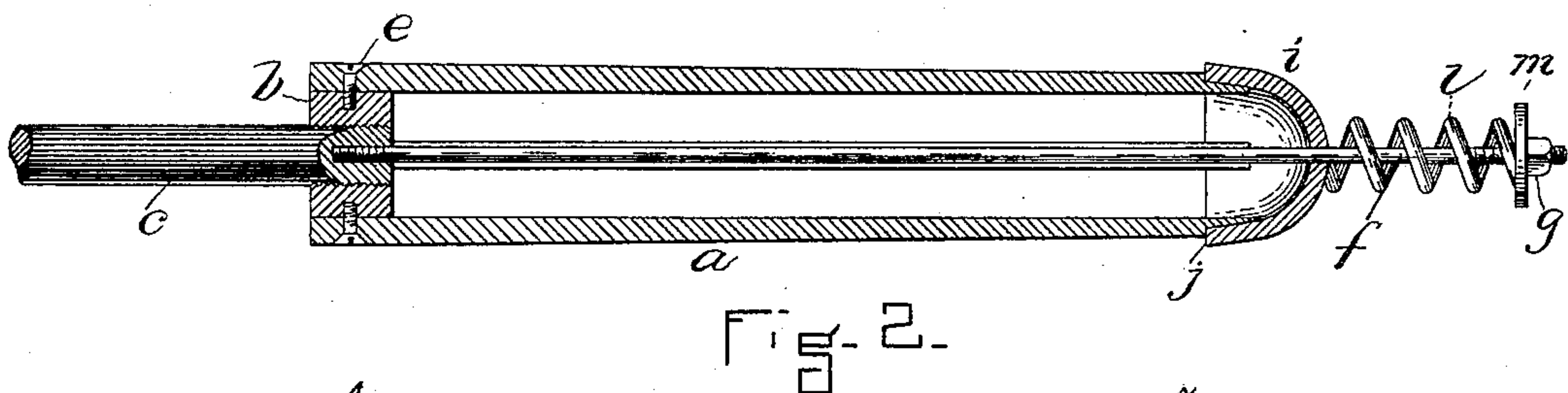
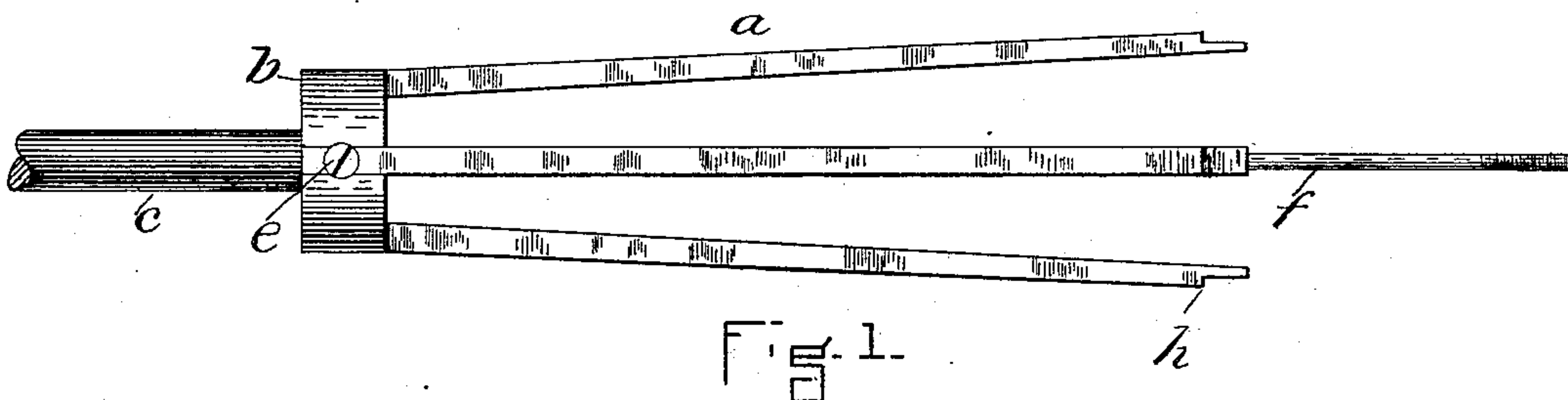


(No Model.)

H. T. SMITH.
DEVICE FOR SUPPORTING SHELLS IN THE MANUFACTURE OF
SEAMLESS PLATED WIRE.

No. 434,681.

Patented Aug. 19, 1890.



WITNESSES.

A. D. Harrison.
C. J. Bartlett.

INVENTOR.

Henry T. Smith
by
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UNITED STATES PATENT OFFICE.

HENRY T. SMITH, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE STANDARD SEAMLESS WIRE COMPANY, OF SAME PLACE.

DEVICE FOR SUPPORTING SHELLS IN THE MANUFACTURE OF SEAMLESS PLATED WIRE.

SPECIFICATION forming part of Letters Patent No. 434,681, dated August 19, 1890.

Application filed May 17, 1890. Serial No. 352,249. (No model.)

To all whom it may concern:

Be it known that I, HENRY T. SMITH, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in the Art of and Means for Holding Shells in Hammering the Same for the Production of Seamless Plated Wire, of which the following is a specification.

10 It is the object of my invention to provide an improvement in devices for supporting and controlling shells in the production of seamless plated wire for jewelers' use.

15 In the operation of reducing and drawing out shells or forming wire by the hammering process it is very essential to preserve the contour of the outer edge of the shell. If proper means are not employed for supporting the edge of the shell, a serious trouble is 20 caused by an uneven extension of the same, and through continued hammering or the drawing-out operation the unevenness is rapidly increased, resulting in a large amount of waste and great trouble in the further treatment of shell in the production of wire therefrom.

By my invention the objections mentioned are entirely overcome, the said invention consisting in means for holding the shell with 30 a yielding pressure at the edge and at a central point of the dome or closed end of the shell and feeding the said shell parallel with the action of the hammering means, and so that the edges of the shell shall be maintained in a position at right angles to the line of feed or hammering action, all as I will now 35 proceed to describe and claim.

Reference is to be had to the annexed drawings and the letters of reference marked 40 thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

45 Of the said drawings, Figure 1 is a side view of my improved means without a shell or cup in place thereon and without the devices for applying pressure upon the closed end of the shell. Fig. 2 is a longitudinal central sectional view of the device com-

plete, a shell being in position upon the ends 50 of the spring-fingers. Fig. 3 is a side elevation of Fig. 2, the shell being represented as "hammered out" to some extent. Fig. 4 is a cross-section on the line 4 4 of Fig. 3. Fig. 5 is a cross-section on the line 5 5 of Fig. 3. 55 In the drawings, *a* designates fingers secured at their rearward ends to a hub *b*, which in turn is secured to the forward end of a shaft *c*.

As herein shown, the hub *b* is provided in 60 its periphery with dovetail grooves, and the rearward ends of the fingers *a* are correspondingly formed and fitted in the said grooves, as is shown at *d*, Fig. 4, the fingers being secured in place in the grooves by 65 screws *e*, though any other suitable means of fastening the fingers to the hub or connecting them with shaft *c* may be employed. The fingers *a* may be constructed and arranged so as to spring outward at their forward ends, 70 as is shown in Fig. 1. A rod *f* is secured at its rearward end to the forward end of the shaft *c*, (though in some constructions it might as well be to the hub *b*), and extends forward beyond the forward ends of the 75 spring-fingers *a*, where it is provided with a screw-thread for the reception of a nut *g*. The forward ends of the spring-fingers *a* are reduced in size and are provided with shoulders or offsets *h*, so that the initial cup or 80 shell *i* may be placed upon the ends of the fingers with its edge *j* resting against the said shoulders, the outer face of the shell extending beyond the outer face of the fingers, 85 as is seen in Fig. 2.

In placing the shell upon the fingers the free end of the latter may be sprung inward, and when the shell is in place the fingers may be released, so that the shell may be held laterally, as it were, with a yielding 90 pressure.

The form of holding device for the shell, as thus far described, may be greatly varied; but, as shown, it will be found efficient for the purpose, particularly with respect to the 95 necessary laterally-yielding feature.

The shell, previous to being placed on the ends of the spring-fingers, may have a hole

formed through the dome or closed end at a central point, so that the end of the rod *f* may project therethrough, and so that a spring *l* may be interposed between the outer 5 closed end of the shell, and the nut or a washer *m*, arranged on the rod between the nut and spring.

By the means described a device is provided whereby the shell may be held longitudinally—that is, with its edge *j* pressed 10 against the shoulders *h* with a yielding pressure.

Like the laterally-holding part of the holding device, the longitudinally-holding part 15 may be varied in form and construction, so long as the yielding feature is preserved.

In the use of the device the rod *c* may be employed as a feeding means to present the shell to the action of the hammering means, 20 (not shown,) which will act upon the outer face of the shell in the common or in any suitable way to beat out or elongate the shell, the holding device being moved in a line parallel with the action of the hammering means 25 and turned to present all points of the outer face to the hammering means. The outer surface of the shell, extending beyond the outer face of the ends of the spring-fingers, prevents the hammering means from acting 30 upon the latter. As the shell becomes elongated and reduced in diameter, as will be understood by a comparison of the shell in Fig. 2 with that shown in Fig. 3, the fingers will yield laterally or inwardly to permit of the 35 reduction on diameter of the shell, while the spring *l* will permit of the shell being elongated, the spring becoming compressed as the shell is drawn out. When the shell becomes reduced in diameter by the drawing-

out or hammering process, as is indicated in 40 Fig. 5, it may be removed from the holding device upon which it was first placed and placed upon one of smaller size to further reduce the diameter. By moving the holder in a line parallel with the action of the hammering means and maintaining the edge *j* 45 against the shoulders *h* no uneven extension of the edges, and consequently no wastage, will be occasioned.

Having thus explained the nature of my 50 invention and described a way of constructing and practicing the same, I declare that what I claim is—

1. A device for presenting a shell to the action of hammering means, consisting of a 55 yielding lateral holder adapted to engage the edge of the shell, and a yielding longitudinal holder adapted to engage the end of the shell, as set forth.

2. The spring-fingers *a*, provided with 60 shoulders, combined with a yielding longitudinal holder adapted to engage the shell at its closed end, as set forth.

3. A yielding lateral holder adapted to engage the edge of the shell, combined with the 65 rod *f*, nut *g*, and spring *l*, as set forth.

4. A holder for holding a shell in the process of hammering or drawing out the same, consisting of spring-fingers having offset or 70 shouldered ends, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 12th day of May, A. D. 1890.

HENRY T. SMITH.

Witnesses:

EDWARD W. BLODGETT,
CHARLES D. NORR.