

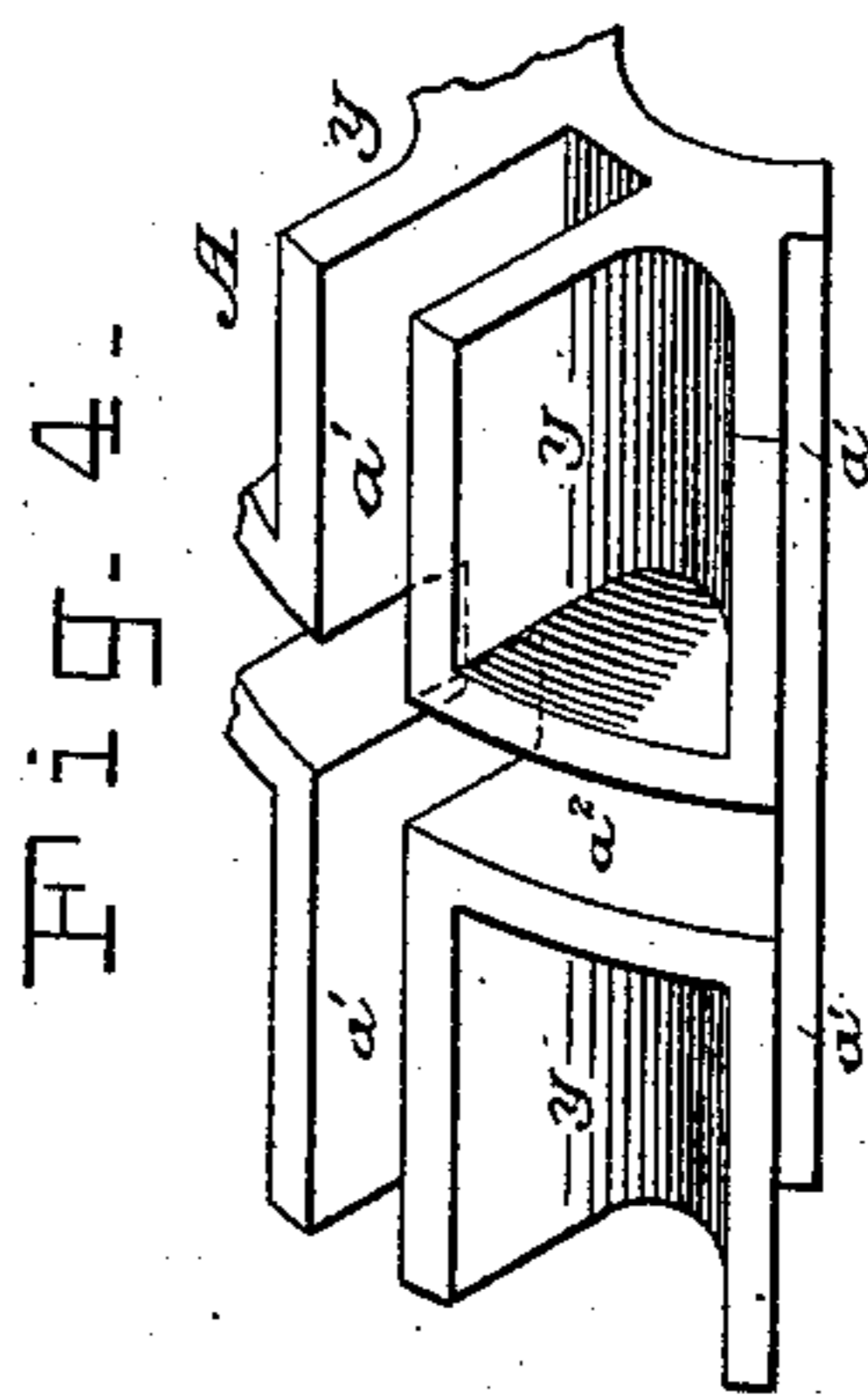
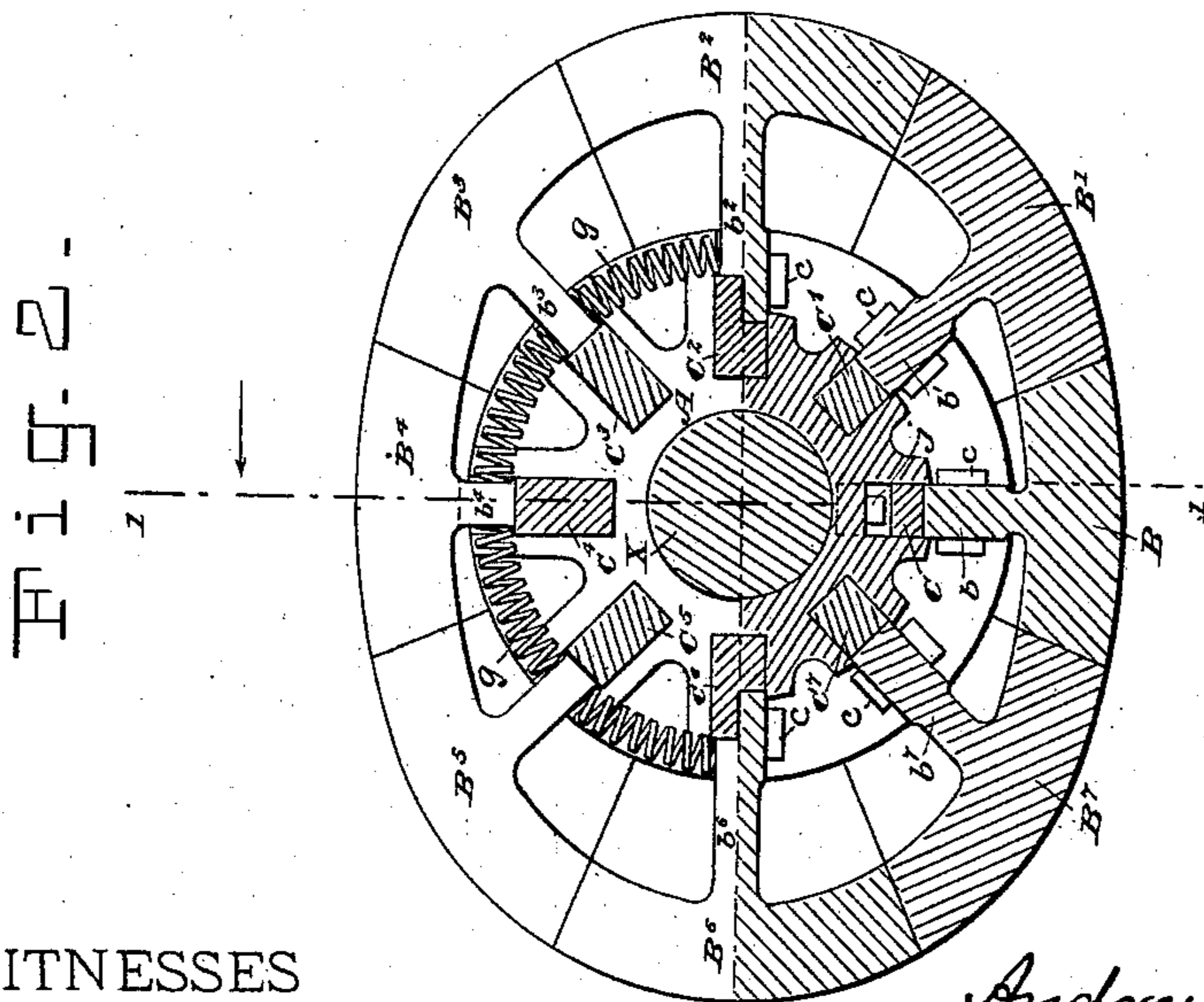
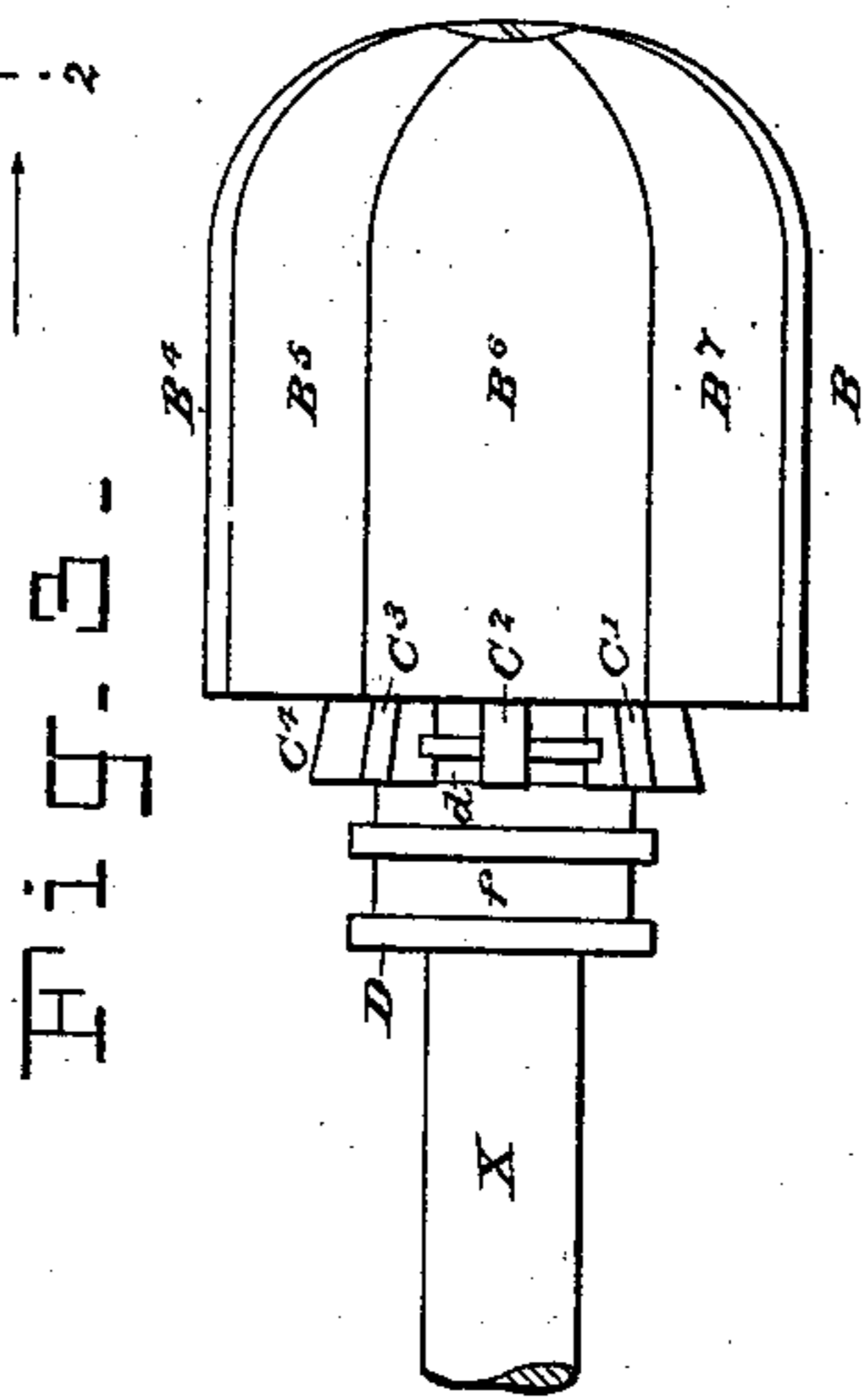
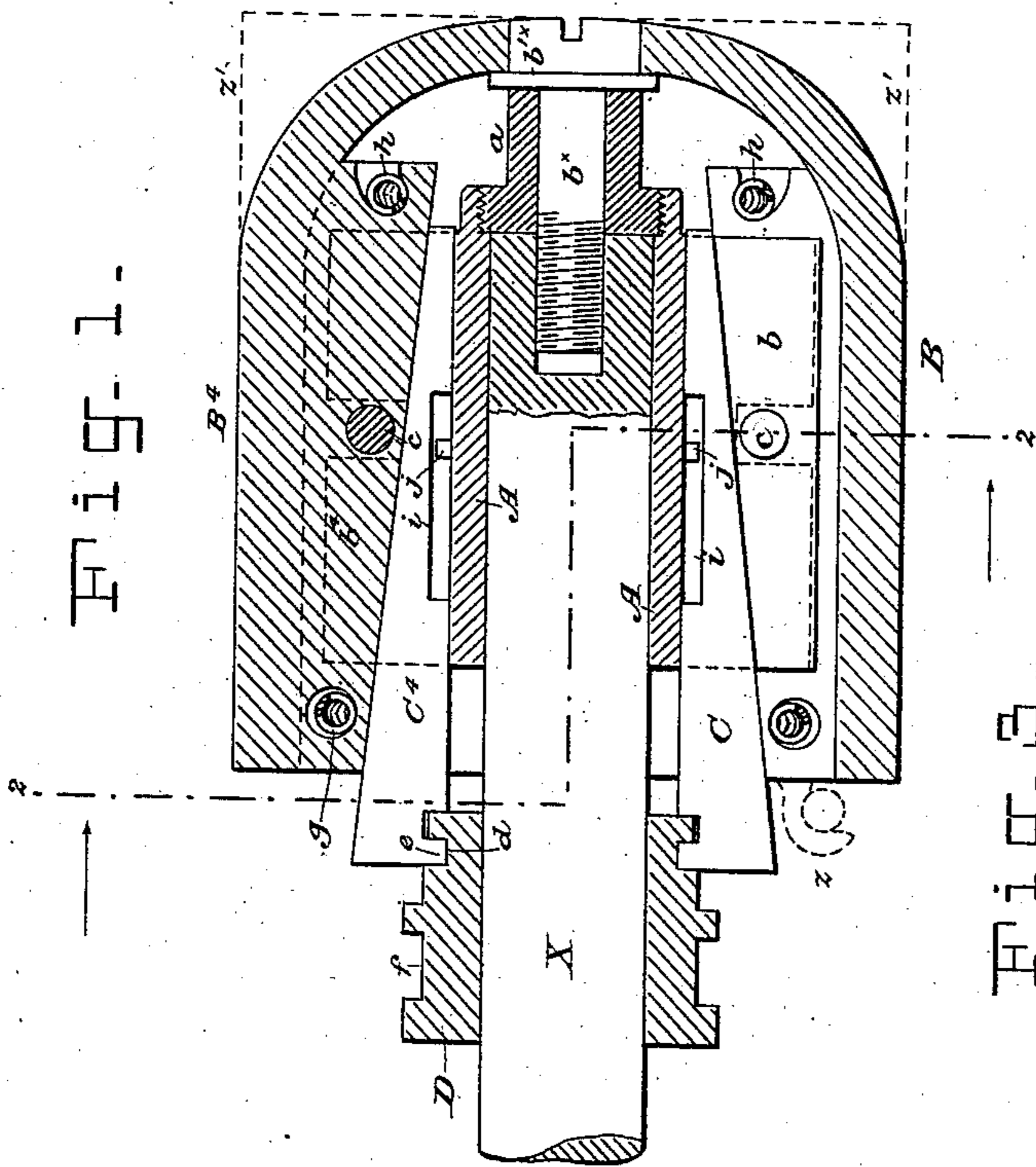
(No Model.)

A. CAMPBELL.

EXPANDING HOLDER OR BLOCK FOR HAT POUNCING MACHINES.

No. 365,575.

Patented June 28, 1887.



WITNESSES

E. B. Bolton

Frank Moulin

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# UNITED STATES PATENT OFFICE.

ANDREW CAMPBELL, OF BROOKLYN, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE HAT MACHINE COMPANY, OF SAME PLACE.

## EXPANDING HOLDER OR BLOCK FOR HAT-POUNCING MACHINES.

SPECIFICATION forming part of Letters Patent No. 365,575, dated June 28, 1887.

Application filed July 28, 1886. Serial No. 299,300. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW CAMPBELL, a citizen of the United States, and a resident of Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Expanding Holders or Blocks for Holding a Hat while it is being Pounced, of which the following is a specification.

My invention relates to a holder to hold the hat while it is being pounced; and the invention consists in the construction of said holder, whereby it may be expanded and contracted so as to fit the body of the hat when the latter is placed on it, and to hold the hat firmly.

It is well known among those skilled in the art that hats bearing the same size-numbers vary in size considerably and will not fit snugly on the same holder, which they should do while being pounced. Attempts have been made to expand a rubber bag within the hat by forcing air into said bag; but such a bag tends to expand into a spherical form and distorts the hat.

The object is to make a holder of the external shape or contour of a hat-body, and to construct it so as to be capable of equal lateral or radial expansion, so that when a hat is placed on it and the holder expanded the block will be made to fit the hat snugly, and yet not distort the latter. I contemplate fixing the holder in some cases on a rotating shaft, and allowing the centrifugal force generated by rotation to expand the block, the retraction or contraction being effected by springs.

My invention will be fully described hereinafter, and its novel features carefully defined in the claims.

In the drawings which serve to illustrate my invention the holder is shown mounted on a shaft which is supposed to be rotatively mounted and driven by suitable mechanism.

Figure 1 is a longitudinal section of the block or holder, taken on the plane indicated by line 1 1 in Fig. 2. Fig. 2 is a transverse section taken in the plane indicated by line 2 2 in Fig. 1. Fig. 3 is a side elevation on a scale one-half that of the other views. Fig. 4 is a fragmentary perspective view of the core of the block.

Let X represent the shaft referred to above, on which the expanding block is mounted. The holder herein shown is designed for use in pouncing convex-crowned hats.

A represents what I will call the "core" of the block. It is cylindrical in form, or it may be polygonal, and has a bore through its axis to fit and receive shaft X. In its outer end is screwed a boss, *a*, through which passes a screw, *b*, which screws into the end of the shaft X, and thus serves to secure the core firmly but removably to the shaft. In the face of the core A are formed a number of grooves, *a'*—eight as herein shown—which extend lengthwise of the core its entire length and extend into the body of the core radially. There is also a circumferential groove, *a''*, in the core. (Seen best in Fig. 4, but indicated in dotted lines in Fig. 1.) This core might be a solid cylinder, bored and grooved as described; but to lighten it I cast it with recesses, as seen at *y y* in Fig. 4.

B B' B'', &c., are eight segments, which, when put together, make up the shell or exterior portion of the expanding block. Each of these sections of the shell has an inwardly-projecting rib or flange, *b b' b''*, &c., which stand radial to the core A and are dressed off to fit accurately in the several longitudinal grooves *a'* in the core. This arrangement is best shown in Fig. 2. In each rib *b b'*, &c., is fixed a short pin, *c*, the ends of which project a little way from the faces of the rib and engage and fit the circumferential groove *a''* in the core when the section of the shell is in place. These pins or studs should fit nicely in groove *a''*, as their function is to prevent any endwise movement of the sections on the core. Any other stop device that will prevent endwise movement of the sections, but allow free radial movement, may be employed.

C C' C'', &c., are wedges inserted in the grooves *a'* in the core A. Their straight edges rest against the bottoms of the grooves and their inclined outer edges rest against the inner beveled or inclined edges of the ribs *b b'*, &c., on the several sections B B', &c., of the shell. It will be obvious from inspection that if the wedges C C', &c., be all driven in

simultaneously, the shell of the block will be uniformly expanded by the sections of the shell being all driven out uniformly by the wedges. As a means of operating the wedges  
5 simultaneously, I employ a sleeve, D, mounted loosely on the shaft X, and provided with a circumferential groove, *d*, to receive tongues or projections *c* on the several wedges.

The sleeve D may be shifted to and fro on  
10 the shaft by an ordinary forked lever made to engage a circumferential groove, *f*, in the sleeve. Such levers are in common use for shifting clutches, and I have not deemed it necessary to show one here. When centrif-  
15 ugal force is relied upon to expand the holder, the wedges may be omitted; or, if in the holder, they may be ignored in the operation of pouncing.

In order that the holder may contract auto-  
20 matically when the wedges are withdrawn, I provide two elastic bands or rings, *g* and *h*, to hold the sections of the shell in place. These may be endless spiral springs. The band *g* passes through holes in the several ribs *b b'*,  
25 and the band *h* engages hook-like projections on the said ribs. The band *g* might also engage hooks on the ribs or shell-sections instead of being passed through holes in the same. This construction is indicated by dotted  
30 lines at *z* in Fig. 1. The dotted lines at *z' z'* in Fig. 1 indicate the form the shell-sections will have in a holder for hats with flat crowns.

On the screw *b<sup>x</sup>* is formed a flange, *b'<sup>x</sup>*, over which take the ends of the shell-sections that  
35 form the hat-crown. The ends of the sections abut against the head of the screw.

In order to prevent the wedges C C' from being entirely withdrawn, I prefer to provide two of them—say C and C'—each with a re-  
40 cess, *i*, in its inner edge, and to fix a stud, *j*, in the core A at the bottom of the groove *a'* to engage said recess. The endwise movement of the wedge is thus limited to the length of said recess.

The boss *a* is made separate from the core A merely for convenience in boring out and finishing the core. It might be integral there-  
45 with.

When the holder is not rotatively mounted,  
50 or when the rotary velocity is not sufficient to generate the necessary centrifugal force to expand it, the operator slips a hat on the holder and forces in the wedges until the holder is expanded to fit the hat snugly and hold it  
55 against slipping; but it must be understood that my holder is only designed to hold a hat for pouncing, and is not for blocking and stretching a hat. Consequently it is essential that the holder shall nearly fit the hat before it  
60 is expanded, and this requires a very slight expansion to make it fit and hold the hat. Indeed, the expansion should never be so great that the interstices between the sections of the holder will exceed in width the thickness of  
65 the material of the hat, or it will be impossible to properly pounce the entire surface. In pouncing, the shaft X, which is rotatively

mounted, has the proper rotary motion im-  
parted to it by suitable machinery, as stated. This machinery forms no part of my present  
70 invention.

I am well aware that blocks for blocking and stretching hats and not rotatively mounted have been made up in sections somewhat simi-  
75 lar to my holder and provided with expanding wedges. Such a block is shown in the patent of Eickemeyer, No. 141,338, dated July 29, 1873. This I do not claim. Such blocks are designed for and employed for a purpose  
80 entirely different from that of my holder. They stretch, shape, and form the hat. My holder is not for blocking, and expands only enough to fit tightly in the previously-blocked hat and hold it while being revolved and  
85 pounced. I show my holder (see Fig. 2) as having in transverse section the oval form of a hat-body when finished; but when the pouncing is effected before the final blocking of the hat, and when the hat-body has the form  
90 of a cylinder, the holder will of course have the same form.

Having thus described my invention, I claim—

1. An expanding holder for a hat, constructed to fit into the previously-blocked hat and  
95 adapted to hold the hat while being pounced by frictional contact with the inner surface of the same.

2. An expanding rotatively-mounted holder for a hat, constructed to fit into the previously-  
100 blocked hat and adapted to hold the hat by outward expanding pressure against the same, whereby frictional contact is produced.

3. An expanding rotatively-mounted holder for a hat while the latter is being pounced,  
105 composed of a core and a shell made up of radially-movable sections free to be thrown outward by centrifugal force, substantially as set forth.

4. An expanding rotatively-mounted holder  
110 for a hat while it is being pounced, composed of a core, a shell made up of radially-movable sections free to be thrown outward by centrifugal force generated by rotation, and springs for automatically contracting said holder after  
115 its expansion.

5. A holder for holding a hat while it is being pounced, comprising a shell composed of sections having internal ribs, a core having a  
120 bore to receive a shaft which carries the holder, and longitudinal grooves *a'* to receive the ribs on the sections of the shell, wedges arranged in said grooves *a'* and under the ribs on the sections of the shell, and springs to hold  
125 said sections up elastically to said wedges, all arranged substantially as set forth.

6. The combination of the core A, provided with longitudinal radial grooves *a'*, the sec-  
130 tions of the shell, each provided with a rib on its inner face to engage a groove, *a'*, in the core, and said ribs having beveled inner edges, the wedges arranged in the grooves *a'* of the core under the beveled edges of the ribs, the springs *j* and *h*, of ring-like form, arranged to

clamp the sections together elastically, the shaft secured in the core, and the collar D, mounted to slide on the shaft and coupled to the expanding wedges, substantially as set forth.

5 7. The combination, with the core A, provided with the radial grooves  $a'$  and the circumferential groove  $a^2$ , of the shell, made up of sections and having the exterior contour of  
10 a hat-body, and each section of the shell pro-

vided with a rib to fit in a groove,  $a'$ , of the core, and a pin or stud,  $c$ , to engage the groove  $a^2$  in the core, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing  
15 witnesses.

ANDREW CAMPBELL.

Witnesses:

HENRY CONNETT,  
FRANK MOULIN.