

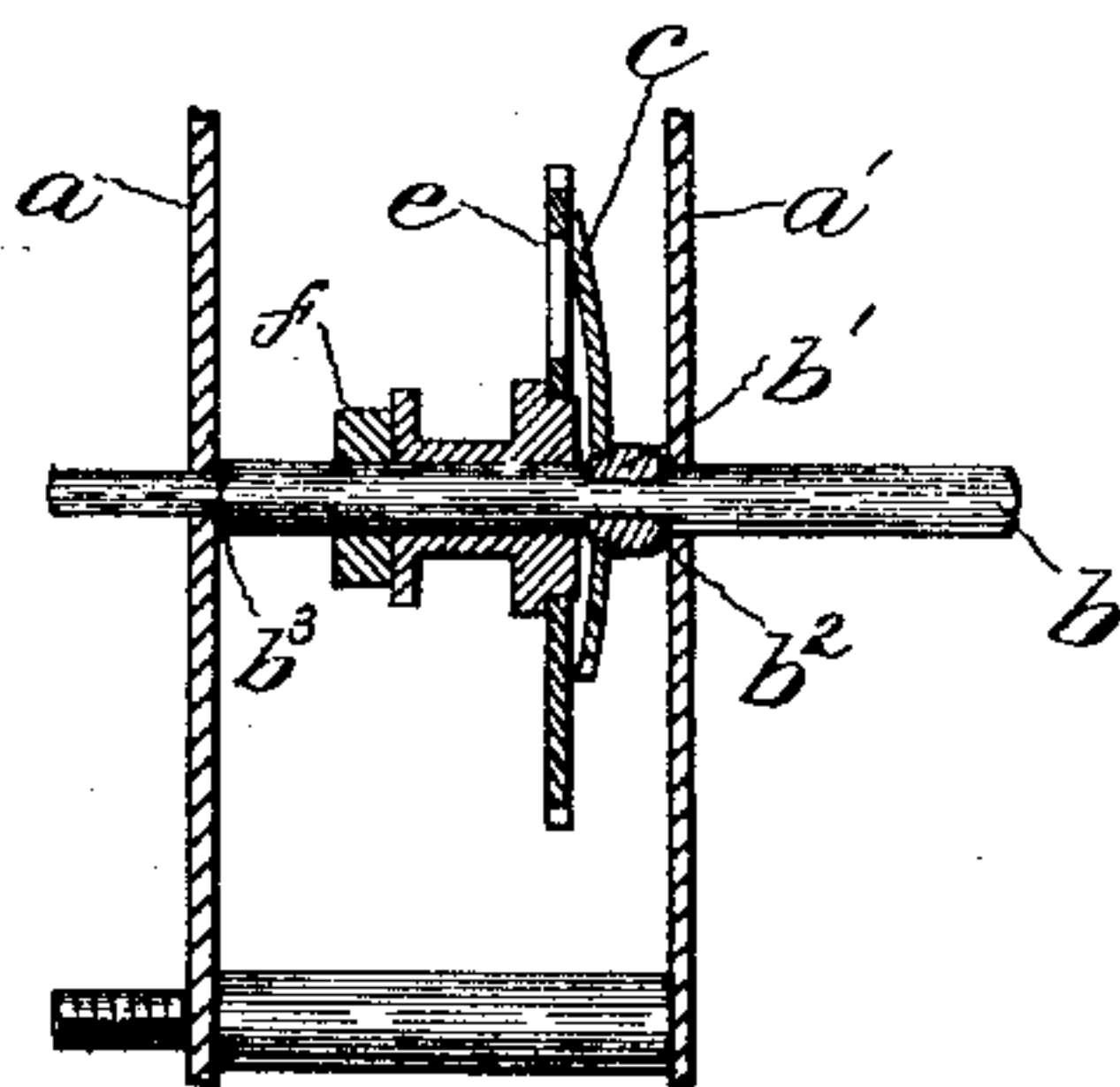
(No Model.)

T. W. R. McCABE.  
CENTER ARBOR FOR CLOCKS.

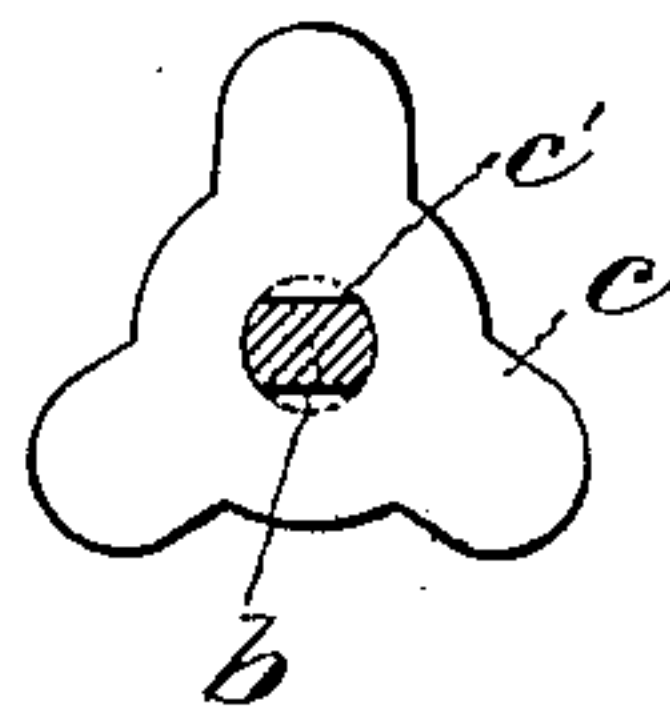
No. 598,055.

Patented Jan. 25, 1898.

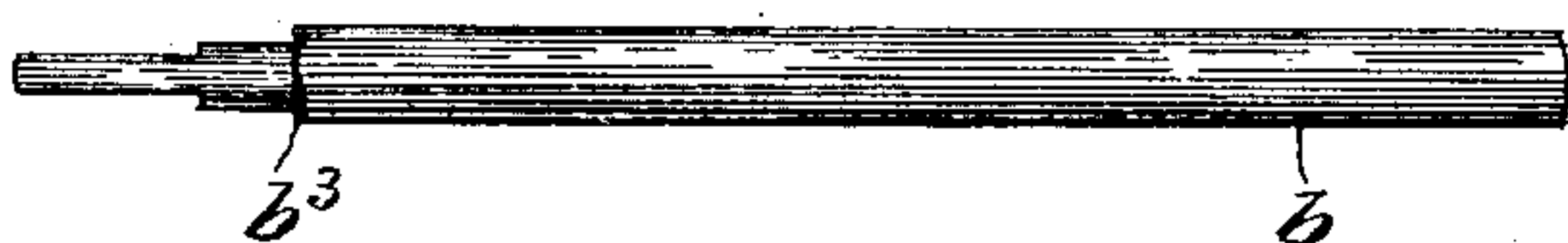
*Fig. 1.*



*Fig. 2.*



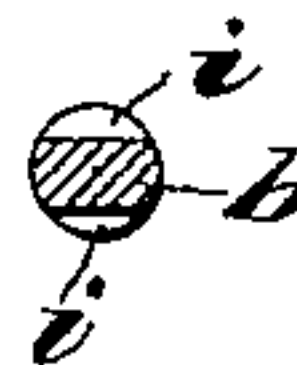
*Fig. 3.*



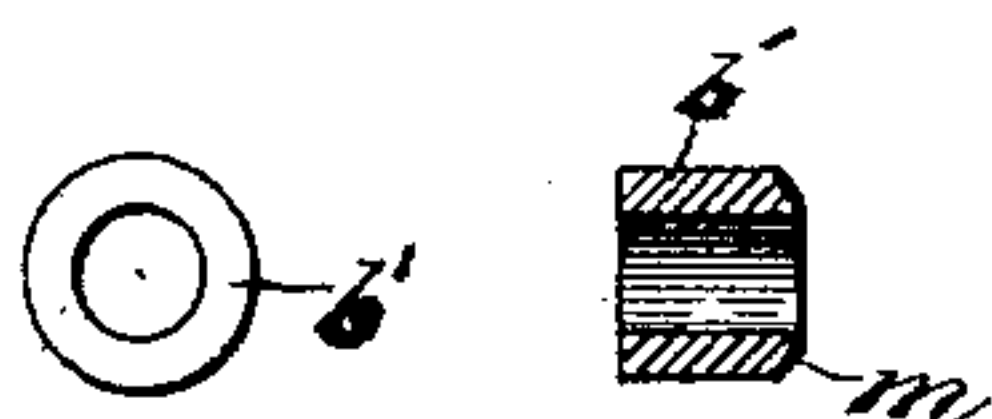
*Fig. 4.*



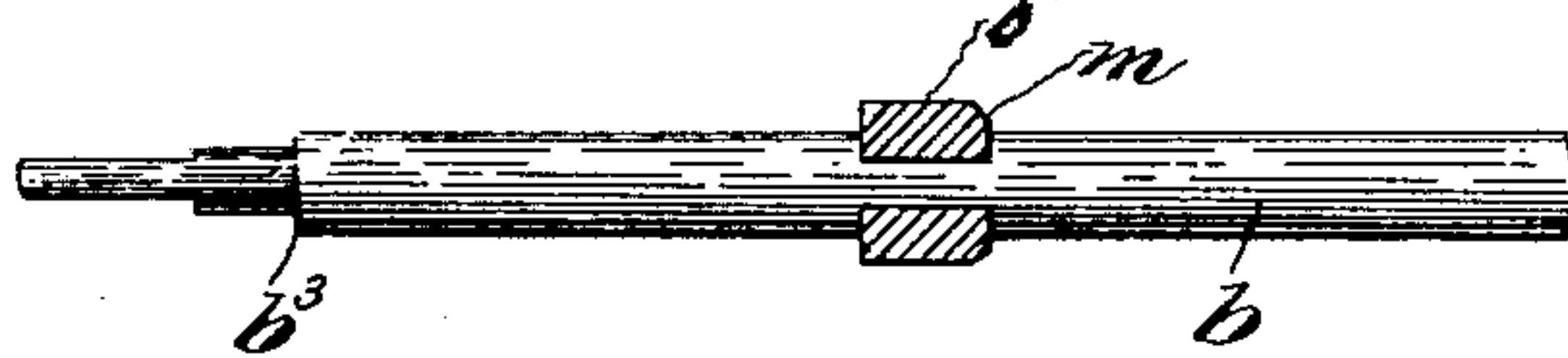
*Fig. 5.*



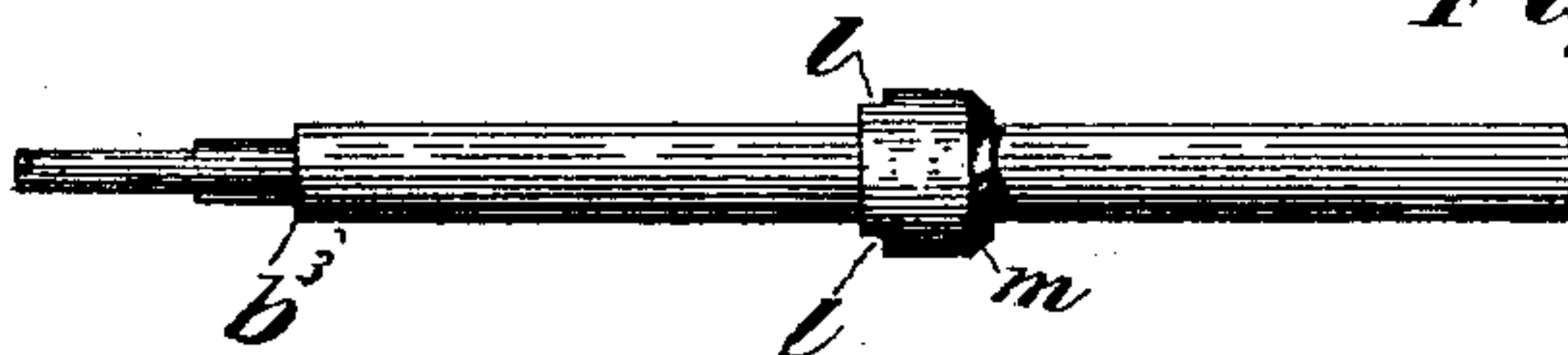
*Fig. 6.*



*Fig. 7.*



*Fig. 8.*



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# UNITED STATES PATENT OFFICE.

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## CENTER-ARBOR FOR CLOCKS.

SPECIFICATION forming part of Letters Patent No. 598,055, dated January 25, 1898.

Application filed June 26, 1897. Serial No. 642,522. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS W. R. McCABE, a citizen of the United States, and a resident of the town of Winsted, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Clock-Centers, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide an improved center for a clock-train which shall possess all of the advantages of prior centers and be capable of all the uses to which this article is put in a clock mechanism; and to this end my invention consists in the combination of the several parts making up the center as a whole, as hereinafter described, and more particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a view in side elevation of part of the clock-train, showing a clock-center and gear-wheel with parts broken away to show construction. Fig. 2 is a view in elevation of the spring which forms the frictional connecting means between the gear-wheel and the clock-center. Fig. 3 is a view of the center-blank. Fig. 4 is a side view of the blank, showing one means of providing a collar-seat. Fig. 5 is a view in cross-section through the collar-seat. Fig. 6 is an end view and also lengthwise section of the collar. Fig. 7 shows the center with the collar in section and slipped upon the center. Fig. 8 is a view of the center, showing the collar in section after it has been forced to its seat, turned to shape, and squared to receive the spring.

In the accompanying drawings the letters  $a$   $a'$  denote the front and rear plates of a clock-frame which is connected and held together by suitable posts in the usual manner and is provided with a center  $b$ , mounted in the usual bearings in the frame.

The clock-center  $b$  is provided with an enlargement  $b'$ , located near the front plate  $a'$  of the frame and having a shoulder  $b^2$  in contact with the rear surface of the plate to prevent lengthwise movement of the center toward the front plate. A similar shoulder  $b^3$ , located against the inner face of the back plate  $a$  of the frame, prevents lengthwise

movement of the center in the opposite direction. On this center is mounted a spring  $c$ , held against rotary movement and pressing against the enlargement  $b^2$  on the center, which forms an abutment, and against the face of the gear-wheel  $e$  in the opposite direction, the said spring forming a frictional connecting means between the clock-center  $b$  and the gear-wheel  $e$  of the time-train of the clock. The spring is removably secured to the center by slabbing off the sides of the enlargement  $b'$ , so as to form an oblong figure with rounded ends, to which the walls of the opening  $c'$  through the spring  $c$  closely conform. The spring is slipped onto the center and attached to it by the means described, so that it is held against rotation on the center, and the gear-wheel then slipped upon the center until the spring thrusts against its face with the proper degree of pressure and is then held in that position by means of a collet  $f$ , which is forced upon the center and secured against either rotary or lengthwise movement thereon. The collet presses against the hub of the gear-wheel or of the pinion attached to or formed thereon, the said wheel and pinion being free to rotate on the center except as retarded by the frictional hold of the spring  $c$ . The object of this construction of the center and of the frictional connecting means between the center and the gear-wheel of the time-train of the clock is to permit a rotary movement of the center independent of the time-train for the purpose of setting the minute-hand, which is borne on the center, without disturbing the time-train.

In the prior art a clock-center such as above described is made by turning down a piece of stock of a diameter equal to or slightly greater than the largest diameter through the enlargement on the center and thus forming the several shoulders, the enlargement being afterward cut or slabbed to provide the attaching means for the spring.

In the practice of my invention I use a cylindrical piece of stock, forming an arbor, and at the point where the enlargement is to be located make the arbor of irregular outline, preferably by cutting sockets  $i$  in the opposite faces of the wire and of a length to receive a cylindrical collar  $b'$ , which fits snugly



on the arbor, but is adapted to be compressed upon it by means of dies, so that the collar *b'* is held securely on the arbor against lengthwise or rotary movement. This collar is then  
5 turned to proper shape and form and sockets *l* formed, as by slabbing off opposite faces of the enlargement on the side which is intended to receive the spring. The outer end of the enlargement is rounded or beveled, as at *m*,  
10 so as to reduce the surface of the shoulder which is in fractional contact with the inner surface of the front plate *a'* of the clock-frame.

By constructing the improved center as  
15 above described its cost is so greatly reduced as to enable the clock containing it to be sold at a reduced price, which is forced upon the trade by the sharp competition in this line, and thus makes the improvement an impor-  
20 tant one in the art.

I claim as my invention—

1. In combination in a clock-center, an arbor having a recess, a sleeve fitted upon the arbor and compressed into the recess and  
25 formed to shape with sockets to receive a spring, all substantially as described.

2. The improved clock-center comprising an arbor having a portion of irregular out-  
30 irregular portion of the arbor, and having

crosswise shoulders engaging crosswise shoulders on the arbor whereby endwise movement of the parts on each other is prevented, said sleeve being turned to shape and provided with a spring-socket on one end, all  
35 substantially as described.

3. The improved clock-center comprising an arbor having a portion of irregular outline both in cross and longitudinal section, a sleeve secured to said irregular portion of the  
40 arbor whereby rotative and longitudinal movement of the parts each on the other is positively prevented, a pinion secured to the arbor adjacent to the collar, and a spring mounted on the collar and pressing against  
45 the pinion, all substantially as described.

4. The improved clock-center comprising an arbor with recesses on opposite sides forming an irregular outline, a sleeve fitted upon the arbor at the recessed portion and held  
50 therein against rotary and lengthwise movement, one end of this collar being provided with a spring-socket whereby a spring may be removably attached thereto, all substantially as described.

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