

E. Field,

Making Watches

N^o 20,942.

Patented July 20, 1858.

Fig. 1

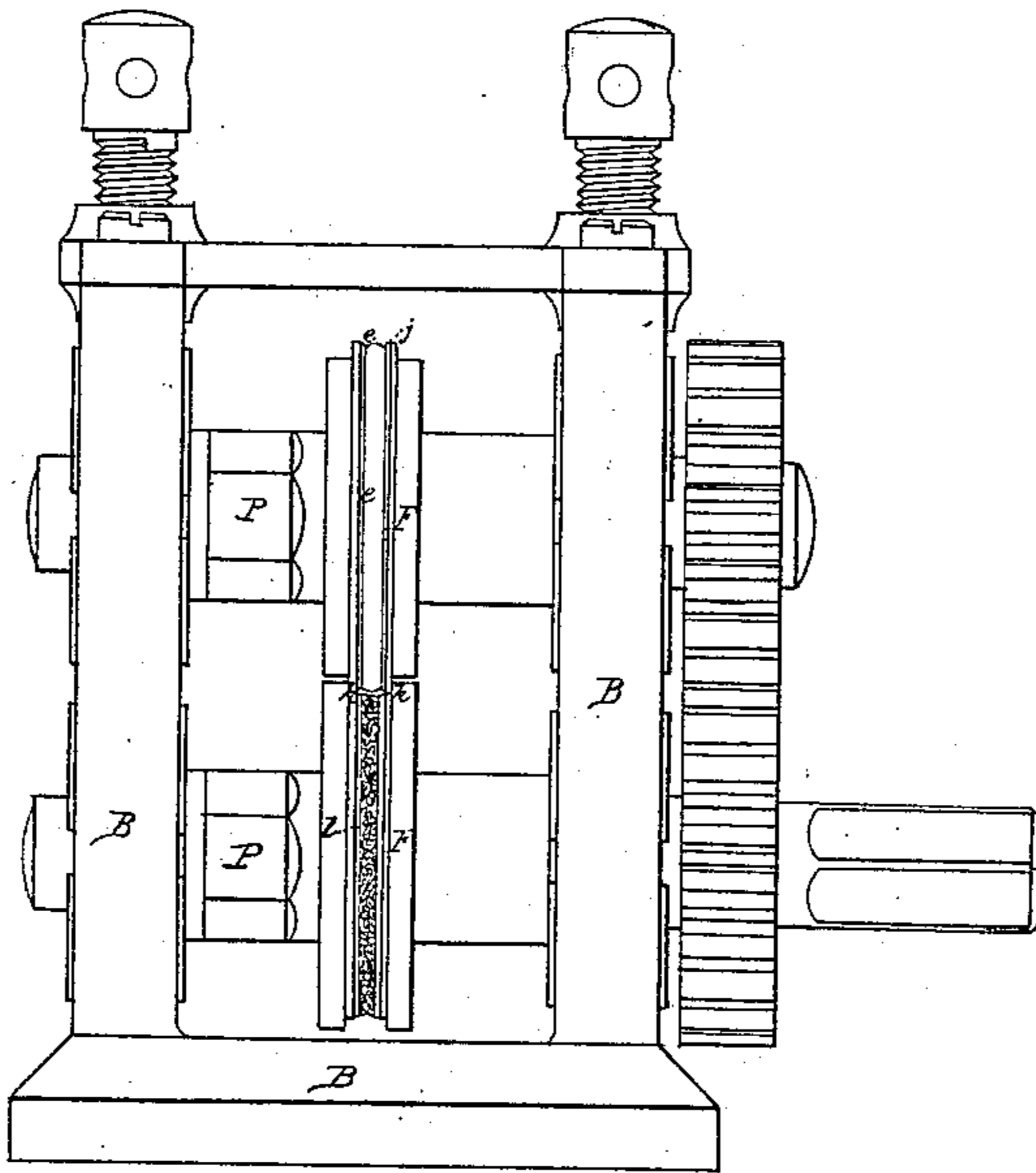
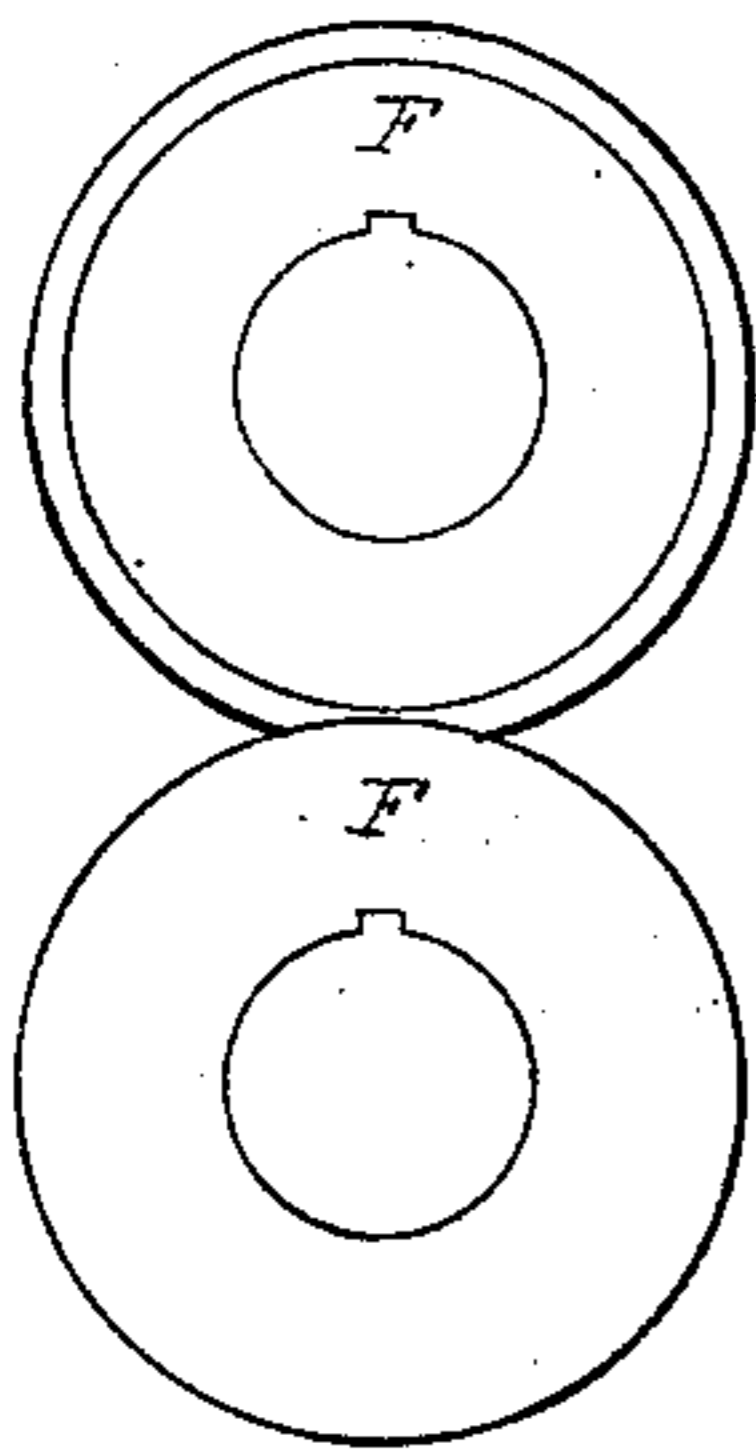


Fig. 2

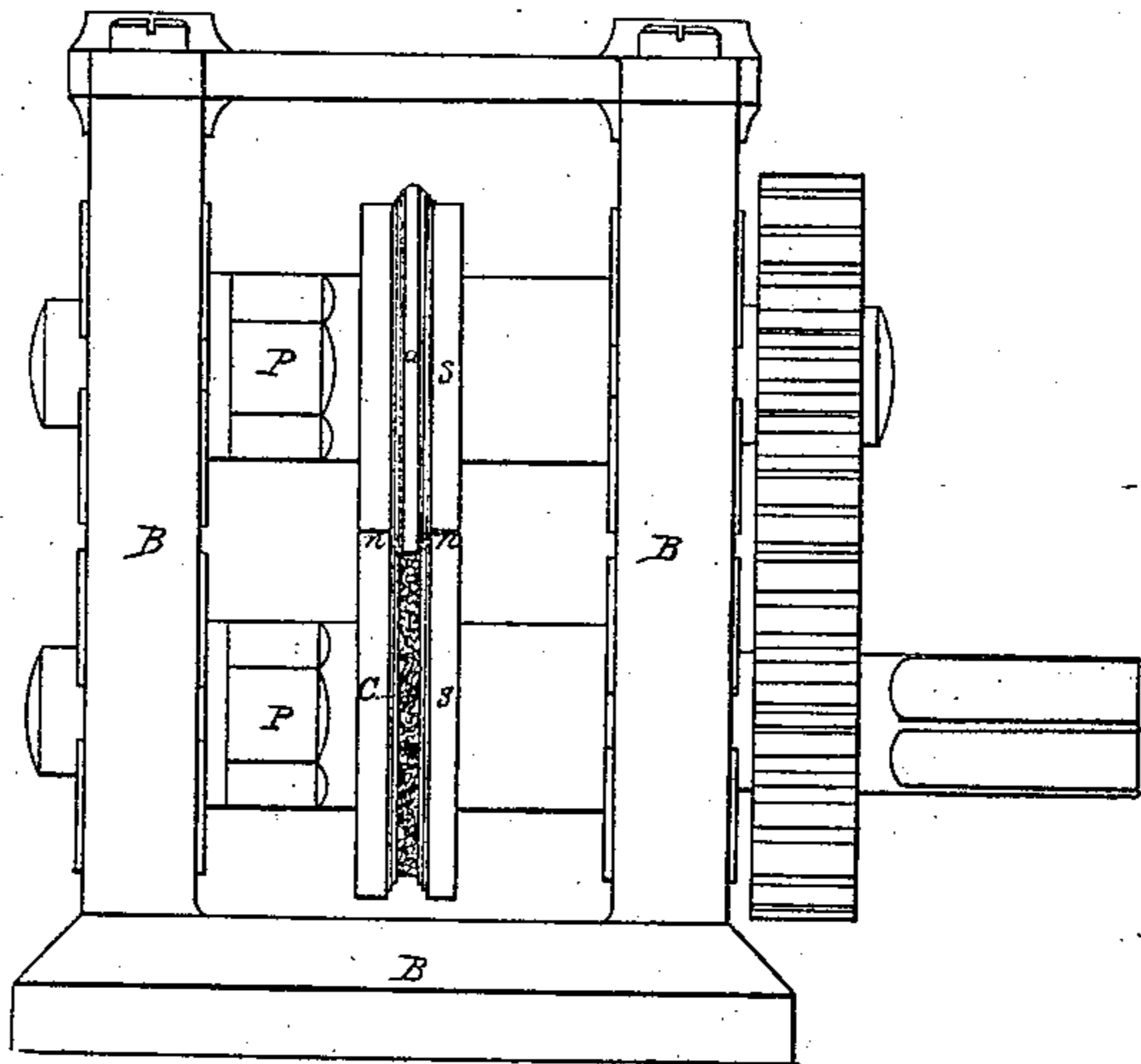
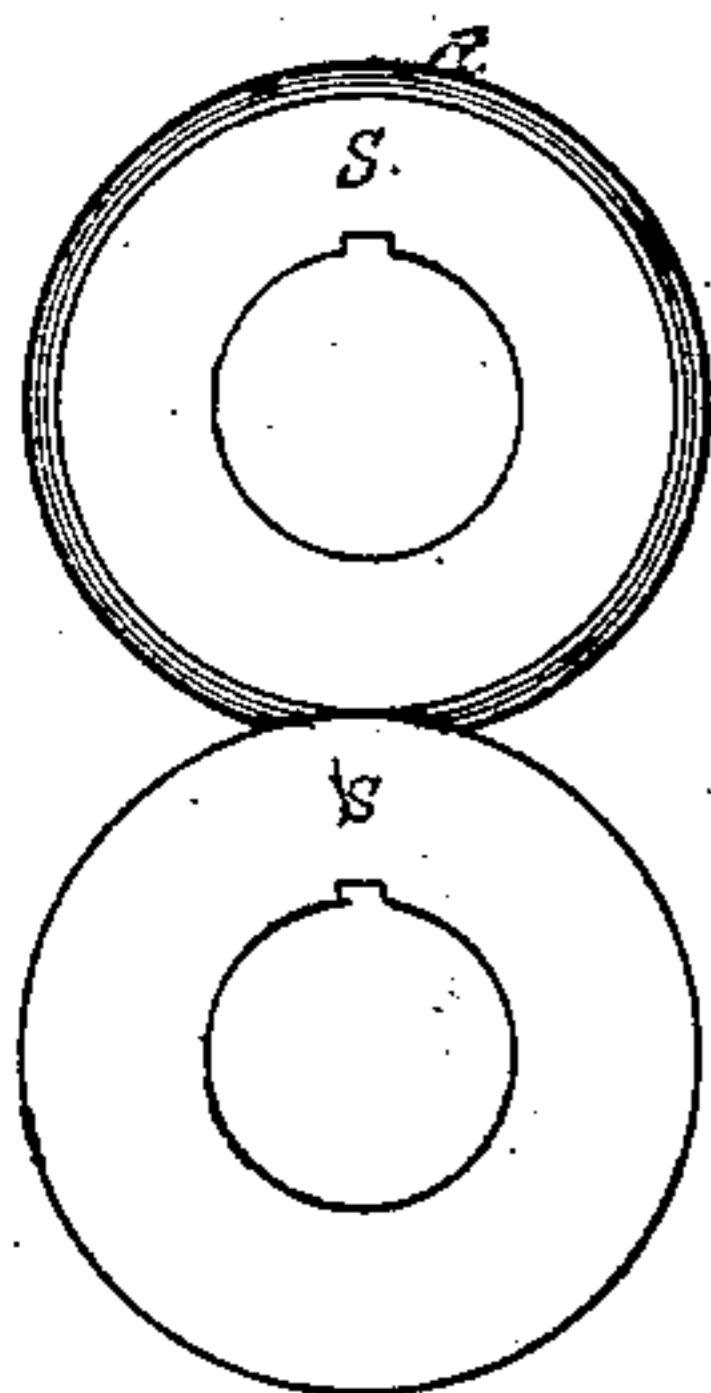
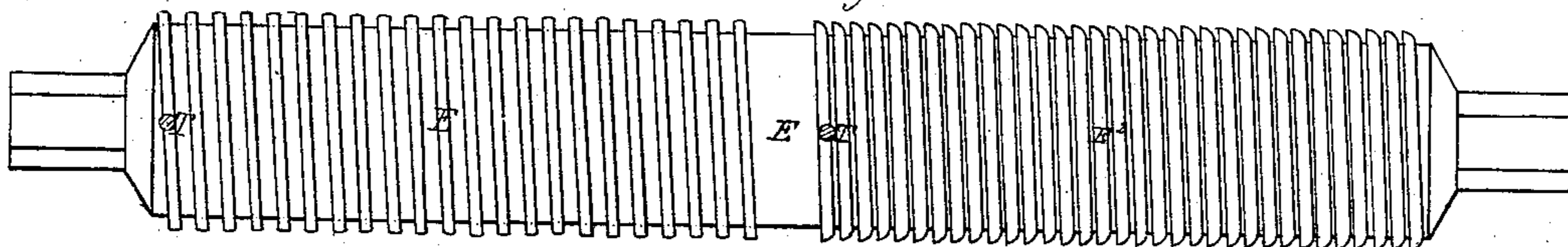


Fig. 3



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

EDWIN FIELD, OF PROVIDENCE, RHODE ISLAND.

MAKING WATCHCASES.

Specification of Letters Patent No. 20,942, dated July 20, 1858.

To all whom it may concern:

Be it known that I, EDWIN FIELD, of Providence, in the county of Providence and State of Rhode Island, have invented a new and Improved Method of Working Both Plated and Solid Stock for Watchcases, Locket, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1, is a side elevation of the frame and rolls for drawing the bezel stock. Fig. 2, is a side elevation of the rolls for drawing the center stock. Fig. 3, is a longitudinal view of the mandrel for coiling the stock after the drawing is completed and for giving the proper bevel to the bezel stock.

The same letters refer to like parts in the different figures.

The nature of my invention consists, first, in the peculiar formation of the face of the rolls, by means of which the stock is delivered in a finished state requiring thereafter no turning or reducing size or form. Second, in imparting a circular form to the stock, after it has passed through the rolls and the proper incline or bevel to the bezel stock by coiling the same upon a screw mandrel the threads of which are properly formed to receive it.

By the method hitherto practiced in casing watches, etc., the stock is first rolled to a proper size and thickness, after which a piece of sufficient length is turned up into a ring the ends jointed and soldered together. The ring thus formed is turned in a lathe upon its entire inner and outer surface to the required form and size. It is then ready to receive the chasing or other ornamental work. The incline or bevel is given to the bezel stock in this operation by forcing the soldered ring into a cup-shaped die, by successive blows of a mallet upon a metal punch or former, after which it is turned to its proper form as before described.

It is evident that the operation of turning in the above method confines its practice almost exclusively to solid stock, and that the working of plated stock must be accomplished by some different process. The only approach to the attainment of this end has been to form the bezel of stock plated upon the outside only, which receives its proper form in passing through the rolls; in

this however sufficient stock is left upon the inside for turning to its proper size, and for the formation of the groove for the crystal and the snapping edge or lip, and is made to appear like the outside-plated surface by gilding, but so far as my knowledge and observation extends a watch-case or locket from stock plated on both sides within and without has not hitherto been produced.

The particular object in view, therefore in my invention is the production of full plated finished stock for watch cases, lockets, etc., direct from the rolls, requiring thereafter no turning or other operation and also to simplify and facilitate the operation in working solid stock.

To enable others skilled in the art to make use of my invention, I will proceed to describe its construction and operation.

B B, &c., is the frame of cast iron constructed in the ordinary manner, in the upright jaws of which are mounted two shafts in suitable brass boxes, which (shafts) revolve in connection with each other by means of two gears thereon and are adjusted by screws at the top of the jaws, in the usual manner.

The shafts are prevented from moving endwise and retained in their proper position by the shoulders of the bearing, the length of the bearing corresponding with the thickness of the box in which it turns.

F, F, S, S, are the rolls of cast steel, firmly secured upon the two shafts between the two bearings of the same, by suitable nuts *p, p*. The faces of each (roll) are turned and otherwise wrought into the required form and proportion for delivering the stock in a finished state. In those for drawing the center stock S, S, (Fig. 2) the lower one is formed with four V edges, for producing (in a hunting case) the snapping edges or lips upon each side of the center which is ornamented in any required pattern from the design wrought upon the surface C, of the (lower) roll. The space between the groove surface in the lower roll and the raised surface and face of the upper roll determines the thickness and width of the stock and center. The raised surface *d*, on the upper roll, forces the metal into the wrought surface of the groove in the lower roll; the width of the center (stock) being determined by the plane surfaces of the groove in the lower roll, at *n, n*.

In the rolls for forming the bezel stock

F, F, (Fig. 1,) the face of the lower roll is turned to a form corresponding with that required for the outside of the bezel, and may be wrought upon the surface *l*, in any suitable design.

The upper roll is turned to the form required for the inside of the bezel, the groove *e*, forming the snapping lip, and the V edge *j*, in connection with the groove *f*, opposite in the lower roll—forms the groove in the stock for the crystal, the width of the (bezel) stock, being determined by the plane surfaces *h*, *h*.

The stock is coiled upon the mandrel E, (Fig. 3,) after it is delivered from the rolls, by inserting one end of the same in the hole T, or any other well known and suitable device for holding or gripping the stock, and revolving the mandrel slowly in a lathe, the center stock is made to stride and wind upon the thread at E¹, which are of a form and width corresponding with that of the raised surface *d*, on the upper roll (Fig. 2) and sufficiently raised from the body of the mandrel to prevent the projecting lips upon each side of the stock from bearing thereupon. This operation stretches the stock upon its outside surface, while the lips upon each side of the center are preserved in perfect form transversely, and at the same time made to conform in respect to circumference with the center. The bezel stock is coiled in the same manner, the grooved edge winding upon the bottom of the threads and the snapping lip upon the top or outside circumference of the same at E², which are

of the form and proper incline required in the bezel. This operation stretches the stock upon the edge occupied by the snapping lip, while the grooved edge, is turned or laid over against the body of the mandrel at the bottom of the threads in such a manner as to effectually secure the crystal from falling out.

I do not claim broadly, any peculiar formation of the faces of rolls, whereby metallic stock generally may be delivered therefrom finished in its required form. Nor do I claim any peculiarity of form thereof, for working gold or other plated stock exclusively; or for delivering such stock in any required form or shape, in a finished state direct from the rolls. Nor do I restrict myself to the precise form herein described, to the exclusion of another, or more perfect one for the purpose.

I claim—

1. The use of the rolls S, S, in connection with the rolls F, F, constructed and operating as specified.

2. I claim the peculiar shaped threads E¹, E² of the mandrel E, to prevent flattening and for properly stretching the center stock in coiling the same in the first instance (E¹) and for shaping and imparting a proper incline to the bezel stock in the second instance (E²).

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Witnesses:

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