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PATENTED APR. 28, 1908.

F. R. COATS.  
JEWEL AND PIVOT GAGE.  
APPLICATION FILED AUG. 9, 1907.

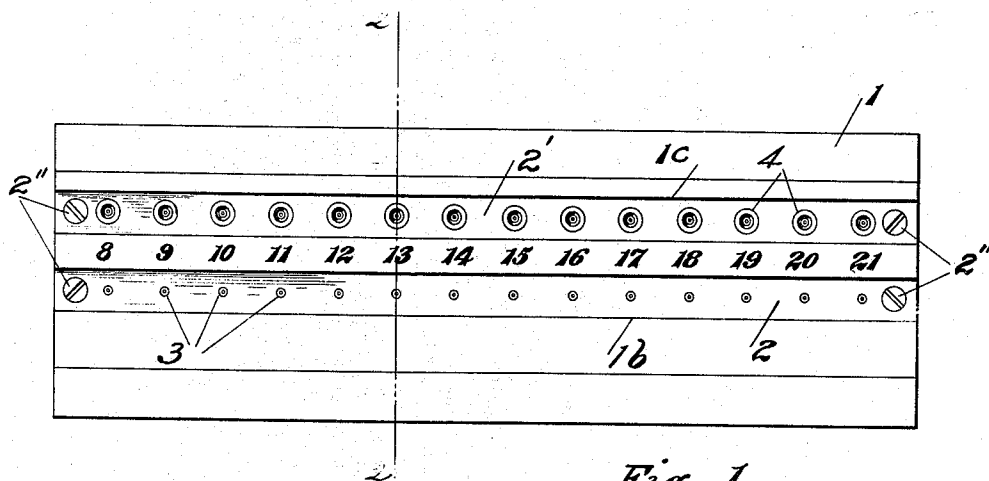


Fig. 1.

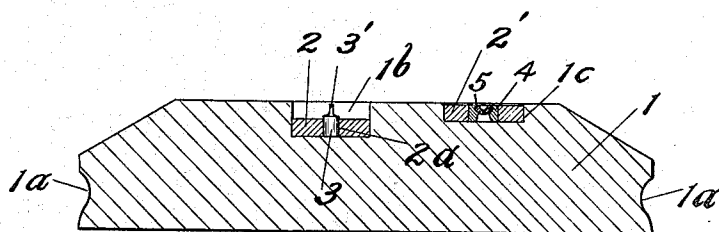


Fig. 2.

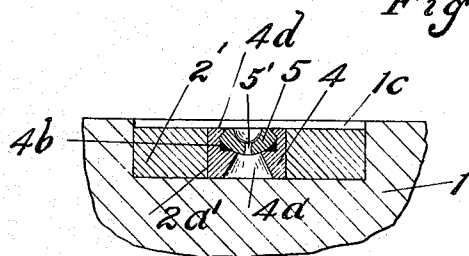


Fig. 3.

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# UNITED STATES PATENT OFFICE.

FRED R. COATS, OF SPRINGFIELD, ILLINOIS.

## JEWEL AND PIVOT GAGE.

No. 885,838.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed August 9, 1907. Serial No. 387,943.

*To all whom it may concern:*

Be it known that I, FRED R. COATS, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Jewel and Pivot Gage, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use my said invention.

This invention relates to gages such as are used by watch makers and repairers to ascertain the diameter of a pivot corresponding to the hole of a given jewel, or to ascertain the size of the hole of a jewel corresponding to a pivot of given diameter.

The purpose of this invention is to provide a gage equipped with a number of pivots of standard sizes, and a corresponding number of jewels of standard sizes, and provided with designations indicating the different sizes of pivots and corresponding jewels.

My invention consists in the novel features of construction and combinations of parts shown in the annexed drawing to which reference is hereby made, and hereinafter particularly described and finally recited in the claims.

Figure 1 is a top plan on an exaggerated scale of the complete device; Fig. 2 is an enlarged vertical transverse section on the line 2 2 of Fig. 1. Fig. 3 is a greatly enlarged vertical transverse section through one of the jewels, its setting, and the retaining plate.

Similar reference numerals and characters designate like parts in the several views.

The block 1 is of wood and has in its edges longitudinal grooves 1<sup>a</sup>, to facilitate the handling of the instrument and longitudinal channels 1<sup>b</sup> and 1<sup>c</sup> accommodating the retaining plates.

The retaining plates 2 and 2' are of brass or other suitable material and are secured by screws 2'' in the channels 1<sup>b</sup> and 1<sup>c</sup> respectively.

Vertical, cylindrical, steel posts 3 fit tightly in holes 2<sup>a</sup> in the retaining plate 2 and each post has a hardened and ground pivot 3'. The pivots 3' vary in size, from size 8 (standard jeweler's gage) to size 21, as indicated by the designations 8 to 21 inclusive, inscribed on the upper surface of the block between the channels.

The jewel settings 4 are of brass, or other suitable material, and fit tightly in holes 2<sup>a'</sup> in the retaining plate 2'. Each of the set-

tings 4 has a central conical recess 4<sup>a</sup> extending through the major part of the setting and a recess 4<sup>b</sup> in the upper part of the setting and adapted to accommodate the jewel 5.

The jewels 5 are preferably sapphire and have holes 5' gaged to sizes corresponding to the designations inscribed on the face of the block; and the jewels of the different sizes are located on the block opposite to the corresponding pivot, that is to say, the jewel of "8" gage is opposite to the pivot of "8" gage; the jewel of "9" gage is opposite to the pivot of "9" gage, and so on throughout the entire series of jewels and pivots.

The jewels 5 are secured in the settings 4 by burs 4<sup>d</sup> spun around the upper edge of the jewel.

The channels 1<sup>b</sup> and 1<sup>c</sup> are of such depth that when the retaining plates 2 and 2' are in place and the posts and jewels are mounted thereon; the upper ends of the pivots and the jewels will be slightly below the upper surface of the block and will be protected from injury by articles striking against the jewels or pivots; or by the jewels or pivots rubbing on surfaces which might injure them when the block is inverted.

In practice the artisan wishing to replace a damaged pivot will test the size of the pivot by inserting it in the holes of different jewels until he finds the jewel of the proper size, and the designation adjacent to that jewel will indicate the size of the pivot which he is to use; and in like manner if he wishes to replace a broken or damaged jewel he will test it on different pivots till he finds the pivot fitting the jewel and the designation adjacent to the pivot will indicate the gage of the jewel which he seeks.

The practical advantages of the jewel and pivot gage herein shown and described are that all the measurements conform to the standards generally used by jewel and watch makers; the use of the gage obviates the confusion caused by gages of varying and uncertain standards; and the size of the jewel or pivot may be quickly and accurately determined.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a jewel and pivot gage the combination of a block having longitudinal channels and gage-designations intermediate of said channels, retaining plates fitting in said channels respectively, posts secured on one

of said retaining plates and having pivots of standard gage corresponding to the designations on the block, and jewels mounted on the other retaining plate and having holes  
5 corresponding to the designations on said blocks respectively.

2. In a jewel and pivot gage, the combination of a block having longitudinal channels of a depth sufficient to protect the upper  
10 part of pivots and jewels mounted within the channels of said block and having intermediate designations corresponding to standard gages, a post-retaining plate mounted in one  
channel of said block, posts secured on said  
15 post-retaining plate and provided with pivots corresponding in gage to the designations on said block respectively, the points of said pivots being below the upper surface of said  
block; a jewel-retaining plate fitting in the  
20 other channel of said block, jewels mounted on said jewel-retaining plate and having holes corresponding to the gage-designations on said block respectively, the upper surface  
of said jewels being below the upper surface  
25 of said plate.

3. In a jewel and pivot gage, the combination of a block having longitudinal channels, and intermediate gage-designations, a post-retaining plate secured in one of said channels, posts secured on said post-retaining  
30 plate adjacent to said designations respectively and having pivots corresponding to said gage-designations respectively; a jewel-retaining plate secured in the other channel  
of said block and having holes respectively 35 adjacent to the gage-designations on said block and adapted to accommodate jewel settings, jewel-settings fitting in said holes  
respectively, and jewels mounted on said  
40 jewel-settings and having holes corresponding to the gage-designations on said block respectively.

In witness whereof I have hereunto subscribed my name at Springfield Illinois, this  
6th day of August 1907.

FRED R. COATS.

Witnesses:

FORDYCE W. BROWN,  
W. K. HALE.