

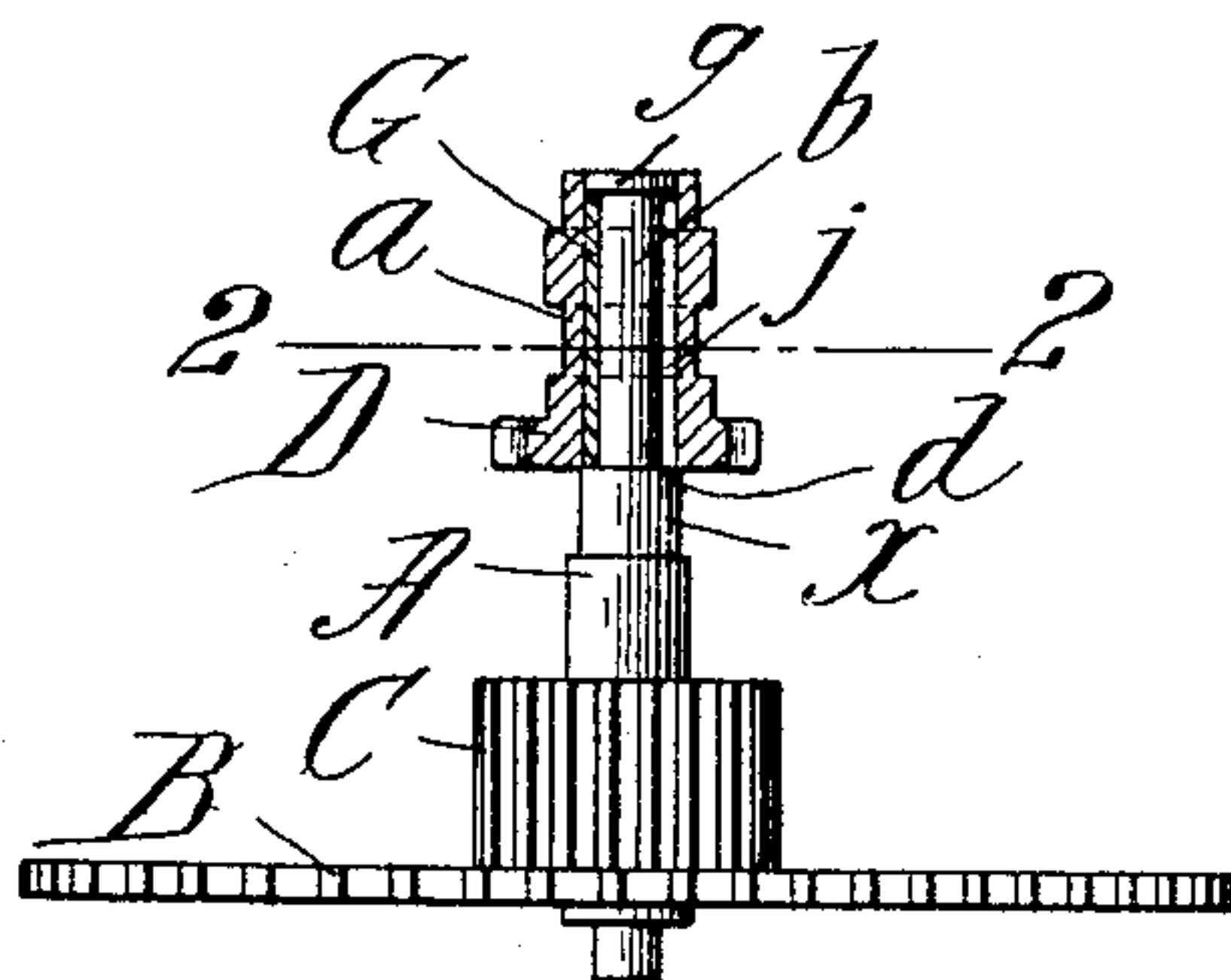
No. 768,289.

PATENTED AUG. 23, 1904.

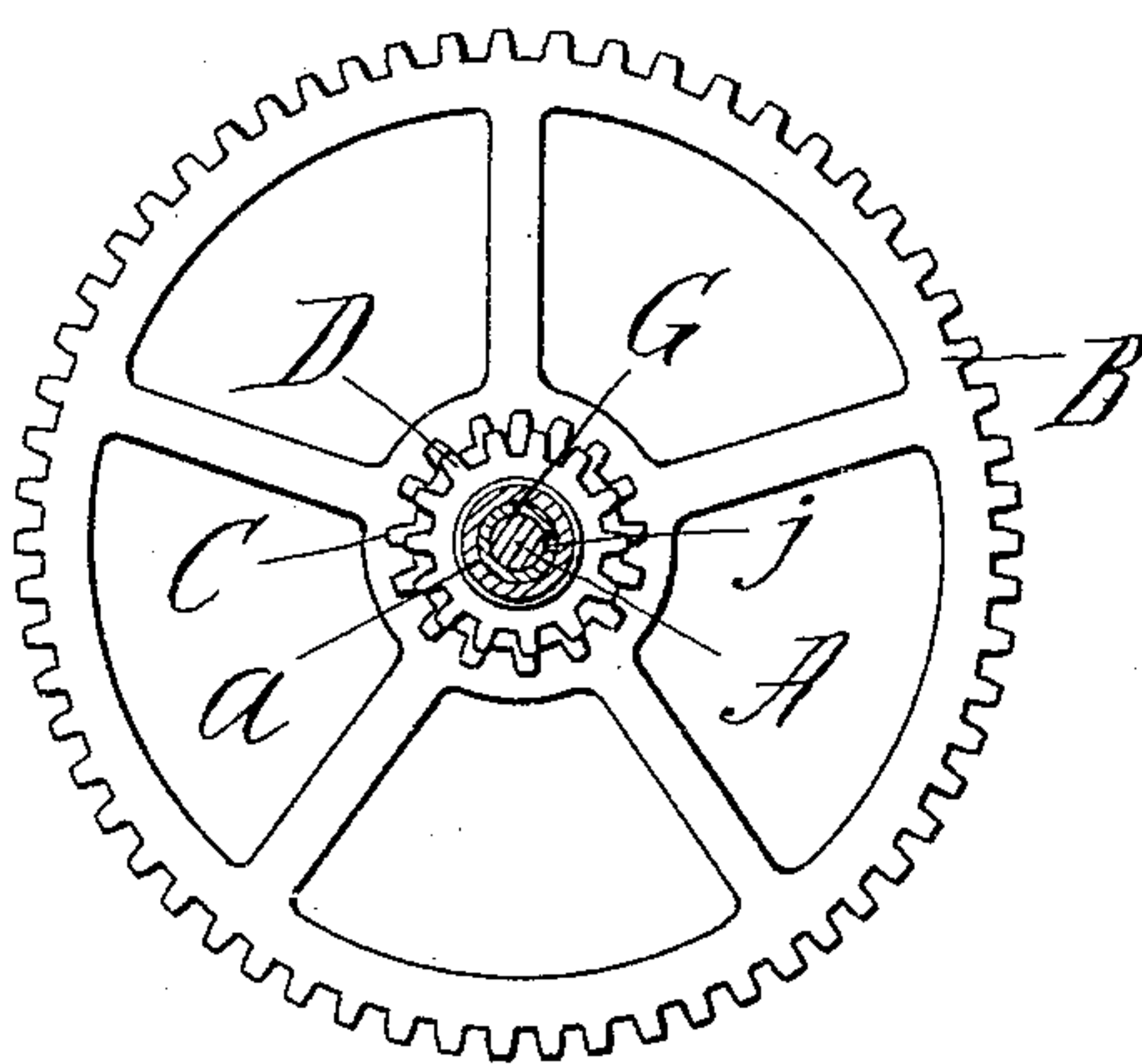
C. KUENZEL.  
CANNON PINION FOR WATCHES.  
APPLICATION FILED MAR. 3, 1904.

NO MODEL.

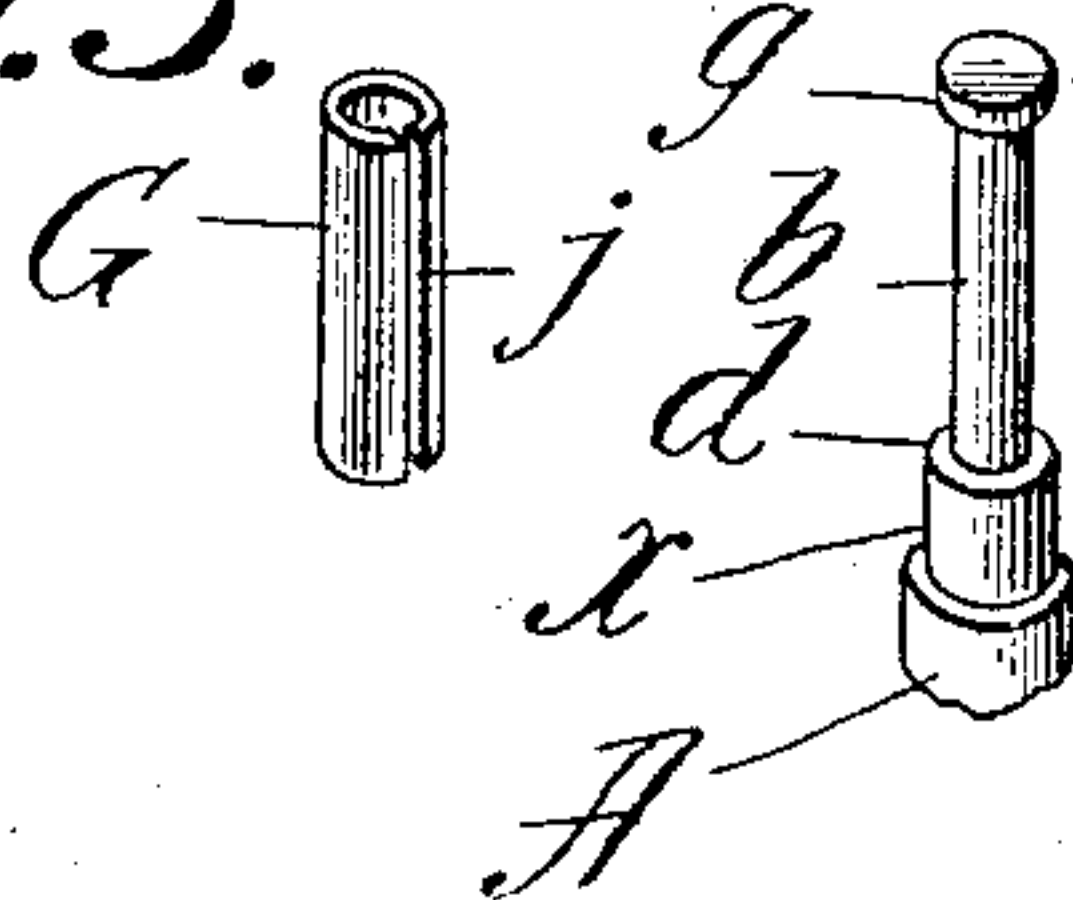
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*

*Witnesses:*

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# UNITED STATES PATENT OFFICE.

CHRISTOPHER KUENZEL, OF SPRINGFIELD, MASSACHUSETTS.

## CANNON-PINION FOR WATCHES.

SPECIFICATION forming part of Letters Patent No. 768,289, dated August 23, 1904.

Application filed March 3, 1904. Serial No. 196,396. (No model.)

*To all whom it may concern:*

Be it known that I, CHRISTOPHER KUENZEL, a citizen of the United States of America, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Cannon-Pinion and Center-Post Connections for Watches, of which the following is a full, clear, and exact description.

This invention relates to improvements in watches, and more particularly to the means of engagement between the cannon-pinion and the center post or arbor of the watch, it being requisite, as well known, that the cannon-pinion shall have such an engagement with the post that it will rotate exactly in unison with the latter to carry the hand around in the running of the watch and yet be capable of a rotary movement independently of the center post to permit hand-setting.

The object of this invention is to provide means of engagement between the center post and the cannon-pinion, whereby the usual conditions and capabilities are established, but which is of unusual simplicity, reliability, durability, convenience in the assemblage and detachment of the parts, and which contributes in securing accuracy of action even after considerable wear has ensued from protracted use.

The invention consists in the combination, with the center post of a watch having a necked portion at its upper extremity with a shoulder therebelow, of a metallic tube split, and thereby rendered expansible and contractible about said necked portion of the post and the cannon-pinion, having an axial bore therethrough and having a frictionable engagement about said split metallic tube.

The improvements are fully and clearly illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the center post, having the detachably-engaged cannon-pinion shown in section in its place thereon. Fig. 2 is a horizontal sectional view as taken on the plane indicated by line 2 2, Fig. 1, and showing parts therebelow in plan view. Fig. 3 is a perspective view of the split metallic expansible and contractible bearing-tube. Fig.

4 is a perspective view of the upper extremity of the center post.

While the parts are illustrated in all of the views on a substantially uniform scale, the degree of enlargement of the actual parts which are microscopic will be understood when it is remembered that in actual practice the center wheel has a diameter of but about half an inch.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, A represents the center post or arbor of the watch-movement, affixed on which are the center wheel B and the center pinion C. The center post has its upper extremity constructed with a cylindrical necked down portion *b*, below which is the shoulder *d* or seat, and the post has another shoulder *g* at its upper end. The intermediate cylindrical portion *x* below the shoulder *d* of the post affords the journal-bearing for the center post through the movement-plate.

D represents the cannon-pinion, which includes the upwardly-extended hub *a*, having a cylindrical bore therethrough of uniform diameter from end to end, said diameter being such as to enable the bore of the cannon-pinion hub to be passed over the top shoulder *g* of the center portion to encircle and inclose the aforementioned necked down portion *b*.

G represents a metallic split sleeve or tube, the cleft *j* being preferably parallel with its axis, and this tube is capable of being expanded so as to be crowded over the top shoulder *g* of the post and to react and become constructed firmly and with a frictional engagement about the necked down portion *b*, this split tube having a length equal to the distance between the shoulders *d* and *g*, which latter keep it against endwise lash relatively to the post, and the external diameter of the split tube is such as to receive the cannon-pinion thereabout with a frictional engagement, so that the pinion may be rotated independently of the post when the friction is overcome, and in such a case the elastic tube will turn with the pinion and relatively to the post, owing to the fact that the increased external surface of the tube gives a greater frictional surface than is present between the in-



ner wall of the tube and the contracted portion of the post. The split sleeve may be produced practicably, satisfactorily, and cheaply by drawing a hollow wire of uniform diameter and with a continuous longitudinal seam 5 and cutting the same into sections having lengths equal to the distance between the center-post shoulders  $d$  and  $g$ .

Having thus described my invention, what 10 I claim, and desire to secure by Letters Patent, is—

The combination of the center post of a watch having a necked portion at its upper extremity, and provided with a shoulder at the 15 base of said necked portion, and with a shoulder at its upper end; a cylindrical, expansi-

ble split sleeve having a single cleft extending the entire length thereof, arranged on said necked portion and abutting at its respective ends the shoulders on the post, whereby said 20 sleeve is maintained against displacement from said post, and a cannon-pinion having an axial bore surrounding and frictionally engaging with said sleeve throughout the entire 25 length thereof.

Signed by me at Springfield, Massachusetts, in presence of two subscribing witnesses.

CHRISTOPHER KUENZEL.

Witnesses:

WM. S. BELLOWS,  
A. V. LEAHY.