

H. W. OWEN.
TENSION DEVICE FOR SHUTTLES.
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920,635.

Patented May 4, 1909.

Fig 1,

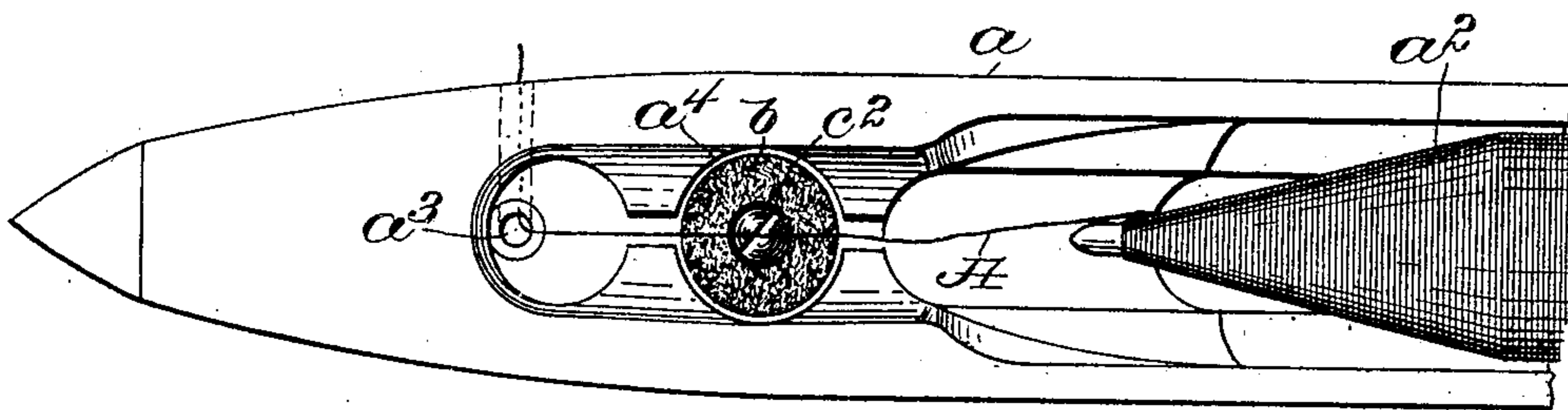
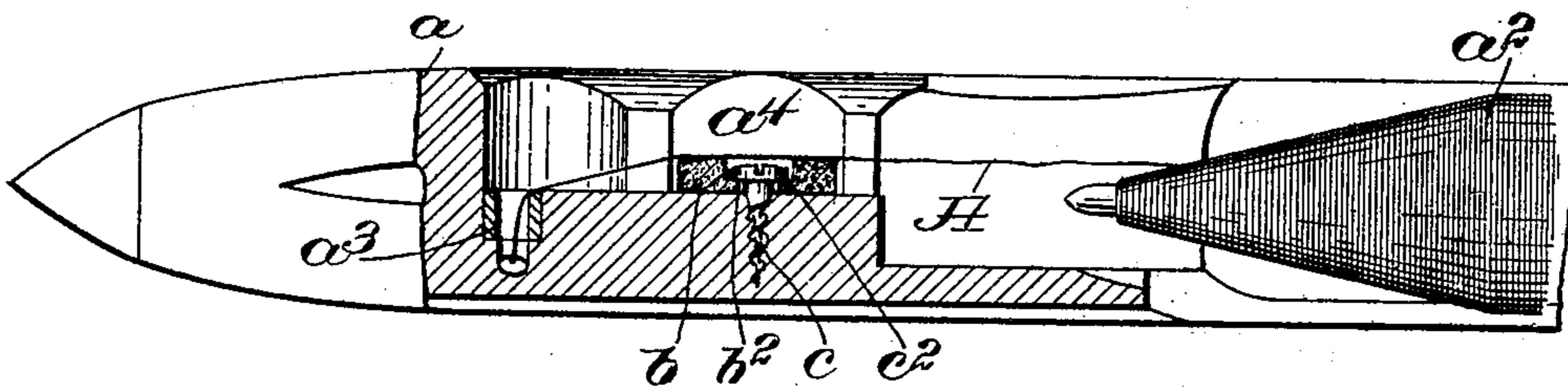


Fig. 2,



Witnesses:

Jas. J. Maloney.

[Signature]

Inventor:

Herbert W. Owen,

by J. P. and H. J. Swann.

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UNITED STATES PATENT OFFICE.

HERBERT W. OWEN, OF DOVER, NEW HAMPSHIRE, ASSIGNOR OF ONE-HALF TO CHARLES H. FISH, OF DOVER, NEW HAMPSHIRE.

TENSION DEVICE FOR SHUTTLES.

No. 920,635.

Specification of Letters Patent.

Patented May 4, 1909.

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To all whom it may concern:

Be it known that I, HERBERT W. OWEN, a citizen of the United States, residing in Dover, in the county of Strafford and State of New Hampshire, have invented an Improvement in Tension Devices for Shuttles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to a shuttle and is embodied in a tension device for the shuttle thread, the purpose being to provide the shuttle with a tension device which will afford the necessary drag, and at the same time will be relatively durable and uniform in its operation.

To these ends, the tension device embodying the invention consists in a movable member of any friction producing material, that is material such as felt or leather which will cause a drag on the thread without material pressure. In order to prevent the said member from wearing away rapidly it is loosely supported in the path of the thread, so that it will keep changing its position in the operation of the shuttle, thereby preventing the thread from continually passing over any one portion of the device and wearing a smooth channel in the surface thereof.

In the construction shown, the tension device consists of a disk of any suitable friction producing material, such as felt or leather, provided with a central aperture through which extends a stationary support, the fit being loose so that the disk will turn or move around owing to the pull of the thread and the jar attendant upon the use of the shuttle in the weaving operation. This disk is supported in the shuttle between the spool and the eye through which the thread leaves the shuttle, and protrudes into the path of the thread, so that in the weaving operation, as the thread is pulled out of the shuttle, it is dragged across the surface of the disk which affords the tension desired.

Figure 1 is a top plan view of a shuttle embodying the invention; and Fig. 2 is a side elevation of the same, partly in section, to show the tension device.

The shuttle a is provided with the spool a^2 from which the thread A passes to and through the eye a^3 in the usual way. The tension device consists of a loosely mounted

member b located in a recess a^4 formed in the shuttle between the spool a^2 and the eye a^3 . The location of the eye a^3 with relation to the spool is such that the thread in passing from the spool out through the eye will be dragged over the surface of the tension member b , thus giving the tension which is necessary for the proper operation of the device. The tension member b is loosely supported and free to change its position, the said member being herein shown as in the form of a disk, having a central aperture b^2 through which extends a supporting member c , the aperture b^2 being shown as sufficiently large to allow a free play of the member b upon the support. The supporting member c is indicated as an ordinary screw driven into the body of the shuttle, the head c^2 of the screw serving to hold the tension device b in place without preventing the free movement thereof.

It will be seen that the action of the thread A in passing over the surface of the disk b , in connection with the jar attendant upon the travel of the shuttle, will tend to cause rotation of the member b , so that new portions of the surface will continually be exposed to the thread which travels over the same. This prevents the thread from wearing a smooth channel in the tension device and maintains the integrity of the surface throughout, so that a substantially even tension is obtained for a relatively long period of time, without renewing the tension device.

So far as relates to the means for loosely supporting the tension member, it is not intended to limit the invention to the specific construction described and shown, since it is obvious that such construction may be modified without departing from the invention.

By the use of comparatively soft or yielding friction producing material the necessary resistance to the travel of the thread is afforded, without subjecting the thread to so much wear as is the case when a hard, smooth surface is used and the thread held against the same with considerable pressure to obtain the necessary friction. By loosely mounting the friction member, furthermore, it becomes practicable to use such material, since the surface exposed to the thread is continually being changed, so that the friction member is sufficiently durable to be efficient.

Claims.

1. The combination with a shuttle; of a tension device of friction material in the path of the thread, said tension device being
5 loosely held in position and free to move with relation to the thread passing over it.
2. The combination with a shuttle; of a tension device consisting of a disk of friction producing material loosely mounted on an
10 axial support, the surface of the said disk extending into the path of the thread as it is drawn from the shuttle.
3. The combination with a shuttle; of a

tension device consisting of a disk of friction producing material; and means for loosely
15 supporting said disk in the path of the thread, whereby it is capable of rotation in response to the jar of the shuttle and the drag of the thread.

In testimony whereof, I have signed my
20 name to this specification in the presence of two subscribing witnesses.

HERBERT W. OWEN.

Witnesses:

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B. W. TASKER.