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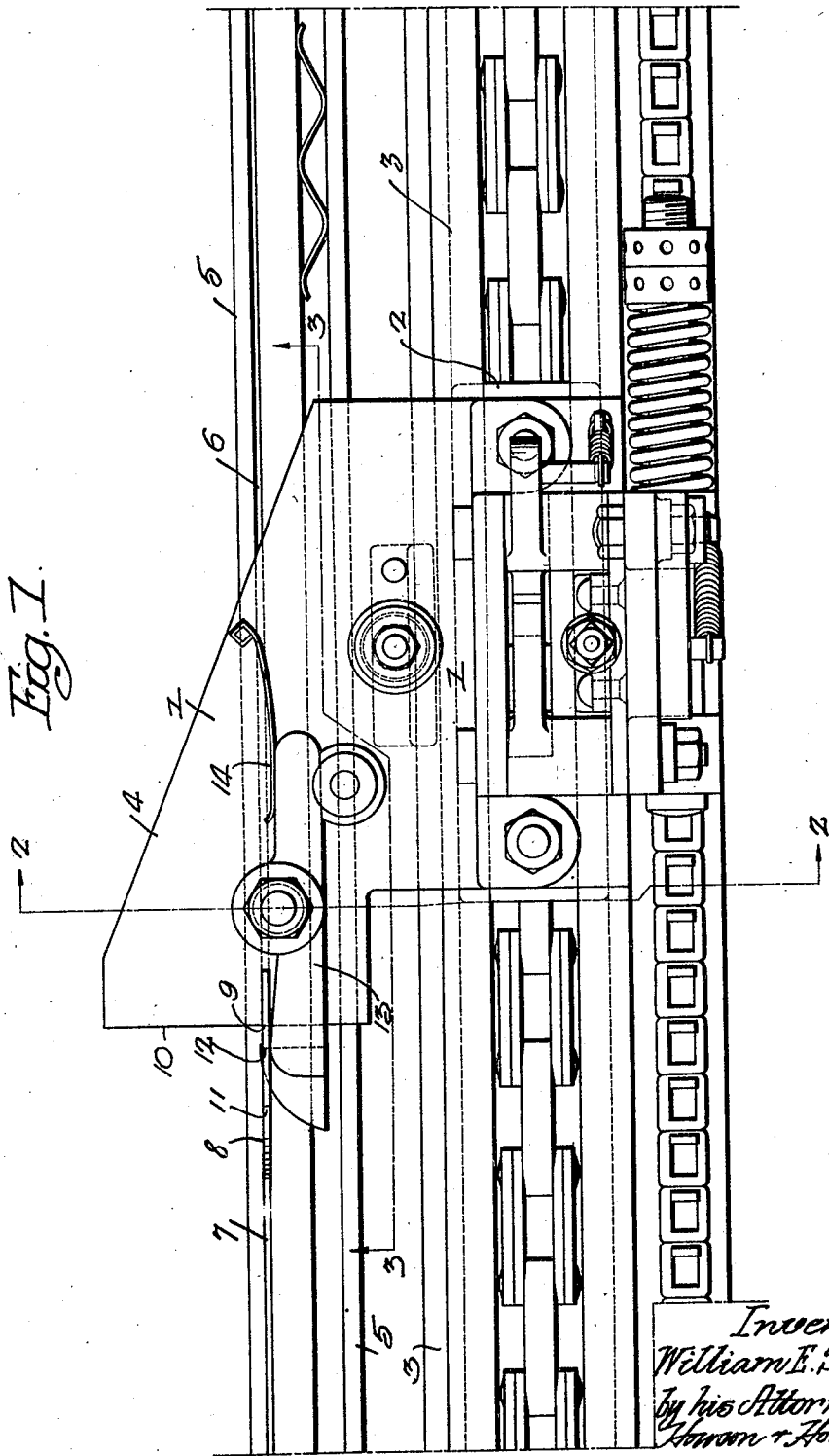
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HOOK MOUNTING FOR PILE WIRE CONTROLLING MECHANISM FOR LOOMS

Filed May 22, 1926

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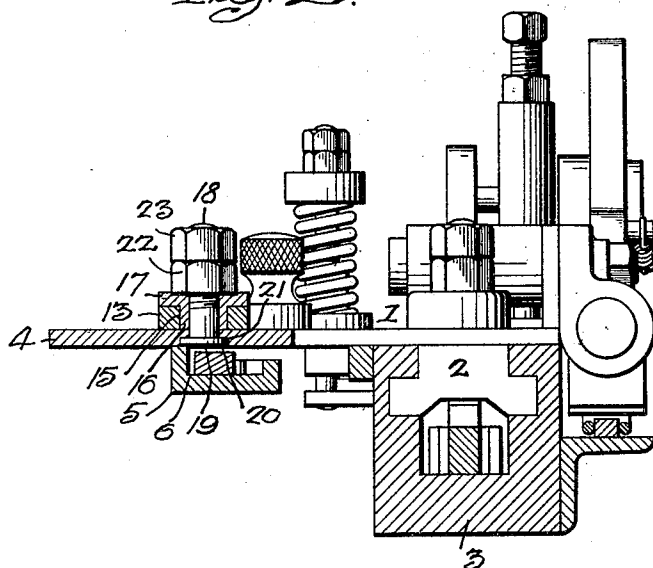
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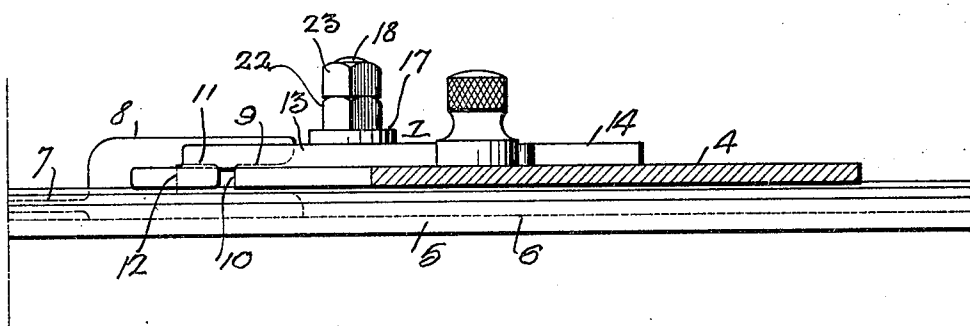
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*Fig. 2.*



*Fig. 3.*



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## UNITED STATES PATENT OFFICE.

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## HOOK MOUNTING FOR PILE-WIRE-CONTROLLING MECHANISM FOR LOOMS.

Application filed May 22, 1926. Serial No. 111,019.

My invention relates to improvements in pile wire controlling mechanism for looms, such as illustrated in my co-pending application for U. S. Letters Patent, filed January 27, 1925, Serial No. 5,041, and more particularly to the mounting of the wire hook thereof, which is adapted to withdraw successive pile wires from the woven fabric.

When a pile wire is inserted into the open warp shed of fabric being woven, certain of the warp threads are placed over the pile wire and exert a considerable amount of friction thereon when the wire is being withdrawn from the fabric.

Prior to my invention, the wire hook, which is adapted to withdraw the pile wires, was mounted upon a stud riveted in the main plate of the wire controlling carriage, and under conditions of continual use and due to the extreme amount of force required to pull one of the wires out of the fabric, it was necessary to replace both the main plate and the stud frequently, due to the fact that the stud became loose or was entirely pulled through the main plate of the carriage, resulting in complete destruction of both. With the employment of my improved hook mounting, these difficulties have been completely overcome.

Details of the construction of my invention will be fully disclosed hereinafter, reference being had to the accompanying drawing, of which:

Fig. 1 is a plan view of a pile wire controlling carriage embodying the features of my invention;

Fig. 2 is a transverse sectional elevation taken along the line 2—2 of Fig. 1, and

Fig. 3 is a longitudinal sectional elevation taken along the line 3—3 of Fig. 1.

Referring to the drawings, the wire controlling carriage is illustrated at 1, and comprises a body portion 2 adapted to be reciprocated upon a rail 3 in the usual manner.

Secured to the body portion 2 is a top plate 4 adapted to overhang the rail 3 at one side, and over a wire switch 5 adjacent the rail 3. The wire switch 5 is provided with a suitable groove 6 adapted to receive a pile wire 7 during the operation of withdrawing the wire from the woven fabric and the operation of inserting the wire into the open warp shed of the fabric being woven. The wire 7 is provided with a head 8 having a cavity

9 adapted to receive the front edge 10 of the plate 4, whereby the wire is held within the groove 6 throughout its reciprocation.

The wire head 8 is provided with an aperture 11 adapted to receive the extended shoulder portion 12 of the hook 13, a spring 14 being provided to maintain the hook in engagement with the head 8 of the wire.

In accordance with the principles of my invention, the hook 13 is provided with a circular opening 15 adapted to receive and rotate upon a bushing 16 having a flange 17 which overlies the top surface of the hook 13, as illustrated in Fig. 2. The bushing 16 is secured to the top plate 4 of the wire carriage 1 by means of a bolt 18 having a circular head 19 of larger diameter than the body of the bolt, thereby providing a shouldered portion 20 adapted to bear against the base portion of a counterbore 21 formed in the underside of the plate 4, the bottom face of the plate 4 and the head 19 of the bolt being flush.

It will be understood that the bushing 16 is clamped tightly to the upper face of the plate 4 by means of a nut 22 and a lock nut 23, sufficient space being allowed between the underside of the flange 17 and the upper face of the plate 4 to permit the hook 13 to rotate or pivot upon the bushing 16 and at the same time prevent any vertical movement of the hook thereon.

By the use of my invention, a greater pivotal bearing surface is provided between the hook and its pivot which tends to reduce the amount of wear between these parts, and in addition thereto the actual pivot element is clamped so tightly to the top plate 4 that all tendency of the hook to raise and pull the pivot bolt through the plate is eliminated, this tendency being transferred to one of a shearing nature at the point of contact between the body of the bolt 18 and the side of the aperture in the plate 4 through which the said bolt passes. This tendency is partially eliminated by frictional engagement between the lower end of the bushing 16, and the top face of the plate 4 caused by drawing the nuts 22 and 23 tightly down upon the bushing 16, and by forming the bolt 18 of a high-grade material the danger of shearing is entirely eliminated.

Having described in detail one embodiment of my invention, modifications thereto will

inevitably present themselves to one familiar with mechanical arts. Therefore, only such limitations should be placed upon the scope of my invention as are prescribed in the appended claims or dictated by the prior art of record.

I claim:

1. In a pile wire controlling mechanism for looms, comprising a wire withdrawing controlling carriage and a wire hook, a mounting for said hook, comprising a bushing adapted to be firmly clamped to the said wire withdrawing hook is adapted to pivot, and a flange overlying said hook, preventing vertical movement thereof relative to said carriage.

2. In a pile wire controlling mechanism for looms, comprising a wire withdrawing controlling carriage and a wire hook, a mounting for said hook comprising a hollow bushing on which the wire withdrawing hook is adapted to pivot; a bolt passing through said bushing and adapted to firmly clamp said bushing to the wire controlling carriage; and a flange on said bushing and overlying said hook for preventing vertical movement thereof relative to said carriage.

3. In a pile wire controlling mechanism for looms, comprising a wire withdrawing controlling carriage and a wire hook; a mounting for said hook comprising a hollow bush-

ing on which the wire withdrawing hook is adapted to pivot; a bolt passing through said bushing and adapted to firmly clamp said bushing to the top plate of the wire controlling carriage; and a flange on said bushing and overlying said hook for preventing vertical movement thereof.

4. In a pile wire controlling mechanism for looms, comprising a wire withdrawing controlling carriage and a wire hook; a mounting for said hook comprising a hollow bushing on which the wire withdrawing hook is adapted to pivot; a bolt adapted to firmly clamp said bushing to the top plate of the wire controlling carriage; an enlarged head on said bolt; a counterbore in said top plate adapted to receive said head; a flange overlying said hook and preventing vertical movement thereof, relative to said carriage; and a clamp nut on said bolt.

5. In a pile wire controlling mechanism for looms, comprising a wire withdrawing controlling carriage and a wire hook; a mounting for said hook comprising a bushing adapted to be firmly clamped to the said wire withdrawing hook is adapted to pivot, and a flange, integral with said bushing and overlying said hook for preventing vertical movement thereof relative to said carriage.

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