(No Model.)

S. ARNOLD.

PITMAN.

No. 422,489. Patented Mar. 4, 1890.

FIG. 1.

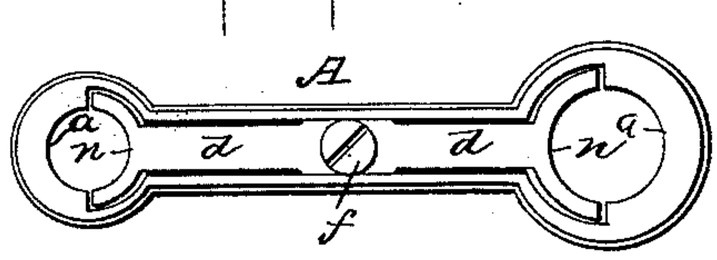


FIG. 3.

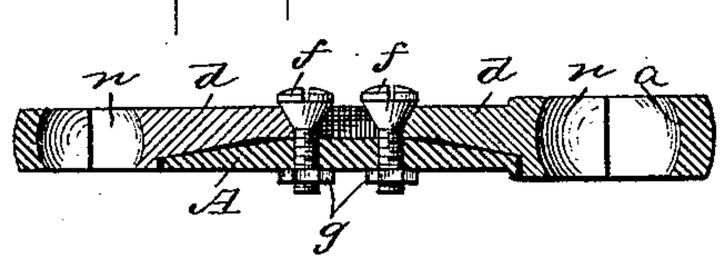


FIG. 2.

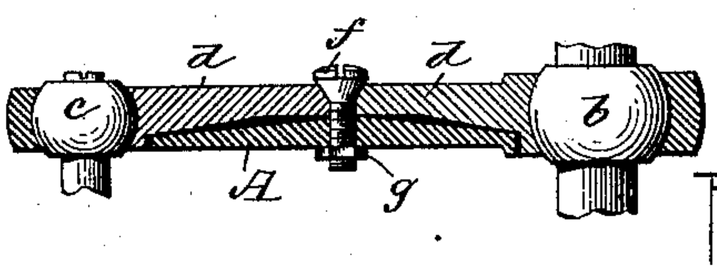


FIG. 4.

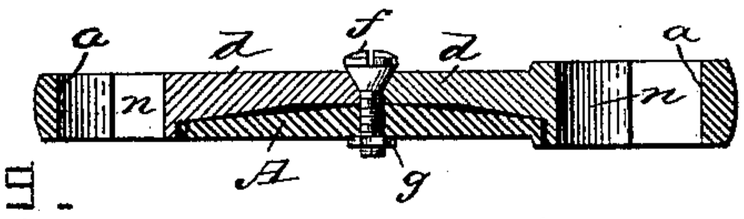


FIG. 9.

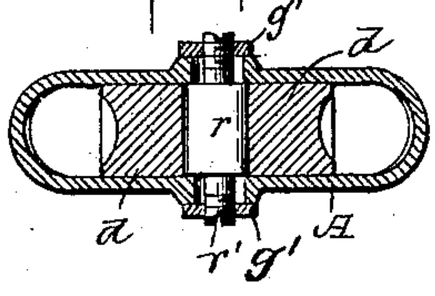


FIG. 5.

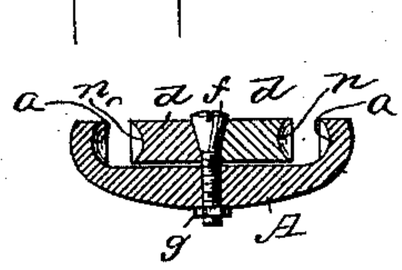


FIG. 6.

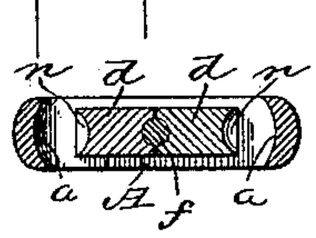


FIG. 10.

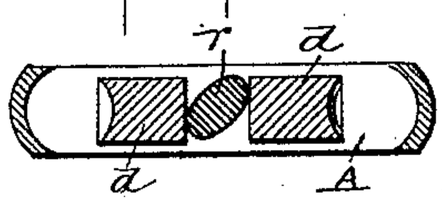


FIG. 7.

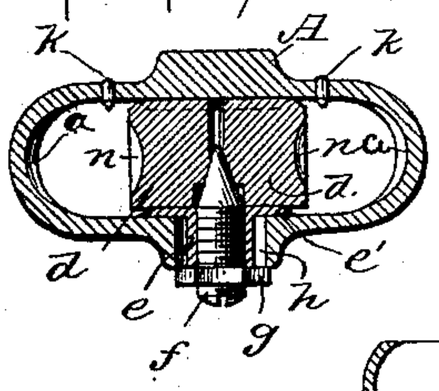


FIG. 8.

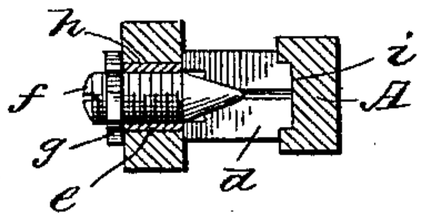
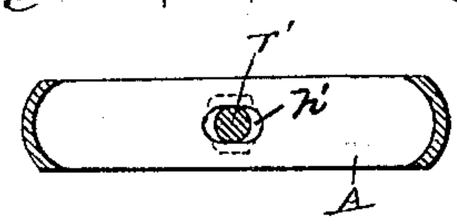


FIG. 11.



Witnesses.

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A. V. Cushman.

Inventor.

S. Arnold,

by Henry Calvert,

Atty.

UNITED STATES PATENT OFFICE.

SATTERLEE ARNOLD, OF MORRISTOWN, NEW JERSEY, ASSIGNOR TO ANNA M. ARNOLD, OF BROOKLYN, NEW YORK.

PITMAN.

SPECIFICATION forming part of Letters Patent No. 422,489, dated March 4, 1890.

Application filed October 23, 1888. Serial No. 288,967. (No model.) Patented in England February 28, 1888, No. 2,999, and in France February 28, 1888, No. 189,026.

To all whom it may concern:

Be it known that I, SATTERLEE ARNOLD, a citizen of the United States, residing at Morristown, in the county of Morris and State of New Jersey, have invented certain new and useful Improvements in Pitmen or Links, (for which I have obtained a patent in Great Britain, No. 2,999, dated February 28, 1888, and in France, No. 189,026, dated February 28, 1888,) of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to provide an improved pitman, link, or connecting-rod of such construction that the working length thereof may be readily adjusted to compensate for any wear which may occur between the parts to be connected.

My improved pitman or link is more especially intended to serve as a connection between the various parts of sewing-machines, but may be advantageously employed in other machines where it is desirable to use an adjustable connection to compensate for wear or for any other purpose.

In the drawings, Figure 1 is a plan view of one form of my improved pitman or connecting-rod. Fig. 2 is a sectional view of the same, showing also parts to be connected thereby; and Figs. 3 to 11, inclusive, illustrate other forms of my invention.

A denotes the body or strap of the pitman or link, provided near its ends with openings or recesses to receive the parts to be connected. In Fig. 2, *b* represents a ball-shaped eccentric on a sewing-machine driving-shaft, and *c* the ball-pin of the needle-operating lever, said parts being received in said openings.

The body or strap A is of proper form to receive two bearing bars or blocks *d*, which are longitudinally adjustable therein, said bars or blocks having at their outer ends concave seats *n*. The seats *a* in the body A opposite the seats *n* of the bars or blocks *d* will of course be hollowed out, as shown in Figs. 2, 3, 5, 6, and 7, if the pitman be designed to receive rounded or ball-shaped parts such as are shown in Fig. 2, and the seats *n* of the said bars or blocks will in such instance be of corresponding form; but where the bearings or parts to be connected are cylindrical the seats in the pitman-body A and bars or blocks *d* will be straight or cylindrical, as shown in Fig. 4.

The bars or blocks *d* are preferably adjusted simultaneously by a screw *f*, having a conical head or portion bearing against the inner ends of the said bars or blocks, said ends being shaped to conform to the shape of the conical part of the screw. The stem of the screw may be tapped in the body A of the pitman, as shown in Figs. 1 to 6, inclusive, or in an independent sliding nut or collar *e*, received in a slot or opening *h* in said body, as in Figs. 7 and 8. The nut or collar *e* centers or adapts itself to unequal wear of the bars *d* or the parts connected by the pitman. By turning the screw in it will be obvious that the bars or blocks *d* will be forced outward by the conical head or portion of the screw, and when the proper adjustment of the latter is secured it is held in place by a set-nut *g*.

Instead of simultaneously adjusting the bearing bars or blocks *d* by a single screw, two screws, one for each bar, may be employed, if desired, as shown in Fig. 3, thus rendering the bars adjustable independently of each other. In cases where the wear of the two crank-pins or other parts to be connected by the pitman is likely to be unequal this independent adjustment of the bars or blocks *d* may be preferable. The bars or blocks *d* fit somewhat loosely in the recess of the body of the pitman, so that the seats at the outer ends of said bars or blocks can readily adjust themselves to the parts against which they bear.

The forms of my invention shown by Figs. 5, 6, 7, and 8 represent short pitmen or links which may be used for a variety of purposes. In these forms of my invention the bars or blocks *d* of each link are both adjusted by a single screw, the conical or adjusting portion of the screw being at the head thereof in one instance and at the point in the other.

In the device shown in Figs. 7 and 8 the screw *f* is tapped through the sliding nut or

collar *e*, as above stated, said nut or collar fitting somewhat loosely in the slot *h*, extending longitudinally of the strap or body A of the pitman, so that when the said nut or collar is not secured in place by the set-nut *g* it can center or adjust itself to accommodate unequal wear of the parts connected by the pitman or link. This nut or collar *e* has a flange *e'*, which is forced against the inner wall of the strap or body of the link or pitman to hold the said nut or collar in place when the said set-nut *g* is tightened. The bars or blocks *d* in this form of my invention are guided in a longitudinal groove *i* in the strap or body of the pitman or link, and may be prevented from falling out of the said strap or body when loose by small pins *k*. It will be obvious that with this form of my invention I secure all of the practical results of the independent adjustment of the bearing blocks or bars afforded by the two adjusting-screws shown in Fig. 3, and that the nut or collar *e* when loosened will center or adjust itself in the longitudinal ways in the body A formed by the slot *h* in such a manner as to accommodate unequal wear of the adjustable bars or blocks *d* or the parts connected by the link or pitman. This same result of a self-centering adjusting device might also be effected by a cam or eccentric *r*, arranged to bear against the inner ends of the bearing bars or blocks *d*, and provided with self-centering journals or trunnions *r'*, fitting loosely in slots *h'* in the body or strap of the pitman, and having also set-nuts *g*. (See Figs. 9, 10, and 11.) By loosening one of said set-nuts the cam or eccentric *r* will be free to be turned by a screw-driver inserted in a nick in one of its trunnions to set up the blocks *d*, the slots *h'* permitting the cam or eccentric to center itself lengthwise of the pitman to provide for unequal wear of the balls or parts against which the blocks *d* bear at their outer ends.

I am aware of the pitman shown by United States Patent No. 210,646, in which two bearing blocks or bars are simultaneously forced outward for the purpose of automatically taking up wear by a spring-pressed wedge, and I do not, therefore, claim a pitman having two simultaneously-movable bars, broadly; but

What I do claim, and desire to secure by Letters Patent, is—

1. In a pitman, the combination, with the recessed strap or body portion thereof, of two positively-adjustable bearing blocks or bars received in said strap or body portion and provided at their outer ends with seats to engage the parts to be connected, and a self-centering adjusting device movable or adjustable lengthwise of said strap or body, and thus adapted to compensate for unequal wear of the parts connected.

2. In a pitman, the combination, with the recessed strap or body portion thereof, of two bearing blocks or bars received in the said strap or body portion and provided at their outer ends with concave seats to engage the parts to be connected, and an adjusting-screw having a conical portion to adjust the bar or bars with which it is in contact, substantially as set forth.

3. In a pitman, the combination, with the recessed strap or body portion thereof, of two bearing blocks or bars received in the said strap or body portion and provided at their outer ends with concave seats to engage the parts to be connected, an adjusting-screw having a conical portion, and a set-nut to hold the said screw in any position to which it may be adjusted, as set forth.

4. In a pitman, the combination, with the recessed strap or body portion thereof, of two bearing blocks or bars received in the said strap or body portion, an adjusting-screw having a conical part, and a sliding or movable nut, through which the said screw is tapped, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SATTERLEE ARNOLD.

Witnesses:
THEO. F. WHITE, Jr.,
ALBERT E. CUTHBERT.