

(No Model.)

E. F. LEWIS.
ADJUSTABLE PITMAN.

No. 327,803.

Patented Oct. 6, 1885.

Fig. 1

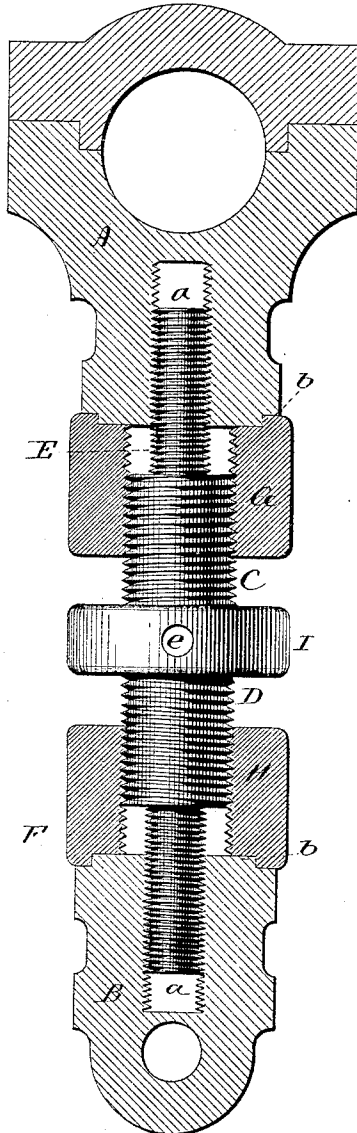


Fig. 2

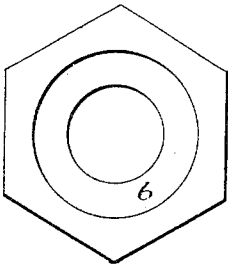
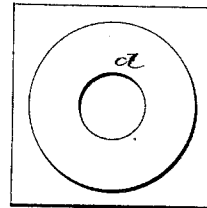


Fig. 3



Witnesses
J. A. Shumway
Frederic C. Earle

Edward F. Lewis
Inventor.
By Atty.
Wm. S. Earle

UNITED STATES PATENT OFFICE.

EDWARD F. LEWIS, OF WATERBURY, CONNECTICUT.

ADJUSTABLE PITMAN.

SPECIFICATION forming part of Letters Patent No. 327,803, dated October 6, 1885.

Application filed July 13, 1885. Serial No. 171,529. (No model.)

To all whom it may concern:

Be it known that I, EDWARD F. LEWIS, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement in Adjustable Pitmen; and I do hereby declare the following, when taken in connection with accompanying drawings, and the letters of reference marked thereon, to be
10 a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a vertical central section of the pitman, showing side view of the rod; Fig. 2, an end view of the collar, showing the bearing-
15 face; Fig. 3, the end or bearing-face of one of the heads.

This invention relates to an improvement in the construction of that class of pitmen which are made adjustable as to length, and such as
20 used in power-presses, and various other places where the adjustment of the slide or thing moved by the crank is desirable.

To illustrate one use for the invention: In a power-press one die is fixed upon the bed and
25 a companion die in the slide, the slide reciprocating under the crank-motion to approach and recede from the fixed die below. In the use of dies for striking up, cutting out, &c., it is necessary that the moving die shall ap-
30 proach or enter the fixed die to a precise point; hence without an adjustable pitman either one die or the other must be adjusted until this position is acquired, and in presses which have not the adjustable pitman this is
35 usually done by "building up" beneath the lower die; but such adjustment lacks the precision desirable, and is accompanied by great inconvenience and loss of time; but by the use
40 of an adjustable pitman, the lower die being fixed, the upper die can be readily adjusted until the desired relation is attained.

The most common adjustable pitman is made by constructing the pitman in three parts—a
45 head for connection with the crank, and a head for connection with the slide, with a rod between, screw-threaded at its two ends, the one end right hand and the other left, the heads correspondingly threaded, and so that
50 will be lengthened, and in the opposite direction will be shortened. Usually a jam-nut is

applied at each end to be turned hard against the face of the respective heads when the proper adjustment is attained. While this construction serves a good purpose, so far as the
55 adjustment is concerned, it is necessarily weak, and is so from the fact that the screw-threaded portion of the rod must necessarily be of comparatively small diameter, or the head must be made of inconvenient thickness. The same
60 difficulties exist to a greater or less extent in this construction of pitman for all purposes.

My invention relates particularly to an improvement in this class of pitmen, and has for its object to strengthen the connecting-rod
65 between the two heads; and it consists in the construction, as hereinafter described, and more particularly recited in the claims.

A represents the head, which is constructed to receive the crank-pin in the usual manner; 70 B, the second head, which is attached to the slide or thing to be moved. The connecting-rod between the two heads consists of a central body, C D, screw-threaded at one end—say C—with a right-hand thread, and at the other, 75 D, with a left-hand thread, and an extension, E, at one end and F at the other end. These two ends are threaded in the same direction of thread as the portions of the rod from which they project; but these extensions are of con- 80 siderably smaller diameter than the central portion. Into each head, and radially from its inner end or face, a hole, *a*, is made and screw-threaded, corresponding to the extensions from the connecting-rod, so that the said
85 extensions may be screwed into the respective heads, and so that by turning the rod in one direction the heads will separate and in the opposite direction the heads will approach each other. The length of the central portion 90 or body of the rod indicates the minimum length to which the rod may be adjusted, as when the two ends of the body come to a bearing against the respective heads the shortest length is attained. 95

Onto the part C of the body a correspondingly screw-threaded collar, G, is applied, adapted to bear against the under face or end of the head A, and on the part D is a correspondingly screw-threaded collar, H, adapted 100 to bear against the corresponding face of the lower head, B. The bearing-face of each col-

lar is constructed with a recess, *b*, concentric with the body of the rod, as seen in Fig. 2, and the end of the head is constructed with a corresponding projection, *d*; or the projection may be on the collar and the recess in the head, the projection being adapted to enter the recess, as seen in Fig. 1. These collars serve as jam-nuts to prevent an accidental disadjustment of the rod; but they also serve to greatly strengthen the rod, inasmuch as the collar takes its sustaining-bearing from the large central portion of the rod and is interlocked with the head, so that any transverse strain upon either the rod or the head is supported or resisted by the larger diameter of the rod, and substantially removes all transverse strain from the smaller portion of the rod which enters the head. This construction, therefore, enables me to make the extensions of the rod into the heads of much less diameter than could be done were it not for the enlarged body and the interlocking of the head with the collars.

The interlocking of the head with the collars may be omitted, their bearing-surface upon the collar and their large support on the rod greatly increasing the strength of the pitman over what it would be were it not for the enlarged body.

At the center of the body, or at any convenient point, the rod is provided with means for its rotation either by the application of a wrench or lever. (Here represented as an annular cylindrical collar, *I*, having one or more radial perforations, *e*, therein, into which a lever may be inserted.)

The outer surface of the collars may be polygonal, as shown, or otherwise, the polygonal shape being most convenient, as it enables the application of a wrench thereto.

I claim—

1. The herein-described adjustable pitman, consisting of the two heads A B, combined with a connecting-rod having its central portion or body screw-threaded at its ends, with an extension therefrom at each end of less diameter than the body, said extension also screw-threaded, the one with a right-hand and the other with a left-hand thread, the heads constructed with corresponding screw-threads to receive the said extensions, and a collar on each end of the body of the rod correspondingly screw-threaded to the thread at that end of the rod, the said collars adapted to bear against the respective heads, substantially as described.

2. The herein-described adjustable pitman, consisting of the two heads A B, combined with a connecting-rod having its central portion or body screw-threaded at its ends, with an extension therefrom at each end of less diameter than the body, said extension also screw-threaded, the one with a right-hand and the other with a left-hand thread, the heads constructed with corresponding screw-threads to receive the said extensions, and a collar on each end of the body of the rod correspondingly screw-threaded to the thread at that end of the rod, the said collars adapted to bear against the respective heads, the said collars and heads, the one constructed with a concentric projection and the other with a corresponding concentric recess in the bearing-faces, substantially as described.

EDWARD F. LEWIS.

Witnesses:

E. C. LEWIS,
W. E. FULTON.