

(No Model.)

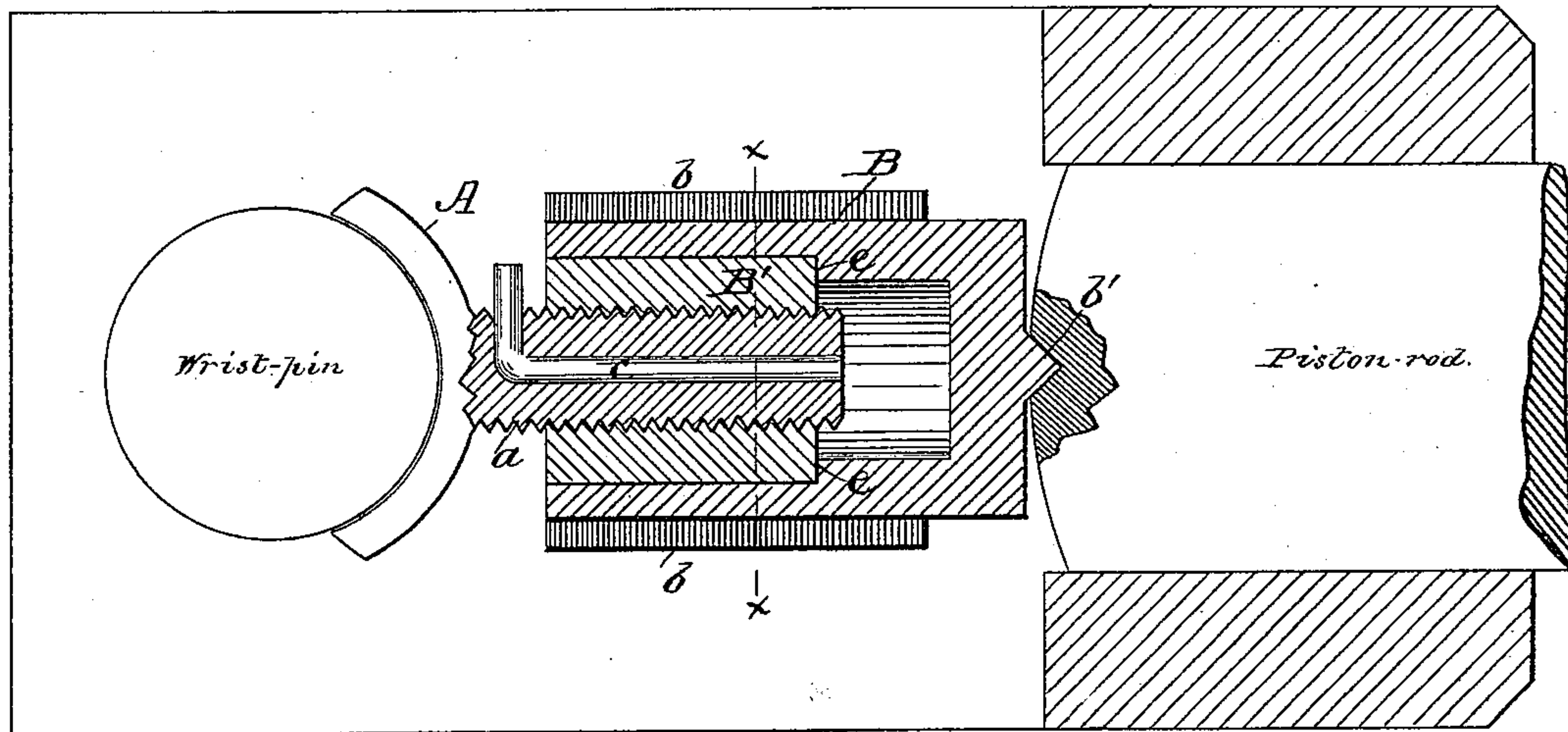
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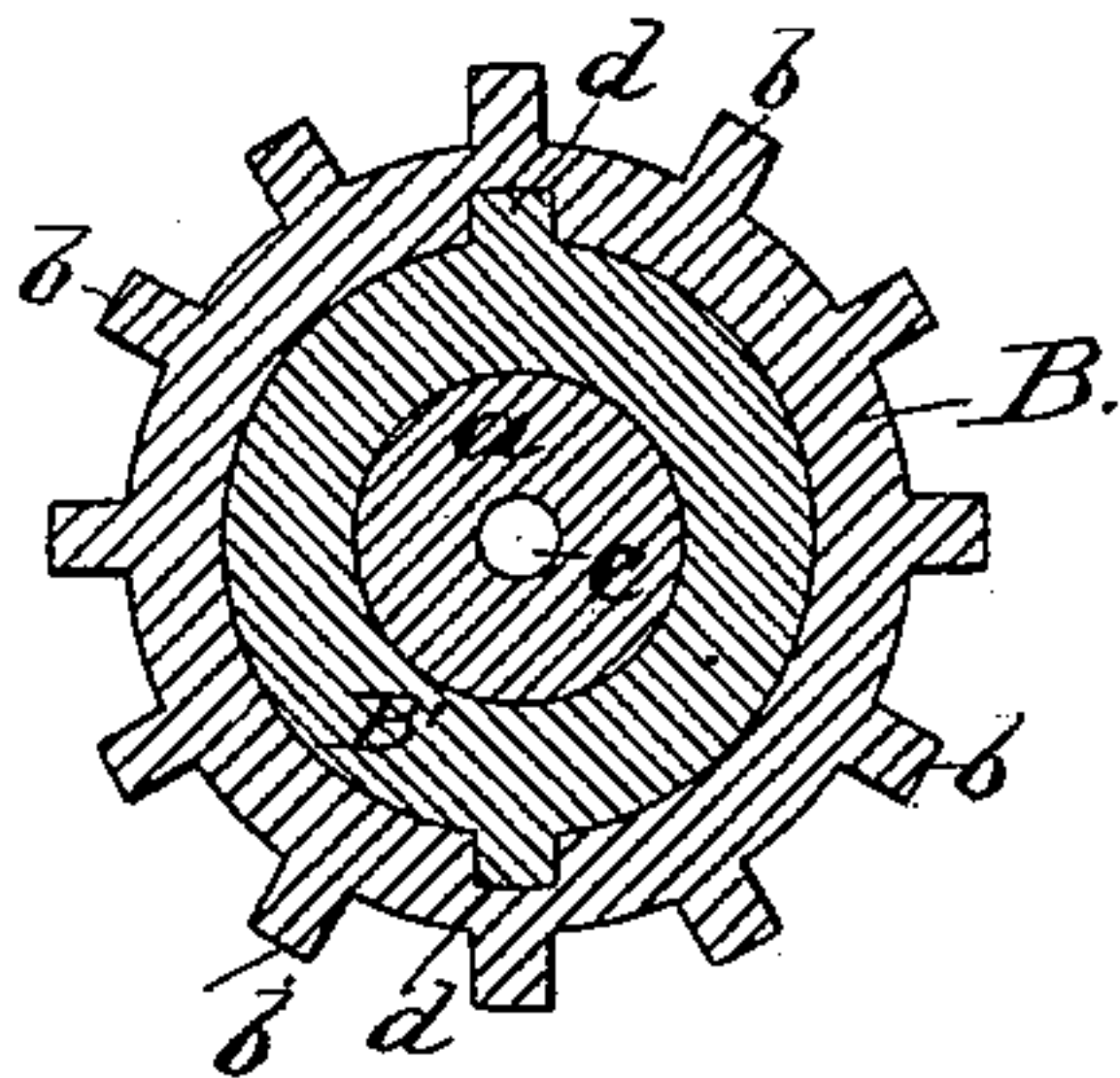
No. 282,828.

Patented Aug. 7, 1883.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JAMES E. WORSWICK, OF MONTGOMERY, ALABAMA.

## DEVICE FOR REMOVING PISTON-RODS FROM CROSS-HEADS.

SPECIFICATION forming part of Letters Patent No. 282,828, dated August 7, 1883.

Application filed May 17, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES EDWARD WORSWICK, of Montgomery, in the county of Montgomery and State of Alabama, have invented  
5 a new and useful Improvement in Devices for Removing Piston-Rods from Cross-Heads; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention is designed for the purpose  
10 of removing piston-rods from cross-heads without the injury of any part; and it consists in the construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is  
15 a sectional view of the device, showing its application to use; and Fig. 2 is a cross-section on line *x x* of Fig. 1.

A represents a base-piece, the bearing-surface of which is curved to fit the wrist-pin of  
20 the cross-head, as shown.

*a* represents a stud or projection extending from the base-piece, which is provided with any proper screw-threads.

B represents a cylinder, and B' a feathered  
25 nut arranged therein, and provided with threads adapted to engage with the threads of the projection *a*.

*b b* represent projections upon the extreme surface of the cylinder, by means of which it  
30 is adapted to receive any proper form of wrench for turning the same. *b'* represents a central projection upon the front end of the cylinder, which is adapted to fit the centering-recess in the end of the piston-rod.

To adapt the device for being operated either  
35 by a wrench or by hydraulic pressure, I provide the stud *a* with a central longitudinal bore, *c*, communicating at one end with the chamber formed by the bottom or closed end of the cylinder B and at the other with a pipe,  
40 which is to be connected to a hydraulic jack. The nut B', screwing on the stud *a*, is adapted, by means of the feathers *d*, to have only a longitudinal movement in the cylinder B. The  
45 nut B' is adapted to bear against an annular shoulder, *e*, in the cylinder when the latter is properly operated with a wrench, while hydraulic pressure will cause the nut B' to slide  
50 outwardly from the cylinder B sufficiently to withdraw the piston-rod.

Having thus described my invention, what I claim as new is—

1. The combination of the base-piece A, having the threaded projection *a*, provided with  
55 the bore *c*, and the cylinder B, formed with an internal nut, B', screwing on said projection and connected to the cylinder by feathers *d*, and adapted to bear against an annular shoulder, *e*, in the cylinder, substantially as shown  
60 and described.

2. The device described, consisting of the curved base-piece A, having the threaded  
projection *a*, and a nut having a suitable bearing, as and for the purpose set forth.

JAMES EDWARD WORSWICK.

Witnesses:

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