

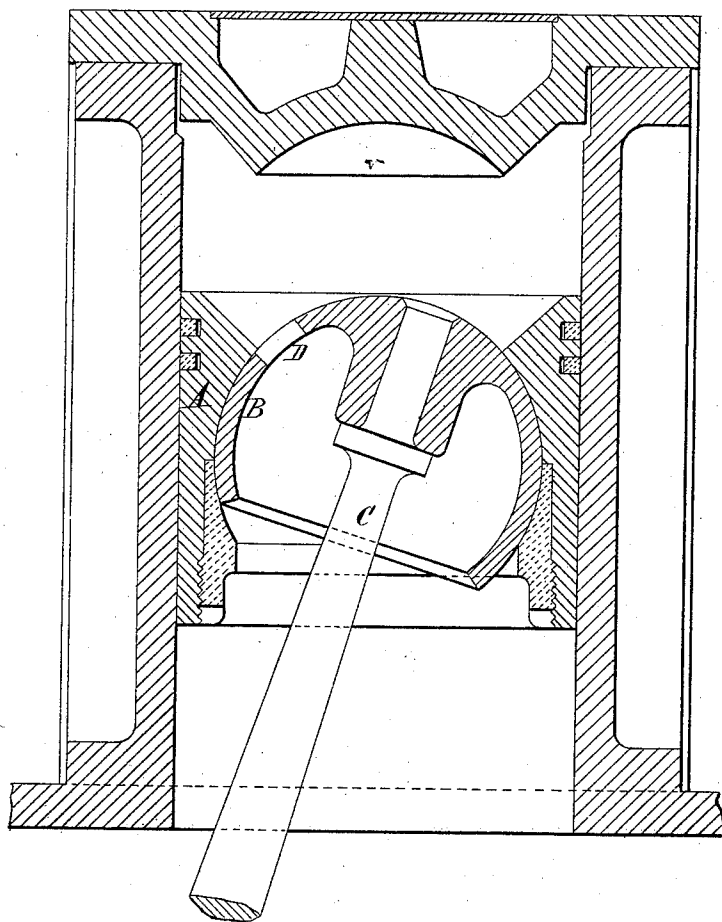
(No Model.)

P. BROTHERHOOD.

PISTON.

No. 320,839.

Patented June 23, 1885.



Witnesses.

J. A. Rutherford
Robert Elliott.

Inventor.

Peter Brotherhood.
By James L. Norris.
Atty

UNITED STATES PATENT OFFICE.

PETER BROTHERHOOD, OF LAMBETH, COUNTY OF SURREY, ENGLAND.

PISTON.

SPECIFICATION forming part of Letters Patent No. 320,839, dated June 23, 1885.

Application filed February 12, 1885. (No model.) Patented in England January 22, 1885, No. 944; in Belgium January 22, 1885, No. 67,611, and in Italy March 31, 1885, XXXVI, 22.

To all whom it may concern:

Be it known that I, PETER BROTHERHOOD, a citizen of England, residing at Lambeth, in the county of Surrey, England, have invented
5 a new and useful Improvement in Pistons, (for which I have applied for Letters Patent of Great Britain, dated January 22, 1885, No. 944,) of which the following is a specification.

My invention relates to a construction of
10 piston for steam or other fluid pressure engines or pumps, whereby I relieve the connecting-rod joint of a large part of the strain usually thrown upon it, providing at the same time, when required, for the opening of a port
15 through the piston when the connecting-rod is in certain attitudes.

To such ends my invention consists in an annular piston having its interior formed as a spherical zone, fitting a spherical boss attached to a connecting-rod, and exposed to
20 the pressure of the working-fluid on the opposite side of the piston.

The accompanying drawing represents a section of a piston according to my invention.

25 The outer part, A, is of annular form, provided with packings in the usual way, and its interior is formed as a spherical zone. Within this is fitted a spherical boss, B, which I make as large as the size of the piston will

conveniently admit, and to this I attach the
30 connecting-rod C, the spherical boss thus forming the joint on which the connecting-rod works, and presenting a large area to receive the pressure of the working-fluid at the opposite or farthest side of the piston, and transmitting such pressure directly to the connecting-rod, thus relieving the joint of much of
35 the strain to which it would otherwise be subjected. A port, D, may, when required, be cut through the spherical shell, so as to allow
40 passage for fluid when the connecting-rod is in certain positions.

Having thus described the nature of my invention and the best means I know for carrying the same out in practice, I claim—
45

The combination, with an annular piston having its interior formed as a spherical zone, of a spherical boss attached to a connecting-rod and exposed to the pressure of the working-fluid, substantially as described.
50

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 22d day of January, A. D. 1885.

PETER BROTHERHOOD.

Witnesses:

JNO. P. M. MILLARD,
HERBERT E. DALE.