

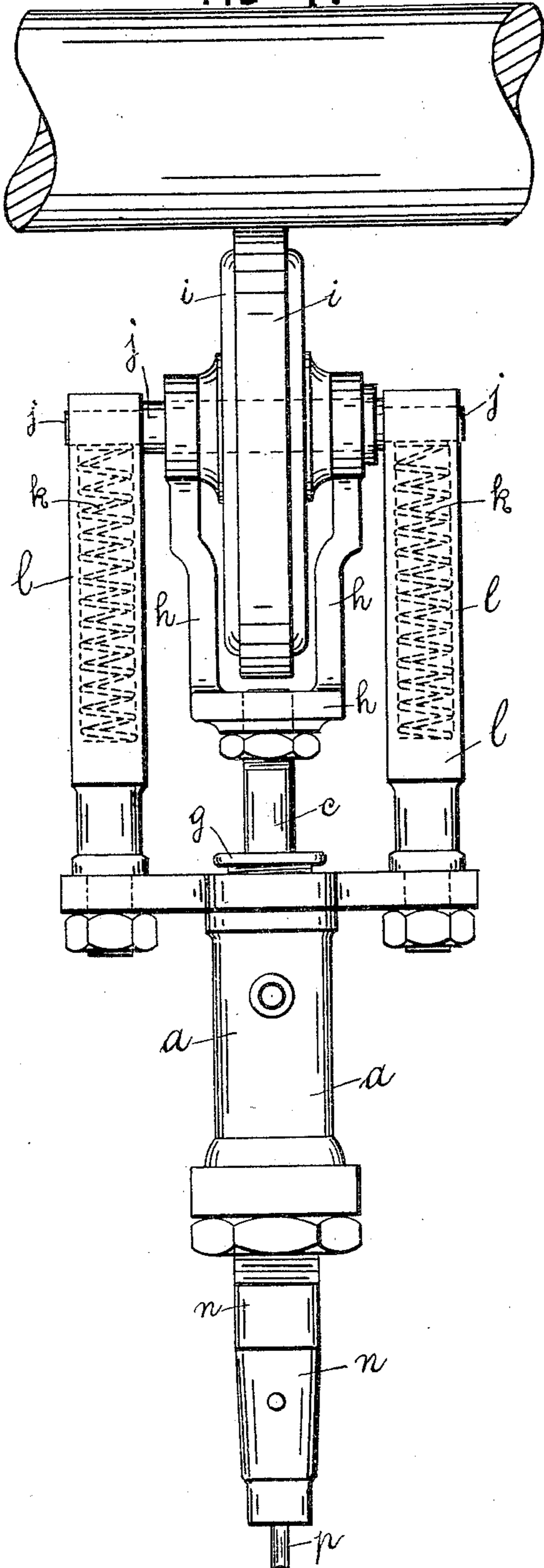
(No Model.)

W. & G. THOMSON.
OIL FEEDING DEVICE FOR JOURNALS.

No. 459,084.

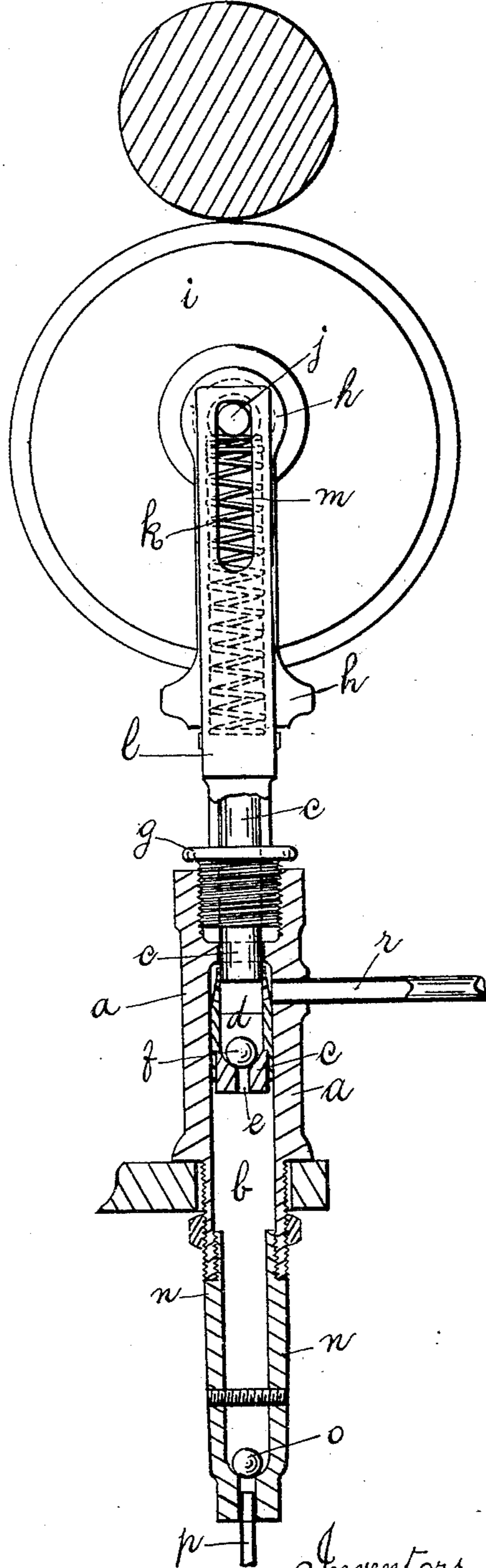
Patented Sept. 8, 1891.

FIG 1.



Witnesses
Arthur Gadd.
Thomas Shippey Esq.

FIG 2.



Inventors
William Thomson & George Thomson.
Per William Gadd, Esq.
Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM THOMSON AND GEORGE THOMSON, OF SHAW, COUNTY OF LANCASTER, ASSIGNORS TO JOHN GREENWOOD & COMPANY, LIMITED, OF HOPE MILL, ENGLAND.

OIL-FEEDING DEVICE FOR JOURNALS.

SPECIFICATION forming part of Letters Patent No. 459,084, dated September 8, 1891.

Application filed January 21, 1891. Serial No. 378,604. (No model.) Patented in England July 13, 1889, No. 11,257.

To all whom it may concern:

Be it known that we, WILLIAM THOMSON and GEORGE THOMSON, subjects of the Queen of Great Britain, residing at Crompton Fold, Shaw, near Oldham, in the county of Lancaster, England, have invented new and useful Improvements in Oil Feeding, Lifting, and Circulating Apparatus Applicable to the Bearings or Journals of Shafts, (for which we have obtained a patent in Great Britain, No. 11,257, bearing date July 13, 1889,) of which the following is a specification.

The improvements relate to a lubricator, being the subject of a prior patent in Great Britain, No. 237, A. D. 1888, dated January 6, granted to George Thomson, one of the applicants herein. According to the construction described in specification No. 237, A. D. 1888, it is essential that the lower part of the rotating spindle should be immersed in the oil-receiver. Consequently when the receiver is situated at a great distance from the shaft or bearing, as the case may be, it is necessary to employ a spindle of great length; but according to the construction of our present improvements the length of the lifter is not dependent upon the situation or distance of the receiver with relation to the bearing, as the lubricant is by our improvements raised or lifted therefrom by the aid of suction. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of apparatus arranged in accordance with our invention. Fig. 2 is in part a sectional view showing barrel, piston, and oil-chambers, and in part a side elevation.

Similar letters refer to similar parts throughout the several views.

The apparatus shown consists of a barrel *a*, provided with a chamber *b*, into which enters a plunger *c*. At the lower part of the said plunger is provided a chamber *d*, at the bottom of which chamber is an orifice *e*. At the entrance to the orifice *e* and within the chamber *d* is situated a ball or spherical piece *f*. The upper part of the plunger—that is, the part extending out of the barrel *a* and above the gland *g* containing the packing—

terminates with a cross-head or fork-shaped piece *h*. Between the jaws of the cross-head is mounted eccentrically a disk *i* upon the spindle *j*, to which it may or may not be keyed. The periphery may be provided with leather or other suitable material. The extremities of the spindle *j* extend beyond the sides of the cross-head *h*, and immediately below the said extremities and in engagement therewith we provide spiral coils or springs *k k*, situated within hollow standards *l l*, provided with slots *m*.

At the lower extremity of the barrel *a* we provide a "tail-piece" *n*, in which we provide a ball or spherical piece *o*. To the said tail-piece *n* may be attached a tube or pipe *p*, forming connection with the oil-receiver.

The action of the apparatus is as follows: Apparatus in accordance with our invention is to be fixed by any convenient means contiguous to a rotating shaft—it may be the shaft the bearing or bearings of which are to be lubricated—being fixed in such a manner that the periphery of the disk may bear against the surface of the shaft. When the shaft revolves, a reciprocating motion is imparted to the plunger more or less according to the throw of the eccentric. The extremities of the spindle carrying the disk resting upon the coils or springs causes the periphery of the disk to bear against the surface of the shaft, thus insuring contact of the disk with the shaft. Consequently the reciprocating motion continues so long as the shaft is in motion. In consequence of such motion the lubricant which may have passed from the journal or bearing into the receiver may be drawn therefrom into the chamber in the tail-piece, and at each downward stroke of the plunger the same passes into the chamber in the plunger and out through a thoroughfare or tube *r*, terminating at the part to be lubricated.

Variations in detail and in the mode of giving a reciprocating motion to the plunger may be made without departing from the peculiar character of the invention.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be per-

formed, we declare that what we claim as our invention, and desire to secure by Letters Patent, is—

5 In an oil feeding, lifting, and circulating apparatus, the combination of the friction-disk *i*, eccentrically mounted on the spindle *j*, the rotating driving-shaft, the spiral coils *k*, and the moving piston *c*, with the chambers *d* and *b*, the valves *f* and *o*, the lateral thor-

oughfare or tube *r* and vertical thoroughfare *10* or tube *p*, for the purpose and in manner all substantially as set forth and described.

WILLIAM THOMSON.
GEORGE THOMSON.

Witnesses:

WILLIAM GADD,
ARTHUR GADD.