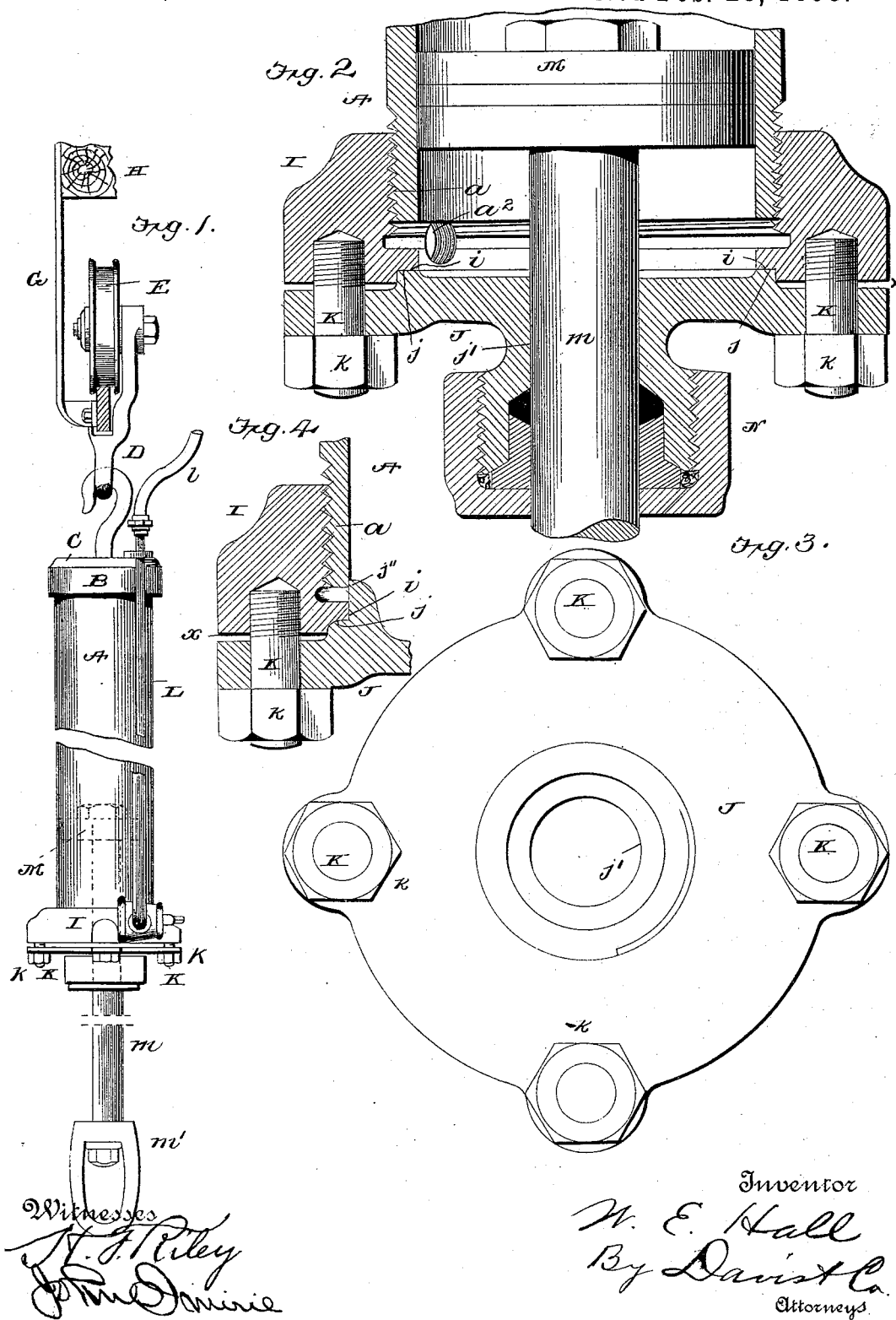


(No Model.)

W. E. HALL.
CYLINDER FOR POWER HOISTS.

No. 492,769.

Patented Feb. 28, 1893.



UNITED STATES PATENT OFFICE.

WILLIS E. HALL, OF ALTOONA, ASSIGNOR TO HIMSELF, AND MORRIS W. RUDDEROW, OF PHILADELPHIA, PENNSYLVANIA.

CYLINDER FOR POWER-HOISTS.

SPECIFICATION forming part of Letters Patent No. 492,769, dated February 28, 1893.

Application filed March 17, 1890. Serial No. 344,141. (No model.)

To all whom it may concern:

Be it known that I, WILLIS E. HALL, of Altoona, county of Blair, State of Pennsylvania, have invented a certain new and useful Improved Cylinder for Power-Hoists, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to hoisting cylinders and it consists in the novel construction and arrangement of its parts.

In the accompanying drawings:—Figure 1, is an elevation of a power hoist having my improved cylinder. Fig. 2, is a longitudinal sectional view through the lower end of the cylinder. Fig. 3, is an end view of the cylinder, and Fig. 4, is a detail sectional view of the lower corner of the cylinder showing a modification.

My invention is described as follows:—

It consists of a cylinder A, having the thread *a*, on the exterior of its lower end. On the lower end of said cylinder is screwed the annulus I, which is provided with an orifice *a*² through which the steam or other hoisting power is let into the cylinder. Said annulus is also provided with a socket *i*. The cap J, is provided on its inner face with a rim *j*, which fits snugly in the socket *i*. Said rim is taller than said socket is deep and thus a space *x*, is left between the cap and the annulus. This will give the bolts K, which secure the cap to the annulus, a leverage which will

keep the cap tight against the annulus. The said cap is provided with the perforation *j*¹, through which the piston-rod passes. In order to prevent the steam from leaking through the thread *a*, I place on the rim *j*, of the cap an additional rim *j*² (see Fig. 4.) which extends up over the lower end of the cylinder and thus prevents any possibility of the escape of steam.

Thus I form a hoisting cylinder which is very strong, durable and easily taken apart when so desired. There are any number of ways in which this cylinder may be used. Fig. 1, illustrates one of the many ways.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination with a cylinder A, having a cap C, at one end and threads *a* upon the exterior of the lower end of the ring I, threaded internally and screwed upon the threaded end of the cylinder said ring having an inlet aperture *a*², and an annular seat *i* the end plate or cap J, having an annular boss *j* which fits in the seat *i*, and a depending collar provided with a stuffing box, the piston head M, the piston rod *m*, the bolts K and the pipe L, all constructed, arranged and adapted to operate substantially as shown and described.

WILLIS E. HALL.

Witnesses:

WM. M. WITHEROW,
J. A. RITCHEY.