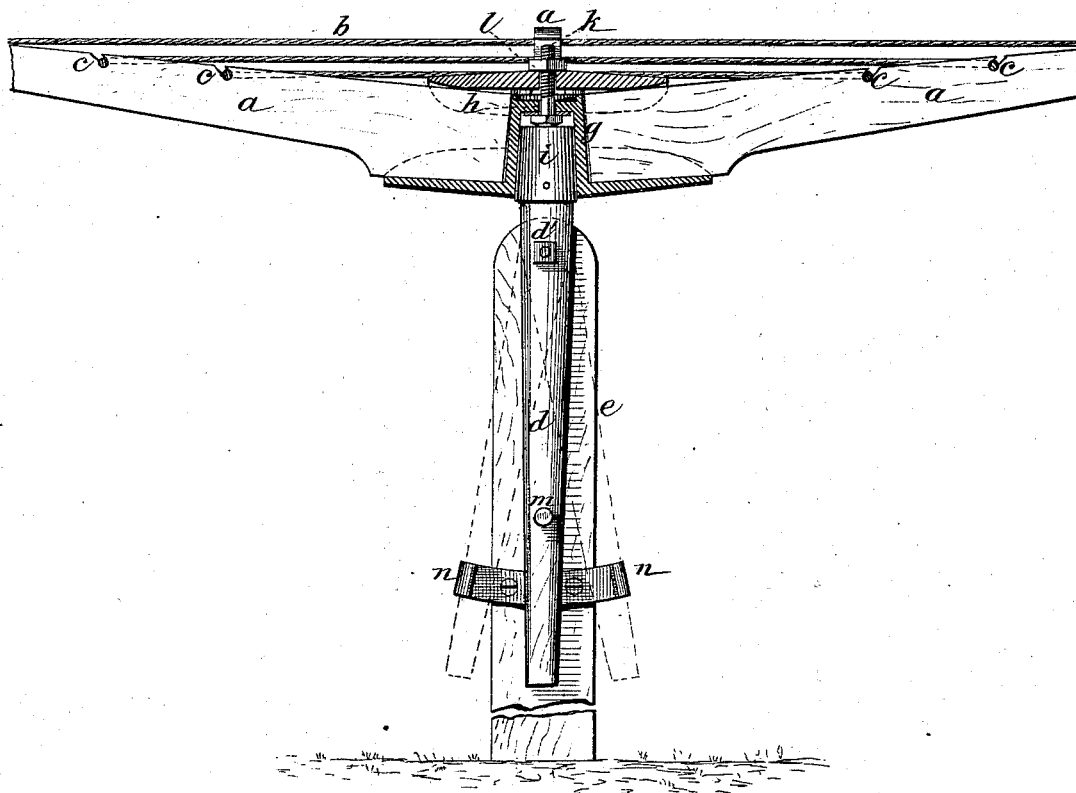


B. KNOPP.  
Clothes-Drier.

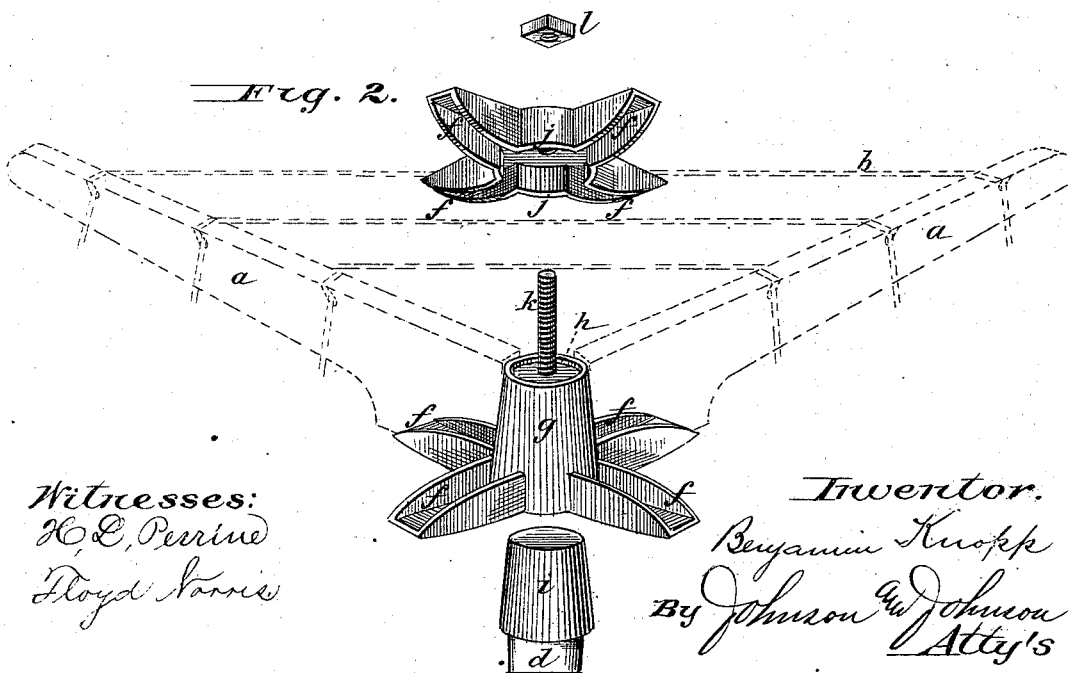
No. 216,683.

Patented June 17, 1879.

*Fig. 1.*



*Fig. 2.*



Witnesses:  
H. E. Perrine  
Floyd Harris

Inventor.  
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By Johnson & Johnson  
Attys

# UNITED STATES PATENT OFFICE.

BENJAMIN KNOPP, OF BLOOMVILLE, OHIO.

## IMPROVEMENT IN CLOTHES-DRIERS.

Specification forming part of Letters Patent No. **216,683**, dated June 17, 1879; application filed March 22, 1879.

*To all whom it may concern:*

Be it known that I, BENJAMIN KNOPP, of Bloomville, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Clothes-Driers, of which the following is a specification.

The clothes-drier which I have improved is of the kind in which a series of radial arms are mounted so as to be revolved upon a support, and connected by a line wound around from one arm to another, and from which the clothes are suspended, and in which the support for the line-arms is pivoted to a stand or post, and adapted to be tilted or inclined to lower the lines, to bring them within reach to hang out or remove the clothes therefrom, and to maintain the arms when the lines are loaded in horizontal position.

The line-supporting arms are clamped and sustained between separate socket-castings by a single center bolt adapted to be tightened, as may be required, to keep the arm-connections firm with said castings. The lower socket-casting has a hollow hub, closed at its upper end, except an opening for the screw, to form a bearing for the clamping action of the center bolt, and a hollow seat to receive the ferrule-bearing end of the support, upon which the line-bound arms are free to be turned in hanging the clothes. The upper socket-casting has a rim projection from its under side deep enough to fit over the top of the hollow hub and form a good lock to maintain it in central position with said hub, so that the radial arms fitted in corresponding sockets of the rimmed castings are firmly bound together by a single bolt passing through the top socket-casting, and a nut screwed down upon said casting draws the bolt-head against the inner side of the hub end, and by this means the two castings can be kept tightly bound upon the arms, allowing unseasoned timber to be used, and giving a simple and durable fastening device for the arms.

The arms are easily and quickly put together, and the casting can be lifted from its bearing-support when required to remove said arms.

Referring to the drawings, Figure 1 represents a vertical section of a clothes-drier em-

bracing my invention, and Fig. 2 the socket-casting separated.

The clothes-holding head, composed of the radial arms *a* and the clothes-line *b*, runs in oblique slits *c* from one arm to the other, is mounted upon a vertical support, *d*, pivoted to a stand or post, *e*, in a manner to allow the radial arms to be revolved and to be inclined to one side to lower the line.

The radial arms are secured between separate castings having corresponding projecting sockets *f*, adapted to receive and embrace the enlarged ends of the arms.

The lower casting is formed with a central hollow hub, *g*, closed at its upper end, except an opening, *h*, for a central bolt, which passes up through a top casting, and serves for clamping the castings together, while the hub itself forms a hollow seat, which fits snugly over and upon the ferrule end *i* of the vertical support *d* with a sufficient depth of the hub to give a good and firm hold upon the end *i* of the vertical support. The upper casting has a central collar or rim, *j*, adapted to fit over the upper end of the hub, and thereby form a lock for the two castings, which are united by a single bolt, *k*, which, passing through the end of the hub, has its head bearing against the inner side of said hub end, while said bolt passes through the upper casting, and has a nut, *l*, which, being screwed down, binds the castings and the radial arms together, and allows them to be tightened, as may be required by the shrinking of the timber, rendering the arm-connections firm and durable, and the parts easily put together. The head can be lifted from the bearing-support *d* and removed to shelter in case of sudden storms.

The vertical support *d* is pivoted at *d'* to the post *e*, and a pin, *m*, passing through said support into said post, serves to hold the radial arms in horizontal positions.

The lines can be lowered, as may be required, by removing the pin *m* and tilting the head to either side, in which position it is held by a stop, *n*, on the post, against which the lower end of the pivoted support strikes.

I claim—

1. In a clothes-drier, substantially such as described, the clamping device for the radial

arms, consisting of the hollow hub-bottom casting *g* and the collar or top-rim casting *j*, said castings interlocking and being secured together upon said arms by a central clamping-bolt, *k*, the head of which is within the bearing end of said hollow hub.

2. The combination, with the radial arms of a clothes-drier and the support therefor, of a socket-casting having a hollow hub, *g*, and a top-clamping casting having a collar or rim, *j*, adapted to receive and lock with the upper end of said hollow hub, and a central bolt for securing the parts, as described.

3. A clothes-drier consisting of the radial notched arms *a* for the line, the hollow socketed hub *g*, the rimmed socketed casting *j*, interlocking with each other upon the arms, the clamping-bolt *k*, and the pivoted bearing-support *d*, all constructed for use as shown and described.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

BENJAMIN KNOPP.

Witnesses:

J. A. KLAHR,

FRANK P. KLAHR.