

No. 628,972.

Patented July 18, 1899.

S. F. WELCH.
COMBINED SAND CAP AND AXLE COLLAR.

(Application filed May 17, 1899.)

(No Model.)

Fig. 1

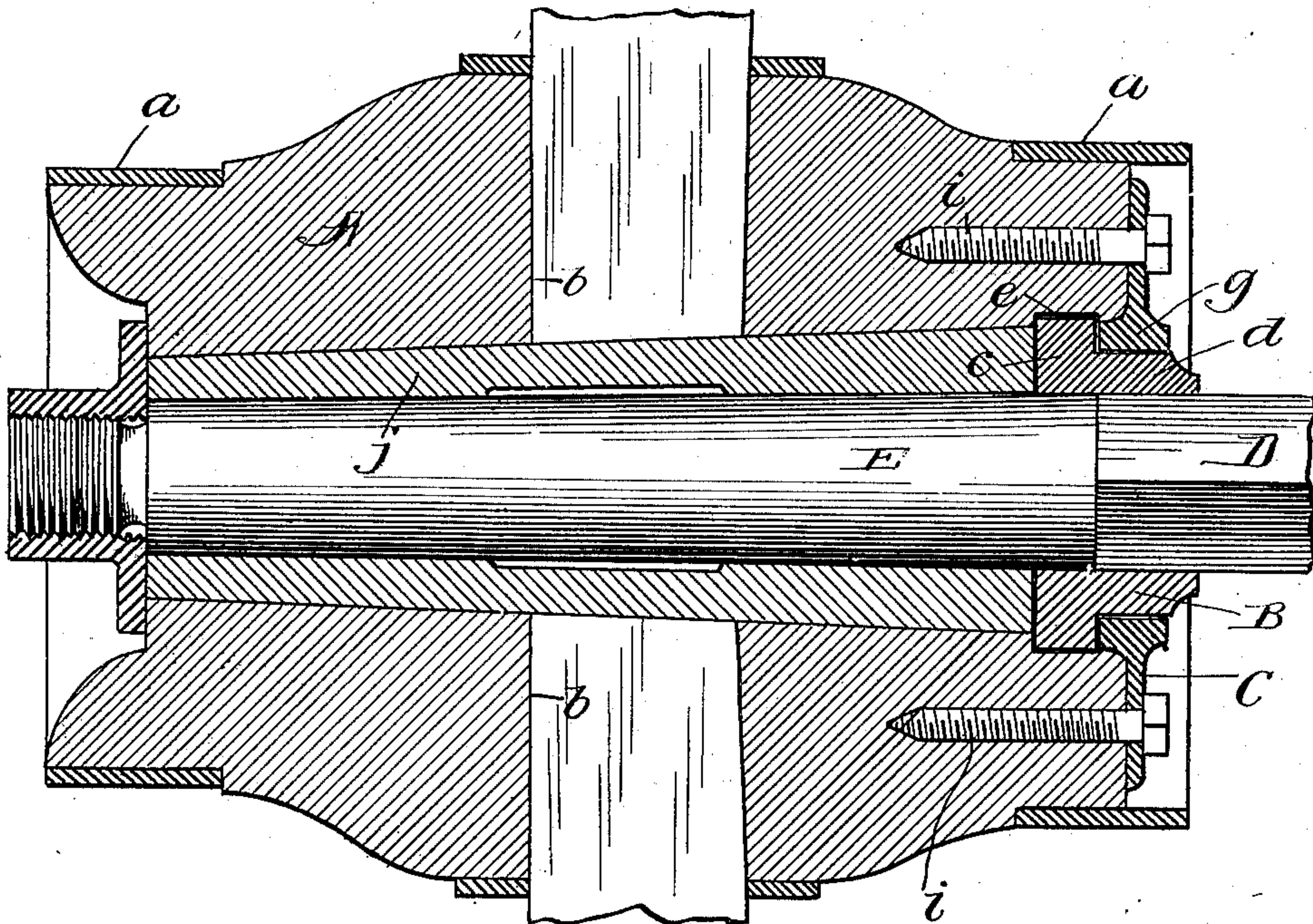
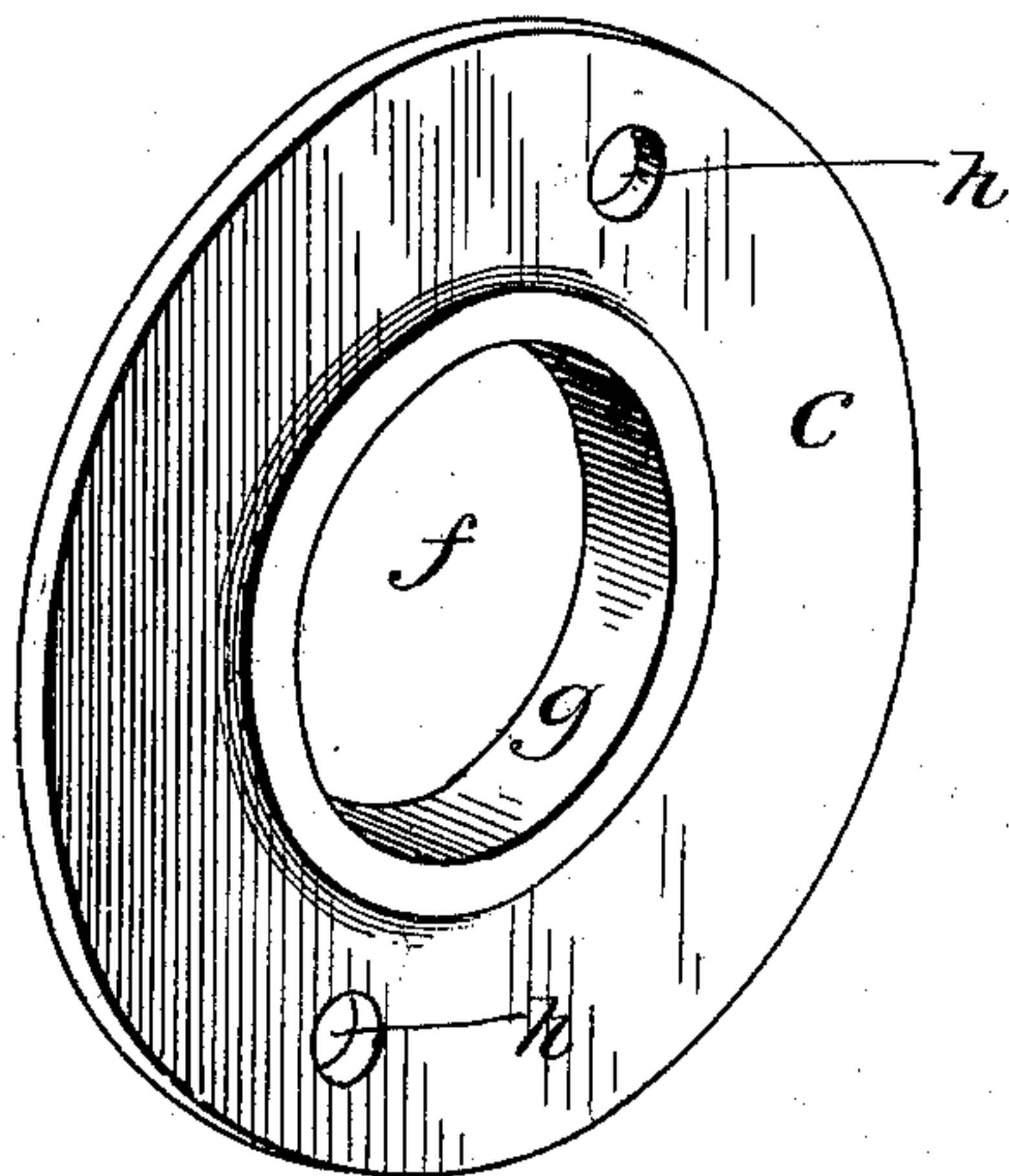
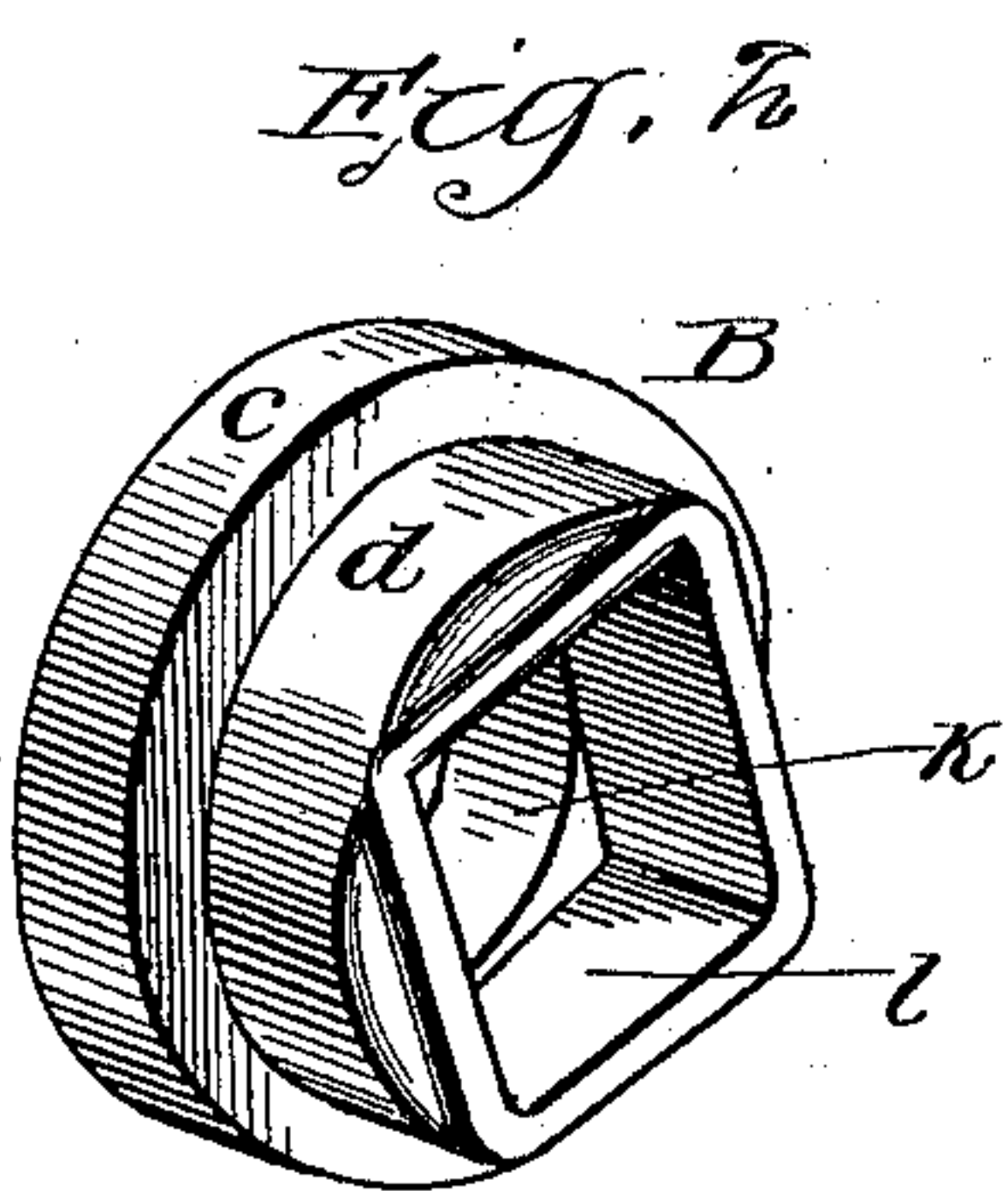


Fig. 3



Witnesses

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UNITED STATES PATENT OFFICE.

SAMUEL FRANK WELCH, OF AURORA, ILLINOIS, ASSIGNOR TO THE
WESTERN WHEELED SCRAPER COMPANY, OF SAME PLACE.

COMBINED SAND-CAP AND AXLE-COLLAR.

SPECIFICATION forming part of Letters Patent No. 628,972, dated July 18, 1899.

Application filed May 17, 1899. Serial No. 717,133. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL FRANK WELCH, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in a Combined Sand-Cap and Axle-Collar, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improved cap and collar for attachment to the inner end of a hub to protect the axle-spindle from dirt, dust, and other foreign matter that would tend to injure the same or that would prevent the easy turning of the hub on such spindle.

The object of my improvements is to provide a cheap, simple, and effective device of the class described, consisting of but two parts, one of which turns with the hub and the other remains stationary.

Another object of my invention is to so construct the cap and collar that after being secured in place they will both remain in place, so as to form in effect a part of the hub and be removable with it from the axle and the axle-spindle.

I accomplish these objects as hereinafter specified and as illustrated in the drawings.

That which I regard as new will be pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal vertical section through the hub of a wheel, showing my improvements applied thereto. Fig. 2 is a perspective view of the axle-collar, and Fig. 3 is a similar view of the cap that is attached to the inner end of the hub and turns on the collar.

A indicates an ordinary hub, having end bands *a* and spoke-openings *b*, as usual.

B indicates the collar, having an annular head portion *c*, that rests against the hub, and a neck portion *d*, the collar fitting within a recess *e*, formed in the inner end of the hub, as shown in Fig. 1.

C indicates the cap, which is annular in shape and has a central opening *f* of a size to adapt the cap to be placed over the neck portion *d* of the collar B. This cap is formed with a hub portion *g*, that forms a wide bearing on the neck portion *d*. Through holes *h*

screws *i* are passed, that secure the cap to the inner end of the hub A, and as the hub portion *g* of the cap comes against the raised annular head *c* of the collar B it of course holds the collar securely in place against the hub A, whether such hub is on its spindle or not.

D indicates the squared portion of the axle, and E the spindle thereof, on which the hub A turns, the usual bearing *j* being provided. It will be seen that the collar B is partially upon the squared portion D and partially upon the spindle E of the axle, and the interior of such collar is therefore made to correspond, part being round, as indicated at *k*, and part being squared, as indicated at *l*, Fig. 2.

In operation, with the collar and cap secured in place as shown and described, it is evident that the collar will not turn with the hub, as it will be prevented from so doing by reason of its squared portion fitting the squared axle. The cap C, however, being securely fastened to the hub, will of course turn with it, and in so turning will bear and turn upon the neck portion *d* of the collar. By reason of the cap thus fitting upon the collar and also lying close to the annular raised head *c* of such collar a joint is formed that effectually prevents the admission of dust, dirt, &c., to the axle-spindle, while at the same time permitting free and unobstructed turning of the hub. The device as a whole is also very simple and cheap and can be readily and quickly applied and when applied is always attached to and removable with the hub, so that there is no liability of losing either of the parts when the hub is removed for any cause from the axle-spindle.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a hub having a recess in one end, of a collar located in said recess, said collar having an annular head at its inner end and a neck portion projecting back from said head, and a cap attached to said hub and turning therewith and fitting upon the said neck portion of the collar, substantially as and for the purpose specified.

2. The combination with a hub having a re-

cess in one end, of a collar located in said re-
cess, said collar having an annular head at
its inner end and a neck portion projecting
back from said head; and a cap attached to
5 said hub and turning therewith and provided
with a hub portion that rests upon said neck
portion and against said head portion of the

cap, substantially as and for the purposes
specified.

SAMUEL FRANK WELCH.

Witnesses:

H. D. HAMPER,
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