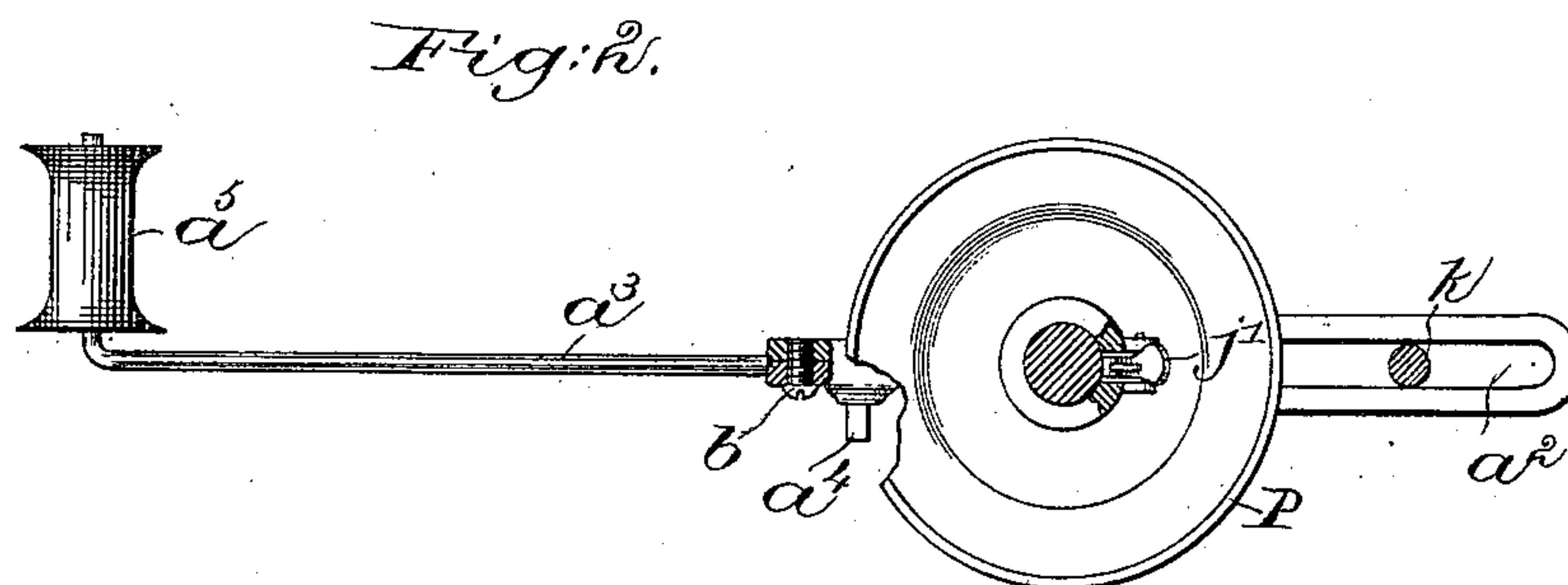
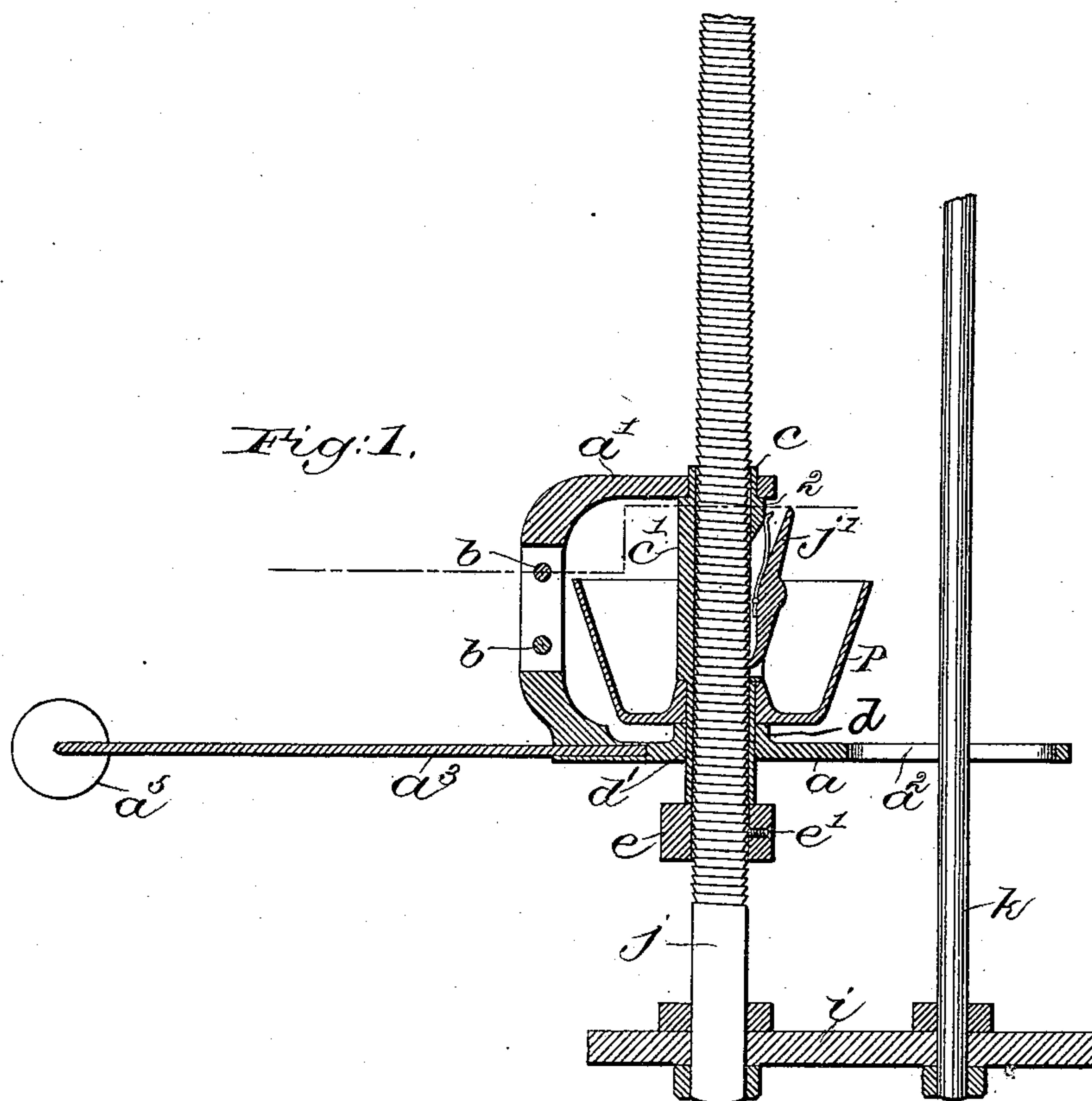


(No Model.)

W. D. HUSE.
YARN WINDING MACHINE.

No. 463,423.

Patented Nov. 17, 1891.



Witnesses:

Fred S. Greenleaf
Emma J. Bennett

Inventor:

Warren D. Huse.
by Crosby & Gregory Attys.

UNITED STATES PATENT OFFICE.

WARREN D. HUSE, OF LACONIA, NEW HAMPSHIRE.

YARN-WINDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 463,423, dated November 17, 1891.

Application filed July 13, 1891. Serial No. 399,321. (No model.)

To all whom it may concern:

Be it known that I, WARREN D. HUSE, of Laconia, county of Belknap, State of New Hampshire, have invented an Improvement in Yarn-Winding Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

10 This invention is an improvement on the class of winding - machines represented in United States Letters Patent No. 348,561, granted to me September 7, 1886, and has for its object to improve the construction of the
15 conical cup and its support, which bears upon the conical base of the bobbin being wound.

Figure 1 of the drawings represents in partial section and elevation a cup and supporting devices therefor embodying my invention.

20 Fig. 2 is a plan view of the parts shown in Fig. 1.

Referring to the drawings, *i* represents a plate, *k* a smooth rod erected thereon, and *j* a screw-threaded standard. These parts are
25 the same as those designated by like letters in the said patent, and in practice the plate *i* may be raised and lowered, as provided for in said patent, and the inclined periphery of the cup will bear upon the oppositely-inclined
30 base of the yarn-cone of the bobbin being wound.

In the patent referred to the conical cup *P* is mounted upon the hub of a sleeve surrounding the said threaded standard, and the
35 hub of the yarn-guide wire also surrounds loosely the said threaded sleeve and rests upon a collar secured thereto, the cup contacting with the upper side of the hub of the said yarn-guide.

40 In practice it has been found that flyings and lint quickly become wedged between the upper side of the hub and the under side of the cup and between the under side of the hub and the upper side of the collar referred
45 to, which prevents the free rotation of the cup, and the machine has to be stopped frequently to remove the waste, the dismemberment of the parts causing considerable trouble and waste of time.

50 In accordance with my invention I have so constructed the support for the cup that the bearings forming the center of rotation of the

cup will not become clogged, and in case they do may be readily and quickly cleansed, my improved contrivance being found in practice to be far more durable and efficient than the contrivance described in my aforesaid patent.

In accordance with my invention I have combined with the cup *P* a yoke composed, essentially, of two parts *a a'*, the part *a* being slotted at *a²* to embrace the smooth guiding-rod *k* and having attached to it the yarn-guide *a³* by a suitable set-screw or fastening device *a⁴*, the said yarn-guide having preferably a support *a⁵* at its end, over which the yarn, coming from the spool or cop to the bobbin with which the cup co-operates, is passed. The two parts of this yoke are represented as united by set-screws *b*. The part *a'* of the yoke has at its inner end a suitable opening, which embraces the upper reduced end *c* of the sleeve *c'*, upon which is pivoted the spring-pressed lever *j'*, common to the said patent, the lower inturned end of which lever engages the threaded part of the standard *j*. The arm or part *a* of the yoke has a hub *d*, which is provided with a hole or opening at *d'* and which surrounds loosely the sleeve *c'* below the under side of the cup *P*.

In accordance with my invention the cup is sustained by the sleeve *c'*, supported on the threaded standard by the spring-pressed lever *j'*, and the yoke is supported directly by the shoulder 2 at the upper end of the sleeve, an arm *a'* of the yoke being provided with an opening to embrace a reduced part *c* of the sleeve *c'*.

It will be understood that by providing the yoke with two bearings, one above and the other below the cup *P*, the yarn-guide forming part of the yoke is held more accurately and securely than when the yarn-guide has simply a hub to embrace the sleeve mounted on the threaded standard, as in the patent referred to, and it will also be observed that by dispensing with the collar heretofore attached to the threaded standard to support the thread-guide hub, as in the patent referred to, it is impossible for flyings to accumulate between the sleeve and the yoke below the cup and retard the free rotation of the sleeve carrying the cup.

The weight of the yoke and yarn-guide is

sustained altogether by the shoulder at the upper end of the sleeve, and, as the said shoulder is located at quite a distance above the yarn-guide, flyings or fibers detached from the yarn during the winding operation do not get between the said shoulder and yoke, so as to prevent the free rotation of the cup.

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

1. The inverted cup P, the sleeve upon which it is mounted, the said sleeve having a shoulder at its upper end and being extended below the lower end of the said cup, combined with a yoke for supporting the yarn-guide, the said yoke having two bearings, one at the upper and the other at the lower end of the sleeve carrying the said cup, to operate substantially as described.

2. The inverted cup P, the sleeve upon which it is mounted, the said sleeve having a shoulder at its upper end and being extended below the lower end of the said cup, combined with a yoke for supporting the yarn-guide, the said yoke having two bearings, one at the upper and the other at the lower end of the sleeve carrying the said cup, and with a threaded standard, and a guide k , which is embraced by a slotted portion of the yoke, to operate substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WARREN D. HUSE.

Witnesses:

GEO. W. GREGORY,
EMMA J. BENNETT.