

No. 764,606.

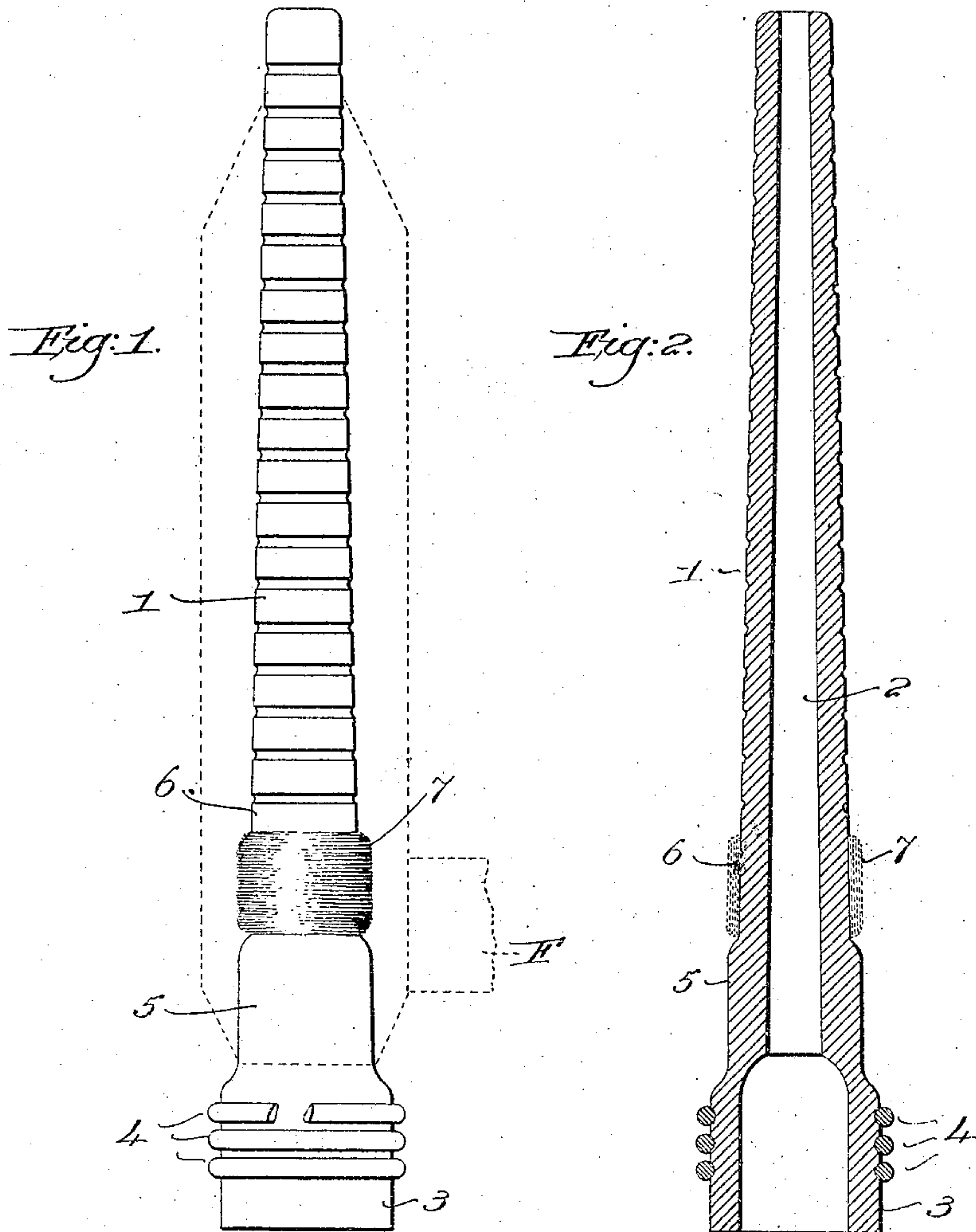
PATENTED JULY 12, 1904.

C. H. LAND.

FILLING CARRIER FOR AUTOMATIC FEELER LOOMS.

APPLICATION FILED APR. 14, 1904.

NO MODEL.



Witnesses,
Edward H. Allen.
S. Wm. Lutton.

Inverdon;
Cincinnati, Ind.,
by Crosby Gregory.
attys.

UNITED STATES PATENT OFFICE.

CINCINATUS H. LAND, OF KNOXVILLE, TENNESSEE, ASSIGNOR TO
DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPO-
RATION OF MAINE.

FILLING-CARRIER FOR AUTOMATIC FEELER-LOOMS.

SPECIFICATION forming part of Letters Patent No. 764,606, dated July 12, 1904.

Application filed April 14, 1904. Serial No. 203,067. (No model.)

To all whom it may concern:

Be it known that I, CINCINATUS H. LAND, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented an Improvement in Filling-Carriers for Automatic Feeler-Looms, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention has for its object the production of a novel filling-carrier or bobbin for use in the shuttles of automatic feeler-loom wherein the operation of filling-replenishing mechanism is effected by or through the action of a feeler instrumentality upon the substantial exhaustion of the filling in the shuttle.

Different forms of feeler-loom are shown in United States Patents Nos. 685,236, 725,194, and 725,229, as well as in various other patents of later dates, all being distinguished, however, by a feeler which intermittingly coöperates with the filling in the shuttle and causes the replenishment of the running filling prior to complete exhaustion of the supply in the shuttle. As is well known to those skilled in the art, enough filling must remain on the filling-carrier at the time the feeler instrumentality is caused to operate to extend one or more times across the lay to prevent a mispick. This filling is wound upon the barrel to form a preliminary winding or bunch, and then the main winding is laid on each side of and over the bunch. When the yarn behind the bunch is weaving off, it is very apt to catch upon the bunch as it is drawn over it and frequently breaks, causing considerable waste.

In accordance with my present invention the barrel of the filling-carrier is provided with a section adapted to receive a preliminary bunch or winding of yarn during the spinning operation, and between said section and the head of the filling-carrier the barrel is provided with a substantially cylindrical section of larger diameter to receive the yarn behind the bunch, the external diameter of

the latter being substantially that of the larger section. When the yarn is woven off this larger section back of the bunch, it draws freely over the bunch, owing to the greater diameter of the section, so that there is no chance for it to catch on the bunch, and consequently the tendency of the yarn to break by catching on the bunch is completely obviated. Any waste yarn left on the bunch-receiving section can be readily slid off by the attendant and removed from the bobbin without the use of a knife or other cutting implement.

Figure 1 is a view in elevation of a filling-carrier embodying my invention and showing the preliminary bunch or winding of yarn thereon, and Fig. 2 is a longitudinal sectional view of the filling-carrier.

The filling-carrier comprises a barrel 1, having a longitudinal central spindle-receiving bore 2 and an enlarged head or base 3, provided with annular projections or rings 4, adapted to be engaged by holding-jaws in a shuttle in well-known manner. Adjacent the head the barrel 1 is provided with a substantially cylindrical section 5, and contiguous the said section is a bunch-receiving section 6 of less diameter, also substantially cylindrical. In the spinning operation a preliminary bunch or winding 7 of yarn is laid upon the section 6, containing sufficient yarn to extend across the lay of the loom one or more times, ample yarn being thereby provided to prevent a mispick. This bunch is built up to substantially the diameter of the section 5, the two sections being stepped, and then the main winding is begun and the yarn mass is laid as usual, its outline being indicated by dotted lines, Fig. 1. In operation the feeler intermittingly engages the yarn mass, and so long as the diameter of such mass is greater than that of the section 5 the feeler cannot effect the operation of the feeler instrumentality; but when said yarn is woven off down to the bunch the feeler, as F, (see dotted lines, Fig. 1,) will then engage the section 5. The diameter of this section is such that the feeler instrumentality will thereupon operate and

cause the actuation of the filling-replenishing mechanism; but there will be ample yarn remaining in the bunch to last until a fresh supply of filling is provided.

- 5 By having the bunch or preliminary winding 7 at the outer end or behind the section 5 there is no opportunity for the yarn wound upon said section 5 to catch upon the bunch and break, for none of this yarn can be wound
10 upon a diameter equal to or less than that on which the bunch itself is wound. Of course the diameter of the section 5 is such that when bared of yarn the feeler will operate, there still remaining enough yarn in the bunch to
15 extend several times across the lay. By having the large diameter of the section 5 the yarn spun thereon tends to have more twist and to be stronger than would otherwise be the case, and this is of value, as the nearer the
20 yarn to the head of the filling-carrier when weaving off the greater is the strain thereon.

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

- 25 1. A filling-carrier for feeler-loom, comprising a head, and a barrel adapted to re-

ceive on its largest diameter a preliminary bunch, or winding of yarn, and an enlarged, substantially cylindrical section between the head and bunch-receiving section of the
30 barrel, whereby the yarn wound at the bunch and behind the same will weave off without breakage.

2. A filling-carrier for feeler-loom, comprising a head, and a barrel, the latter having
35 at the head end two contiguous and substantially cylindrical sections of different diameter, the section of larger diameter being nearer the head and adapted to cause the operation of a feeler instrumentality prior to
40 the exhaustion of the yarn in a preliminary bunch or winding adapted to be laid upon the smaller section in the spinning operation, the yarn wound upon the larger section weaving
45 off over the bunch without catching thereon.

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

CINCINATUS H. LAND.

Witnesses:

ADRIAN BRADLEY,
CHAS. F. BOBO.