

No. 691,816.

Patented Jan. 28, 1902.

H. W. SMITH.
FILLING CARRIER FOR LOOMS.

(Application filed Aug. 23, 1901.)

(No Model.)

Fig. 1.

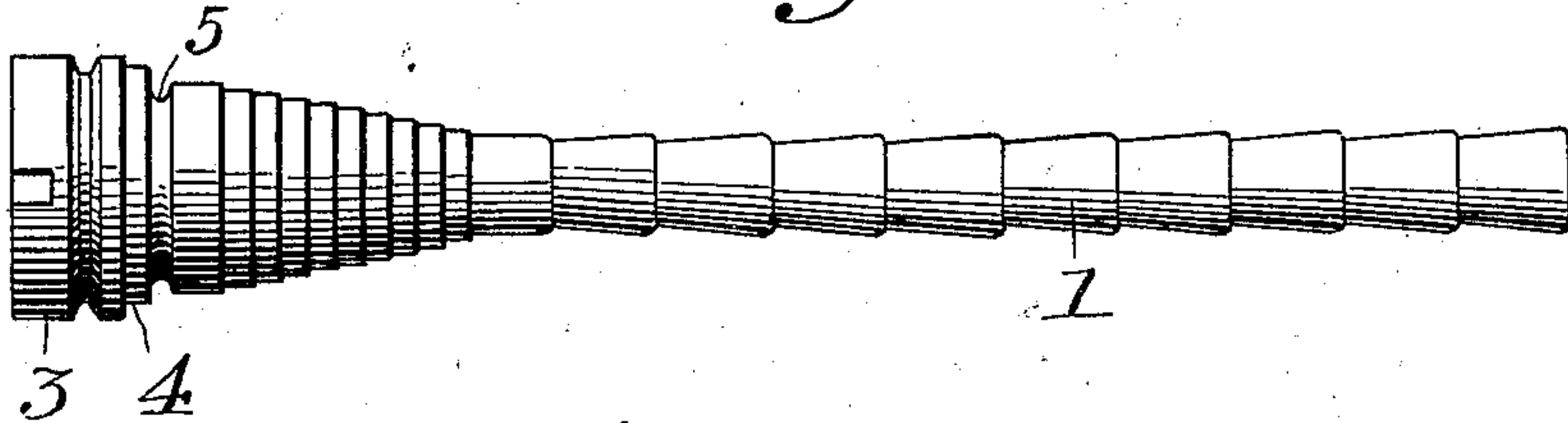


Fig. 2.

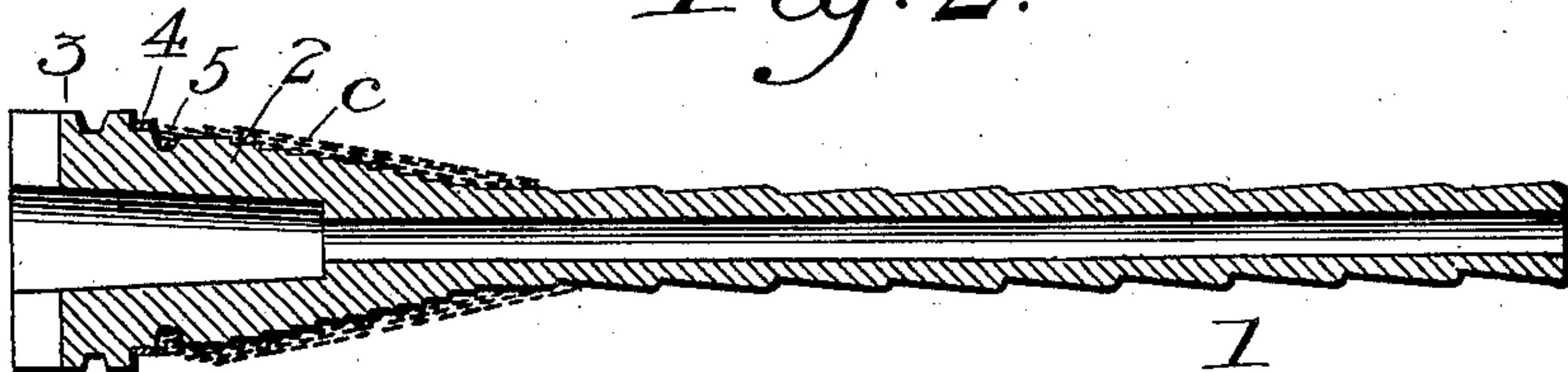
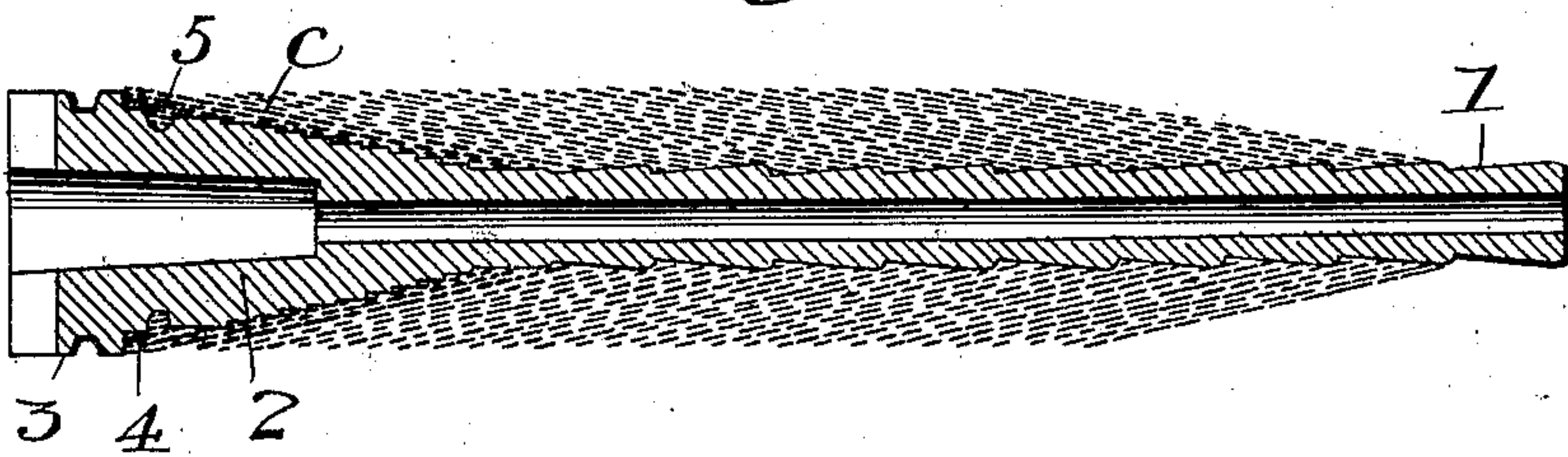


Fig. 3.



Witnesses:
O. W. Edelin.
Chas. H. Baker.

Inventor:
Harry W. Smith
By Crosby & Gregory Attys.

UNITED STATES PATENT OFFICE.

HARRY W. SMITH, OF NORTH GRAFTON, MASSACHUSETTS.

FILLING-CARRIER FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 691,816, dated January 28, 1902.

Original application filed November 8, 1898, Serial No. 695,880. Divided and this application filed August 23, 1901. Serial No. 73,031. (No model.)

To all whom it may concern:

Be it known that I, HARRY W. SMITH, a citizen of the United States, residing at North Grafton, in the county of Worcester and State of Massachusetts, have invented an Improvement in Filling-Carriers for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

The invention to be hereinafter described relates to filling-carriers of the general type adapted for use in looms provided with auxiliary mechanism for performing operations auxiliary to that of weaving, the subject-matter of the present application being a division of an earlier application filed by me on the 8th day of November, 1898, Serial No. 695,880.

In that class of looms wherein the auxiliary mechanism comprises devices for either stopping the loom or to automatically supply filling it has been found that all the filling cannot be unwound from the filling-carrier during the weaving, as the end is liable to be left in the web between the selvages, thus producing what in the trade is called "seconds," and consequently attempts have been made to bring the auxiliary mechanism into action when the filling has been exhausted to a predetermined point prior to complete exhaustion. The loss of filling resulting from this action of the auxiliary mechanism is of very considerable importance, and looms have been provided with feelers to contact with the filling on a filling-carrier at the forward movement of the lay, and when the diameter of the filling mass has been sufficiently reduced the feeler by its near approach to the longitudinal center of the filling-carrier permits certain devices controlled by the feeler to be started to supply new filling and eject the filling-carrier from which the filling has been practically exhausted.

The object of the present invention is the production of a wound mass of filling wherein may be secured a reserve quantity of filling to one side of a detecting means after the working filling on the carrier has become practically exhausted and wherein also the amount of waste filling may be determined

by the quantity of filling first wound on the carrier by distinctive initial windings at one side of a detecting means over which the filling is subsequently wound, so that in the operation of weaving the detecting means is and must be uncovered just prior to the unwinding of that portion of the filling first unwound, or the initial windings, to thus indicate the quantity of reserve filling or waste remaining on the carrier. The filling-carrier thus generally outlined and having the detecting member is adapted for use in any loom having an auxiliary mechanism, such as stopping or changing mechanism, controlled by a feeler— as, for instance, one having a magnetic feeler adapted to be coupled with the detecting member, which is of magnetic material, or with a feeler adapted to close an electric circuit by contact with said detecting member.

Referring to the drawings, Figure 1 is a side view of one form of filling-carrier embodying my invention. Fig. 2 is a longitudinal section thereof, showing the manner of laying the initial windings on the carrier; and Fig. 3 is a longitudinal sectional view of a filling-carrier.

The weft-carrier shown in the present instance as embodying my invention consists of a bobbin having any usual cylindrical body or section 1, a conical base 2, and a head 3. Preferably adjacent the head 3 and near the base of the conical section 2 of the bobbin is a detecting means, preferably in the form of a metallic band 4, and contiguous to said band is formed in the material of the bobbin a depression or groove 5.

In winding the filling on the carrier the latter will be placed on a spindle, as is well understood in the art, and the end of the yarn will be connected with the barrel of the carrier at one side of the detecting means or member 4, preferably at that side thereof between the band and the small or delivery end of the bobbin, and the bobbin being then rotated the thread-guide, of whatever form, will be maintained in such position with relation to the bobbin as to wind thereon at one side of the detecting member a series of distinctive initial windings *c*, which will determine the amount of reserve filling or waste, the said initial windings on the form of bobbin shown

being laid upon the conical base portion 2 of the bobbin and into the groove 5. When sufficient yarn has been laid on the bobbin to one side of the detecting member or band 4 to constitute the desired quantity of reserve filling on the bobbin after the detecting member in the operation of weaving has become uncovered, the traverse of the thread-guide is caused to lay the yarn over the detecting member one or a plural number of times and to thereafter regularly lay the yarn in the usual and well-known manner, as shown in Fig. 3.

It will be evident that when a filling-carrier or bobbin is provided with a groove, as 5, in proximity to the detecting member such groove may in some instances be sufficiently large in itself to contain what I have termed the "initial windings" to form a supply of reserve filling or waste after the detecting member has been uncovered, or such initial windings may extend, as has been above explained, not only in the groove 5, but along the filling-supporting surface of the carrier, and while I have shown in the present embodiment of my invention the groove for containing a part or all of the initial windings to constitute the reserve supply of filling of course it is evident that such groove is not essential, the initial windings being carried by the filling-supporting surface of the bobbin to one side of the detecting means or member. It will be also obvious to one skilled in the art that the particular form of bobbin selected for illustration of my invention is not essential, nor is it necessary that the detecting member or band 4 shall be located at the base of the conical section 2 of the bobbin, as variations in the form and distribution of these parts may be made within the scope of my invention.

A bobbin provided with a detecting means or member and wound, as described, with the distinctive initial windings at one side of said member constitutes a new and very desirable article of manufacture, which may be used with profit to people running looms in the manufacture of cloth.

I believe I am the first to devise a bobbin adapted to be held stationary, said bobbin having a detecting means or member between its ends, said means or member being located on the bobbin preferably, though not necessarily, near its head or base, and thereby adapted to have the yarn wound thereon by distinctive initial windings to one side of the detecting member and thereafter upon said detecting member.

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

1. A filling-carrier provided with detecting

means and having a distinctive initial wind of filling on said carrier to one side of the detecting means, the filling being thereafter wound upon the carrier to cover said detecting means and permit the filling to be delivered from the end of the carrier whereby the detecting means may be uncovered as the filling is being unwound and prior to complete exhaustion of the filling.

2. A filling-carrier provided with a metallic band and having a distinctive initial wind of filling on said carrier to one side of the metallic band, the filling being thereafter wound upon the carrier to cover said metallic band and permit the filling to be delivered from the end of the carrier whereby the metallic band may be uncovered as the filling is being unwound and prior to complete exhaustion thereof.

3. A bobbin provided with a detecting member and a groove, and having the filling initially wound to fill said groove and thereafter wound to cover said detecting member, whereby in unwinding the filling the detecting member will be uncovered before the initial windings are unwound from the groove.

4. A filling-carrier provided with detecting means and having a distinctive initial wind of filling on said carrier to one side of the detecting means, the filling being thereafter wound upon the carrier in conical layers to cover said detecting means and to permit the filling to be delivered from the end of the carrier whereby the detecting means may be uncovered as the filling is being unwound and prior to complete exhaustion thereof.

5. A filling-carrier provided with a conical base and detecting means secured to said base and having a distinctive initial wind of filling on said carrier to one side of the detecting means, the filling being thereafter wound upon the carrier to cover said detecting means and permit the filling to be delivered from the end of the carrier whereby the detecting means may be uncovered as the filling is being unwound and prior to complete exhaustion thereof.

6. A bobbin provided with a groove and a metallic detector member, the groove containing a quantity of filling to constitute waste, the detector member being overlaid with filling which may be unwound therefrom prior to the complete unwinding of the filling from said groove.

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

HARRY W. SMITH.

Witnesses:

GEO. W. GREGORY,
FRED S. GREENLEAF.