

No. 897,427.

PATENTED SEPT. 1, 1908.

M. L. STONE.

FILLING END HOLDER FOR WEFT REPLENISHING LOOMS.

APPLICATION FILED FEB. 20, 1908.

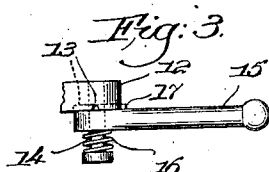
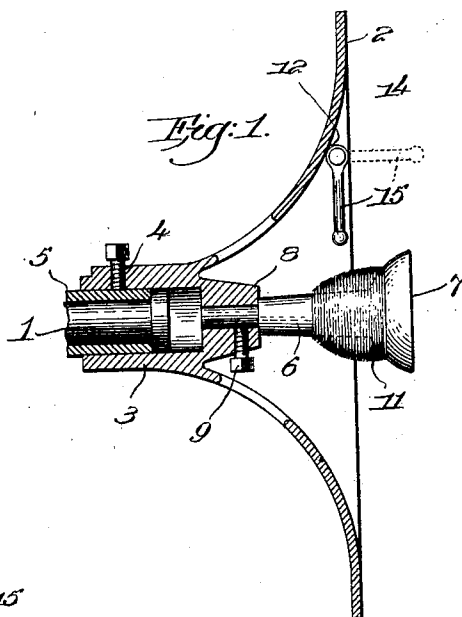
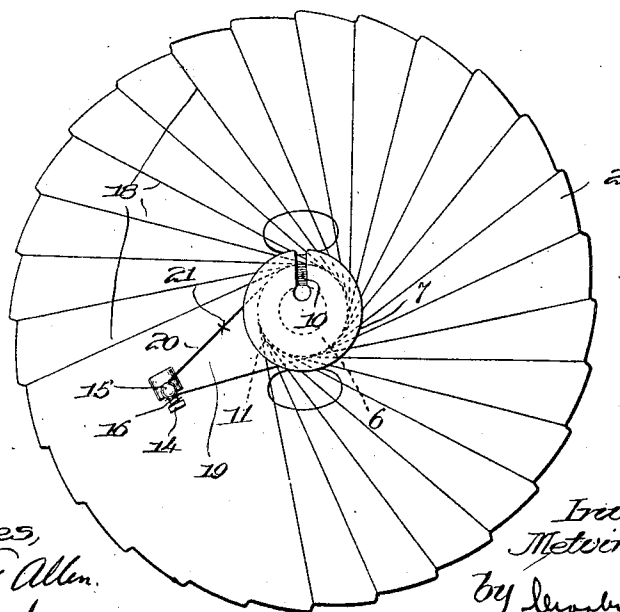


Fig. 2.



Witnesses,
Edward G. Allen,
Joseph M. Ward.

Inventor,
Melvin L. Stone,
by Lewis H. Gregory,
attys.

UNITED STATES PATENT OFFICE

MELVIN L. STONE, OF LEWISTON, MAINE, ASSIGNOR TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

FILLING-END HOLDER FOR WEFT-REPLENISHING LOOMS.

No. 897,427.

Specification of Letters Patent.

Patented Sept. 1, 1908.

Application filed February 20, 1908. Serial No. 416,822.

To all whom it may concern:

Be it known that I, MELVIN L. STONE, a citizen of the United States, and resident of Lewiston, county of Androscoggin, State of Maine, have invented an Improvement in Filling-End Holders for Weft-Replenishing Looms, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention relates more particularly to automatic filling-replenishing looms of the type wherein the supply of filling-carriers or bobbins in reserve are contained in a rotatable filling-feeder, from which they are removed one by one and inserted in the running shuttle without stopping the loom. A loom of this type forms the subject-matter of United States Patent No. 529940, granted November 27, 1894 to J. H. Northrop.

The filling-ends are led outward from the tip ends of the bobbins supported in the feeder and over the edge of a bell-shaped disk mounted on the outer end of the feeder, and thence the filling-ends are led to and wrapped around an end-holder, usually a central stud secured to the hub of the disk. From time to time it is necessary for the weaver to remove the accumulated mass of filling waste on the end-holder, and one way of doing it is to cut the mass with a knife and pull it off the stud. In so doing the ends between the latter and the disk are broken down, so that the weaver must thereafter handle the bobbins remaining in the feeder in order to draw off enough filling to carry the same over the disk and inward to the cleaned end-holder.

My present invention has for its object the production of a filling-end holder so constructed and arranged that an accumulated mass of filling waste can be removed without breaking down the filling-ends.

While the waste filling is accumulating, a matter of days or weeks, according to circumstances, the novel structure embodying my present invention will not be called into use, but when the weaver sees that the waste must soon be removed he brings my invention into play, and uses it as the feeder is filled to supply vacancies. When he is ready to remove the waste he can readily grasp the filling-ends of the bobbins then in the feeder and hold them out of the way till the waste is cleared, after which the ends are wound

around the stud at the outer end of the feeder, and the temporarily used part of the structure is thrown out of operation, such part being utilized to control the filling-ends so that they may be handled without breaking down.

Figure 1 is a sectional view of a filling-end holder embodying my invention, showing in full lines the auxiliary holding device for the filling-ends in normal position; Fig. 2 is an outer end view of the filling-end holder showing the manner in which the filling-ends are disposed prior to removal of the waste; Fig. 3 is an enlarged detail of the auxiliary holding and controlling device, illustrating the mode of holding it in either operative or inoperative position.

The stud 1, Fig. 1, on which the filling-feeder is rotatably mounted (said feeder comprising essentially means to sustain the filling-carriers in a circularly arranged series) and the bell-shaped disk 2 having a hub 3 adapted to be secured by a set-screw 4 onto a sleeve 5 loosely surrounding the stud 1, may be all substantially as usual in Northrop looms, one example of which is found in the patent referred to, the periphery of the disk 2 being notched as usual, as in Fig. 2. An end-holding stud 6 having at its outer end a knob-like head 7 is mounted in an outward extension 8 of the hub 3 and retained in place by a set-screw 9, the head 7 having a radial slot 10, Fig. 2, through which the blade of a knife may be passed to cut the waste filling, a mass of such waste being shown at 11, Fig. 1.

It will be understood by those skilled in the art that when bobbins are inserted in the feeder the weaver leads the filling-ends therefrom over the edge of disk and down to the end-holding stud 6, wrapping the thread one or more times around the stud to keep such thread in place. As the filling-ends are broken when the bobbins are transferred to the shuttle there is a gradual accumulation of filling waste on the stud, such as indicated at 11, Fig. 1, but in practice the mass frequently assumes much larger proportions as the weaver does not remove it till absolutely necessary. The time during which it accumulates varies from several days to, it may be, several weeks, but when it finally is removed the filling-ends of the bobbins then in the feeder will be broken down, and all the bobbins must be handled as the ends are rearranged. My invention prevents this

breaking down and consequent handling of the bobbins.

An ear 12 is cast on the inner face of the disk 2, said ear having its face preferably in a plane radial to the stud 1, and provided with crossed notches 13, a headed pin 14 projecting from the notched face rotatably supporting an auxiliary end-holder or controlling device, shown as an arm 15, held in place by a spring 16, see Fig. 3. The arm has a rib 17, adapted to enter either of the notches 13 in the ear, to retain the arm in normal, inoperative position, shown in full lines Fig. 1, or in its operative position, Figs. 2 and 3, and shown in dotted lines Fig. 1.

When the auxiliary device is operatively positioned it extends beyond the disk 2 parallel to the stud 6, the main end-holder, and at other times the arm 15 is in a radial position, out of the way of the filling-ends, as in full lines Fig. 1.

It will be supposed that the weaver sees the waste 11 growing to such a size that it must soon be removed, and thereupon he swings the arm 15 out into operative position, the spring 16 snapping the rib 17 into the proper one of the locking notches 13. Thereafter, when putting fresh bobbins into the feeder the weaver will lead their filling-ends 18, Fig. 2, from the edge of the disk 2 to and around the mass of waste 11 and thence outward, as at 19, to and around the arm or auxiliary end-holder 15 and then back at 20 to and once or twice around the stud 6 adjacent its head 7, gradually filling the feeder. When filled the weaver has the filling-ends collected in a loose rope, forming a loop 19, 20, around the arm 15, and he cuts the side 20 of such loop, at about the point 21, Fig. 2, and grasping the severed ends carries them outward from engagement with said arm. The bunch or rope of filling-ends is then unwrapped from the stud 6 and the mass of waste 11 thereon, and while held out of the way such mass is cut off, the slot 10 facilitating the movement of a knife-blade along the stud to cut the waste. After the latter is removed the bunched or collected filling-ends are wound around the stud a couple of times, holding them in place, the auxiliary holder 15 is returned to its normal, inoperative position and the filling-feeder is again ready for use. This arrangement obviates breaking down the ends when the waste is removed, as will be manifest, and the auxiliary holder is not again brought into service until in the usual course of events another collection of waste must be removed.

By inspecting the normal position of the auxiliary holder, as shown in full lines Fig. 1, it will be seen that it is entirely out of the way of the filling-ends led from the disk 2 to the end-holding stud 6, and cannot interfere therewith in any way.

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

1. In apparatus of the class described, a bell-shaped disk over which the filling-ends are led, a centrally located end-holding stud extended outwardly from the disk, and an auxiliary end-holder eccentrically mounted on the disk and adapted to be swung outward therefrom in parallelism with the end-holding stud, about which auxiliary end-holder the collected filling-ends are carried to form a temporary loop.

2. In apparatus of the class described, a bell-shaped disk over which the filling-ends are led, a centrally located end-holding stud extended outwardly from the disk, and normally inoperative means mounted on the disk to sustain, when operative, a temporary loop of filling-ends passed around the stud and said means and thence back to the stud.

3. In apparatus of the class described, a bell-shaped disk over which the filling-ends are led, a centrally located end-holding stud extended outwardly from the disk, an ear on the outer face of the disk eccentric to the stud, an arm fulcrumed on the ear and movable outward into parallelism with the stud or into inoperative position radial to the stud, and means to lock said arm in either position, the arm when operatively positioned forming a support for a temporary loop in the collected filling-ends when carried about the arm.

4. In apparatus of the class described, a bell-shaped disk over which the filling-ends are led, a centrally located end-holding stud extended outwardly from the disk, and normally inoperative means mounted on the disk and adapted when operative to cooperate with a temporarily grouped series of filling-ends and position the same in a temporary loop, whereby filling waste on the stud can be removed without breaking down said ends.

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

MELVIN L. STONE.

Witnesses:

WALLACE H. WHITE, Jr.,
INA C. CROSS.