

1,059,638.

Fig. 1.

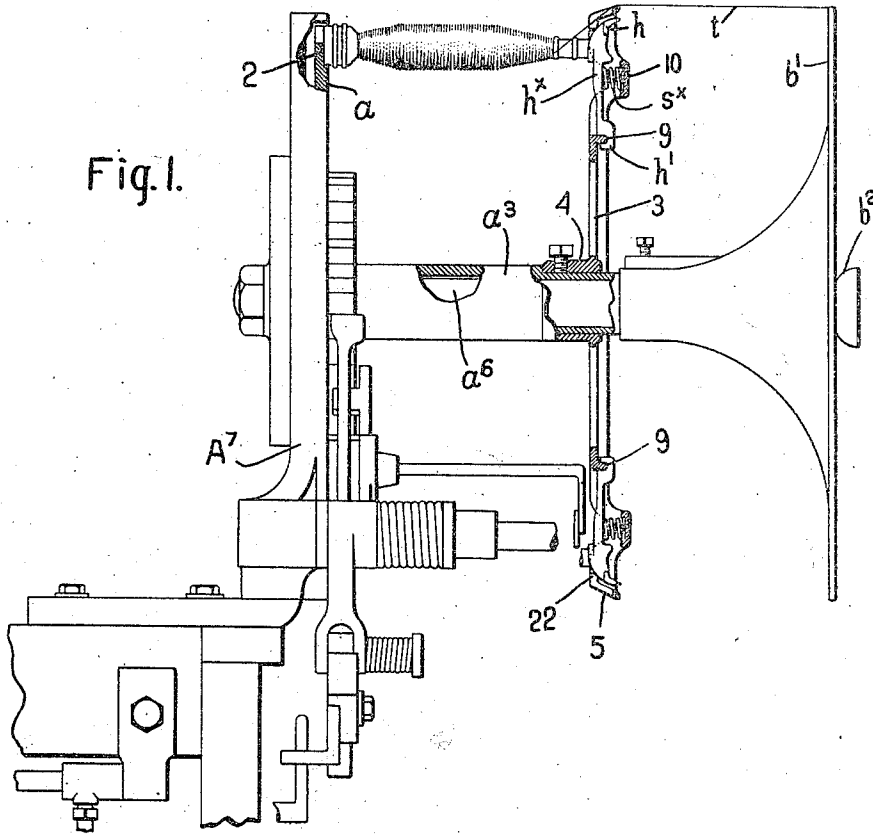


Fig. 2.

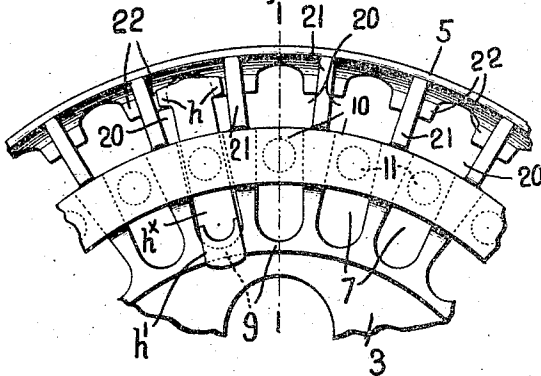
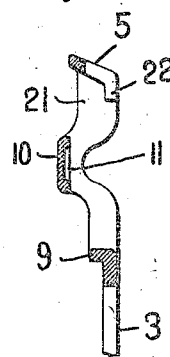


Fig.3.



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UNITED STATES PATENT OFFICE

ALONZO E. RHOADES, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

FILLING-FEEDER FOR FILLING-REPLENISHING LOOMS.

1,059,638.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed December 9, 1912. Serial No. 735,606.

To all whom it may concern:

Be it known that I, ALONZO E. RHOADES, a citizen of the United States, and resident of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Filling-Feeders for Filling-Replenishing Looms, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates more particularly to the filling-feeder or hopper in which a reserve supply of filling-carriers is contained, to be transferred one by one to the working shuttle as occasion demands in a Northrop loom, and it is an improvement on the feeder forming the subject-matter of United States Patent No. 966,615 granted to Stimpson August 9, 1910. In said patent the butts of the filling-carriers are sustained in suitable circularly-arranged pockets or seats in the revoluble plate at the inner end of the filling-feeder, while the tips of said carriers are sustained by individually movable tip-holders mounted in the outer plate of the feeder, both plates being connected to revolve in unison in well known manner. The outer plate shown in said patent has a continuous peripheral flange over which the filling-ends are led, (a valuable feature of construction,) and the tip-holders are mounted to rock in elongated, radial slots in the plate, said slots having parallel sides and being made just wide enough to receive the tip-holders, which latter are spring-pressed toward the butt-sustaining plate of the feeder. The springs are held between the tip-holders and spring-seats which span the slots about midway between their ends. This patented feeder has been found to be highly successful and well adapted for the purpose for which it was designed, but owing to the construction of the outer plate it has been found difficult to assemble the tip-holders, the spaces for their reception being contracted, and sometimes a spring-seat will be broken when inserting a tip-holder.

My present invention has for its particular object the construction of the outer plate of the filling-feeder in such manner that the assembling of the tip-holders is materially facilitated and breakage of any part of the plate wholly obviated.

In my invention herein set forth I retain

the continuous peripheral flange of the plate, the circularly arranged series of spring-seats spanning the radial slots, the tip-holders, and the supports on which the latter are adapted to rock at their inner ends, as in the Stimpson structure, but I have widened laterally each slot between the spring-seat and the peripheral flange, permitting the ready insertion of a tip-holder. Such widening of the outer portions of the slots has necessitated strengthening of the plate, and to that end I have interposed relatively thin but deep radial ribs between the outer, widened portions of adjacent slots, and extending from the spring-seats to the peripheral flange, the depth of a rib being nearly equal to the width of the flange. By this construction I maintain the requisite strength and rigidity of the plate, without undue increase in the weight thereof, and I provide a construction whereby the tip-holders can be positioned with rapidity and ease, and without danger of breakage of any part of the plate.

The various novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a front elevation and partial section of a filling-feeder embodying my invention, and to avoid confusion only the two diametrically opposite tip-holders and the adjacent portions of the outer plate of the feeder are shown, on the line 1—1, Fig. 2; Fig. 2 is an outer face view, enlarged, of a portion of the feeder plate which sustains the tips of the filling-carriers, only one of the tip-holders being shown in place; Fig. 3 is a sectional detail on the line 1—1, Fig. 2, looking toward the left.

Referring to Fig. 1, the circular plate *a* provided with butt-receiving pockets or seats 2 and having its hub *a*³ mounted to rotate on the horizontal stud *a*⁶ fixed in the stand *A*⁷; the filling-end holding means, comprising the disk *b*¹ and stud *b*², rotatable with the filling-feeder, and the hub 4 of the outer feeder plate 3, rigidly attached to the hub *a*³, are and may be all as in the Stimpson patent unless otherwise stated hereinafter. As in said patent I have shown herein the plate 3 provided with an outwardly flared, continuous peripheral flange 5 which serves to support the filling-ends *t*, Fig. 1, as they are led from the filling-car-

riers to the end holding means: and so, too, the inner portions of the radial, parallel-sided slots 7 having each at its inner, closed end a thickened portion or transverse rib 9, and the spring-seats 10, are all substantially as 'in the Stimpson patent.' Said spring-seats are at the outer face of the plate 3 and as shown in Fig. 2 they form a continuous annular bridge which strengthens and stiffens the plate between its hub and the peripheral flange, each seat having in its inner face a depression 11 for a spiral spring s^* which acts upon the back of the adjacent tip-holder h^* .

There is nothing novel, so far as this invention is concerned, in the structure of the tip-holder, which is of well known construction, each one being notched at its inner end at h' to embrace and rock upon the rib 9 and having at its outer end lateral ears h , all as in the Stimpson patent. In accordance with my present invention I widen each slot 7 between the spring-seat 10 and the flange 5, as at 20, Fig. 2, leaving a large clearance at each side of the tip-holder when the latter is positioned, the laterally widened portions 20 of the several slots being separated by the radial ribs 21. These ribs are relatively thin, as shown, but they are made very deep between the spring-seats and the peripheral flange 5, practically as deep as the latter is wide, Fig. 3, and by this construction I provide the requisite strength, stiffness and rigidity of the feeder plate without increasing its weight. Where the bottom of each rib adjoins the flange 5 I provide small lateral lugs or stops 22, extended laterally from opposite sides of the rib, to serve as limiting means for the adjacent tip-holder when empty. That is, when the spring s^* is free to act it presses the tip-holder h^* toward the feeder plate a until the ears h rest against the outer faces of the contiguous lugs 22.

Referring to Fig. 2 it will be seen that the lateral enlargement of each tip-holder receiving-aperture between the spring-seat and the flange 5 of the plate gives ample room for manipulation and handling when inserting a holder h^* into place, and for inserting the spring s^* in its proper position, without any crowding or forcing of parts into place. When the space is contracted, as it has been heretofore, it is difficult to get the tip-holder and its spring into proper position, and sometimes the forcing of a part into place results in breakage of the feeder plate, which in practice is a metal casting and relatively thin throughout.

The tip-holders do not often break, but the springs will sometimes break or lose their strength, and new ones must then be provided, and by the construction herein set forth this change is made very easy while at the same time breakage of the feeder plate is obviated.

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

1. In a revoluble filling-feeder for looms, a tip-sustaining plate having a continuous peripheral flange and provided with a series of closed, radially arranged slots, a series of spring-seats spanning the slots at the outer face of the plate, each slot being increased in width laterally between the spring-seat thereof and the closed outer end of the slot, for the ready positioning of a tip-holder and its spring, a series of relatively thin and deep radial ribs between the widened portions of the slots and extended from the spring-seats to the flange, tip-holders seated in the slots and mounted to rock on the plate at their inner ends, springs interposed between the holders and the spring-seats, and means at the outer end of each slot to limit spring-induced movement of the tip-holder therein.

2. In a revoluble filling-feeder for looms, a tip-sustaining plate having a continuous peripheral flange and provided with a series of closed, radially arranged slots, a series of spring-seats spanning the slots at the outer face of the plate, each slot being increased in width laterally between the spring-seat thereof and the closed outer end of the slot, for the ready positioning of a tip-holder and its spring, a series of relatively thin and deep radial ribs between the widened portions of the slots and extended from the spring-seats to the flange, lateral stop-lugs extended oppositely from each rib into the adjacent slots contiguous to the peripheral flange of the plate, tip-holders seated in the slots and having a rocking engagement with the plate at their inner ends, and springs between the holders and the spring-seats, each tip-holder having at its outer end ears to be engaged by the stop-lugs and thereby limit spring-induced movement of the holder.

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

ALONZO E. RHOADES.

Witnesses:

ROBERT JAMIESON,
E. D. OSGOOD.