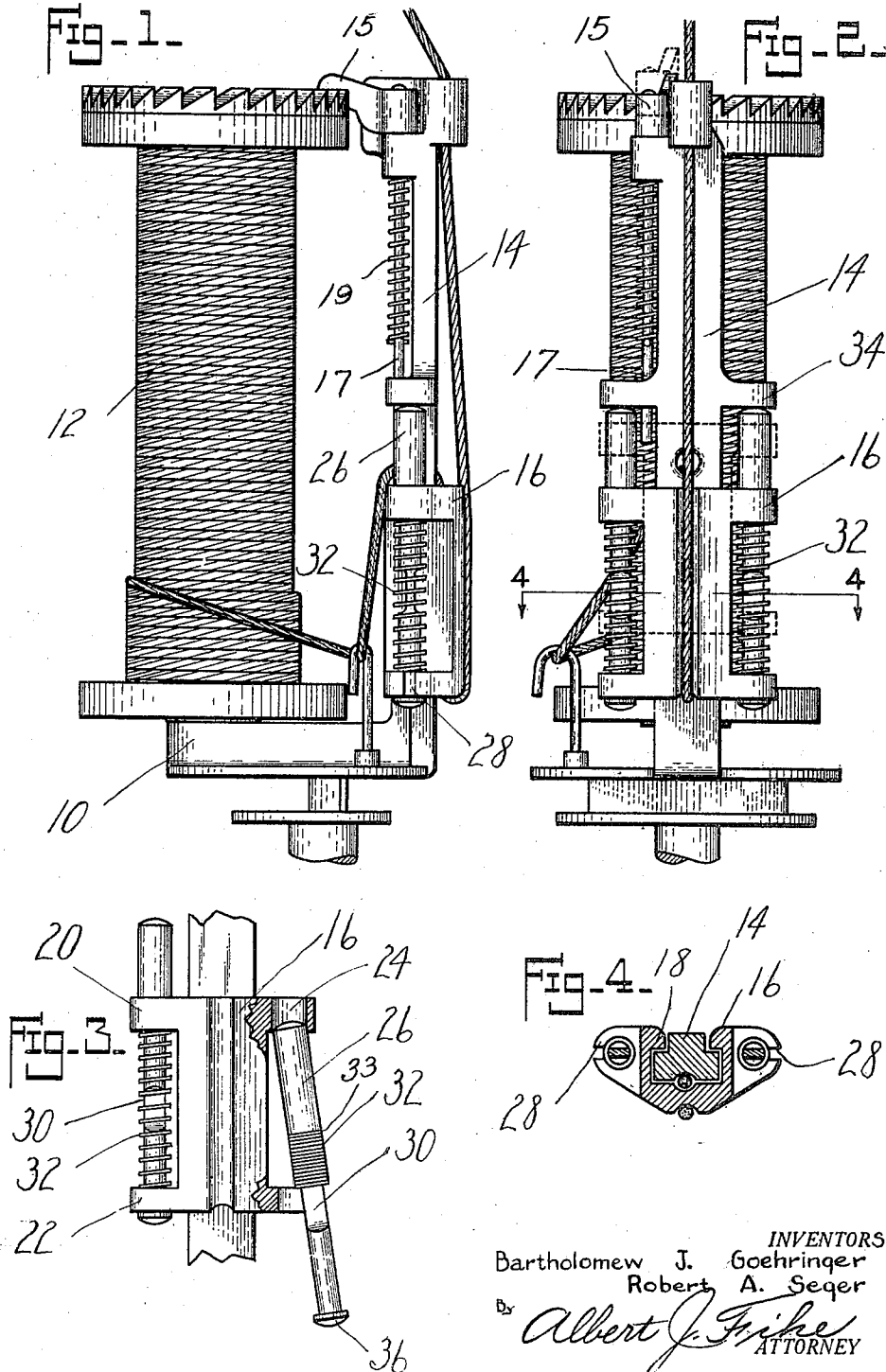


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B. J. GOEHRINGER ET AL
TENSION WEIGHT FOR BRAID CARRIERS

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TENSION WEIGHT FOR BRAID CARRIERS.

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To all whom it may concern:

Be it known that we, BARTHOLOMEW J. GOEHRINGER and ROBERT A. SEGER, citizens of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Tension Weights for Braid Carriers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in cord braiding machines and has for its particular object the provision of a tension weight for such a machine of an improved design whereby the parts thereof can be easily cleaned or removed whenever such an operation is necessary on account of becoming clogged with lint or the like.

One of the important objects of this invention is the provision of an improved tension weight and plunger for cord braiders which shall be satisfactory of operation, composed of a minimum of parts and which can be readily taken apart and cleaned whenever necessary with a minimum of trouble and within a very short space of time.

Still another important object of this invention is the provision of a combined tension weight and plunger for cord braiding machines which shall be simple and economical of manufacture and which can be readily adapted to practically any cord braiding machine now on the market with practically no changes in the construction or operation thereof.

Other and further important objects of the invention will be apparent from the disclosures in the accompanying drawings and following specification.

The invention, in a preferred form, is illustrated in the drawings and hereinafter more fully described.

In the drawings:—

Figure 1 is a side view of a bobbin of a cord braiding machine illustrating the improved carrier member and tension weight of this invention applied thereto.

Figure 2 is a face view of the apparatus illustrated in Figure 1 showing the tension weight in tension position and the locking pawl in releasing position in dotted lines.

Figure 3 is a detail view of the tension

weight member illustrating the simplified method of removing the plunger and spring.

Figure 4 is a partial sectional view taken on the line 4—4 of Figure 2 looking in the direction indicated by the arrows.

As shown in the drawings:—

The reference numeral 10 indicates generally a take-off tension frame as applied to a cord braiding machine having a bobbin 12 applied thereto in an ordinary manner.

The tension frame includes an integral fixed upright member 14 upon which the improved tension weight and plunger member of this invention is adapted to operate by sliding vertically thereon.

Positioned upon the tension frame 14 is a locking and releasing pawl 15 adapted to co-operate with the notched head of the bobbin 12. An operating stem 17 projects downwardly from the pawl 15 and is surrounded by a helical spring 19 adapted to normally maintain the same in bobbin locking position. The lower end of the stem 17 extends downwardly to within a suitable distance of the top of a carrier weight 16 as best illustrated in Figure 2 and as shown by the dotted lines. In this figure the pawl 15 is impelled upwardly in bobbin releasing position upon contact of the carrier weight 16 with the lower end of the stem 17.

The carrier weight is of a construction as best illustrated at 16 in the drawings and comprises a generally solid member having a groove extending throughout the middle longitudinal portion thereof adapted for the slidable reception of the vertical portion 14 of the tension frame. Over-hanging elements as best illustrated at 18 in Figure 4 are provided adapted to co-operate with integral ledges along the sides or faces of the tension frame 14 so that the carrier weight 16 is effectively maintained in operating position.

Upper and lower projections as best illustrated at 20 and 22 in Figure 3 are provided integral with the carrier weight 16 and the upper projections 20 have drilled there-through openings as best shown at 24 in Figure 3 provided for the slidable reception and maintenance of the upper cylindrical portion of a plunger 26.

The lower projections or lugs 22 are provided with similar drilled openings which have milled slots 28 opening therefrom as best illustrated at 28 in Figure 4 and

through these slots is adapted to pass the intermediate portion of the plunger 26 which is cut away as shown at 30 so as to provide a ready fit.

5 A helical compression spring 32 surrounds each of the plungers 26 and are adapted to maintain the carrier weights 16 in normal lowermost position by bearing against the bases of the lugs or projections 22 and
10 against a suitable ledge 33 on the plunger 26, thereby impelling the upper ends of the plungers 26 into normal relation with corresponding integral lugs 34 on the tension frame 14. Suitable heads 36 are provided
15 on the lower ends of the plungers 26 whereby the same are maintained in operative relation with the lower faces of the projection 22 on the tension weight, and it will be noted that the lower ends of the plungers 26
20 adjacent the heads 36 are circular in cross section so that the plungers are normally maintained in operating relation on the tension weight at all times. This construction prevents any accidental removal of the plungers from the openings in the lugs.

The method of removal of the plungers 26 is illustrated in Figure 3 which shows the right hand plunger pulled down for a distance sufficient to allow of the narrowed
30 portion 30 to pass out through the milled slot 28 at which position the spring 32 is compressed, as shown and allowing of a ready removal of the plunger for purposes of cleaning replacement or the like.

35 In the usual construction of cord braiders, the coiled springs in the tension member have heretofore been completely inclosed by the tension weight rendering them inaccessible for cleaning unless completely removed
40 which has heretofore been a very laborious process compared to the ease with which the spring of the present invention can be cleaned.

It will be further noted that in the improved design of this invention, the springs of the tension member are exposed and therefore can be easily cleaned of lint with a wire brush, and in the event that an extraordinary amount of lint becomes lodged on
50 the spring and plunger thereby rendering the operation sluggish, the entire equipment can be completely disassembled by a very simple operation, thereby eliminating delays.

55 We are aware that many changes may be made and numerous details of construction varied throughout a wide range without departing from the principle of this invention, and we, therefore, do not purpose limiting the patent granted hereon otherwise than as
60 necessitated by the prior art.

We claim as our invention:

65 1. A tension weight for cord braiders, including in combination with the tension frame, a bobbin, a weight slidable on the

tension frame, plungers slidable in the weight and co-operating with the frame, and helical springs surrounding the plungers and adapted to normally maintain the weight and plungers in co-operative relation with
70 the frame.

2. A tension weight for cord braiders, including in combination with the tension frame, a bobbin, a weight slidable on the
75 tension frame, plungers slidable in the weight and co-operating with the frame, helical springs surrounding the plungers and adapted to normally maintain the weight and plungers in co-operative relation with the frame, integral projections on the weight
80 member provided with alined openings for the reception of the plungers, the lowermost of said projections having milled slots leading from the said openings and flattened portions on the plungers adapted to co-
85 operate with said milled slots.

3. A tension weight for cord braiders, including in combination with the tension frame, a bobbin, a weight slidable on the
90 tension frame, plungers slidable in the weight and co-operating with the frame, helical springs surrounding the plungers and adapted to normally maintain the weight and plungers in co-operative relation with the frame, integral projections on the
95 weight member provided with alined openings for the reception of the plungers, the lowermost of said projections having milled slots leading from the said openings, flattened portions on the plungers adapted to
100 co-operate with said milled slots, said flattened portions being positioned at approximately the middle portion of the plungers, and heads on the lowermost ends of the plungers adapted to co-operate with the
105 aforesaid open projections.

4. A cord braider including in combination a tension frame, a bobbin, a tension weight member slidable on the frame, said
110 tension weight member including readily removable plungers, and a helical spring surrounding each plunger having one end co-operating with the weight member and the other with the plunger, and having its entire
115 length readily accessible.

5. A tension weight for braiding carriers, including in combination with the tension frame a carrier weight slidable thereon and removable operating plungers in said weight.

6. A tension weight for braiding carriers, including in combination with the tension frame a carrier weight slidable thereon and removable operating plungers in said weight, together with removable resilient means for maintaining said plungers in operative relation.
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In testimony whereof we affix our signatures.

BARTHOLOMEW J. GOEHRINGER.
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