Jan. 5, 1926. 1,568,088

G. H. ROSENSTEIN

THREAD COUNTING APPARATUS

Filed Dec. 26, 1923

Fig. 1.

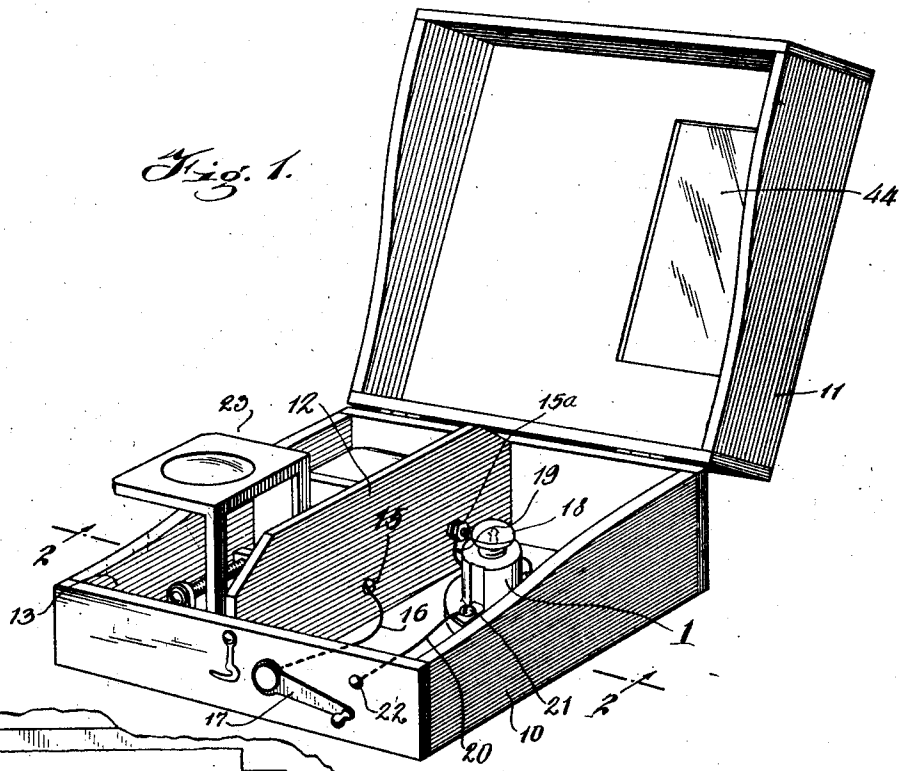


Fig. 3.

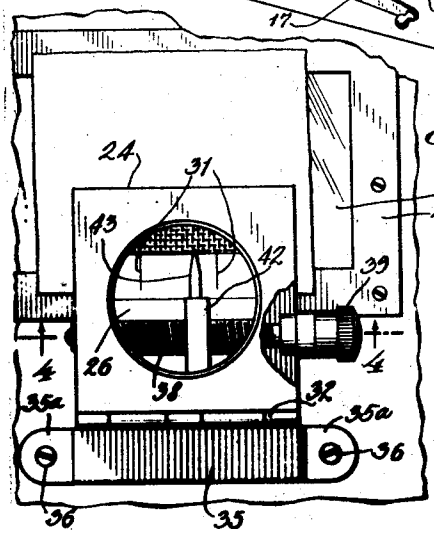


Fig. 2.

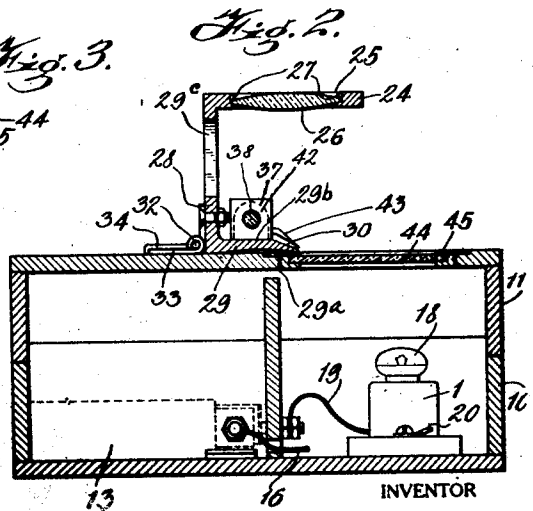
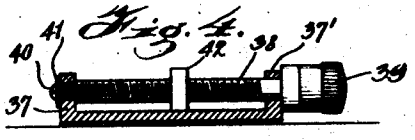


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE H. ROSENSTEIN, OF NEW YORK, N. Y.

THREAD-COUNTING APPARATUS.

Application filed December 26, 1923. Serial No. 682,847.

To all whom it may concern:

Be it known that GEORGE H. ROSENSTEIN, citizen of the United States, residing at New York city, in the county of New York and State of New York, has invented certain new and useful Improvements in Thread-Counting Apparatus, of which the following is a specification.

This invention relates to thread counting apparatus.

Among the objects of the invention is to provide an apparatus of the character described which shall be simple in construction and manipulation, compact and neat in arrangement, comparatively cheap to manufacture, and efficient in operation to a high degree.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter described and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention,

Fig. 1 is a perspective view of an apparatus embodying this invention showing the case containing the apparatus in open position;

Fig. 2 is a vertical cross-sectional view taken on the plane indicated by line 2—2 in Fig. 1 but showing the apparatus in position for use;

Fig. 3 is a partial plan view of the apparatus as shown in Fig. 2; and

Fig. 4 is a detail cross-sectional view along line 4—4 of Fig. 3 showing the screw bolt and indicator.

Referring in detail to the drawing, 10 indicates a case or container having hinged thereto a cover 11. The case is divided into a plurality of compartments by means of a suitable partition 12. In one of the compartments is held an electric battery 13, the poles of which are adapted to make contact with contact studs 15, 15ª, the former being connected by means of lead wires 16 to one end of a switch 17 positioned on one outer face of the case 10, the other stud 15ª being connected to one pole of an electric bulb 18 as by means of the lead wire 19. A lead wire 20 connects the opposite pole 21 of the electric bulb to the other pole 22 of the switch 17, so that when the switch 17 is closed a complete circuit is made through the battery and electric bulb as will be readily understood.

The counting device is indicated generally at 23 and comprises a right angle bracket member having a horizontal portion 24 and which is apertured as at 25 for a lens 26. The latter may be held securely in position in the member 24 in any suitable manner. In the form shown in the drawing, a wire ring 27 snapped into a groove formed in the wall of the aperture serves this purpose. The vertical face 28 of the bracket is recessed so as to provide a window 29ᶜ for admission of light, and has preferably formed integral therewith a base member 29 extending from the bottom thereof substantially at right angles thereto and parallel to the first mentioned horizontal member 24. The bottom of this face is preferably reamed out as at 29ª so as to provide a progressive taper towards the forward portion of the base, and at the forward portion the upper part of the base is tapered downward so as to provide a flat edge or scale 30 on which may be marked any desired scale division 31. The reamed out portion 29ª permits use of the device with heavier cloths and the taper resulting in the portion 30, provides a sharp edge for holding down the cloth under examination. Hinged adjacent the bottom of the vertical member 28, as at 32, is a flat extension 33 whereby the counting device may be supported or held on the top of the cover 11 in any suitable manner. In the form shown in the drawing, the counting device is removably held on the cover by means of a pocket 34 formed from sheet metal 35 or the like material having depressed end portions 35ª, whereby the pocket is secured to the cover as by screws 36. The extension 33 is slipped into this pocket and the bracket may then be tilted about the hing 32 so as to lift the base 29 when it is desired to position the fabric to be tested as hereinafter more fully described.

Upstanding from the upper face 29ᵇ of the base 29 are a pair of trunnions 37, 37′ in which is journaled a screw bolt 38 having a head 39, at one end, and held against longitudinal movement by a small screw 40 and a washer 41 at the other end. Carried on

the screw bolt is a nut 42 from which extends an indicator 43 bent downward so as to extend over the scale 30.

In the portion of the cover disposed over the bulb in the interior of the case is formed a window for a pane 44 preferably of smoked glass held in position by means of a suitable frame 45.

The cloth to be tested is placed over this smoked glass and then the threads counted by manipulating the screw bolt 38 so as to cause the indicator 43 to move over a desired distance on the scale, each thread being counted, of course, as the pointer passes it.

It will be noted that the upper horizontal member 24 extends considerably beyond the base 29, thus providing an overweight which causes the bracket fulcrumed at 32 to bear downward on the edge 30 against the cloth thus holding it securely in position while the cloth is being tested. The bulb 18 provides sufficient light through the smoked glass for lighting up the field of vision and the lens 26 of the window 29 further provide sufficient light from the outside so that the dial may be read and the apparatus easily operated.

The apparatus as herein described comprises a compact, portable unit that may be easily carried from place to place and so arranged that the counting device proper is safely held within the case when not in use, and may be removably attached to the top of the case in position for use.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

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

1. In an apparatus of the character described, a support for the fabric to be tested and a counting device detachably and pivotally mounted on said support, said device comprising a base member, a lens holder disposed over said base member, said base member being provided with a scale, a screw bolt disposed with its axis substantially parallel to the length of the scale and journaled in the base member, and an indicator carried by said screw bolt for movement over said scale.

2. In an apparatus of the character described, a support for the fabric to be tested and a counting device detachably and pivotally mounted on said support, said device comprising a base member, a lens holder disposed over said base member, said base member being provided with a scale, a screw bolt disposed with its axis substantially parallel to the length of the scale and journaled in the base member, and an indicator carried by said screw bolt for movement over said scale, and means for lighting the portion of said support adjacent the scale and indicator.

3. In an apparatus of the character described, a support for the fabric to be tested, a counting device mounted on said support comprising a magnifying lens and an indicator and scale extending within the field of vision of said lens and movable relative thereto, and means for moving said indicator over said scale relative to said lens, said means comprising propeller means disposed intermediate said lens and said scale.

4. In an apparatus of the character described, a support for the fabric to be tested, a counting device mounted on said support comprising a magnifying lens and an indicator and scale extending within the field of vision of said lens and movable relative thereto, and means for moving said indicator over said scale relative to said lens, said means comprising a screw bolt journaled intermediate said lens and said scale.

5. In an apparatus of the character described, the combination of a support for the material to be tested, said support having an opening therein over which said material is disposed, a counting device mounted adjacent said opening and having a magnifying lens spaced therefrom and extending thereover, a source of light disposed beneath said opening, and a pointer extending over said opening in the field of vision of said lens and movable relative thereto.

6. In an apparatus of the character described, a counting device comprising a base member, a lens holder disposed over said base member, said base member being provided with a scale, an indicator positioned intermediate said lens holder and said base member, and means mounted on said base member for moving said indicator relative to said lens holder.

7. In an apparatus of the character described, a counting device comprising a base member, a lens holder disposed over said base member, said base member being provided with a scale, an indicator positioned intermediate said lens holder and said base member, and means mounted on said base member for moving said indicator relative to said lens holder, said base member being recessed at the bottom thereof, as and for the purpose described and specified.

8. In an apparatus of the character described, a counting device comprising a base

member, a lens holder disposed over said base member, said base member being provided with a scale, journal members upstanding from said base member, a screw bolt supported in said journal members and an indicator carried by said screw bolt and extending over said scale member, and an attaching member hinged to said base member for pivotally attaching the device to a support.

9. A thread counting apparatus comprising in combination, a casing having a hinged cover, compartments in said casing closed by said cover, an electric-lighted unit mounted on the bottom side of the casing in one of said compartments, a battery in an adjoining compartment, current carrying means connecting the battery to said unit, a switch mounted on the side of the casing adjacent the first mentioned compartment, a window in the cover over said unit and a counting device mounted on the cover over said window, said device comprising a lens normally disposed in a fixed position relatively to said casing, and measuring means adjustable relatively to said lens.

10. A thread counting apparatus comprising in combination, a casing having a hinged cover, compartments in said casing closed by said cover, an electric-lighted unit mounted on the bottom side of the casing in one of said compartments, a battery in an adjoining compartment, current carrying means passing through an upright wall between said compartment and connecting the battery to said unit, a switch mounted on the side of the casing adjacent the first mentioned compartment, a window in the cover over said unit and a counting device mounted on the cover over said window, said device being demountably attached to the cover and adapted to be fitted in one of said compartments when not in use.

11. In an apparatus of the character described, a casing for resting the fabric to be tested and a counting device comprising a base member, a lens holder disposed over said base member, said member shaped to have a tapered cross-section and having a concaved bottom face to accommodate fabrics of various thicknesses, a chamfered upper edge portion provided with a scale, said portion forming a thin straight edge for holding down the fabric under examination, and an adjustable indicator mounted for movement on said base member over the scale relatively to the lens.

12. In an apparatus of the character described, a casing for resting the fabric to be tested and a counting device comprising a base member, a lens holder disposed over said base member, said member shaped to have a tapered cross-section and having a concaved bottom face to accommodate fabrics of various thicknesses, a chamfered upper edge portion provided with a scale, said portion forming a thin straight edge for holding down the fabric under examination, and an adjustable indicator mounted for movement on said base member over the scale relatively to the lens, said device being pivotally secured to the casing to facilitate insertion of the fabric thereunder.

13. In an apparatus of the character described, a casing having a hinged cover, compartments closed by said cover and a counting device pivoted on the cover to permit easy insertion of the fabric to be tested thereunder, said devices comprising a base member, a lens holder disposed over said base member, said member shaped to have a tapering cross-section and having a concaved bottom face to accommodate fabrics of various thicknesses, a chamfered upper edge portion provided with a scale, said portion forming a thin straight edge for holding down the fabric under examination, and an indicator mounted for adjustable movement over said scale relatively to the lens, said device being demountably attached to the cover and adapted to be fitted into one of the compartments when not in use.

In testimony whereof I affix my signature.

GEORGE H. ROSENSTEIN.