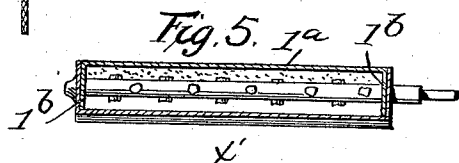
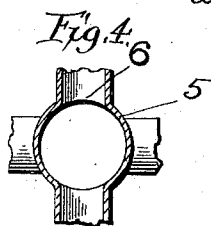
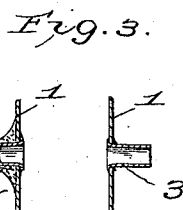
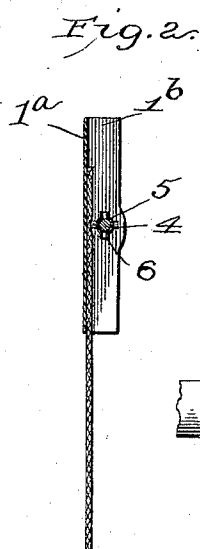
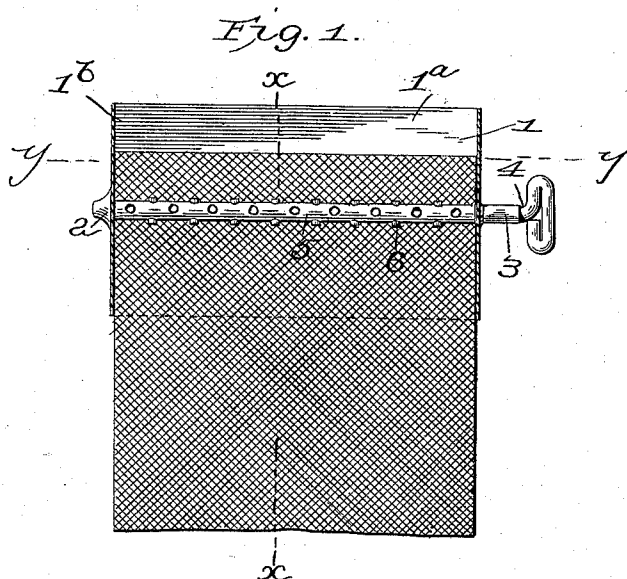


(No Model.)

H. P. WILDER.
WICK RAISER.

No. 542,579.

Patented July 9, 1895.



Attest
Wm. T. Hall.
J. M. Spear

Inventor
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Attys.

UNITED STATES PATENT OFFICE.

HARLAN P. WILDER, OF GARDNER, MASSACHUSETTS.

WICK-RAISER.

SPECIFICATION forming part of Letters Patent No. 542,579, dated July 9, 1895.

Application filed June 16, 1894. Serial No. 514,819. (No model.)

To all whom it may concern:

Be it known that I, HARLAN P. WILDER, a citizen of the United States, residing at Gardner, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Wick-Raisers, of which the following is a specification, reference being had therein to the accompanying drawings.

It is the object of my invention to provide a wick-raiser which will be simple in construction and which will remedy the defects present in wick-raisers as now made.

It is well known in the art that the contact of the wick-raiser with the wick should be constant and uniform throughout its entire length and that it should not pinch or pucker the wick nor tend to compress it and thus render the edge exposed for burning irregular and distorted. Plain rollers and rollers having longitudinal corrugations have been used. The former are objectionable, as they must be pressed hard against the wick, pinching and compressing it, and the latter also pinches the wick where the edge of the rib or corrugation presses upon it. The ordinary saw-teeth wheels, arranged in a series on a spindle, engage the wick only at intervals, and there is nothing to prevent the wick from puckering up between the points of contact of the teeth with the wick.

I aim to provide a raiser of the roll order free from the above objections, said roll having a series of projections arranged alternately with reference to each other about the roll in such a manner that there will be a uniform and constant contact with the wick, and all tendency of puckering will be avoided by the irregular and alternate arrangement of teeth or projections.

In the drawings, Figure 1 is a side elevation of the raiser within part of the wick-tube. Fig. 2 is a section on line *x x* of Fig. 1, and Fig. 3 shows details relating to the bushings. Fig. 4 is a cross-section of the sleeve. Fig. 5 is a horizontal sectional view on line *y y* of Fig. 1.

The wick-tube may be of any ordinary form, the portion 1, shown herein, being the straight or permanent side, to which the raiser-hous-

ing is fixed by solder. This straight side comprises the wall 1^a, against which the wick bears in its movement up and down, and the side flanges 1^b formed rigidly therewith and without solder joints. The housed side of the tube may have the usual housing portion *x'*, forming an enlargement or swell thereon to cover the raiser. In the bearings 2 3 of the flanges 1^b of the straight side the spindle 4 of the raiser is journaled.

The raiser comprises the spindle 4 and the sleeve 5 surrounds the same and extends from end wall to end wall of the tube, and has teeth 6 arranged irregularly about its periphery, so that the teeth which successively engage the wick as the raiser is turned will not bear thereon in the same vertical line with the preceding teeth, but each tooth will contact with the wick on a vertical line intermediate the pair of preceding teeth. The irregularity in the form shown is secured by making longitudinal rows of teeth about the raiser, the teeth of one row coming opposite the space between the other rows, or, in other words, the teeth comprising the several series are alternately arranged, and by this irregular or alternate arrangement of the teeth all buckling or tendency of the wick to pucker is prevented, for the reason that any pucker forming between any two teeth will be pressed out by the next succeeding tooth, which is arranged opposite the space between the two teeth.

The sleeve is composed of a piece of sheet metal having teeth punched out of it on one side, the punched metal being upset in the form of an outwardly-extending flange having a ragged edge to grip the wick. The teeth are thus formed hollow, and they are thus adapted to receive a part of the fabric as the tooth presses hard thereon. As the ragged edge is circular, each tooth has a long bearing-edge extending both circumferentially about the sleeve and longitudinally thereof, so that without digging into the fabric of the wick a long contact is secured with the wick as the sleeve is turned, and there can be no pinching or puckering of the wick, as in the first place the teeth are hollow and present only sharp ragged edges, and in the second

place the irregular or alternate arrangement prevents puckers. The sleeves are punched before they are rolled into cylindrical form and are then applied to the spindle, to which
 5 they are fixed by "retinning," which avoids any necessity of soldering and holds the sleeve firmly to the wire.

I do not wish to limit myself to the combination of the perforated cylinder with the
 10 spindle, as said spindle might be dispensed with and the sleeve itself turn in suitable bearings in the wick-tube, said sleeve being simply pinched or reduced at the bearing-points. At
 15 one end of the spindle a closed bushing or bearing is formed in the wall of the wick-tube to receive the end of the spindle, while at the other end the spindle passes through an open bushing and is bent into the form of a finger-piece or button integral with the spindle.
 20 This manner of providing a finger-piece is of especial advantage, as it is permanent, and there is no danger of its working loose on the spindle, as is often the case.

The bushings take the wear and prevent
 25 the spindle from becoming loose in its bearings, which would be the case if the spindle simply bore on the narrow edge of the tube side wall.

The raiser is quickly and simply made and
 30 is of inexpensive form, the hollow teeth being provided, as before stated, by simply punching up the metal on one side. The hollow teeth may be disposed in any desired irregular order to secure a constant and alter-
 35 nate contact on the wick.

I do not of course limit myself to the use of one roll, as two may be used if found necessary.

The sheet of metal having the teeth raised
 40 or punched from its body portion is rolled with its abutting edges extending lengthwise of the spindle or of the raiser-axis, and I do not wish to limit myself to teeth which are

punched to such an extent as to leave holes in the body of the sheet.

I claim—

1. A wick raiser comprising a sheet of material rolled into the form of a sleeve with its abutting edges extending longitudinally thereof, said sheet having teeth within its marginal
 50 edges punched up from its body portion and the wick tube provided with a bearing for the wick opposite to and parallel to the sleeve with a wick passage between, substantially as described.

2. A wick raiser comprising a sheet of material rolled into the form of a sleeve, with its abutting edges extending lengthwise of the sleeve and with teeth punched up from its
 60 sleeve fitting closely a rod or spindle and secured thereto, and having a single joint extending lengthwise of the spindle, substantially as described.

3. A wick raiser comprising a roll or sleeve
 65 having hollow teeth punched out of its body portion, the circular edges of which are ragged or irregular, and the wick tube provided with a bearing for the wick opposite the roll or sleeve, substantially as described.

4. In combination in a wick raiser, the wick tube, and the raiser device comprising the sheet of material rolled into cylindrical form and having teeth projecting therefrom, said
 70 teeth being punched out of its body portion within its marginal edges, and leaving perforations therein, and the said wick tube having a bearing for the wick opposite the cylinder with a wick passage between, substantially as described.

In testimony thereof I affix my signature in presence of two witnesses.

HARLAN P. WILDER.

Witnesses:

WM. H. WILDER,
 EARL A. THINELL.