

C. STANSFIELD.
 TWISTER STOP MOTION.
 APPLICATION FILED SEPT. 12, 1910.

1,039,330.

Patented Sept. 24, 1912.

Fig. 1.

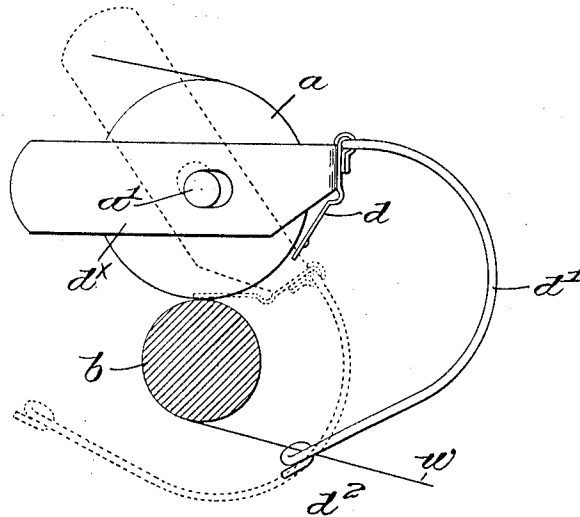


Fig. 2.

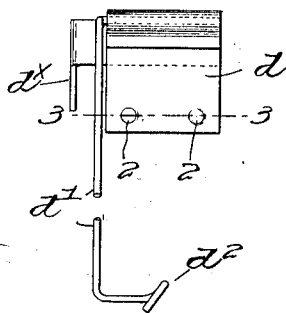


Fig. 3.



Witnesses,
 Edward F. Allen.
 Fred. S. Grumbaf.

Inventor,
 Charles Stansfield,
 by Crosby & Gregory
 attys.

UNITED STATES PATENT OFFICE.

CHARLES STANSFIELD, OF JAMESTOWN, NEW YORK, ASSIGNOR TO DRAPER COMPANY,
OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

TWISTER STOP-MOTION.

1,039,330.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES STANSFIELD, a citizen of the United States, and resident of Jamestown, county of Chautauqua, State of New York, have invented an Improve-
ment in Twister Stop-Motions, 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 to twister stop-motions of the type wherein a holder mounted pivotally on the axis of the top roll is provided with a tongue which is permitted to feed in between the rolls and stop rotation of the top roll when the leg drops upon failure of an end. Such structures are in widely extended use, the tongue being made of a thin and very smooth piece of plate metal, German silver being used very largely for the purpose.

The top roll is rather heavy and when the tongue is in operation to stop rotation of such roll it is caught between the top and bottom rolls and pressed against the bottom roll by the weight of the top roll, and as the bottom roll continues to rotate the tongue is subjected to considerable wear every time it is interposed between the rolls. In actual practice this rubbing action of the roll wears the tongue so thin that it breaks and has to be replaced, the life of a tongue being quite short.

My present invention has for its object the production of a twister stop-motion of the specified type, wherein the tongue is so constructed that its life is very greatly extended without any sacrifice of the desirable characteristics of the tongue, such as light weight, thinness, and simplicity.

The 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 view in side elevation and partial section of a twister stop-motion embodying one form of my present invention. Fig. 2 is a front elevation of the holder and tongue, viewing Fig. 1 from the right with the leg broken out, to show more clearly the wear-resisting means on the face of the tongue which contacts with the bottom roll. Fig. 3 is a transverse sectional detail of the tongue on the line 3—3, Fig. 2.

Referring to Fig. 1, the top and bottom

rolls *a b* in practice mounted in suitable bearings (not shown), the wire leg *d* provided with a guide-eye *d*² for the thread *w*, and the metallic holder *d*^{*} pivotally mounted on the axis *a'* of the top roll, may be and are all of usual or well known construction.

The tongue *d* attached to the front end of the holder in usual manner, is made of thin plate metal of general rectangular shape, and when the tread *w* fails the holder *d*^{*} tips into dotted line position, Fig. 1, so that the tongue feeds in between the rolls and stops the rotation of the top roll *a*.

In order to prevent rapid wear of the tongue I provide the face thereof which engages the bottom roll *b* with projections, shown as protuberances or bosses 2, located at such a distance from the tip of said tongue that they will always be interposed between the rolls when the tongue feeds in and will take up the wear due to continued rotation of the bottom roll. Preferably these protuberances or bosses are spherical segments, thus being circular in plan, see Fig. 2, and they are conveniently made by subjecting the opposite face of the tongue to pressure with a suitably shaped die or other tool.

I prefer to have a plurality of the protuberances or bosses alined across the face of the tongue near its tip, as herein shown.

In practice the wear is first taken up by the protuberances or bosses, and as the tops thereof are gradually worn down and through the wear surfaces become annular until the face of the tongue is reached, after which the wear continues until the tongue is so thin that it breaks.

From the foregoing it will be seen that by my invention I more than double the life of the tongue, without any addition to its weight or increase in the metal of which it is made, the structure of the tongue, so far as wear is concerned, being equivalent to a tongue of twice or three times the usual thickness.

The action of the tongue in effecting stoppage of the top roll is not decreased or changed in any particular by my invention, as will be obvious, for the adjacent face of the tongue has merely a pit or depression corresponding to each boss or protuberance on the other face, said protuberances take up initial wear, instead of acting merely as stops to limit the movement of the tongue

between the rolls, and furthermore they stop the tongue in such a position that the protuberances will inevitably take up the initial wear.

- 5 While a single boss or protuberance may be used it is preferable to use a plurality in order to prevent any tendency of the tongue to tilt when in action, as such tilting would make the wear unequal and might interfere
10 with the proper stopping action of the tongue upon the top roll.

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

- 15 1. The combination, with the top and bottom rolls of a twister, of a pivotally mounted holder having a metallic tongue to enter between the rolls upon breakage of a thread and stop rotation of the top roll, and
20 a rounded boss or protuberance on the face of the tongue adjacent the bottom roll, entrance of the tongue between the rolls causing the said protuberance to be interposed between the top and bottom rolls, to take
25 up wear due to frictional contact of such protuberance with the rotating bottom roll.

- 30 2. In a twister stop-motion, a pivotally mounted holder provided with a metallic tongue to enter between the top and bottom rolls and stop rotation of the former,

and a plurality of laterally separated bosses or protuberances on the face of the tongue adjacent the bottom roll, to take up wear due to frictional contact of said roll with the protuberances, said bosses or protuberances
35 being arranged in transverse alinement near the tip of the tongue, whereby they are caused to be interposed between the rolls when said tongue is operatively positioned.

3. In a twister stop-motion, a pivotally
40 mounted holder provided with a metallic tongue to enter between the top and bottom rolls and stop rotation of the former, and a plurality of laterally separated spherico-
45 segmental projections integral with and formed on the face of the tongue adjacent the bottom roll, said projections being arranged in transverse alinement near the tip
50 of the tongue, whereby they are caused to be interposed between the rolls and take up the wear due to continued rotation of the bottom roll.

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

CHARLES STANSFIELD.

Witnesses:

HENRY FOSTER,
JOSEPH MORAN.