

(No Model.)

R. H. MULLEN.  
MOP WRINGER.

No. 462,100.

Patented Oct. 27, 1891.

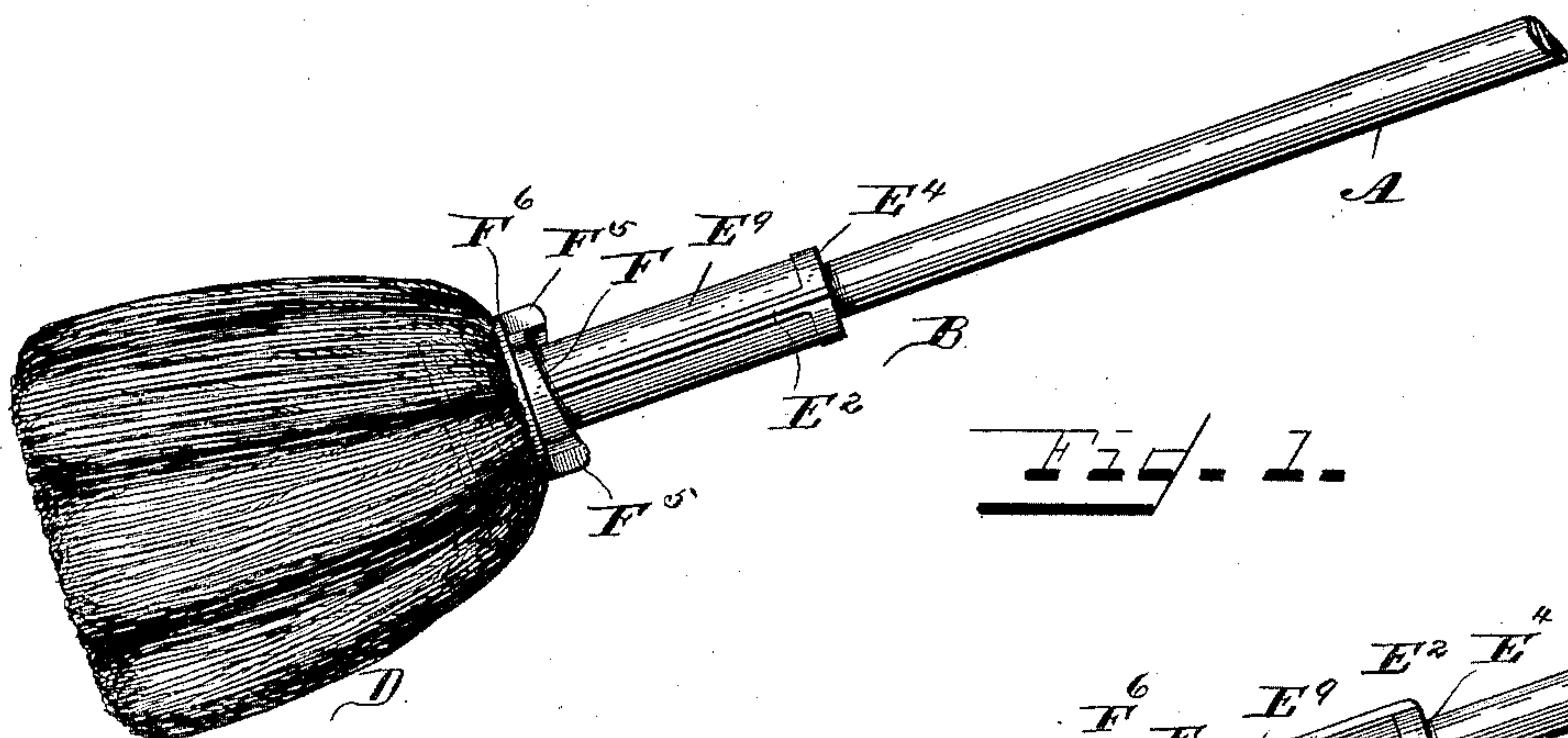


Fig. 1.

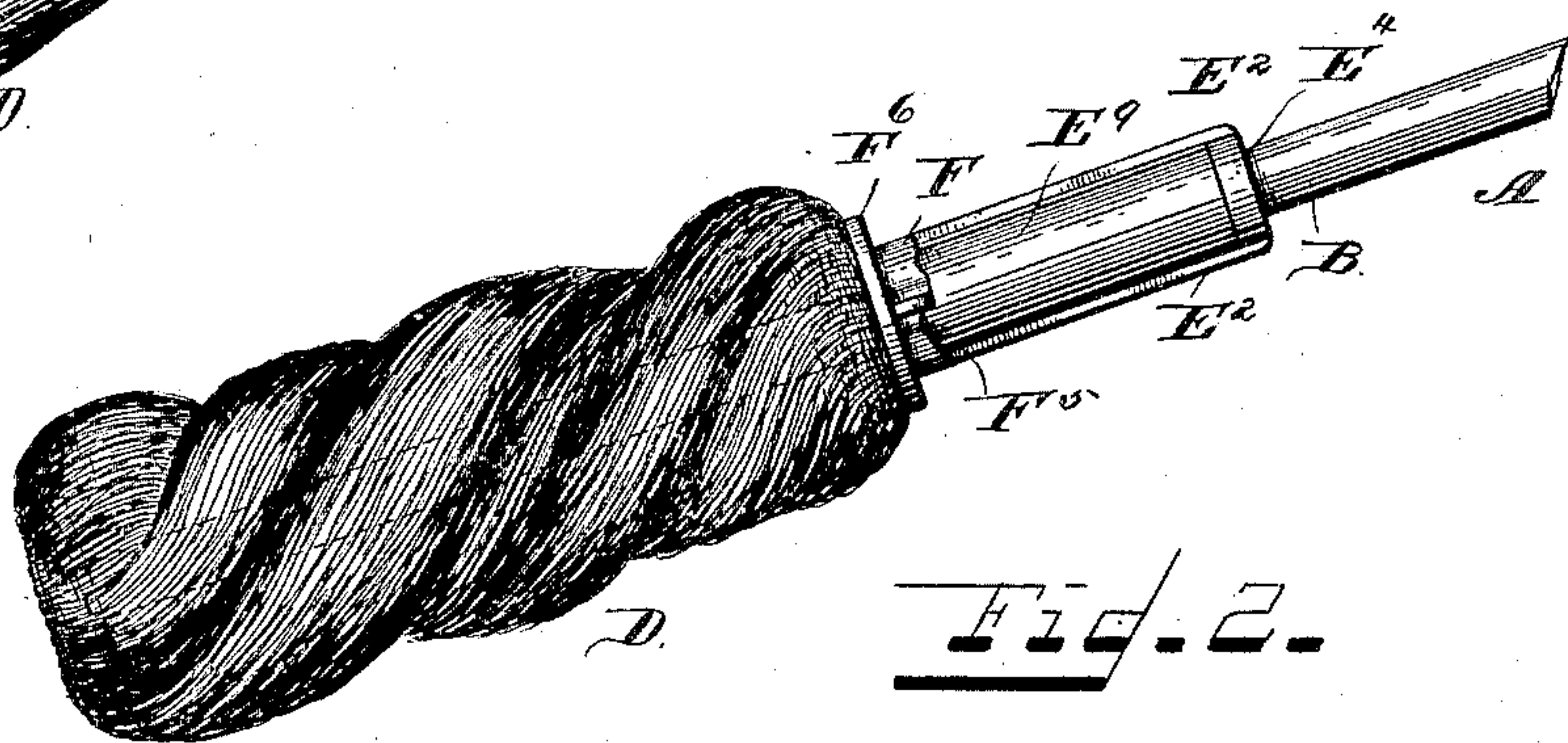


Fig. 2.

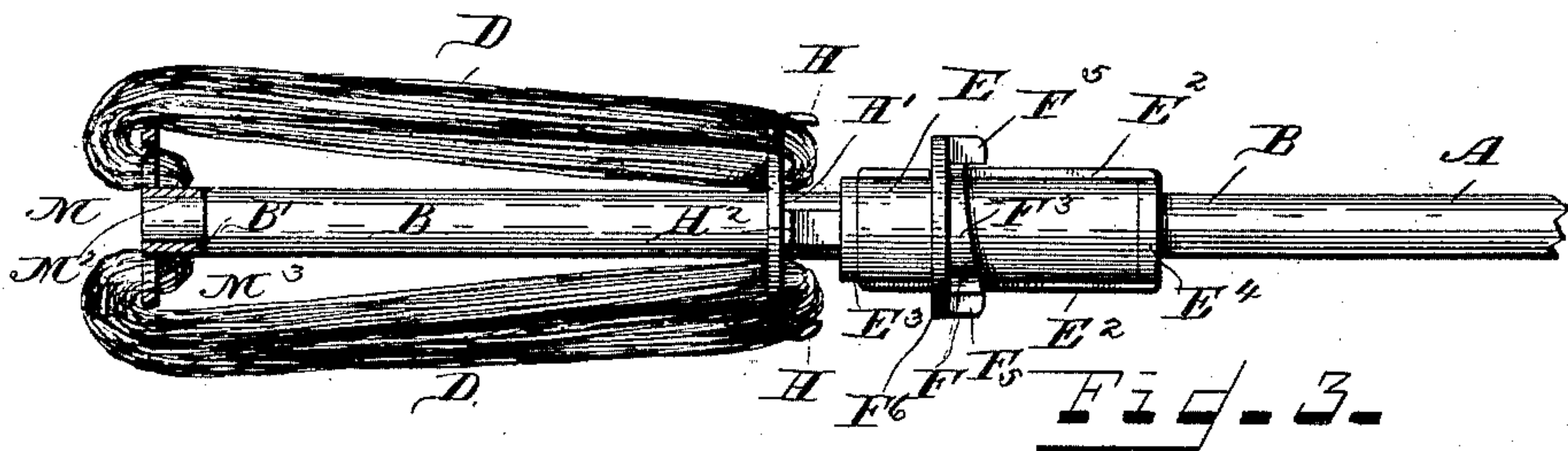


Fig. 3.

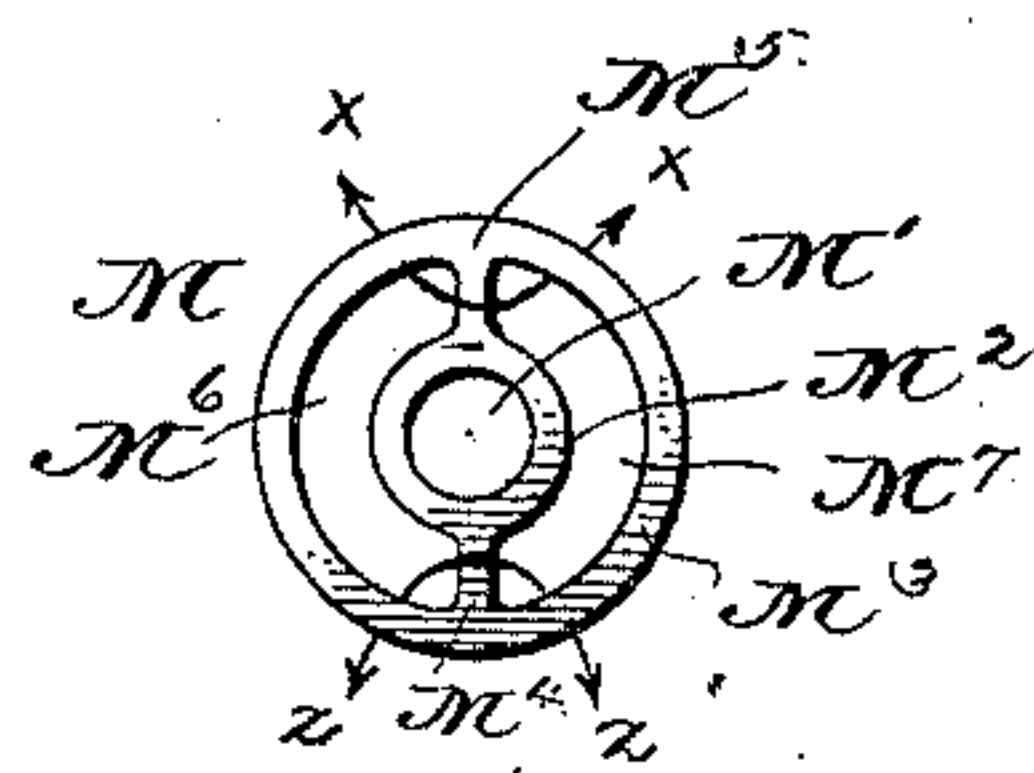


Fig. 4.

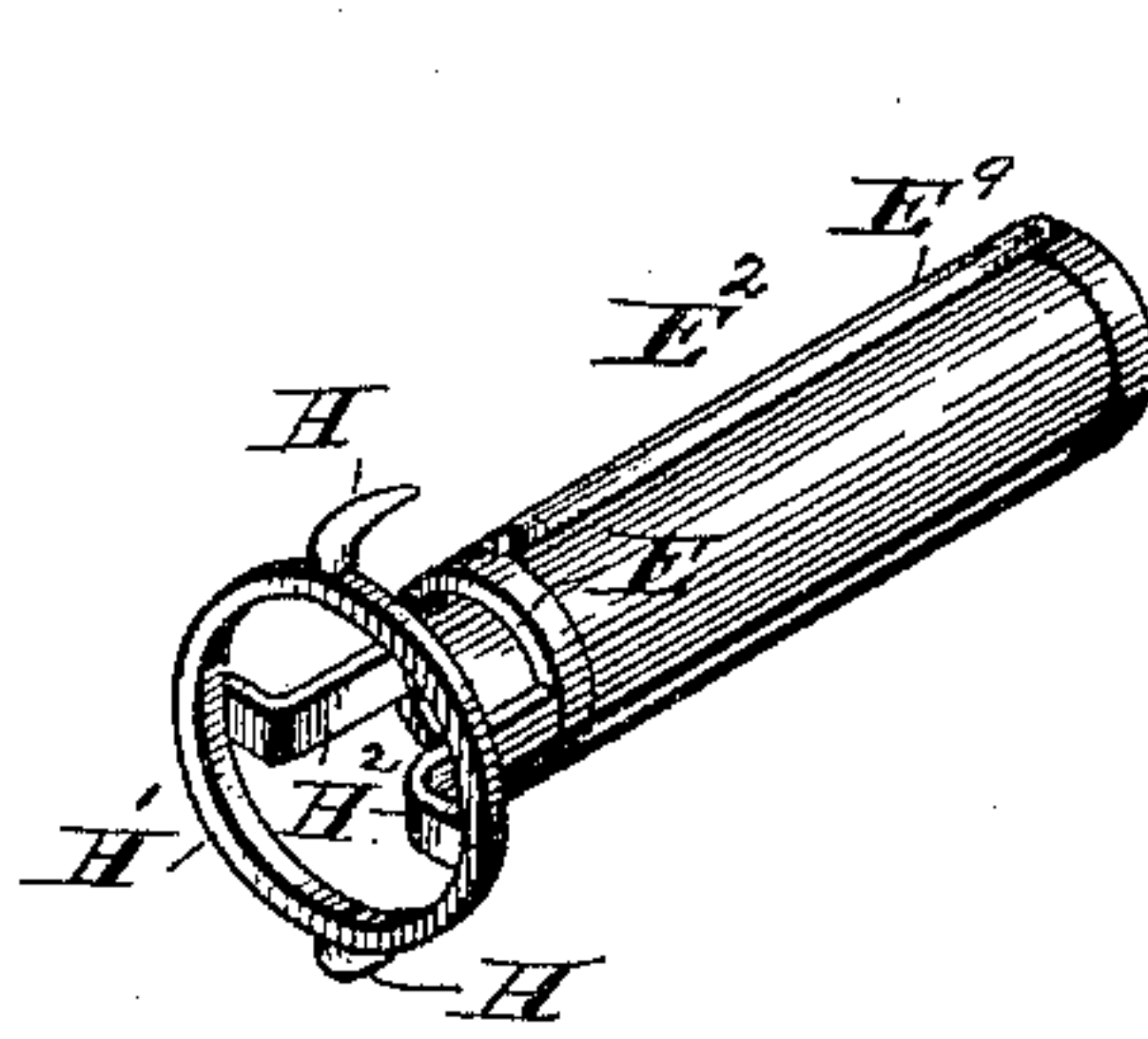


Fig. 5.

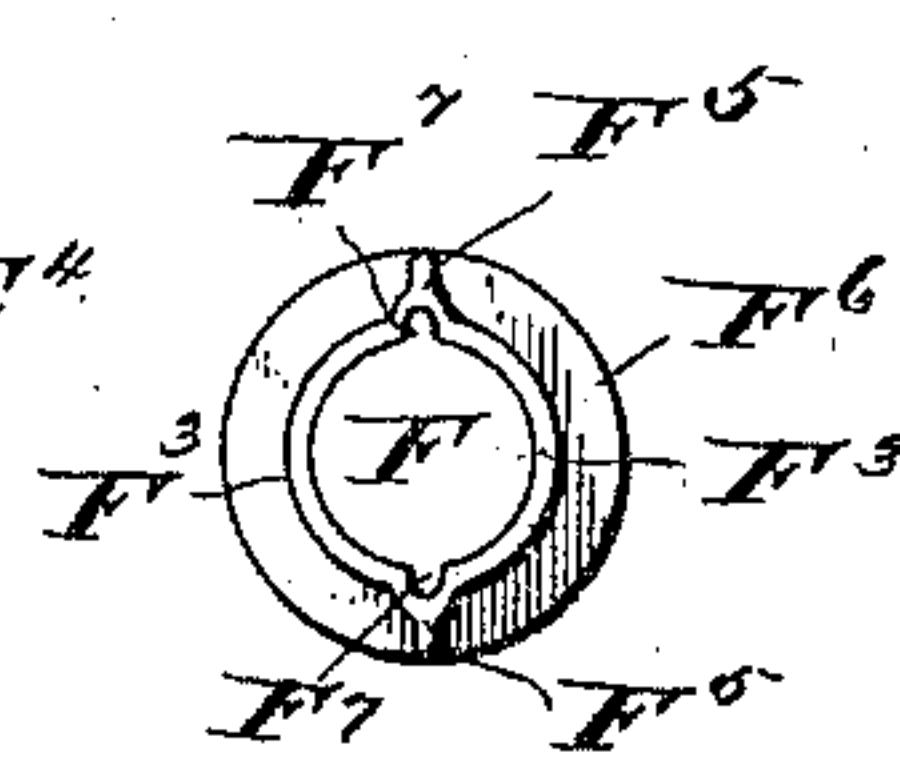


Fig. 6.

Witnesses.

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# UNITED STATES PATENT OFFICE.

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## MOP-WRINGER.

SPECIFICATION forming part of Letters Patent No. 462,100, dated October 27, 1891.

Application filed September 8, 1890. Serial No. 364,296. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT H. MULLEN, a citizen of the United States, and a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Mop-Wringers, of which the following is a specification.

The several features of my invention and the various advantages resulting from their use, conjointly or otherwise, will be apparent from the following description and claims.

In the accompanying drawings, making a part of this specification, and to which reference is hereby made, Figure 1 is a side elevation of a mop-wringer embodying my invention and showing the parts of the device in the position which they occupy when the mop is being used to wash the floor, wall, &c. Fig. 2 is an elevation of another side of the same mop-wringer, showing the parts of the device in the position they occupy when the mop is being wrung. Fig. 3 is an elevation of a side of the mop and showing the parts of the device in the position which they respectively occupy while the yarn is being placed in position in the device for holding it. In the preceding three figures a portion of the free end of the handle is omitted for lack of space. Fig. 4 is a top view of the device holding the yarn at the lower end of the supporting rod or handle. Fig. 5 is a view in perspective of the hooks and their accompanying annular frame, whereby the upper ends of the yarn are supported. Fig. 6 is a top view of the cap for securing the yarn in place upon the upper end of the device for holding said yarn.

A indicates the handle proper, and B indicates the lower end or extension of the said handle. Upon the handle A slides the annular rings E and E<sup>4</sup>. These rings are connected together by the outwardly-extending guides E<sup>2</sup> E<sup>2</sup>. The lower ring E carries the arms H<sup>2</sup> H<sup>2</sup>, and these arms in turn are rigidly connected to the ring H', provided with hooks H H, whose free ends point in the direction of the upper end of the handle. The handle A B extends through these rings E E<sup>4</sup> and through the central portion of the space in-

closed by the ring H'. Abutments E<sup>3</sup> E<sup>3</sup> are present in connection with the ring E, and the lower ends of the guides E<sup>2</sup> E<sup>2</sup> are preferably utilized as abutments.

F is a cap provided with the wings F<sup>5</sup> F<sup>5</sup> and inclines F<sup>3</sup> F<sup>3</sup>. The cap, when raised from off the yarn and away from the hooks H H, slides upon the guides E<sup>2</sup> E<sup>2</sup>, each of the latter fitting into an adjacent opening F<sup>7</sup> in the interior of the cap F.

The construction thus far described has already been specified and claimed in a previous application of mine, bearing Serial No. 353,038 and filed May 24, 1890, in the United States Patent Office.

In the present application I have shown the frame-work consisting of the rings E E<sup>4</sup>, guides E<sup>2</sup> E<sup>2</sup>, as connected together by the intervening cylinder E<sup>9</sup>. These rings E E<sup>4</sup>, guides E<sup>2</sup> E<sup>2</sup>, and cylinder E<sup>9</sup> are preferably integral, and the handle A slides through the cylinder as well as through the rings E E<sup>4</sup>. The advantage of this cylinder or metallic webbing E<sup>9</sup> is quite marked in practice, for the reason that it protects the hand of the one using the mop while rotating the frame-work E E<sup>4</sup> E<sup>2</sup> E<sup>2</sup> from being abraded or otherwise injured by coming into contact with the handle A. This cylindrical webbing E<sup>9</sup> also prevents the flesh of the hand of the one turning it from being drawn in between the guides E<sup>2</sup> E<sup>2</sup> and the handle and thereby being pinched. Another and the principal feature of the invention, and which is the subject of the present application for Letters Patent, is the mop-holding device shown at the lower end of the handle A B, and which holding device I have designated in general by the letter M. This device consists of the sleeve or cylinder M<sup>2</sup> and the outlying ring M<sup>3</sup>, connected to the inner cylinder or sleeve M<sup>2</sup> by means of arms, as M<sup>4</sup> M<sup>5</sup>. Between the sleeve M<sup>2</sup> and the ring M<sup>3</sup>, separated by the arms M<sup>4</sup> M<sup>5</sup>, are the spaces M<sup>6</sup> M<sup>7</sup>. The lower end B of the handle A fits tightly into the sleeve M<sup>2</sup> of the device M, and a convenient means for preventing the device M from slipping upward on the end B of the handle A consists of the shoulder B', formed near the end of the extension B, the remainder of the extension B



from that point to the lower end of the extension being diminished in size to accurately fit into the sleeve M<sup>2</sup>.

The mode in which the yarn is applied to the mop-head is as follows: The holding device is passed through and beyond the two halves, divisions, or portions of the skein, or the rod may be passed through between the two said divisions or portions of the skein. One looped end of the skein of yarn is passed down through one of the openings M<sup>6</sup> or M<sup>7</sup>, and then is passed under and across the sleeve M<sup>2</sup> and then up through the other of the said openings M<sup>6</sup> or M<sup>7</sup>, and is hooked over one of the hooks H. The other looped end of the loop is now hooked over the other hook H. The cap F is now brought down upon the upper looped end of this skein and held in place upon and by the hooks H H, and rotated so that the inclined faces F<sup>3</sup> of the cap come under the lower ends of the abutments E<sup>3</sup> E<sup>3</sup>. As the cap is rotated the abutments will press the ring F<sup>6</sup> of this cap down upon the upper ends of the skein supported and confined by the hooks H H, and will thus prevent the skein from rising up over and off from the hooks H H, and will consequently hold the upper end portions of the yarn securely in position. In the mop-holding device this skein of yarn has its looped ends respectively hooked, as described, over the respective hooks H H, one portion of the skein passing through the spaces M<sup>6</sup> M<sup>7</sup> and passing over and against both sides of the arm M<sup>5</sup>, this arm M<sup>5</sup> securely preventing the yarn from slipping out of the holding device M, as shown by the arrow X X, the other portion of the skein passing up through the space M<sup>6</sup> and over arm M<sup>4</sup> and down through space M<sup>7</sup>, as shown by the arrow Z Z, the arm M<sup>4</sup> in this instance preventing the yarn from slipping downward through and out of the holding device M. When the yarn is properly disposed, the yarn of the skein will fill both of the spaces M<sup>6</sup> M<sup>7</sup> and will cover and hide from view all of the ring M<sup>3</sup> of the device M, as shown in Figs. 1 and 2.

In wringing the mop the upper end of the mop, with its holding device, is slipped upward on the handle A until the yarn is tightly stretched between the upper holding device H H F and the lower holding device M. The upper holding device aforementioned is then rotated on the handle A and the yarn is then twisted, as shown in Fig. 2, and the mop is wrung, after which the yarn is again untwisted and the upper holding device allowed to drop until it rests against the lower holding device, as shown in Fig. 1. The mop is now again ready for use.

Heretofore I have employed at the lower end of the handle A B a single ring whose plane was parallel to the axis of the handle A, which ring was shown and described in the serial application No. 353,038, filed May 24, 1890. This ring was objectionable, in that it would frequently protrude through and beyond the

yarn of the mop and scratch the surface of the floor or other thing which the mop was employed to clean. Furthermore, this ring contributed to keep away some of the yarn from the floor, and thus prevented the yarn from being fully utilized in washing. The holding device M obviates all of these disadvantages. It nowhere protrudes through the yarn. It not only holds the yarn securely in position, but keeps the yarn at all points so spread that it completely envelops the ring M<sup>3</sup>, and the yarn is thereby always brought into contact with the floor or thing to be washed, and the full utility of the mop is realized.

While the various features of my invention are preferably employed together one or more of the said features may be used without the remainder, and in so far as applicable one or more of the said features may be used in connection with mop-wringers other than the one herein specifically set forth.

What I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. In a mop-wringer, the combination of the ring H' and hooks H, connected thereto, abutments E<sup>3</sup> E<sup>3</sup>, ring E, supporting ring H' and lying in conjunction with the said abutments, guides E<sup>2</sup> E<sup>2</sup>, cap F, provided with inclines F<sup>3</sup> F<sup>3</sup>, and cylindrical sleeve E<sup>9</sup>, sliding with said ring E, guides, and abutments and protecting the hand of the operator, substantially as and for the purposes specified.

2. In a mop-wringer, the handle A, device for fastening the upper end of the yarn of the mop, and the holding device M, connected to the lower end of the handle A B and consisting of the ring M<sup>3</sup>, provided with spaces, substantially as M<sup>6</sup> M<sup>7</sup>, and arms M<sup>4</sup> M<sup>5</sup>, and central annular portion or sleeve M<sup>2</sup>, substantially as and for the purposes specified.

3. In a mop-wringer, the handle A, device for fastening the upper end of the yarn of the mop, and the holding device M, connected to the lower end of the handle A B and consisting of the ring M<sup>3</sup>, provided with spaces, substantially as M<sup>6</sup> M<sup>7</sup>, and arms M<sup>4</sup> M<sup>5</sup>, and central annular portion or sleeve M<sup>2</sup>, the lower end of the handle being provided with shoulder B' and the end of the handle below the shoulder being located within the annular portion of the sleeve M<sup>2</sup> of the said holding device M, substantially as and for the purposes specified.

4. In a mop-wringing device, the combination of the hooks H H and their supporting ring H' and device, substantially as described, clamping the yarn within and against the said hooks and upon the ring H', and the lower holding device M, consisting of the outer ring M<sup>3</sup>, inner annular portion or sleeve M<sup>2</sup>, and arms connecting the latter to ring M<sup>3</sup>, and spaces, as M<sup>6</sup> M<sup>7</sup>, through which the yarn is respectively passed, the said device being located upon the lower end of the handle A B, substantially as and for the purposes specified.



5. In a mop-wringing device, the upper sliding device for holding and spreading the yarn and wringing the mop, consisting of the hooks H H, connected to the supporting-arms H<sup>2</sup> H<sup>2</sup>, substantially as described, and the abutments E<sup>3</sup>, sliding cap or clamp F, having inclines F<sup>3</sup> F<sup>3</sup>, and the lower holding device M, fixed upon the lower end of the handle A, and consisting of the outer ring M<sup>3</sup> and the inner sleeve M<sup>2</sup>, connecting-arms M<sup>4</sup> M<sup>5</sup>, connecting the said outer ring and inner sleeve, substantially as and for the purposes specified.

6. In a mop-wringer, the combination of the upper yarn-holding device having hooks H H, connected by the annular support, as H', and a clamp, and the lower holding device provided with the ring M<sup>3</sup>, the inner portion M<sup>2</sup>, fixed to the handle A B, and the arms, as M<sup>4</sup> M<sup>5</sup>, connecting this inner portion

to the outer ring M<sup>3</sup>, and forming spaces M<sup>6</sup> M<sup>7</sup> within the ring M<sup>3</sup>, the yarn being hooked over one of the hooks H, passing down under the ring M<sup>3</sup>, then up through one of the spaces M<sup>6</sup> M<sup>7</sup>, over the arm M<sup>4</sup>, and thence down through the space M<sup>7</sup>, under ring M<sup>3</sup>, and then passing up over the hook H and thence passing down under the ring M<sup>3</sup>, thence through the space, as M<sup>7</sup>, thence over the arm M<sup>5</sup>, thence down through the space M<sup>6</sup>, and then continued to the first-named hook H, the clamp being approximated to the hooks H H and supporting portion H<sup>2</sup>, and locking the upper portions of the yarn within the hooks H H, substantially as and for the purposes specified.

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Attest:

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K. SMITH.