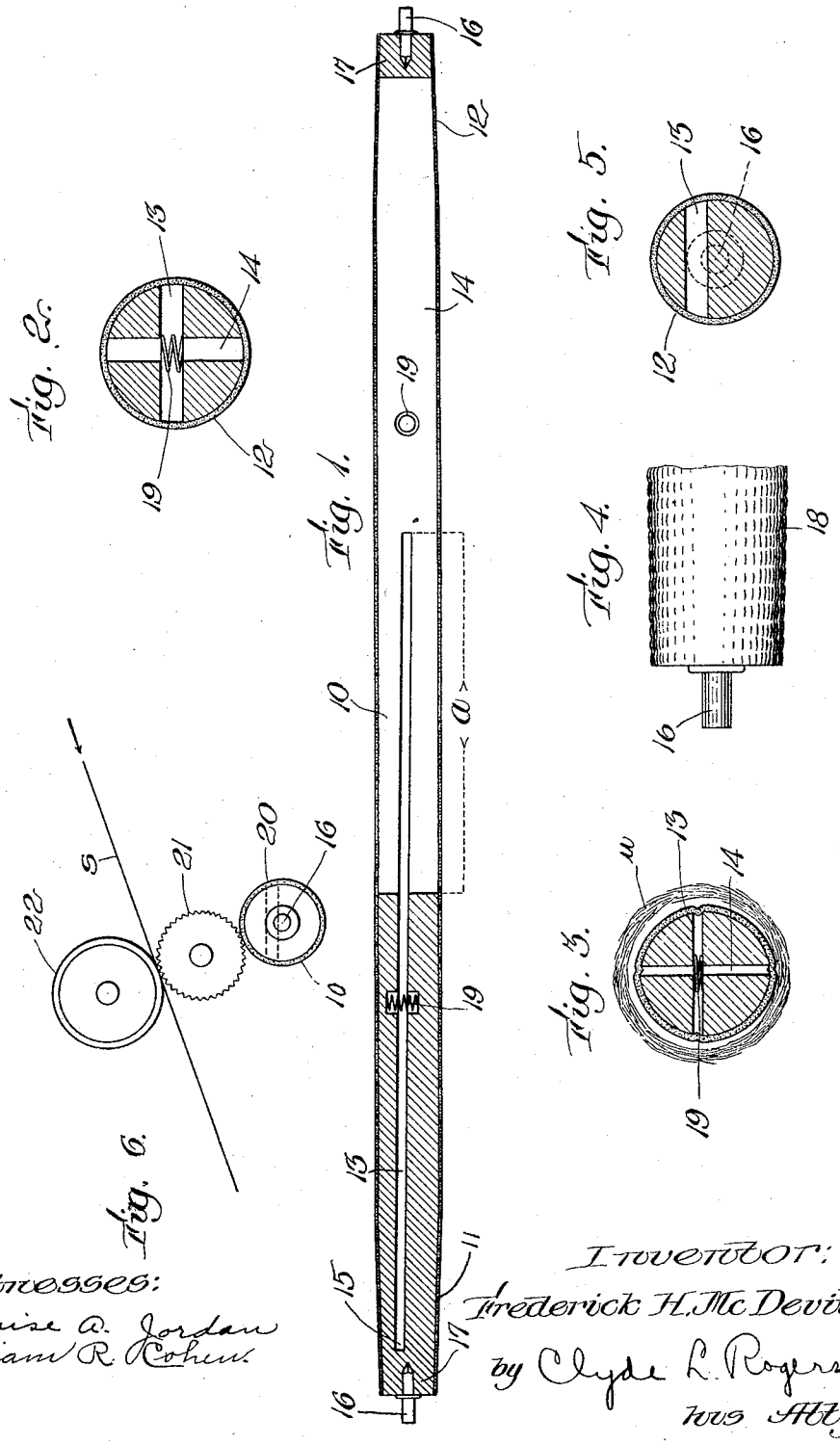
F. H. McDEVITT.

COLLAPSIBLE CLEARER STICK.

APPLICATION FILED JAN. 19, 1914.

1,114,784.

Patented Oct. 27, 1914.



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UNITED STATES PATENT OFFICE.

FREDERICK HUGH McDEVITT, OF WINTHROP, MASSACHUSETTS.

COLLAPSIBLE CLEARER-STICK.

1,114,784. Specification of Letters Patent. Patented Oct. 27, 1914.

Application filed January 19, 1914. Serial No. 812,928.

To all whom it may concern:

Be it known that I, FREDERICK H. McDEVITT, a citizen of the United States, and resident of Winthrop, county of Suffolk, State of Massachusetts, have invented an Improvement in Collapsible Clearer-Sticks, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts in each of the several views.

The present invention relates to clearer sticks or scavenger rolls such as are in common use with the spinning frames, jack frames, mules, fly frames, speeders, etc., employed in the manufacture of the various textiles as cotton, woolen, worsted and silk for catching and winding thereon broken threads, lint and other waste.

More particularly the invention has to do with an improved form of clearer stick of the general type shown in my prior patent, No. 1,036,671 patented August 27, 1912, wherein the stick is made collapsible by pressure so that the lint or other waste which winds tightly thereon, may be easily removed by collapsing the stick.

A prime object of the present invention is to simplify largely the stick construction, while preserving its collapsing property to the requisite degree, the present improved stick being at the same time stronger and more reliably held against distortion of its parts, and being very much cheaper to manufacture. It will be understood that this last is a very important consideration in view of the great numbers of such sticks required in spinning and like mills. According to the present invention I form the stick with a one-piece body slitted throughout the main portion of its length in a manner so as to provide the requisite collapsing property, without unduly weakening the stick, while the ends of the stick are preserved intact so as to furnish secure seats for the end bearing pins. To permit the waste to be removed over these solid ends I form these tapered so that as the waste is slid from the collapsed body it passes freely thereover.

The invention will be better understood from the following detailed description taken in connection with the accompanying drawings and will be thereafter pointed out in the appended claims.

Referring to the drawings: Figure 1 is a lengthwise section through a stick constructed in accordance with my invention; Fig. 2 is an enlarged cross section approximately central of the stick; Fig. 3 is a view similar to Fig. 2 but showing the stick collapsed to permit removal of waste wound thereon; Fig. 4 is a fragmentary elevation showing one end of the stick; Fig. 5 is a cross section near the end of the stick; and Fig. 6 is a diagrammatic view showing the manner of use of the stick.

My improved stick or roll consists in a one-piece core or body 10 usually of wood turned to a circular cross section. The main portion of the stick is an elongated cylinder which merges into slightly conical extremities as seen at 11, 12. In this stick I form long slots 13, 14, at right angles to each other extending from near the respective ends of the stick to some little distance past the center so that the two slots overlap a considerable distance as indicated at *a*. These slots are as shown of some little width so as to permit the requisite springing in of the stick sides for collapsing the stick to the required extent. They are preferably diametrical at their inner portions, running out somewhat toward the side of the stick at their outer ends as seen at 15 so as not to be in line with the bearing pins 16 which are driven into the solid ends 17 of the stick. I show the stick thus formed, incased in a usual rough textile covering or tube 18 which may be glued thereto as is usual.

While the inherent resiliency of the wood stock is often sufficient to hold the stick normally circular in cross section, springing back after being compressed, I may in some cases supplement this resiliency of the wood by springs 19 which may be fitted in place intermediate the length of the respective slots to press the stick portions outward insuring the expansion of the stick to full cylindrical form. It may now be understood that as the intermediate portion of the stick is compressed from its normal form as seen in Fig. 2 to its collapsed condition as seen in Fig. 3, the waste windings *w* may be easily slid off, and as these come to the ends of the stick, they slip thereover easily by reason of the reduced diameter of the ends from the taper thereof as described. It is to be observed that the solid integral ends 17 of the stick not only make it stronger and more substantial, resisting distortion, but they

furnish in simplest and cheapest form holding seats into which the bearing pins 16 may be driven. Thus the complete stick is of the greatest possible simplicity and cheapness, requiring only a turned plain roll, slitted as described by an ordinary saw with the end journal pins driven therein and the textile covering tube glued thereon. While thus involving a cost of scarcely any more than the ordinary solid clearer stick, my improved stick is at the same time capable of performing its collapsing function perfectly, permitting the instant removal of waste and lint without trouble or danger of injuring the stick.

In Fig. 6 I show one illustrative use of the invention in which the clearer stick designated generally 20 is mounted to rotate in coöperative relation with a fluted steel roll 21 which coöperates with a friction roll 22 pressed thereagainst to draw the yarn strands *s* therethrough to stretch and even the same. The clearer stick in this case catches the broken threads and waste material from the fluted roll 21 thus keeping this roll in a clean and effective condition.

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

1. A clearer stick for the purpose stated, comprising an integral body member normally circular in cross section and slitted lengthwise from near each end to past its center with the slits at an angle to each other, the ends being solid and of reduced diameter, and bearing pins fitted in said solid ends, said body having a fiber catching periphery.

2. A clearer stick for the purpose stated, comprising an integral body member normally circular in cross section and having its main portion slitted lengthwise so as to be capable of collapsing, the slits terminating short of the ends leaving the ends solid, journal pins fitted in said ends, and said body having a fiber catching periphery.

3. A clearer stick for the purpose stated, comprising a one piece body member normally circular in cross section and cylindrical through its main intermediate portion, with tapering ends, there being slots extending lengthwise from near said ends to a point past the center, the slots from the two ends being at right angles to each other, and the ends being left solid, and bearings fitted in said solid ends, said body having a fiber catching periphery.

4. A clearer stick for the purpose stated, comprising a one piece body normally circular in cross section and cylindrical throughout its main intermediate portion with tapering ends, there being slots extending from near said ends lengthwise to a point past the center, said slots being substantially diametrical of the stick at their inner portions, and deviating toward one side at their outer portions, the ends of the body being left solid, and said body having a fiber catching periphery.

5. A clearer stick for the purpose stated, comprising a body normally circular in cross section and cylindrical through its main intermediate portion, with reduced ends, the intermediate portion of the body being slotted lengthwise to points short of said ends, and said body having a fiber catching periphery.

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

FREDERICK HUGH McDEVITT.

Witnesses:

LOUISE A JORDAN,

CLYDE L. ROGERS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."