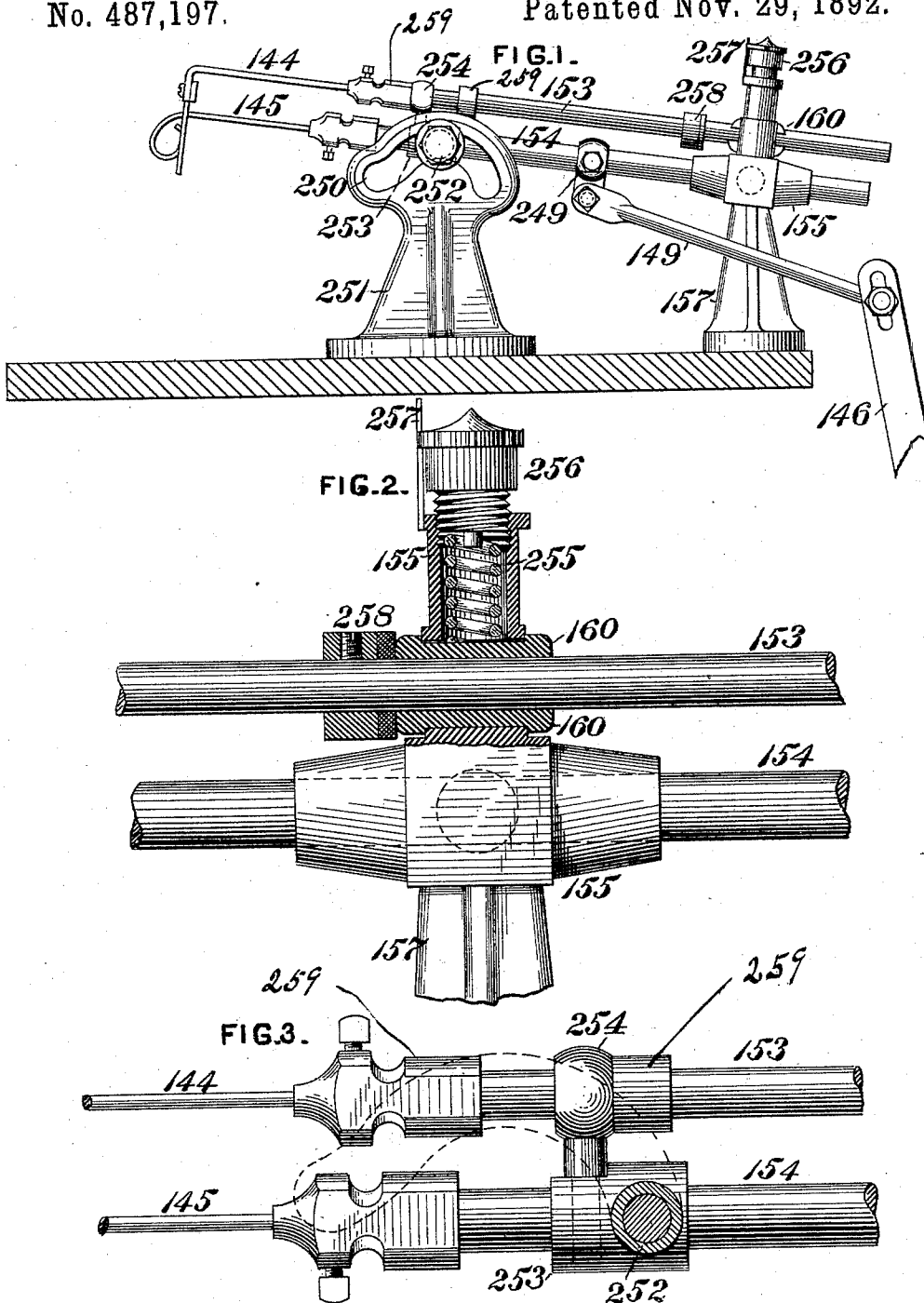


(No Model.)

G. F. McCOMBS.
BROOM SEWING MACHINE.

No. 487,197.

Patented Nov. 29, 1892.



WITNESSES:

Danby S. Wolcott
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INVENTOR,

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UNITED STATES PATENT OFFICE.

GEORGE F. McCOMBS, OF ALLEGHENY, ASSIGNOR TO THE HAND STITCH BROOM SEWING MACHINE COMPANY, LIMITED, OF PITTSBURG, PENNSYLVANIA.

BROOM-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 487,197, dated November 29, 1892.

Application filed July 28, 1892. Serial No. 441,505. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. McCOMBS, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Broom-Sewing Machines, of which improvements the following is a specification.

The invention described herein relates to certain improvements in that class or kind of broom-sewing machines described and claimed in Letters Patent No. 208,407, dated September 24, 1878; No. 238,140, dated February 22, 1881; No. 338,999, dated March 30, 1886, and No. 407,741, dated July 23, 1889.

The present invention relates to certain improvements in the mechanism for actuating and controlling the movements of the threading-rods, all as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a view of the threading-rods and their operating mechanism detached from the rest of the machine, and Figs. 2 and 3 are detail views of the devices shown in Fig. 1 on an enlarged scale.

As the machine to which my present improvements are to be applied is constructed and operated in all essential particulars in the manner fully described and shown in Letters Patent Nos. 338,999 and 407,741, hereinbefore referred to, no specific illustration and description of the machine is necessary herein, except in so far as may be required for a clear understanding of my improvement. In the construction described in said Letters Patent the guide-rods 153 and 154, carrying the threading-bars 144 and 145, are reciprocated horizontally and vertically by an eccentric connection with a disk, which is oscillated by a lever through the medium of a toothed segment and pinion.

In lieu of connecting the rod 149 to a toothed segment it is connected to a lug on a collar 249, secured to the guide-rod 154, so that the guide-rod is reciprocated directly by lever 146 and not through the medium of interposed gearing and other devices.

The desired vertical movement of the guide-rod 154 is effected by a cam-slot 250, formed

in the upper end of a standard 251, and into this slot projects a pin 252, preferably provided with an antifriction-roll and formed on or attached to a collar 253, secured on the rod 154, so that as the rod is reciprocated horizontally a vertical reciprocation will also be imparted to the forward end of said rod. The rod 153 is connected to the rod 154 by a collar 254, surrounding the rod 153 and provided with a pin passing through the rod 154. The rear ends of the rods 153 and 154 are supported by a guide-block 155, which is pivoted on a post or standard 157, as described in Letters Patent No. 338,999. While it is necessary that the rod 153 should be reciprocated both horizontally and vertically with the rod 154, its horizontal movement must be less than that of the rod 154 in order to open the eye in the threading-rod 145 for the passage of the twine. To this end the collar 254 is arranged to slide between stops on the rod 153, and the latter is subjected to the action of a friction device, so that the rod 153 will not be shifted until the collar 254 comes in contact with one of the stops. This friction device consists of a clamp 160, formed in two sections and recessed on their inner faces to the radius of the rod 153. This clamp is arranged in a transverse opening in the block 155, and the upper section of the clamp is held against the rod 153 by a spring 255, arranged in a longitudinal opening in the block 155. The tension of this spring is regulated by a plug 256, screwing into the block against the upper end of the spring, as clearly shown in Fig. 4. In order to prevent the plug from being unscrewed by the jarring of the machine, a series of teeth or serrations is formed around the upper end of the plug, and a spring-tooth 257, adapted to engage said teeth, is attached to the upper end of the block 155. The plug 256 is screwed down until the friction between the rod 153 and the clamp 160 is greater than that of the collar 254 on the rod, so that as the rod 154 is moved to the left the rod 153 will be held stationary until the collar 254 strikes against one of the stops 259 on said rod. These stops are formed by the clamping-head of the needle 144 and by a collar secured on the rod 153. In order to insure the proper relative positions of the

eyes of the threading-rods when they are returned to normal position, as shown in Fig. 1, a stop 258 is secured on the rod 153 in such position as to abut against the block 155, thereby checking further movement of the rod 153 to the right.

I claim herein as my invention—

1. In a broom-sewing machine, the combination of the reciprocating guide-rods 153 and 154, connected with the capacity of a limited range of independent horizontal movement, a standard provided with a cam-slot, and a pin on the rod 154, projecting into said slot, whereby a vertical movement is imparted to the rods during their back and forth movements, substantially as set forth.

2. In a broom-sewing machine, the combination of reciprocating guide-rods 153 and 154, connected with a capacity of a limited range of independent horizontal movement, a sectional clamp surrounding the rod 153, the rod 153 being actuated by the rod 154, a spring for forcing the clamp against said rod, a screw-plug for regulating the tension of the spring, and a resilient finger for locking the plug against rotation, substantially as set forth.

In testimony whereof I have hereunto set my hand.

GEORGE F. McCOMBS.

Witnesses:

DARWIN S. WOLCOTT,
R. H. WHITTLESEY.