(No Model.) 2 Sheets—Sheet 1.

C. L. DRIEFER.

CIGAR WRAPPING AND FINISHING MACHINE.

No. 389,955. Patented Sept. 25, 1888.

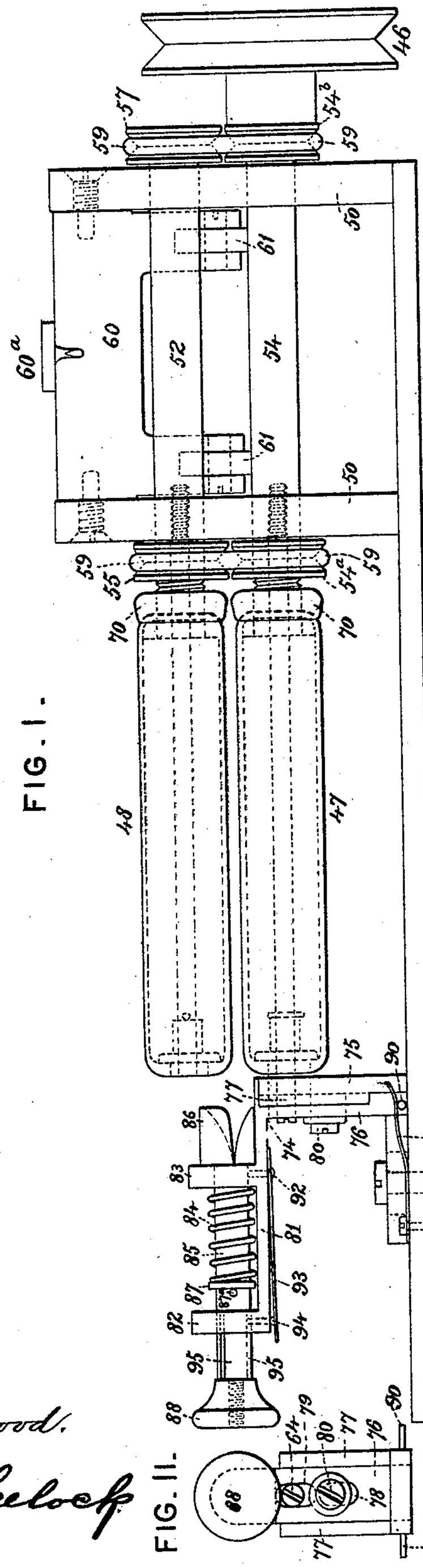

FIG. I.

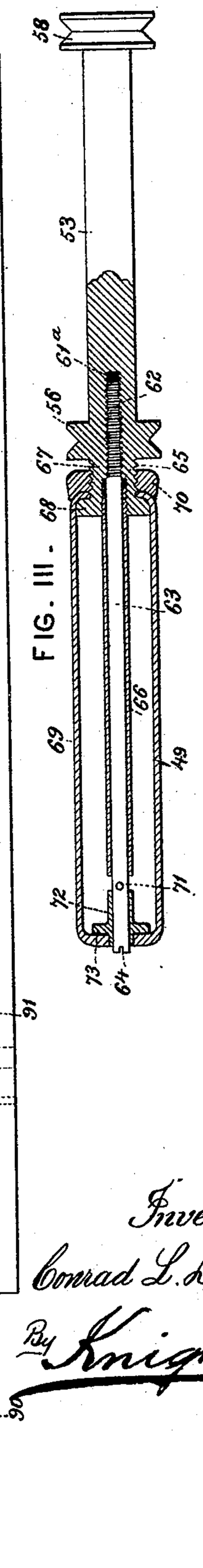

FIG. III.

FIG. II.

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By Knight Bros.

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FIG. VI.

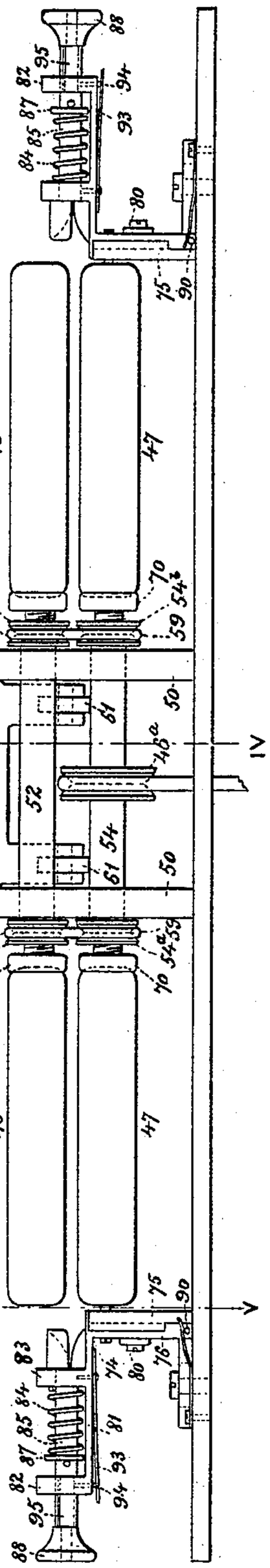


FIG. IV.

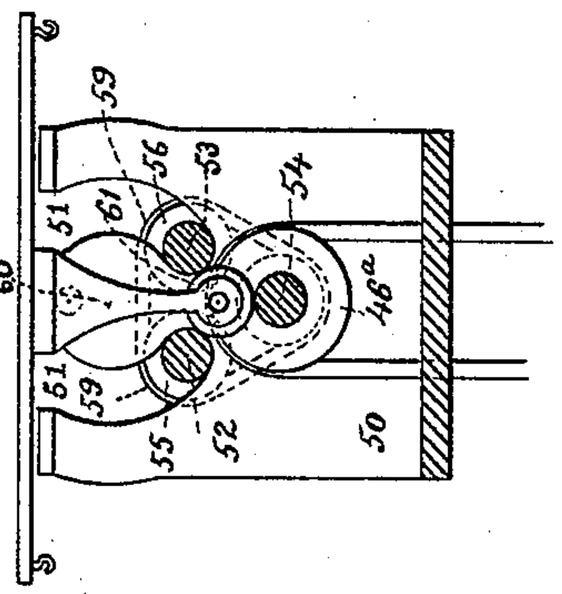
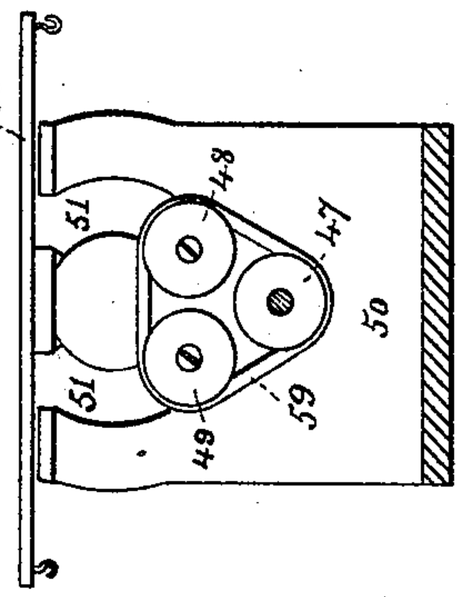


FIG. V.



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UNITED STATES PATENT OFFICE.

CONRAD L. DRIEFER, OF LONDON, ONTARIO, CANADA.

CIGAR WRAPPING AND FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 389,955, dated September 25, 1888.

Application filed March 19, 1888. Serial No. 267,675. (No model.)

To all whom it may concern:

Be it known that I, CONRAD L. DRIEFER, a citizen of the United States, and a resident of the city of London, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Cigar Wrapping and Finishing Machines, of which the following is a specification.

The present invention relates to machines for wrapping and finishing cigars after they have been molded, either in an ordinary mold or by means of any suitable cigar-bunching machine—such, for example, as that described in my application, Serial No. 249,130, filed September 8, 1887, or that described in my application filed contemporaneously herewith.

The object of my invention is to provide a device for wrapping and finishing cigars wherein any sized cigar may be wrapped with either a right or left wrapper and wherein the tip of the cigar may be perfectly formed.

My invention consists in features of novelty which will be hereinafter fully described, and then particularly pointed out in the claims.

In the accompanying drawings, Figure I is a side elevation of my improved wrapping and finishing rollers and tip-forming thimble. Fig. II is an end elevation of the tip-forming thimble. Fig. III is a longitudinal section of one of the rollers. Fig. IV is a transverse section through the shafts on which the rollers are fixed, showing the frame in which they are mounted in elevation. Fig. V is an end elevation of the rollers. Fig. VI is a side elevation of a double set of rollers, with a tip-forming thimble at each end to be used with right and left wrappers without reversing the device.

Referring now to the drawings, 46 represents a grooved pulley, around which may pass a belt driven from any suitable source, whereby the triangularly-mounted rollers 47, 48, and 49 are revolved.

50 represents a frame, in which are mounted, in the lower ends of concentric slots 51, the shafts 52 and 53 of the upper rollers, 48 and 49.

The shaft 54 of the lower roller, 47, is immovable transversely, but is revoluble in bearings on the frame 50. The outer end of shaft 54 carries pulley 46. The inner ends of the shafts 52 and 53 carry, respectively, pulleys 55 and 56, while their outer ends carry, respectively, pulleys 57 and 58. The inner end of shaft 54 carries pulley 54^a, while between the frame 50 and driving-pulley 46 it carries pulley 54^b. Around these pulleys pass elastic belts 59, which permit either of the upper rollers, 48 and 49, to be moved away from the lower roller to permit the insertion of a cigar between the rollers.

Pivoted near the top of frame 50 is a lever, 60, which may be swung back and forth by means of a cross-piece, 60^a, either end of which may be attached to a suitable device whereby it may be depressed. This lever extends down between the upper roller-shafts, 52 and 53, and has journaled in its lower end anti-friction rollers 61, adapted to bear upon and elevate either of the shafts of the upper rollers when either end of cross-piece 60^a is depressed.

The construction of the rollers is as follows: Into screw-threaded sockets 61^a in one end of each of the shafts are screwed the screw-threaded ends 62 of rods 63, having notches 64 at their other ends to admit of the use of a screw-driver. The outer ends of the sockets 61^a are enlarged and screw-threaded at 65 to permit of the insertion of screw-threaded tubes 66, fitting loosely on rods 63, said tubes being shorter than said rods. A portion of each of the shafts 52, 53, and 54 beyond the pulleys 54^a, 55, and 56 is screw-threaded at 67, and beyond the screw-threads the shafts terminate in peripheral enlargements or flanges 68, over and behind which engage the ends of elastic tubes 69, (preferably made of rubber,) which are held in place and into engagement with said flanges by means of concave nuts 70, screw-threaded to engage the screw-threads 67 of the shafts.

On the outer ends of the rods 63 are sleeves 72, formed with flanges 73 and bearing against pins or projections 71 on the rods, so as to permit said rods to turn in the sleeves, while preventing relative longitudinal motion.

It will be seen that by screwing either in or out the rods 63 the elastic tubes 69, secured in any suitable manner to the sleeves 72 thereof, correspondingly contract or stretch to make them more or less pliable, as occasion may require.

Rollers constructed as has been described

can be used in putting wrappers on cigar-bunches of any size or shape, because the flexible sides will give to all different sizes. The bunches are preferably molded to the proper shape before being passed in between the rollers, whereas were the rollers made of metal or other hard or non impressible material there would have to be employed different sets of rollers for every different-shaped cigar.

I propose, instead of using a single set of rollers 47 48 49, to place a set upon each end of the roller-shafts, as shown in Fig. VI, thus having two sets, so that the reversal or shifting of the rollers from one side to the other of the frame is not necessary when right and left leaves are employed for wrappers. When a double set of rollers is used, a pulley, 46ª, is placed upon the lower shaft, 54, of roller 47 between the ends of the frame 50, and a belt is run thereon. A tubular extension, 74, of sleeve 72 of the lower roller, 47, has bearing in a journal provided in the bracket 75, for supporting the outer end of said roller.

I will now proceed to describe the tip forming thimble.

76 is a vertically-adjustable slide arranged between cheek-pieces 77 of the bracket 75, and this slide is provided with vertical slots 78 79. Through slot 78 a set-screw, 80, passes and screws into the bracket 75, so that the slide may be secured at any desired height. Slot 79 permits the passage therethrough of the end of rod 63 of lower roller, 47.

A horizontal extension, 81, of slide 76 is provided with upwardly-extending perforated lugs 82 83, between which is a spiral spring, 84, fitting around stem 85 of thimble 86, which stem passes loosely through the perforations in the lugs 82 83. This spring normally presses the thimble outwardly away from the rollers 47 48 49 by bearing upon the inner side of lug 83 and a collar, 87, which bears upon a pin, 87ª, inserted in an opening in the stem 85. On the outer end of the stem is screwed a knob or push-button, 88, whereby the thimble may be pushed forward when the wrapper which is placed upon a suitable table or support is about to be wound around the point or tip of the bunch, (the wrapper having been previously coated near the tip with paste,) so that a perfect tip, conforming to the shape of the thimble-cavity, is formed. The spiral spring will bring the thimble back to its former place when pressure on the push-button is relieved. By using such an adjustable thimble no friction on the bunch will take place before the wrapper is on it or before the thimble is applied, thereby not spoiling the end of the bunch by the pressure of the thimble, and consequently a perfect point or tip can be made.

The lower end of the slide 76 is provided with side projecting pins 90, upon which bear downwardly-pressing flat springs 91 on each side of the slide. When the cigar enters the thimble, these springs allow the latter to come up to the right position to receive the tip of the cigar. When there is but one set of rollers employed, the thimble has to be turned halfway around when the rollers are reversed, so as to properly receive the point of the cigar. To provide for this turning of the thimble, and to prevent the same from turning around on its axis at the improper time, I secure underneath the bracket, at 92, a flat spring, 93, having a projection, 94, on its free end, which projection engages normally in either of the longitudinal grooves 95 on the stem 85 of the thimble. With the double set of rollers a tip-forming thimble is applied at each end of the machine.

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

1. The hollow rolls 47 48 49, having peripheries of elastic material, horizontally-movable stretching-rods situated within the rollers, and shafts 52, 53, and 54, having pulleys at their ends, in combination with the slotted supporting-frame, in which the shafts are mounted, and the elastic bands 59 arranged upon said pulleys, for holding the said rolls together and driving them in unison, as described.

2. In combination with a frame having shafts journaled therein, longitudinally-adjustable rods screwed into the ends of said shafts, and elastic tubes constituting the sides of the rollers, said tubes being secured at their inner ends to said shafts, and at their outer ends being adapted to be engaged through suitable means by said rod, substantially as set forth.

3. In combination with a frame having shafts journaled therein, longitudinally-adjustable rods screwed into the ends of said shafts, and the elastic sides of the rollers surrounding said rods adapted to be stretched longitudinally by said rods, substantially as and for the purpose set forth.

4. In combination with a frame having shafts journaled therein, rods screwed into the ends of said shafts and provided with notches at their outer ends, whereby they are adapted to receive a screw-driver for adjusting them longitudinally, and the flexible or elastic tubes surrounding said rods and constituting the sides of the rollers, adapted to be stretched longitudinally by said rods, substantially as specified.

5. In combination with a frame having shafts journaled therein, longitudinally-adjustable rods screwed into the ends of said shafts, tubes fitting loosely on said rods, and also screwed into said shafts, and elastic tubes secured at their inner ends to the ends of the shafts and adapted to be acted on at their other ends by said adjustable rods, substantially as set forth.

6. In combination with a frame having shafts journaled therein provided with peripheral enlargements or flanges at their outer ends and screw-threaded for a portion of their length, screw-threaded washers engaging said screw-threaded portions, elastic or flexible tubes secured at their inner ends between said washers and the enlargements of the shafts, and longitudinally-adjustable rods screwed into the ends

of the shafts and adapted to engage the outer ends of said tubes through suitable means, substantially as set forth.

7. In combination with a frame having shafts journaled therein, elastic tubes secured at their inner ends by suitable means to the ends of said shafts, longitudinally-adjustable rods screwed into the ends of said shafts and having near their outer ends projections, flanged collars adapted to be engaged by said projections, and the outer ends of said tubes being secured to said flanged collars, substantially as set forth.

8. The combination of the rollers 47 48 49, the slotted frame 50, in which they are mounted to afford relative adjustment, the tip-forming thimble 86, and the vertically-slotted slide 76, on which said thimble is mounted, to permit its adjustment vertically in coincidence with the common axis of the rollers, substantially as set forth.

9. The combination of the rollers 47 48 49, the slotted frame 50, in which they are mounted, the tip-forming thimble 86, the vertically-slotted slide 76, on which said thimble is mounted to permit vertical adjustment, and a spring adapted to press the slide down, substantially as set forth.

10. The combination of the rollers 47 48 49, the slotted frame 50, in which they are mounted, the tip-forming thimble 86, and the vertically-slotted slide 76, permitting vertical adjustment of the thimble and having horizontal guides, in which the thimble is movably mounted, substantially as set forth.

11. The combination of the rollers 47 48 49, the slotted frame 50, in which they are mounted, the tip-forming thimble 86, the vertically-slotted slide 76, having horizontal guides, in which the thimble is movably mounted, said slide permitting vertical adjustment of the thimble, and the spring 84, bearing against a projection on the stem of the thimble and holding the thimble in a normally-retracted position, substantially as set forth.

12. The combination of the wrapping-rollers 47 48 49, the tip-forming thimble 86, the slide 76, on which said thimble is mounted to permit its adjustment vertically into line with the common center of the wrapping-rollers, and the guides 82 83, permitting horizontal movement of the thimble to and from the end of the cigar, as explained.

13. In combination with the rollers, a slide having a horizontal extension provided with perforated lugs and a thimble provided with a stem fitted loosely in said perforated lugs, substantially as set forth.

14. In combination with the rollers, a slide having an extension provided with perforated lugs, a thimble having a stem fitted loosely in said perforated lugs, and a spiral spring surrounding said stem and adapted to engage one of said lugs, and a projection on said stem, whereby the thimble is held in a retracted position, substantially as set forth.

15. In combination with the rollers, a bracket, a slide having dovetail connection therewith, a thimble carried by the latter, and a set-screw for retaining the slide at any desired height, substantially as set forth.

CONRAD L. DRIEFER.

Witnesses:
D. J. BATZNER,
PAUL H. COOK.