

No. 773,590.

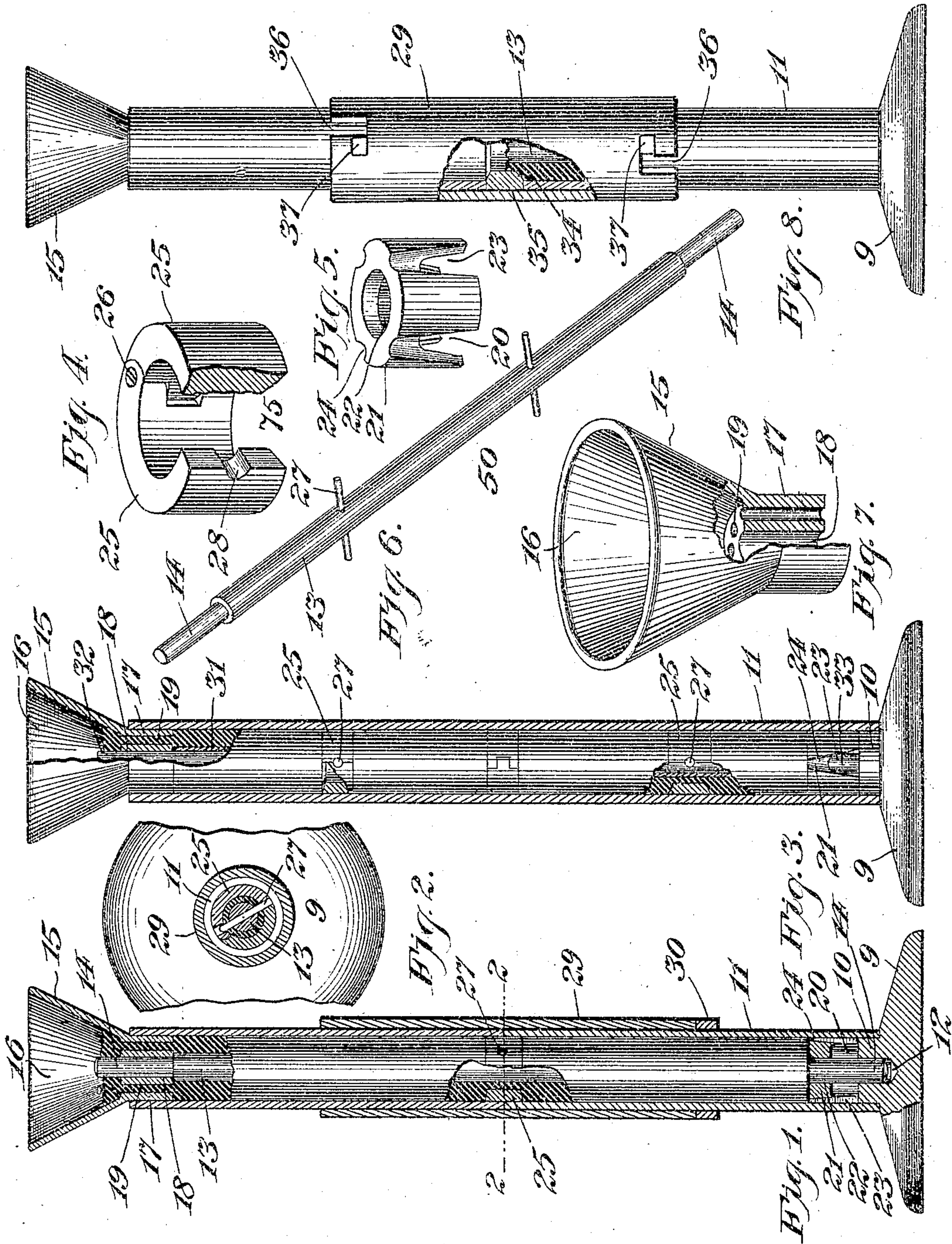
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MEANS FOR FORMING SECTIONAL PRINTERS' ROLLS.

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NO MODEL.



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# UNITED STATES PATENT OFFICE.

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## MEANS FOR FORMING SECTIONAL PRINTERS' ROLLS.

SPECIFICATION forming part of Letters Patent No. 773,590, dated November 1, 1904.

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*To all whom it may concern:*

Be it known that I, JOSEPH J. RAFTER, a citizen of the United States, residing in Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Means for Forming Sectional Printers' Rolls, of which the following is a specification.

This invention relates to printers' rolls, and has for its object to provide means for forming or molding a number of rolls upon a core.

In the use of printers' rolls it has been found desirable, especially in multicolor-work, to employ a plurality of rolls each presenting an ink receiving and distributing surface upon a single spindle, and at times it has also been found desirable to employ a short roll or a roll other than the full length upon the spindle of a commercial length.

In the drawings accompanying and forming part of this specification, Figure 1 is a side view, partly in central section, showing a form of my invention wherein the rolls are formed upon a spindle. Fig. 2 is a top view thereof on the line 2 2 of Fig. 1. Fig. 3 is a view similar to Fig. 1, but showing a plurality of rolls upon a sleeve or hollow core. Fig. 4 shows a form of roll-spacer. Fig. 5 is a perspective of an air-chamber. Fig. 6 is a perspective of a spindle. Fig. 7 is a perspective view, partly broken away, of a combined strainer, funnel, and centerer; and Fig. 8 is side view of a form of device for holding the spacer and for locking the rolls together, a portion broken away to show the location of the parts.

The mold, which may be specially constructed or may be any convenient form of mold, is shown as supported by a base or foot 9, having a hub 10 thereon, which hub is effective to enter and support a mold 11, and which hub is provided with a central opening or cavity 12, in which the core (designated in a general way by 50) on which the rolls are to be cast is received, whereby the lower part of the core may be centered and supported. In Fig. 1 the core is shown as a spindle 13, having reduced journals 14. The upper part of the spindle may be spaced in the mold by

any suitable device. In the present instance, however, a funnel 15 is shown, which has a flaring mouth 16 and a nozzle 17, adapted to closely fit the interior of the mold, and which is also provided with a concentric opening 18, adapted to embrace the spindle and accurately center the same within the mold. The opening 18 is shown as embracing the journal 14, whereby the utmost accuracy of centering will be had.

In reusing the composition of which the rolls are made frequently foreign substances, such as string and paper, fail to be removed, and for the removal of which the funnel shown herein is provided with a series of strainer-openings 19, whereby such foreign substances will be removed from the composition before it enters the mold. The use of the strainer insures the gradual filling of the mold and avoids "streaks" and "pin-holes," the resulting roll being dense and solid. The foregoing defects are attributable to too rapid or irregular filling.

The lower part of the mold is provided with an air-chamber 20, in the present instance produced by means of a block 21, having an opening 22, the walls of which are adapted to closely fit the core and having the air-space produced by chambering out the lower part of the block and providing suitable channels 23 to communicate therewith, having at their upper ends reduced openings 24. Upon the entry of the composition into the mold the small quantity of air which remains at the bottom will be forced down into the air-chamber and will there remain, the skinning over of the roll at the end holding it captive and preventing its passage through the body of the roll.

For the purpose of dividing the rolls so that a number thereof may be cast upon the same core a spacer (designated in a general way by 75) may be applied to the mold wherever it is desired that the rolls shall be spaced apart. The spacer may comprise a pair of blocks 25 25, which may, if desired, be hinged together by a suitable pivot 26, which may be a screw, if desired, to prevent loosening, and the core may be provided with pins 27, mating with



openings 28 in the blocks, in the present instance made in the abutting edges thereof, whereby the blocks may be mounted upon the spindle and the whole inserted into the mold.

5 Suitable communication is provided from one mold to the other by passages, in the present instance an annular channel between the inner walls of the blocks and the core. In Fig. 1 the mold 11 is shown as comprising two sections held together by means of a sleeve 29, positioned upon the lowermost section by an abutment or collar 30. In this instance two rolls of unequal length are shown as having been cast upon the spindle. In Fig. 3 four  
10 rolls, three of equal length and equally spaced and one shorter than the others and more widely spaced, are shown as cast or formed upon the core 50, in this present instance comprising a sleeve or tube 31, which is centered in the mold by means of a pin 32 entering the opening 18 in the centering device and passing down the sleeve, a pin 33 at the other end passing through the block 21, whereby the sleeve is centered in the mold. If desired, however, it is readily apparent that other portions of the core may be embraced by the centering device than those which are shown. In this instance the mold is one continuous piece.

30 When it is desired to cast rolls upon an existing spindle and space the rolls apart at a given point, it will merely be necessary to drill a small hole through the spindle and drive a proper pin therethrough. When sleeves are employed for cores instead of spindles, as mentioned above, such sleeves may be provided with pins running entirely through them or merely through the walls of the sleeve, according as the sleeve is to be mounted upon a spindle traversing the same or to be hung upon  
40 some other form of journal. The pins or projections may, if desired, be placed upon the block and the cavity therefor be made on the spindle—as, for instance, by turning a groove on the spindle. If, however, it is desired to practice the invention and leave the spindle or other core in its original condition, the blocks 25 may be made slightly larger than the inside of the mold 11 and may be provided with chamfered inner edges 34 and square abutting outer edges 35, whereby the blocks may be interposed between the mold-sections and be embraced by the inner walls of the sleeve 29, whereby the mold will be divided up and the  
50 roll spaced upon the core as in the other instances.

For the purpose of locking the mold-sections together the sleeve 29 may be provided with bayonet-slots 36 and the sections provided with pins 37, whereby the mold-sections may be locked together, and if the organization is such as is employed in Fig. 8 the sections, blocks, and sleeve will all be locked together in solid form and the expansion and shrinkage incident to casting will not permit the molds to move upon the rolls.

65 permit the molds to move upon the rolls.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. In means for producing a number of plastic rolls upon a core, the combination with a mold, of a roll-spacer, and means for positioning the spacer upon a core. 70

2. As a means to produce a number of plastic rolls upon a core, a sectional block having hinged connections for the sections thereof, and positioning pin-sockets at the abutments of the sections. 75

3. As a means to produce a number of plastic rolls upon a core, a sectional block having hinged connections for the sections thereof, and positioning pin-sockets in the block. 80

4. As a means to produce a number of plastic rolls upon a core, a sectional block having means for connecting the sections thereof, and means to locate the same upon a core. 85

5. The combination with a mold of hollow, cylindrical formation, of a separable annular block having a working fit with the interior of the mold, and means for positioning the block relatively to a core within the mold. 90

6. The combination with means for supporting a core, of a block adapted to surround the core, and a sleeve surrounding the block and capable of maintaining it in position.

7. The combination with a mold for casting printers' rolls, of means for positioning the core comprising a funnel provided with a nozzle having a portion adapted to embrace the core and a portion adapted to be embraced by the walls of the mold. 100

8. In a mold for casting printers' rolls, the combination with a mold, of means for centering one end of a core, means for centering the other end of the core and comprising a funnel having a nozzle capable of fitting the space between the core and mold, and a series of strainer-holes through such portion, as and for the purposes specified. 105

9. The combination with a sectional mold, of a sectional spacer-block, a sleeve surrounding and having a working fit with the mold-sections whereby the mold-sections and spacer-block are locked. 110

10. The combination with a sectional mold, of a sectional spacer-block, and a sleeve surrounding the same, for interlocking the parts. 115

11. In means for casting a plurality of printers' rolls upon a core the combination with a sectional mold, of a base therefor; a hub upon the base having a working fit with one end of a mold-section; a core-centering opening in the hub and concentric thereto; a funnel provided with a nozzle adapted to enter one end of a section and center the core in relation thereto; a sectional block adapted to encroach upon the mold-space from its perimeter inward to separate the perimeter of the molded roll into predetermined lengths of separated 120 125



perimeters; and means to detachably hold together the mold-sections and the sectional block.

12. In means for casting a plurality of printers' rolls upon a core the combination with a mold, of a funnel provided with a nozzle having a face adapted to embrace the core and a face adapted to be embraced by the inner walls of the mold to enter one end of the mold and center the core in relation thereto and traversed lengthwise by foraminations to strain the material to be molded and control the flow thereof; and means to encroach upon the mold-space from its perimeter inward to separate the perimeter of the molded roll into predetermined lengths of separated perimeters.

13. In means for producing a number of rolls upon a core, the combination of a mold, and means to encroach upon a mold-space around the entire perimeter for a portion of its length from such perimeter inwardly.

14. In means for producing a number of rolls upon a core, the combination of a mold, means to encroach upon the mold-space around the

entire perimeter for a portion of its length from such perimeter inwardly, and means to center a core within the mold.

15. The combination with a mold, of means for supporting the mold, means to center the core within the mold, and means to circumferentially divide the perimeter of the molded roll into predetermined lengths of separated perimeters.

16. In means for casting a plurality of printers' rolls upon a core, the combination with a mold, of a mold-spacer to separate the perimeter of the molded roll into predetermined lengths of separated perimeters, and means to position the same upon a core.

17. The combination with a core, of a mold; a roll-spacer to cooperate with the mold; and pins carried by the spacer or the core to enter cavities in the other to position the spacer and locate the rolls.

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Witnesses:

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