A. W. MITCHELL.

PASTE APPLYING MECHANISM FOR PAPER BOX MACHINES.

APPLICATION FILED MAR. 14, 1907.

936,796.

Patented Oct. 12, 1909.

2 SHEETS—SHEET 1.

Fig. 2.

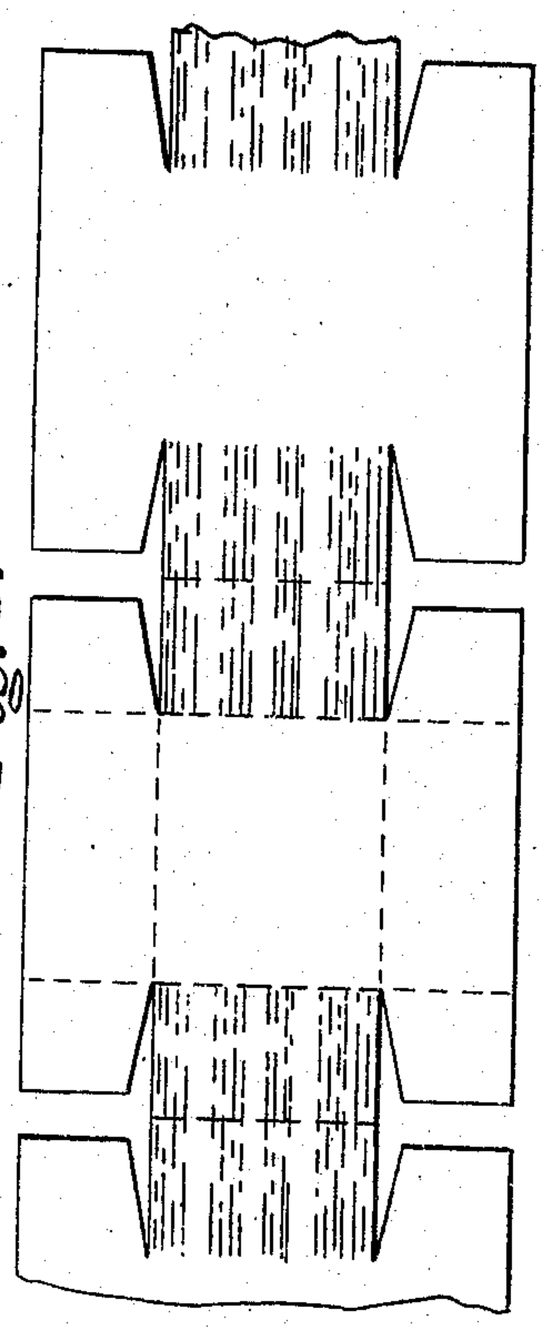
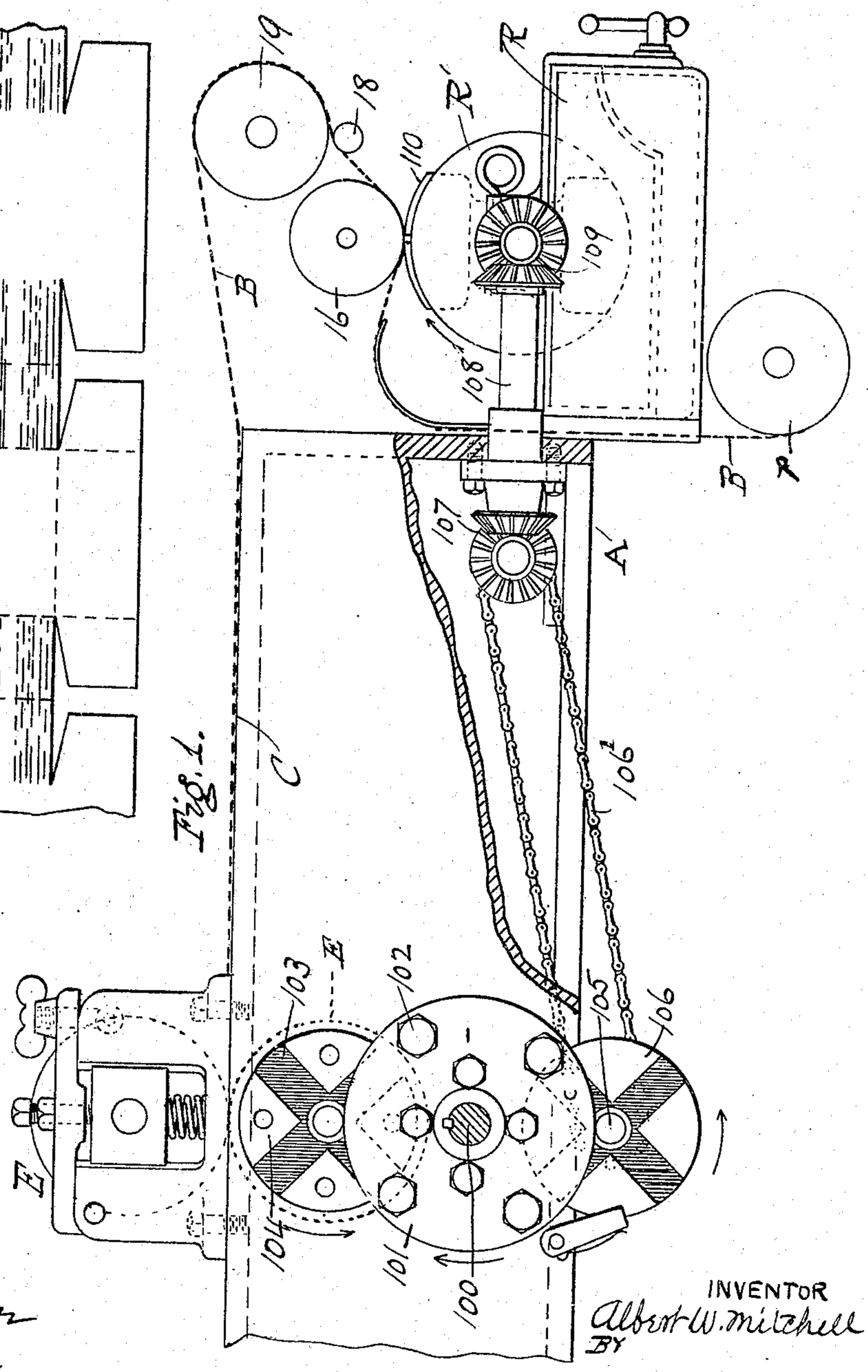


Fig. 1.



WITNESSES

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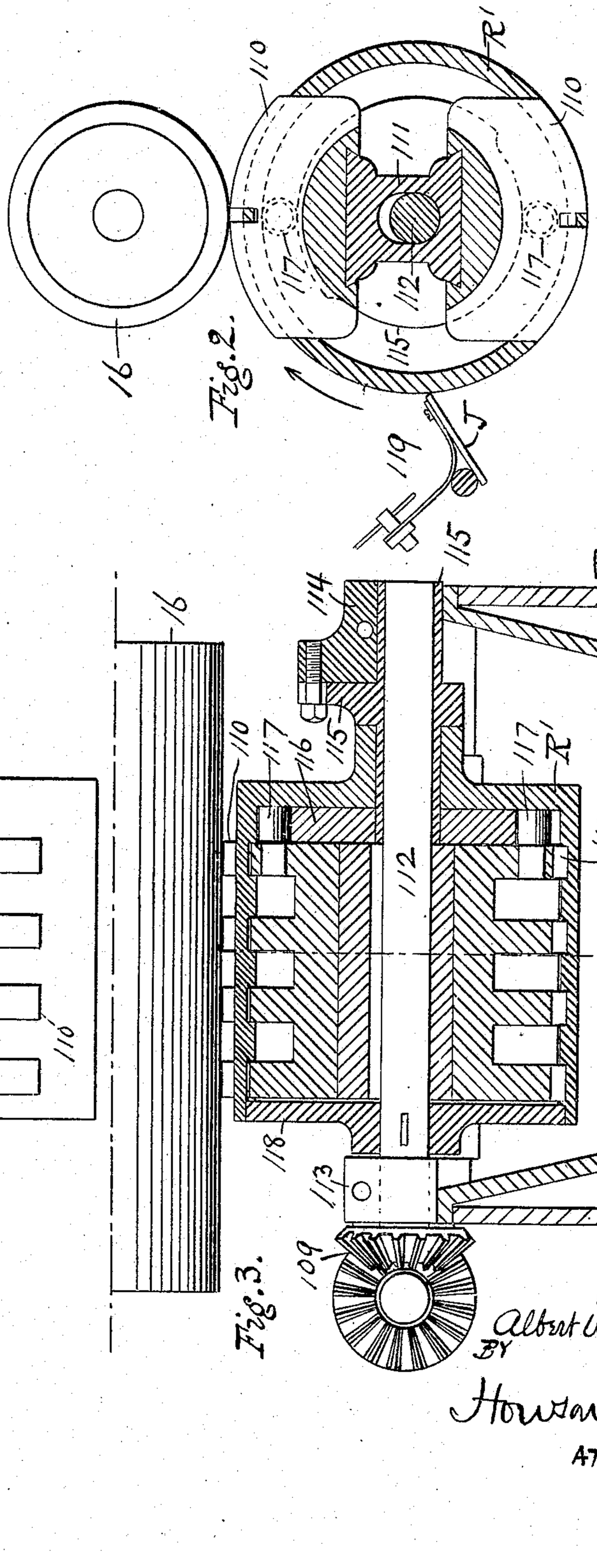

Fig. 2.

Fig. 4.

Fig. 3.

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UNITED STATES PATENT OFFICE.

ALBERT W. MITCHELL, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO JOHN N. LEONARD, TRUSTEE, OF NEW HAVEN, CONNECTICUT.

PASTE-APPLYING MECHANISM FOR PAPER-BOX MACHINES.

936,796. Specification of Letters Patent. Patented Oct. 12, 1909.

Application filed March 14, 1907. Serial No. 362,319.

To all whom it may concern:

Be it known that I, ALBERT W. MITCHELL, a citizen of the United States of America, and residing in the city of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Paste-Applying Mechanism for Paper-Box Machines, of which the following is a specification.

The object of my invention is to improve the mechanism for applying glue, paste or the like to the web of paper on its way to the scoring, cutting, folding and forming mechanism of a paper box machine, the main advantages aimed at being to apply the glue or paste at precisely the right points in the web and to avoid smudging, and to prevent clogging in the glue pot.

In the accompanying drawings Figure 1 is a side elevation, partly broken away, of the glue-applying end of a paper box machine, embodying my invention; Fig. 2 is a view of the two rollers, the upper pressure roller being in end elevation, and the lower roller, which applies the glue, being shown in cross section; Fig. 3 shows a longitudinal section through the same lower roller, while the upper roller is partly shown in edge view; Fig. 4 is a plan view of the glue-applying roller, and part of the doctor blade. Fig. 5 is a diagram of the pasted, scored and cut web, from which the boxes are formed.

Referring to Fig. 1, the glue or paste pot is shown at R, while the roller which applies the glue or paste is shown at R^1 and over it is the pressure roller 16. The web of paper B coming from a suitable roll *p* may pass up through a guiding space left between the end of the frame A of the machine and the glue pot R and thence over a suitable curved guide and between the roller 16 and the pasting or gluing roller R^1 (Fig. 1). Thence the glued web of paper may pass over a guide roller 18 and around a roller 19, and to the surface of the table C and between the feeding rollers E, E, which are geared together in any suitable way. Intermittent feed motion is imparted to these rollers E, E, from a driving shaft 100 by a Geneva stop motion comprising a disk 101 on the shaft having projecting from its rear side pins 102, which enter radial slots 103 on the face of a disk 104 on the shaft of the lower roller E.

In order to insure the lines of glue or paste being applied to the web of paper at precisely the right points and without smudging, I drive the gluing roller R^1 from the same shaft from which the feed rollers are driven and by a like intermittently acting mechanism. In other words, I mount below the shaft 100 a shaft 105 with a radially slotted disk 106, precisely like the disk 104 to be engaged by the pins 102 on the disk 101, and the roller R^1 is driven from this shaft 105 by any convenient gearing. In the present instance I have shown the motion as transmitted through chain gearing 106^1 bevel pinions 107, shaft 108, and bevel pinions 109, one of which is on the axis of the roller R^1. To further get a good glue impression on the paper and prevent clogging of the glue between the ribs of the gluing roller, and at the doctor, I use a doctor 119 with a straight edge J, and I construct the roller with advancing and retreating gluing ribs. There are, in the present instance, two sets of these gluing ribs 110, four projecting through radial slots on one side of the roller and four through diametrically opposite slots in the roller R^1, and the two sets of ribs are mounted upon a central slotted web 111, through which the shaft 112 of the roller passes. This shaft turns in fixed bearings 113 and 114, and this latter has a sleeve 115 (Fig. 3), extending into the interior of the roller R^1, where it has connected to it a cam 116. On this cam, whose outline is shown in Fig. 2, bear two rollers 117, carried by the ribs 110. The hollow roller R^1 is itself secured to the shaft 112, as by having its end plate 118 keyed thereto (Fig. 3). The cam 116 thus being stationary, when the roller R^1 is rotated the cam 116 causes the gluing ribs 110 to project on one side and retreat on the other. The cam is so placed that as the roller rotates in the direction of the arrow, Fig. 2, the ribs will be projected on the upper side as soon as they clear the doctor 119. By this means I am able to use a stationary doctor with a straight edge, and yet I get a clear and even deposit of stripes of glue on the paper, and without liability to clogging. While passing under the doctor, the surfaces of the ribs are flush with the surface of the cylinder.

I claim as my invention—

A gluing roller for a paper box machine, having two diametrically opposite sets of

gluing ribs, a connecting web for the two sets, a stationary cam and antifriction rollers carried by said ribs and running on the cam for advancing and retreating the ribs on the roller in combination with a glue pot, and a straight edge doctor, for the purpose set forth.

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

ALBERT W. MITCHELL.

Witnesses:

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W. J. SMITH.