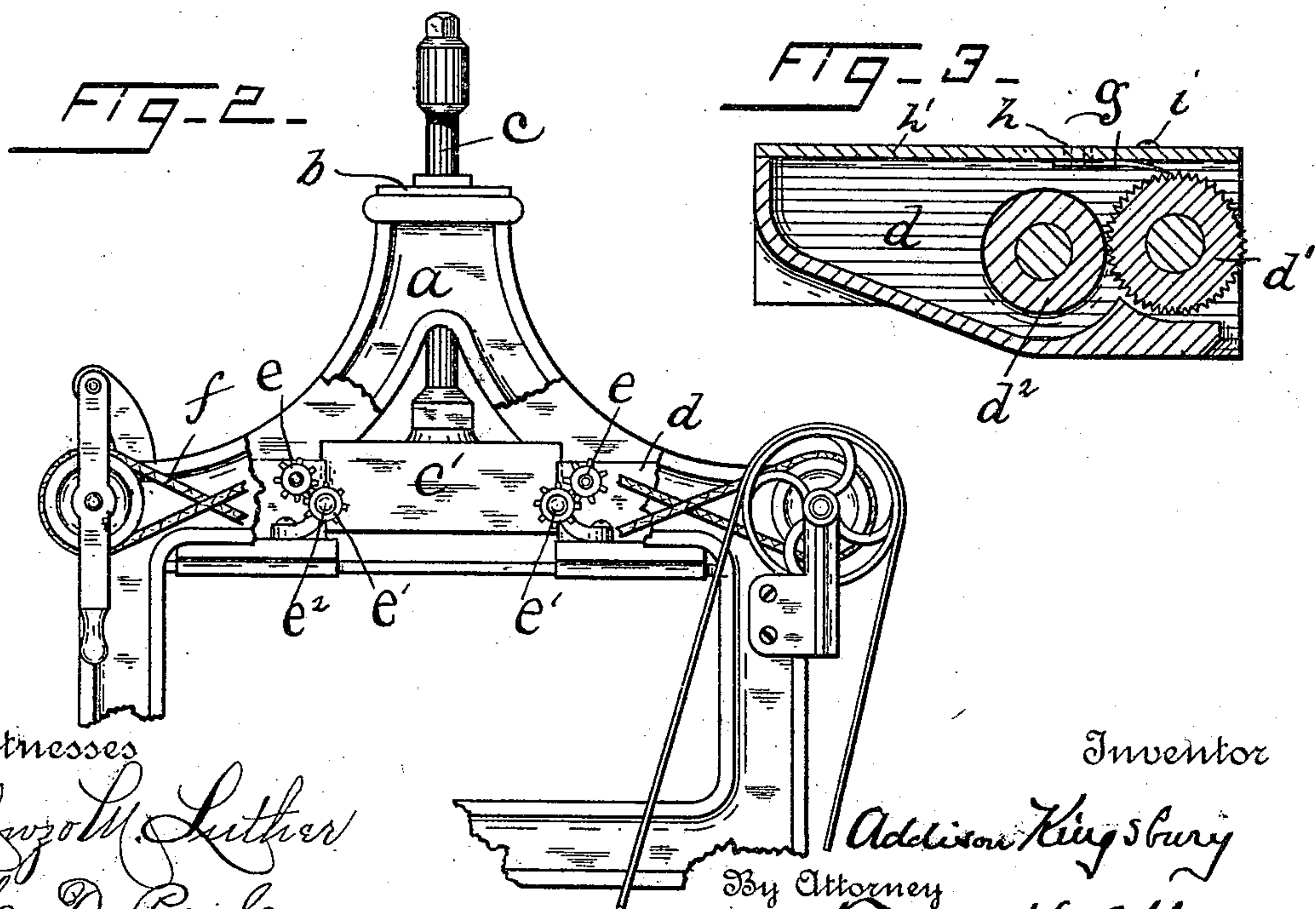
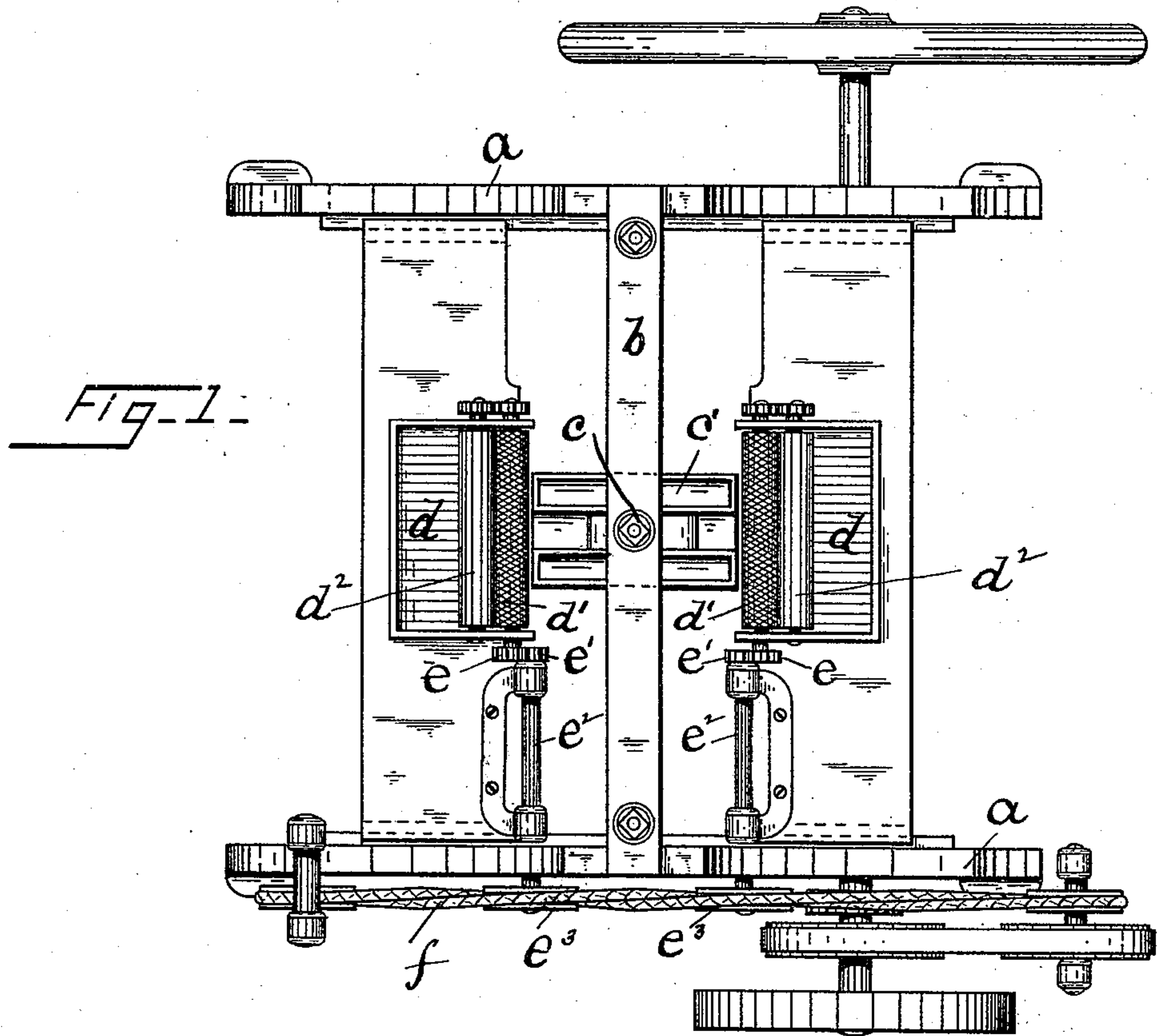


(No Model.)

A. KINGSBURY.
BOX MACHINE.

No. 515,341.

Patented Feb. 27, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

ADDISON KINGSBURY, OF COVENTRY, CONNECTICUT.

BOX-MACHINE.

SPECIFICATION forming part of Letters Patent No. 515,341, dated February 27, 1894.

Application filed December 21, 1892. Serial No. 455,950. (No model.)

To all whom it may concern:

Be it known that I, ADDISON KINGSBURY, a citizen of the United States, residing at South Coventry, Tolland county, State of Connecticut, have invented a certain new and useful Improvement in Box-Machines, which improvement is fully set forth and described in the following specification, reference being had to the accompanying sheet of drawings, in which—

Figure 1 is a plan view of portions of a machine embodying my invention and Fig. 2 is an end elevation of portions of such a machine, having its frame broken away to expose the plunger, or form, upon which the boxes are made and the paste boxes located at opposite ends of said plunger. In Fig. 3 is shown, considerably enlarged, in cross section, one of the paste boxes and its rolls.

This invention relates particularly to the class of machines in which the body blank of the box is forced downward between paste rolls, by a suitable plunger of the size and shape of the inside of the finished box: a type of said machine being seen in Patent No. 352,304, issued to W. S. Davis November 9, 1886, and the object of my present invention is to improve the paste rolls employed in such machines.

Said invention consists, in brief, of forming said rolls with milled or otherwise roughened perimeters, for reasons hereinafter explained.

In the drawings the letters *a* denote the end frames of a box machine, having cross bar *b* at the upper portion thereof, in which cross bar is a vertically movable rod *c* that has a form *c'* attached to its lower end. The rod *c* and connected form *c'* are caused to rise and fall at stated times by means of cams and lever mechanisms not shown here. Located at each end of the form *c'* is a paste box *d* that has journaled in its side nearest the form *c'* a roll *d'* that is almost in the path of said form when the machine is adjusted for use. As here shown a distributing roll *d²* is provided in the rear of the paste roll proper but this supplemental (distributing) roll is not a necessary feature of my invention and may be dispensed with if desired. Paste roll *d'* bears upon one end a gear *e* that meshes with a corresponding gear *e'* upon a shaft *e²* upon whose outer end is a score pulley *e³* provided to re-

ceive a belt *f* by means of which the paste rolls may be revolved at a speed corresponding to that at which the form *c'* moves.

Heretofore so far as I am familiar with this class of machinery, smooth paste rolls have been used but it is found in practice that should such paste rolls be set up too near the form, or should two thicknesses of paste board be entered (as sometimes occurs through mistake) between the paste roll and the descending form, the roll is likely to be sprung and bent, thus rendering it unfit for further use. It has also been found that, unless the paste roll and form travel at exactly the same speed, the box blank, carried downward by the form, is likely to wipe the paste from the roll at such points as are touched by the blank and the latter, being carried too quickly past the roll, is delivered to the folding mechanism beneath without sufficient paste to stick the ends when the latter are pressed upon said blank. To obviate these difficulties and for other purposes of advantage, I check, mill, corrugate or otherwise roughen the outer surface of the paste rolls substantially as here shown, in such manner that projecting points with intervening channels or interstices are provided throughout said surface. This construction reduces in a large degree the area of surface presented to the blank as the latter passes downward and, should more than one thickness of cardboard seek to pass downward with the form, the projecting points of the roll easily press into said cardboard thus relieving the great pressure and strain that, ordinarily, would spring and bend the roll, as above explained. The channels or interstices also provide pockets which fill with paste and serve to insure a free and liberal distribution of the same upon the paste board blank.

With the described paste-roll I use by preference a scraper *g* of sheet metal, extending from end to end of said roll. This scraper is here shown as secured by rivets *h* to the cover *h'* of the paste-box *d* in such manner that the edge in contact with the paste roll may be adjusted to bear more or less heavily upon said roll, the scraper being controlled in this respect by screws *i* tapped through the cover *h'* and having their ends abutting the scraper. By simply unscrewing or screwing home these screws *i* the free edge of the scraper may be

permitted to spring away from the paste roll or be forced into closer contact with it. The scraper may thus be utilized to lay the paste smoothly upon the roll and to control the
5 amount of paste carried by said roll. The location of said scraper is not material so long as the paste scraped off by it from the roll d' is permitted to flow back into the paste box d .

When the box machine is in use the box
10 d is kept filled with paste which is carried by gravity downward, along the inclined bottom of the box, and is drawn from by roll d' , as needed, or, if a supplemental distributing roll d^2 is provided as here illustrated, the paste
15 is carried around by said supplemental roll and transferred to the paste roll d' with which it is in contact.

Having described my invention, I claim—

1. In combination with the box blank supporting form of a box machine, a paste-roll
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having its circumferential surface provided with projecting points adapted to be forced into the material with which the roller is in contact substantially as, and for the purpose specified.

2. In combination with the blank supporting form of a box machine, a paste box with inclined bottom having journaled therein adjacent to said form a paste-roll the circumferential surface of which is provided with
25 projecting points adapted to be forced into the material with which the roller is in contact, and an adjustable scraper coacting with said roll in manner and for the purpose specified.

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