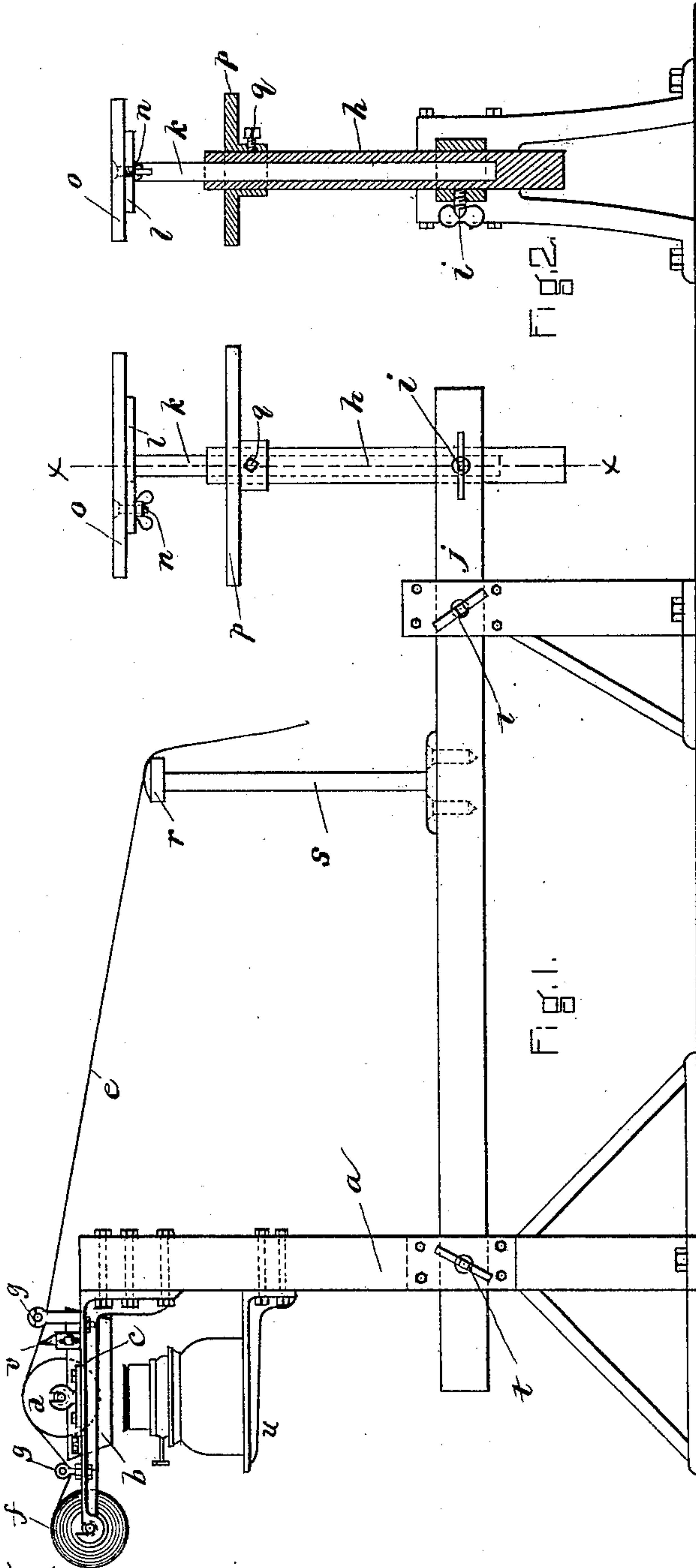


(No Model.)

E. M. RICHARDSON.
BOX STAYING MACHINE.

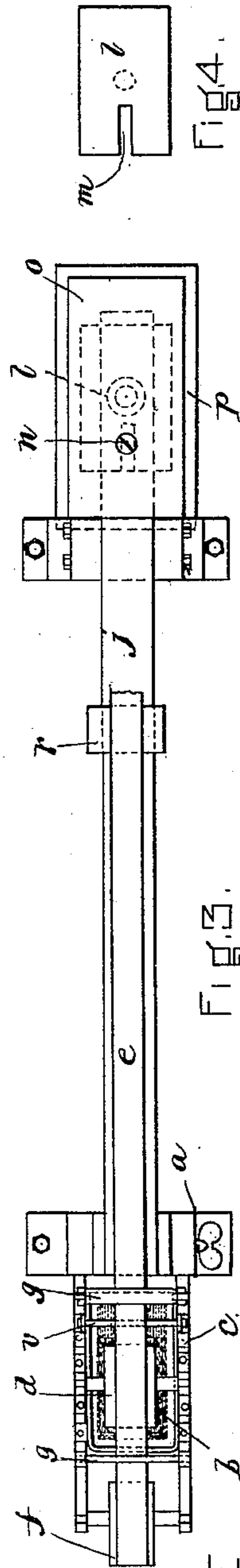
No. 428,952.

Patented May 27, 1890.



WITNESSES:

T. W. Thompson.
Frank Chester.



INVENTOR:

Edward M. Richardson

UNITED STATES PATENT OFFICE.

EDWARD M. RICHARDSON, OF LACONIA, NEW HAMPSHIRE, ASSIGNOR OF
ONE-HALF TO A. S. GORDON, OF SAME PLACE.

BOX-STAYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 428,952, dated May 27, 1890.

Application filed December 24, 1887. Renewed March 27, 1889. Serial No. 332,772. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. RICHARDSON, of Laconia, in the county of Belknap and State of New Hampshire, have invented certain new and useful Improvements in Box-Staying Machines, of which the following is a specification.

My invention relates to machines or devices for staying or securing bottoms in boxes, and has for its object to provide a contrivance of the kind mentioned which shall be at once simple in construction and economic of manufacture.

My invention consists in several improvements in such machines, all as hereinafter fully described, and set forth in the claims.

Reference is to be had to the accompanying drawings, and to the letters of reference marked thereon, forming a part of this specification, of which drawings—

Figure 1 represents a side elevation of the invention. Fig. 2 represents a sectional view taken on the line $x x$ of Fig. 1. Fig. 3 represents a top plan view of the machine. Fig. 4 represents a top plan view of the bed or support for the box-form.

Similar letters of reference designate similar parts in all of the figures.

In the drawings, a designates the frame of the machine, which may be made of any form and of any material suitable for supporting in a proper manner the various operative parts of the invention.

b designates a tank or trough adapted to contain melted or dissolved glue, which tank or trough is supported by a bracket c , secured to the frame a .

d designates a glue-supplying roller provided with journals having bearings on the tank or trough b , and adapted to run in the glue in said tank or trough and supply it to one side of the Manila or paper strip e , drawn over said roller d from the roll f . The strip e of paper or the like is guided and held down on the roller d by means of the guide rods or rollers $g g$, located one on each side of the roller d , and a "scraper" v , so called, is arranged at a convenient point near to the glue-distributing roller d , to scrape the superfluous glue from the strip e , which glue, so removed, may be returned to the tank b to

be reused. This scraper may be made vertically adjustable, so as to operate with greater or less force against the glued side of the strip e .

h designates a hollow standard adjustably secured by means of a hand-screw i in a hole formed in the forward end of the main beam or bar j of the frame, and the form-supporting rod k is arranged in said hollow standard so that it may be turned therein, as will be understood by reference to Figs. 1 and 2. Secured to the upper end of rod k is a block or bed l , (seen in plan view in Fig. 4,) which block is provided with a slot m , to receive the shank of an adjusting-screw n , secured to the form o , so that a form o of any size or shape can readily be attached to the block or bed l to suit the form of box being made or operated upon.

p designates the rest for the top of the inverted box being made, which rest is sustained in position and rendered vertically adjustable on hollow standard h by means of a thumb-screw q .

Intermediate of the form o and the glue-distributing roller d is a bar or block r , secured to the upper end of a standard s , attached to the main beam j , said rest being designed to support the paper strip e should the free end thereof be dropped by the operator at any time.

The main bar or beam j is made adjustable in the frame a , so as to vary the distance between the form o and glue-distributing roller d , to meet the requirements of varying temperatures or conditions of the atmosphere, said main beam being held in position by means of the hand-screws $t t$.

By making the hollow standard h vertically adjustable the form o can be fixed at such height as will best suit the operator. The revolubility of rod k permits the operator to turn the box on the form o , so as to readily operate on all sides of the same, while the adjustability of the rest p furnishes means whereby the device can be adapted to any depth of box.

In order to suit the machine to the manufacture of boxes of different forms—round, rectangular, or oval—I make the form o interchangeable, and the devices whereby it is

attached to and detached from the block *n* are so simple as to require little more than a moment of time to make the change.

A lamp may be arranged on a bracket *u* below the glue-tank *b*, in order to keep the glue in the tank warm and in a liquid condition.

In staying or securing the bottom in boxes with this machine the box is put over the form *o* in an inverted position, and the rest *p* is brought up to the edge of the box as it rests on the form and secured in position.

The glued strip *e* is then drawn forward and laid on the edge of the box, gluing one half of the width on the bottom and the other half on the side, turning the box with the form as the work progresses or as may be convenient.

The device as a whole is very simple in construction, though at the same time of such efficiency and convenience as to enable an operator to stay a maximum number of boxes in a given time.

Though I have been particular to describe the form and arrangement of the various parts comprising my invention, it is obvious that these may be varied without departing from the nature or spirit of the improvements.

Having thus described my invention, what I claim is—

1. The combination, with a rotary removable form *o* and its support, of a box-top rest *p* and its support, said rest being vertically adjustable on its said support, as set forth.

2. The combination, with the hollow standard *h* and its support, and a box-top rest vertically adjustable on said standard, of the rotary rod *k*, arranged in said hollow standard, and the removable form *o* on said rod above said box-top rest, as set forth.

3. The combination, with the main beam, of a hollow standard vertically adjustable in said beam, a rest *p*, vertically adjustable on said standard, and a rod revolvably supported therein, and a removable form *o* on said rod, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 5th day of December, A. D. 1887.

EDWARD M. RICHARDSON.

Witnesses:

STEPHEN S. JEWETT,
ANNIE L. JEWETT.