(No Model.) 4 Sheets—Sheet 1.

A. L. STEVENS.

LABELING MACHINE.

No. 517,897. Patented Apr. 10, 1894.

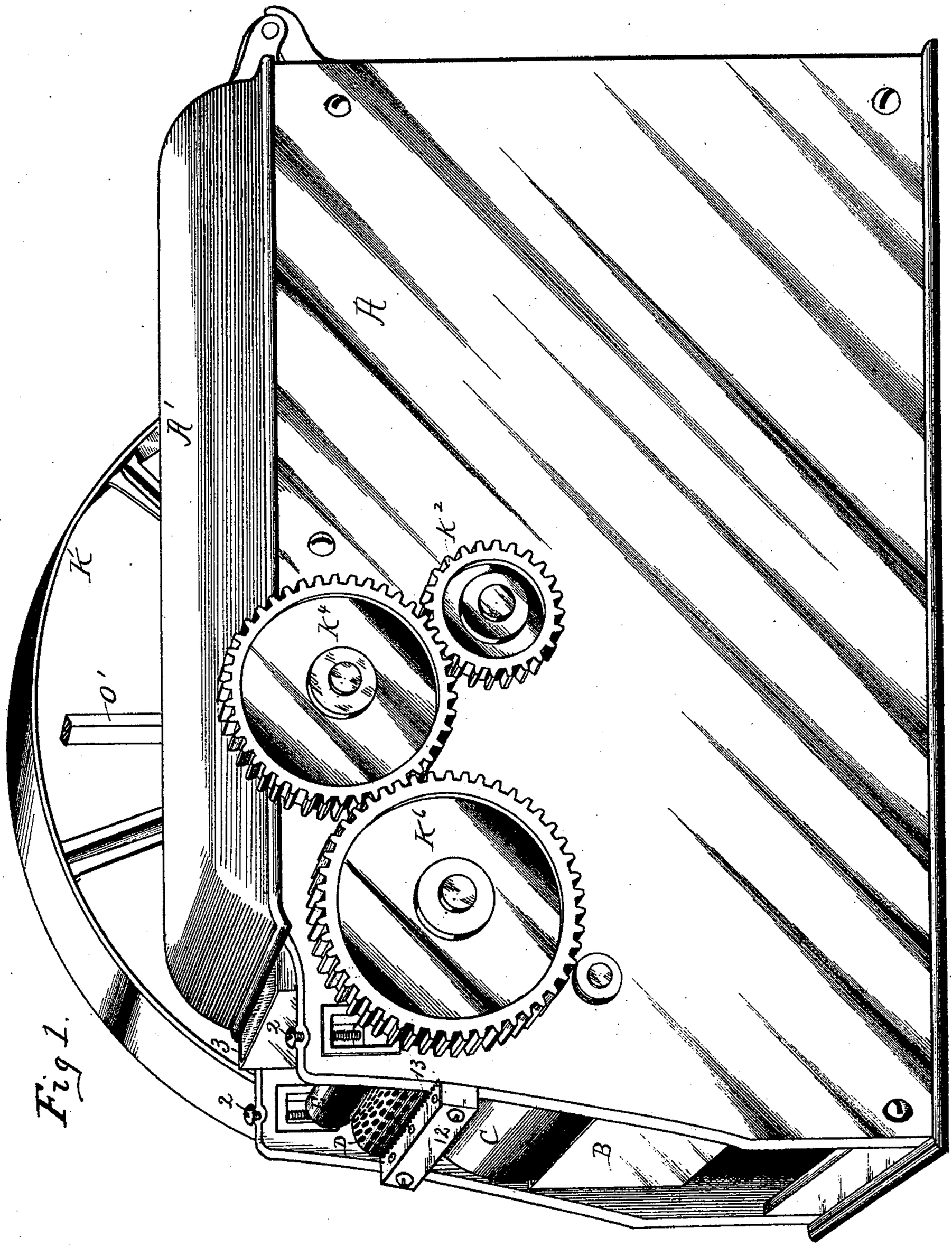

Fig 1.

WITNESSES:

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BY

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(No Model.) 4 Sheets—Sheet 2.

A. L. STEVENS.

LABELING MACHINE.

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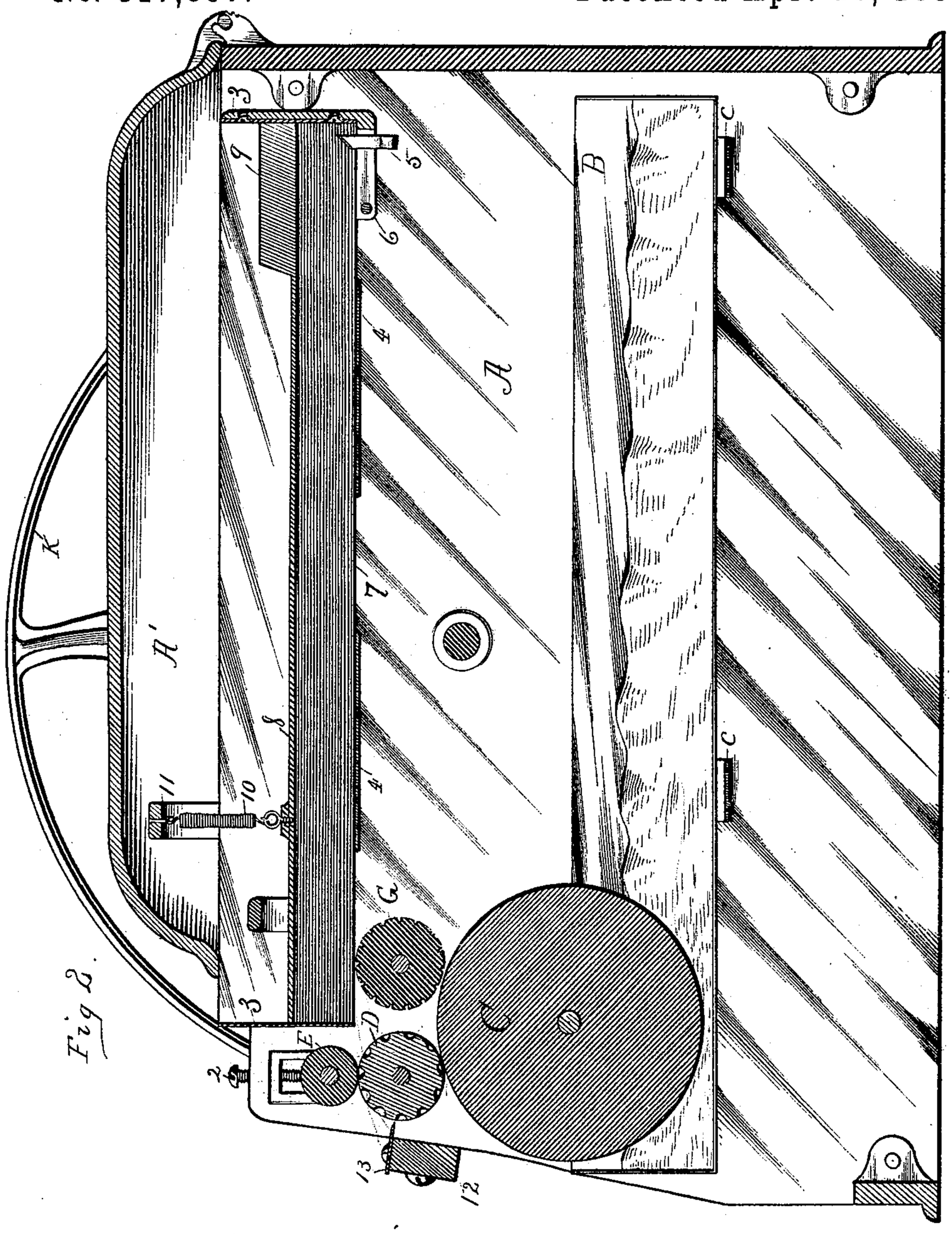

Fig 2.

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(No Model.) 4 Sheets—Sheet 3.

A. L. STEVENS.
LABELING MACHINE.

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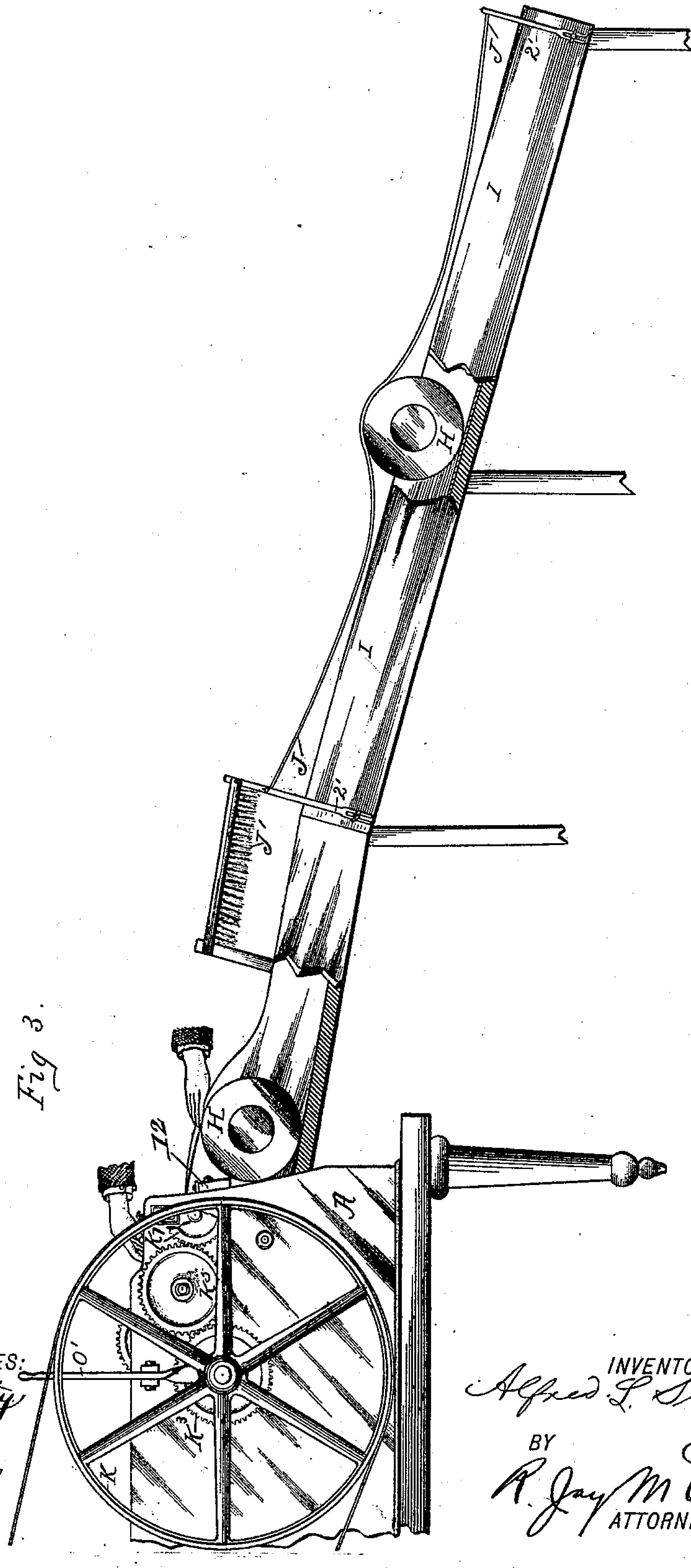

Fig 3.

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(No Model.)

4 Sheets—Sheet 4.

A. L. STEVENS.

LABELING MACHINE.

No. 517,897. Patented Apr. 10, 1894.

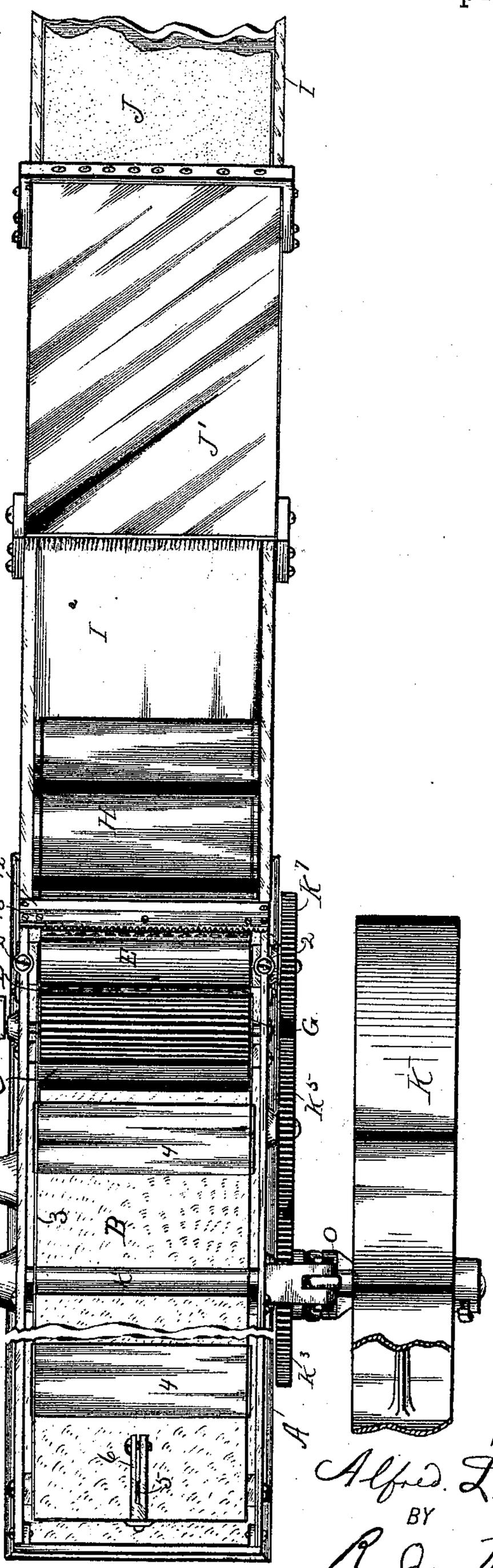

Fig 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

ALFRED L. STEVENS, OF DAYTON, OHIO, ASSIGNOR OF TWO-THIRDS TO JOHN M. PHELPS AND CHRISTOPHER W. UTHBROK, OF SAME PLACE.

LABELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 517,897, dated April 10, 1894.

Application filed July 13, 1893. Serial No. 480,341. (No model.)

To all whom it may concern:

Be it known that I, ALFRED L. STEVENS, of Dayton, county of Montgomery, State of Ohio, have invented a new and useful Improvement in Labeling-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in can labeling machines.

The object of said invention is to provide improved means for labeling cans; to this end the improvements consist of means for cementing the label to the can after it has been placed thereon; to means for delivering said can after it has been labeled, and to certain other points that will be hereinafter specified and claimed.

Inasmuch as certain features of the machine to wit, the paste and label receptacle and the feeding rollers have already been covered by myself in an application for United States Letters Patent, dated April 17, 1893, Serial No. 470,795, such features will be claimed herein only as they are identified with the present improvements.

In the accompanying drawings forming a part of the specification and upon which letters and numerals of similar import denote corresponding parts, Figure 1. is a view in perspective of my labeling machine with the inclined chute detached; Fig. 2. a horizontal section through the center of the machine, the inclined chute also detached; Fig. 3. a side elevation of the front end of the machine with the inclined chute attached thereto, parts of which are shown in section; Fig. 4. a plan view of the machine with the inclined chute attached, the lower portion of which is broken away.

A and A′ represent, respectively, the case and cover in which the mechanism is mounted and inclosed, and which may be constructed of cast iron or any suitable material; within this casing I mount longitudinally, a paste tank B upon brackets *c*—*c* projecting from the sides of the casing.

C indicates a paste-applying roller journaled in the sides of the case in a position to rotate partially in the paste in said tank by frictional contact with the combined paste and feed roller D, which is provided with a recessed and yielding surface adapted to retain a requisite amount of paste to sufficiently cover the label.

E is a feed roller journaled in adjustable bearings above roller D, and between which there is a frictional contact that may be increased or decreased as necessity requires, by means of set screws 2—2 that normally bind the journals of the roller E.

In the upper portion of the case and longitudinally therewith, I locate the label tray 3 provided with cross pieces 4—4 and a vertical blade 5 adjustably attached to a slotted arm 6, projecting horizontally from the casing upon which the labels 7 rest, see Fig. 2. 8 designates a weight or gravity plate designed to rest upon the top of said labels; the rear end of said plate is provided with an excess of weight as at 9 by means of which the blade 5 is made to penetrate the labels thereby serving to prevent any but the bottom one of the labels from being moved at a time. The front end of the gravity plate 8 is arranged to only nominally rest upon the labels by attaching a spiral spring 10 thereto and to an arch 11 attached to and reaching across the casing. The labels are primarily moved from the tray by the corrugated feed roller G journaled similarly to the other rollers, and all of which are substantially the same as those described in the application hereinbefore referred to. This roller G is arranged adjacent to the front end of the tray 3 and therebeneath, so that the bottom label rests upon it, therefore said roller is enabled to readily feed a label to the secondary feed rollers D and E by adding pressure by the hand or otherwise, to the front end of the plate 8; the object of requiring additional pressure is to avoid the necessity of removing the power from the machine whenever it may be desirable to stop the feed for a moment or so.

It is obvious that a label will have a tendency to stick to and follow around a moistened roller; to prevent this, I locate a transverse

bar 12 in the front of the machine and attached thereto by screws or otherwise; on the upper surface of this bar and at right angles thereto, a scraper or serrated plate 13 is attached in a manner to bring the teeth thereof just sufficiently close to the roller D to prevent the passage of a label between it and said roller. In addition to affording a support for the serrated plate 13, the bar 12 also forms a gage or stop to measure the proper position for the cans to receive the labels as they issue from the rollers D and E.

Figs. 3 and 4 exemplify the means I provide for delivering the cans H from the machine after the application of the label, and during which time the work of smoothly and perfectly attaching the label is performed; this consists of an inclined chute I supported on uprights, and down which the labeled can is permitted to travel by virtue of its own gravity; the floor of this chute is covered with felt or any suitable material that will present a cushion surface to the can as it rolls thereupon with the moistened label. Over and above the lower portion of the chute, I place a stationary pressure belt J, and make the same adjustable, vertically, by securing the ends thereof to bifurcated rods 2′—2′ attached to the sides of the chute by means of thumb-screws. The object of this contrivance is to press the label to the can as the latter rolls down the incline; there being sufficient sag in said belt to admit of the entire weight thereof resting upon the can.

As a means of smoothing and properly attaching the label to the can before it begins its travel under the pressure belt, I place at a point on the chute, above said belt, a brush J′ with an attachment to the chute and means for vertical adjustment similar to the pressure belt; as the can rolls against the yielding pressure of this brush, any tendency that the label may have to bulge from the can or become creased, is obviated.

Power to operate the machine is transmitted thereto through the drive pulley K loosely mounted on shaft K′ journaled in studs projecting from the sides of the casing. This pulley is adapted to turn independently of, or with the shaft K′ by means of a friction clutch O adapted to be moved to and from the hub of said pulley with which it engages by means of the lever O′.

K^2 is a gear pinion, and K^3 a gear wheel, both of which are keyed to the shaft K′ on opposite sides of the casing, and mesh respectively with intermediate gear wheels K^4 and K^5, which latter, in turn mesh with gear wheel K^6 keyed to the shaft of the corrugated roller G, and with gear wheel K^7 keyed to the shaft of the intermediate feed roller D. It will thus be seen that the power is transmitted directly to rollers D and G, the former of which rotates rollers C and E, while the office of roller G is solely to give the labels an initial movement.

To briefly describe the operation of labeling. Fig. 3 is referred to, where it will be seen one hand is pressing the front ends of the plate 8 while the other hand presents the can in a position to receive the label being issued; and allows the can to rotate gradually until the label surrounds it, when it is released and permitted to descend the incline.

Having fully described my invention, I desire to claim—

1. The combination with the casing having the arch 11; of the label tray 3, and the gravity plate 8 the rear end of which is provided with an excess of weight, and the front end normally maintained out of contact with the labels by the spring 10 attached thereto and to the arch 11, substantially as described.

2. The combination of the paste roller C, the feed rollers D, E and G, the latter of which is adapted to feed labels to rollers D and E; the transverse bar 12 mounted in the front of the casing, and forming a gage for the cans; the serrated plate 13 mounted on the bar 12 adjacent to roller D, by the means of which the labels are prevented from following said roller, as herein specified.

3. In a labeling machine, the combination with the feeding rollers G, E and D, and the paste roller C for applying paste to roller D; of an inclined way upon which the cans are supported while receiving the labels, and down which said cans gravitate to secure the labels; a stationary belt suspended above the lower portion of said inclined way on adjustable supports, said belt being adapted to press the surface of the cans and completely secure the labels thereto, substantially as herein described.

4. The combination with the casing having a paste receptacle and a label holder therein, and roller mechanism for feeding said paste and labels; the serrated plate 13, mounted in the front of roller D; the transverse bar 12 upon which said plate is mounted and by means of which the cans are gaged to a proper position to receive the labels; of the inclined way upon which said cans are supported, the stationary belt J, mounted on adjustable supports, over the lower portion of said incline by means of which the labels are secured to the cans as said cans roll thereunder, substantially as herein described.

In testimony whereof I have hereunto set my hand this 5th day of July, 1893.

ALFRED L. STEVENS.

Witnesses:

GEORGE H. WOOD,

R. JAY MCCARTY.