No. 785,825. PATENTED MAR. 28, 1905.

C. K. ORTON.

PRESSURE ROLLERS FOR WOOD PLANING MACHINES.

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Fig. I.

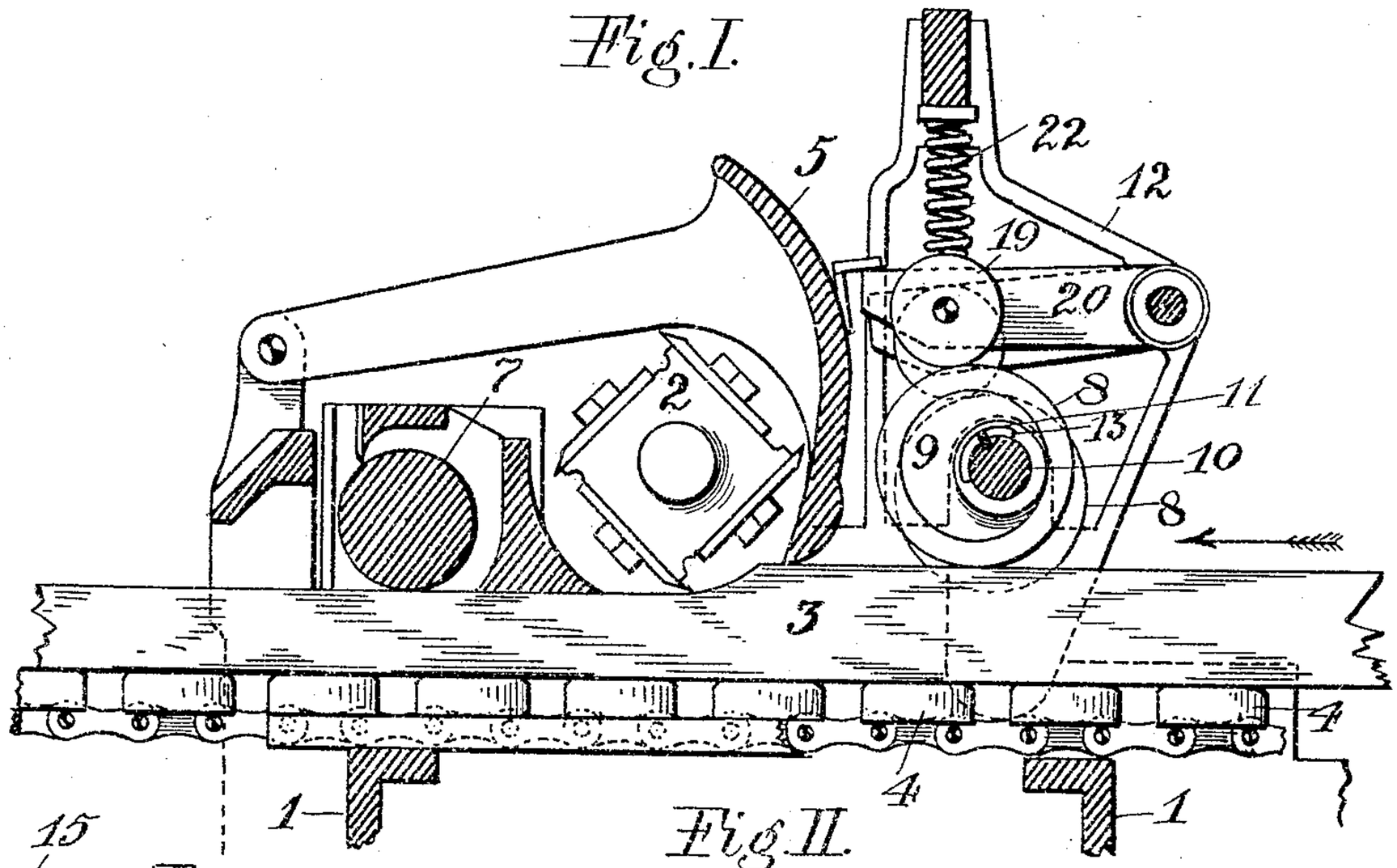

Fig. II.

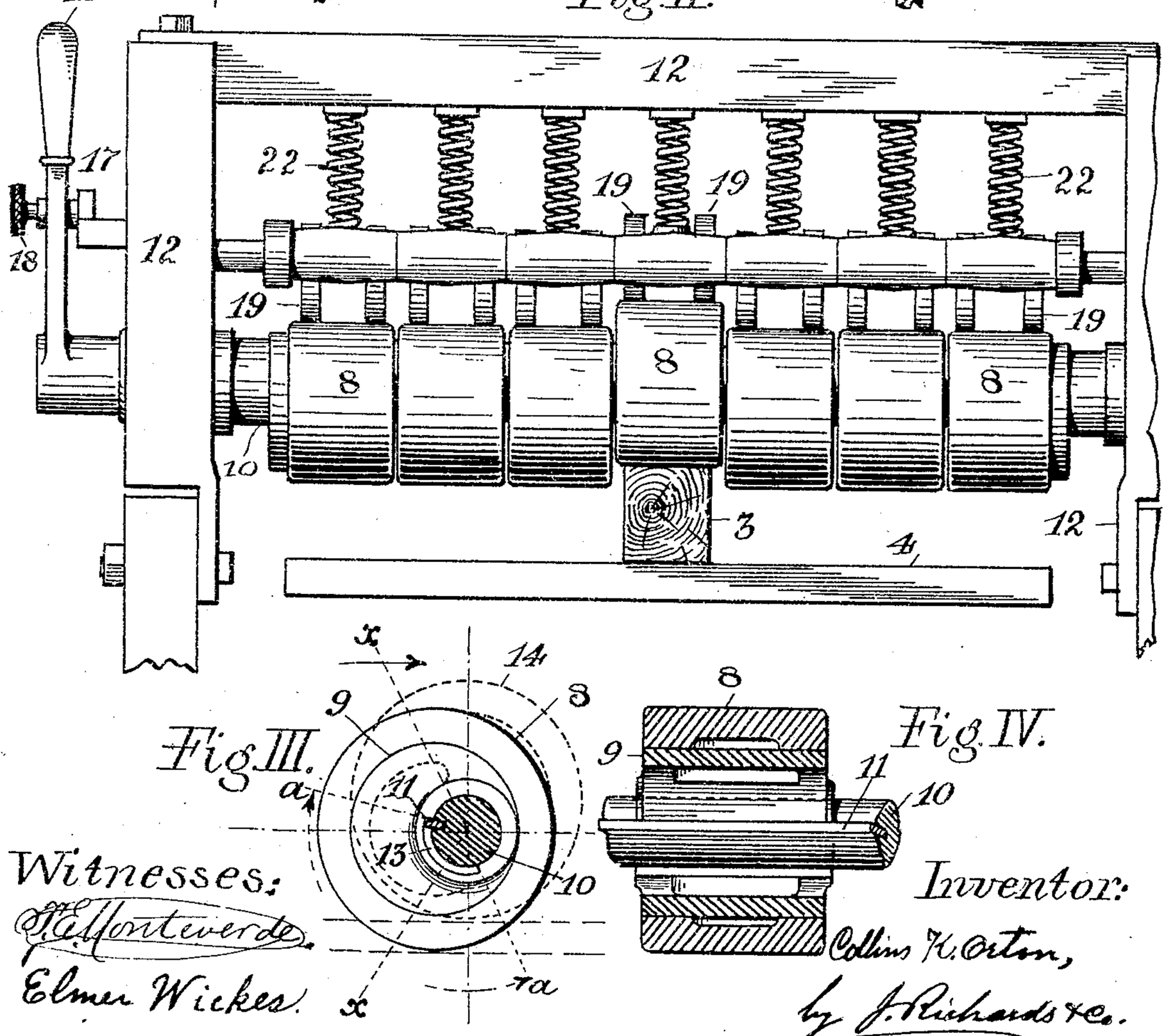

Fig. III.

Fig. IV.

Witnesses:

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No. 785,825. Patented March 28, 1905.

UNITED STATES PATENT OFFICE.

COLLINS K. ORTON, OF SAN FRANCISCO, CALIFORNIA.

PRESSURE-ROLLER FOR WOOD-PLANING MACHINES.

SPECIFICATION forming part of Letters Patent No. 785,825, dated March 28, 1905.

Application filed December 23, 1904. Serial No. 238,104.

To all whom it may concern:

Be it known that I, COLLINS K. ORTON, a citizen of the United States of America, residing at San Francisco, county of San Francisco, and State of California, have invented certain new and useful Improvements in Pressure-Rollers for Wood-Planing Machines; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to pressure-rollers for wood-planing machines and to certain improvements therein, as hereinafter described in the following specification and illustrated by drawings forming a part thereof.

My invention consists in constructing such pressure-rollers in short sections severally mounted and movable on eccentric bearings and separably pressed down upon the surface of the timber as it passes through the machine; also, it consists in means to raise and lower together all the roller-sections, and thus adjust their range to automatically suit general variations of the timber's thickness.

The object of my invention is to hold timber being planed firmly on the bed of a chain-platen machine, especially when several pieces of different thickness are being planed at one time, and to limit the vertical range of such pressure-roller sections to what is required in operating and to prevent their descending below the required level when they are not resting on the timber. To these ends I provide devices as shown in the drawings.

Figure I is a broken view, partially in section, of the cutting and other main operating parts of a chain or endless platen wood-planing machine of the usual construction provided with my improved sectional pressing-rollers; Fig. II, a view in front of the same parts including my improved sectional pressure-roller; Fig. III, an end view of one of the pressure-rollers, showing the manner of mounting and adjusting the same; Fig. IV, an enlarged longitudinal section of one of the pressure-rollers, taken in the plane *x x* in Fig. III.

In planing wood by what are commonly called "surfacing-machines," especially those in which the pieces being planed are advanced by an endless-chain platen beneath the wood, the variation of shape and thickness of wide boards or planks prevents their being firmly held down by straight rigid rollers, and the action of the cutters is consequently imperfect. The same thing applies when two or more pieces of narrower width are being planed at the same time. These impediments I overcome by the construction now to be described by the aid of the drawings.

1 1 are parts of the main supporting-frame; 2, the cutting member or cylinder; 3, the timber being planed; 4, the chain-platen that advances the timber; 5, a hinged sliding pressure-bar that bears close to the cutters or knives 2, and 7 is a common rigid pressure-roller that bears upon the surface of the timber 3 after it is reduced by the knives to a uniform thickness.

8 represents the sectional and movable pressure-rollers that form the subject of my invention. These are made of any required number to suit the width of the machine, so mounted that each section can rise and fall independently, as indicated in Fig II. To enable this motion, I mount these rollers 8 loosely on eccentric bearings 9, that are in turn loosely fitted on a continuous shaft 10, that passes through the whole and is supported on the top portion 12 of the fixed framing of the machine. This construction of the rollers 8 is especially shown in Figs. III and IV, next to be referred to.

The bearings of the roller-sections 8 are lubricated and by traction of the timber 3 revolve freely on the eccentric bearings 9, and these turn freely on the shaft 10 within certain limits, (indicated approximately by the dotted lines *a a* in Fig. III.) This range of the bearings 9 around the shaft 10 is determined by a key or cotter 11, that moves in the recess 13, stopping at the angles *a a*. When the rollers 8 are not bearing on the timber 3, they drop down by gravity to the position shown in Fig. III, but are free to be raised with their bearings 9 to the position indicated by dotted lines 14 in this figure. The whole series of rollers are raised together by turning the shaft 10—an adjust-

ment that prevents useless range of the rollers 8 and their bearings 9. The shaft 10 is turned by a lever 15, provided with a sector 17 and locking-pin 18, so the rollers 8 when set in position will bear upon the thinnest pieces to be planed and their vertical range be only what deviation in the thickness of the timber requires. This vertical adjustment of the rollers 8 is convenient in entering pieces or withdrawing pieces from the machine and is of frequent use in operating.

Elastic pressure is applied on the rollers 8 by pairs of superposed rollers 19, mounted on the radial bars 20 and separately pressed downward by a series of springs 22, as shown in Figs. I and II.

Having thus explained the nature and objects of my invention and the manner of applying the same, what I claim as new, and desire to secure by Letters Patent, is—

1. In sectional pressing-rollers for wood-planing machines, a series of roller-sections independently mounted on oscillating cams or eccentric bearings supported loosely on a continuous shaft, means to stop and determine separately the oscillating range of these eccentric bearings about the shaft on which they are supported, and means to apply elastic pressure severally on the roller-sections and press them down on the surface of the wood, the whole combined and operating in the manner substantially as specified.

2. In a sectional pressing-roller for wood-planing machines, a series of roller-sections revolubly mounted on cams or eccentric bearings loosely supported on a continuous shaft, stops to determine the rotation of these eccentric bearings each way about the shaft and means to turn and adjust the central shaft and raise or lower coincidently all the eccentric bearings and the pressing-rollers thereon, in the manner and for the purposes substantially as specified.

3. In sectional pressing-rollers for wood-planing machines, a series of rollers of like diameter loosely mounted on eccentric bearings, the latter loosely mounted on an oscillating shaft with a limited range about the same and means to turn and adjust the shaft so all the pressing-rollers can be raised or lowered at the same time, substantially as specified.

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

COLLINS K. ORTON.

Witnesses:

ALFRED A. ENQUIST,

ELMER WICKES.