

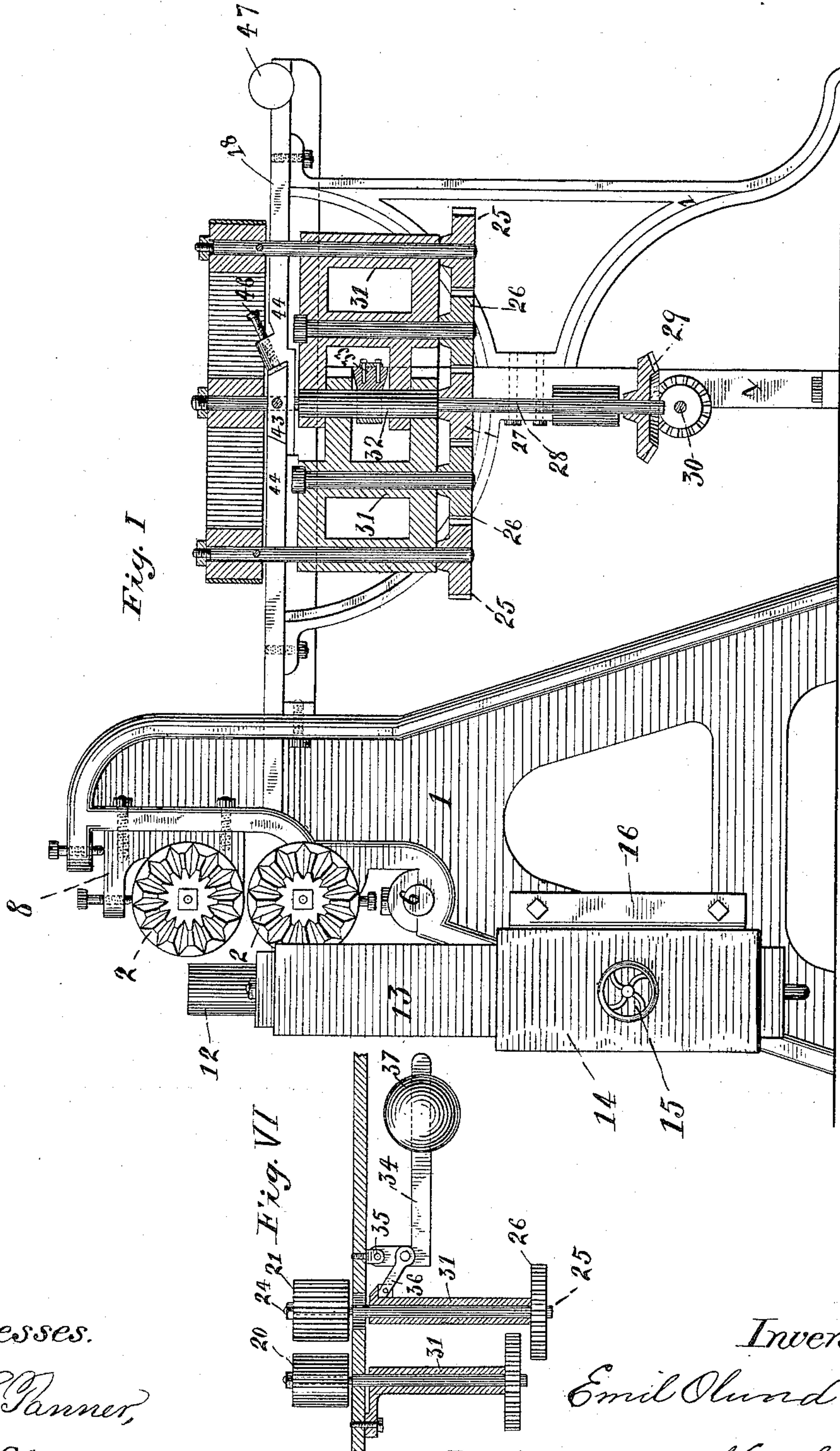
(No Model.)

4 Sheets—Sheet 1.

E. OLUND.  
BARREL HOOP MACHINE.

No. 330,259.

Patented Nov. 10, 1885.



Witnesses.

*Wm. J. Panner,*  
*H. W. Elmore*

Inventor.

*Emil Olund*

By his Attorneys *Knight Bros.*

(No Model.)

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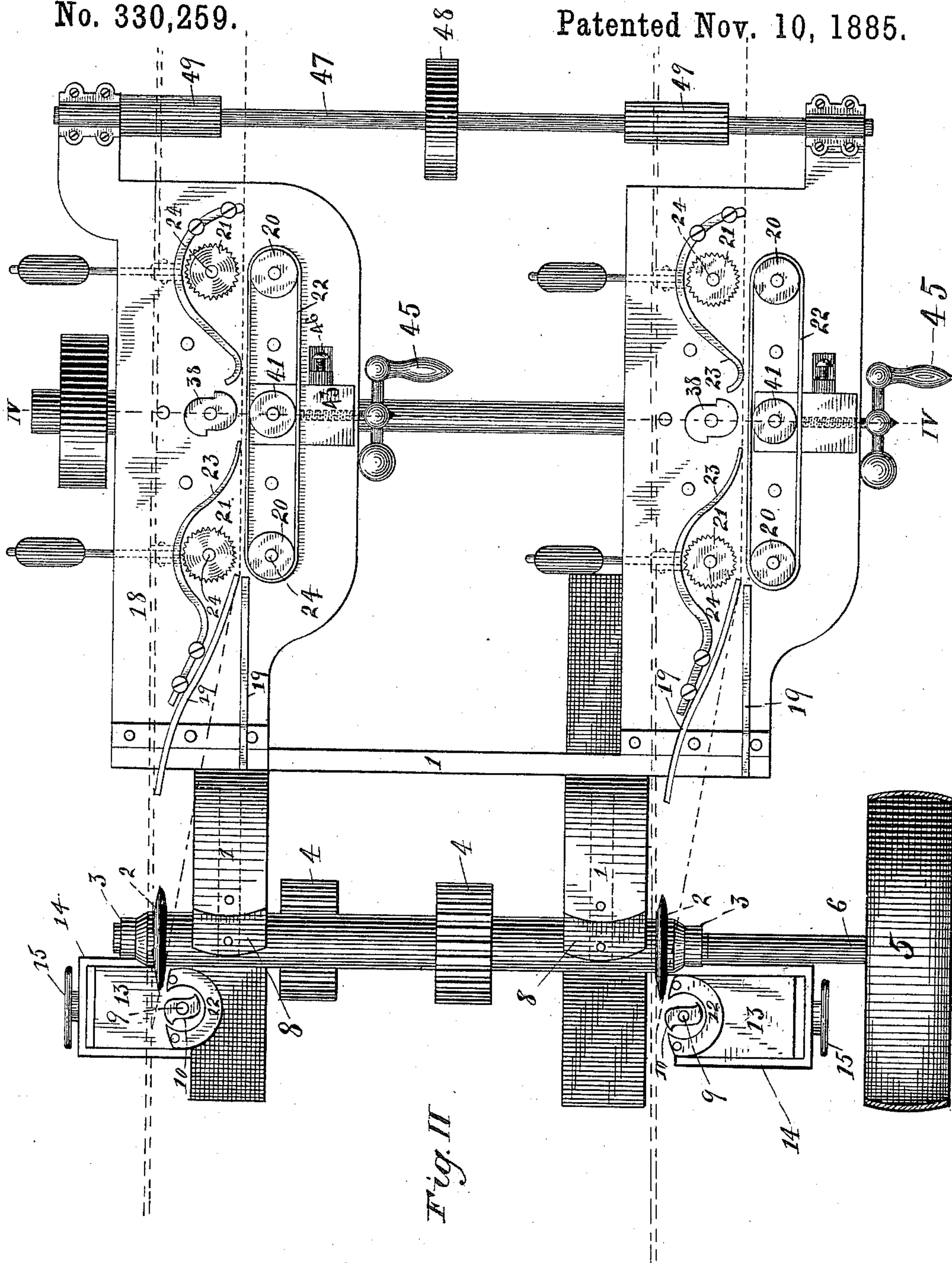


Fig. II

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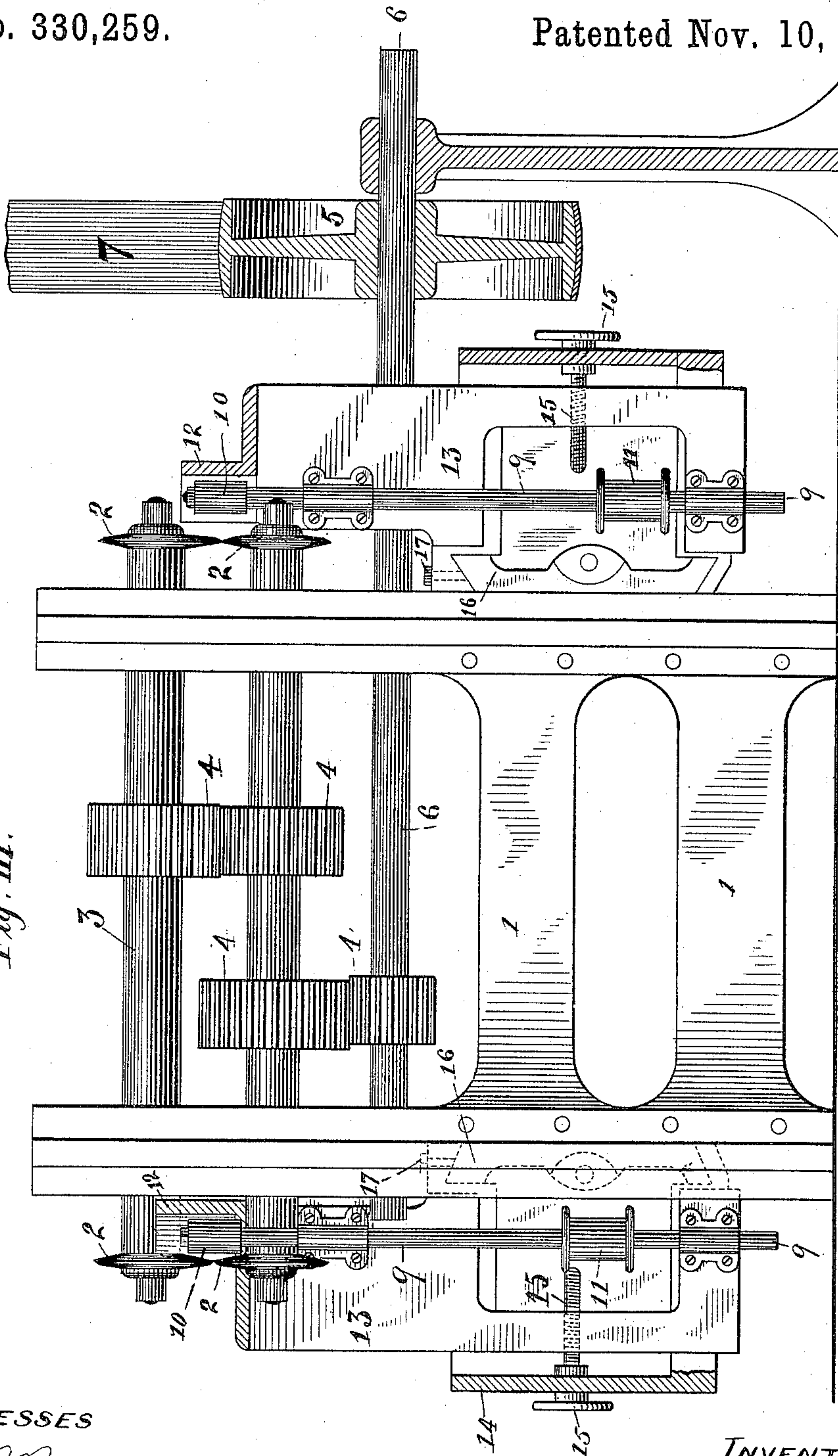
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Fig. III.



WITNESSES

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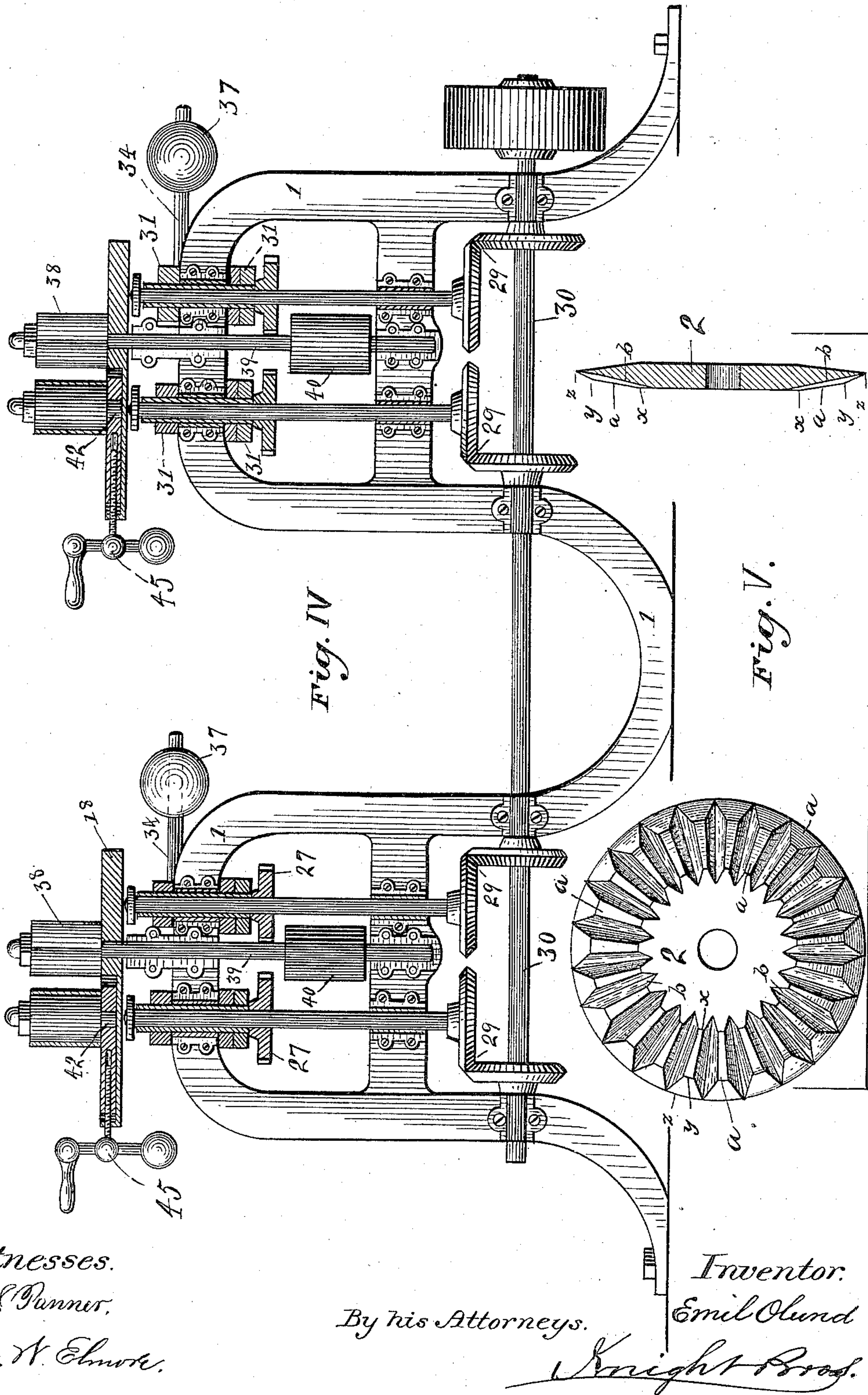
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# UNITED STATES PATENT OFFICE.

EMIL OLUND, OF HUDSON, WISCONSIN.

## BARREL-HOOP MACHINE.

SPECIFICATION forming part of Letters Patent No. 330,259, dated November 10, 1885.

Application filed June 18, 1885. Serial No. 169,069. (No model.)

*To all whom it may concern:*

Be it known that I, EMIL OLUND, a citizen of the United States, residing at Hudson, in the county of St. Croix and State of Wisconsin, have invented a new and useful Improvement in Hoop Splitting and Dressing Machines, of which the following is a specification.

My invention relates to a machine for making hoops, in which the mechanism for splitting a hoop from the pole is mounted in the same frame with mechanism for dressing it. Preferably two or more of these machines are mounted in the same frame, each set requiring a workman for operating them.

The invention relates also to certain modifications in the construction of the several parts of such machines, as will be hereinafter fully described with reference to the accompanying drawings, and particularly pointed out in the claims.

Figure I is a side elevation, partly in section, of my improved hoop splitting and dressing machine. Fig. II is a plan of the same. Fig. III is a front end elevation. Fig. IV is a transverse sectional view on the line IV IV, Fig. II. Fig. V is a detail view of the rotary splitter in side and axial section. Fig. VI is a detail view of the mechanism for holding one of the feed-rolls up against the hoop while the latter is being dressed.

1 may represent the frame of a machine in which are mounted two or more sets of the splitting and dressing mechanism. In the drawings I have shown two of such sets mounted in the same frame.

2 2 are the rotary splitters, mounted in pairs, as shown, on shafts 3 3, journaled in brackets bolted to the frame, and driven by gears 4 and pulley 5 on the main shaft 6 of the splitting-machine, which latter receives motion by belt 7 from the counter-shaft. The splitters 2 may be described as formed of a disk with an equal peripheral bevel on both sides, and provided on the outside, or the side which comes in contact with the hoop stripped from the pole, with radial ribs *a*, which are beveled in two planes, that from *x* to *y* being at a greater angle to the axis of the cutter than the bevel of the disk or body of the splitter, while that from *y* to the periphery *z* is considerably less;

or, in other words, the splitters may be described as formed of a disk beveled in a single plane on one side, and beveled on the other side in two planes, that portion of the bevel from *x* to *y* being of a greater and that portion of said bevel from *y* to the periphery *z* being at a less angle to the axis of the splitter than the bevel on the opposite side of the splitter. The disk thus formed is then cut with radial V-grooves *b*, the bottoms of which make an angle to the axis of the splitter equal to that of the bevel on the opposite side. These are merely two ways of minutely describing the formation of the structure, which, broadly stated, is a splitter beveled on both sides, and provided on one side with radial ribs formed in two planes. It will be observed that the V-grooves *b* extend to the periphery *z* of the disk, but no farther, so that splitter is without peripheral teeth or notches of any description.

I am aware that reaming-saws have been provided with peripheral teeth and beveled equally on both sides, and also that splitters have been beveled on one side and provided with peripheral notches; but such are not the equivalents of my invention, for the reason that the periphery of my invention is continuous without teeth or notches, and it is furthermore provided with radial ribs formed in two planes, as already described.

It is found that such a construction will avoid the shattering or splintering of the hoop caused by a splitter having continuous bevel.

The upper bracket, 8, within which the upper shaft, 3, is journaled, is so bolted to the frame, as shown in Fig. I, as to be capable of vertical adjustment.

In the front and to one side of the splitters or cutters 2 are arranged upon vertical shafts 9 rotary knives 10, adapted to come in contact with the round surface of the hoop before it reaches the splitters, and thus strip from it any knots thereon. Upon the shafts 9 are arranged pulleys 11, adapted to receive motion from the counter-shaft or from any moving part of the machine, as desired. Almost surrounding the stripping-knives 10 are arranged guards 12, to expose only sufficient of such knives to enable them to remove the knots



which may come in contact with them, while the guards prevent the knives from cutting into the body of the hoop. The guards 12 are fixed to standards 13, supporting the journals 5 of vertical shafts 9, and adjustable transversely of the machine on their brackets 14 by means of screw 15. Adjustment of the brackets and standards carried thereby longitudinally of the machine is afforded by supporting the brackets on the main frame by means of dovetail guides 16, to which they may be fixed by set-screws 17.

From the splitters the pole and the hoop split therefrom pass to the dressing-table 18, the pole passing straight over the table and the hoop being deflected by guide 19, so as to go between the feed-rollers 20 20 21 21. The feed-rollers 20 20 are connected by endless belt 22, against which the bark side of the hoop is pressed by plate-springs 23 23, fixed at one end to the table, as shown. The sets of feed-rollers 20 21 may be both or either positively actuated, being keyed to their spindles 24, which bear at their lower ends pinions 25, geared directly or through the medium of connecting-gear 26 with a pinion, 27, upon vertical shaft 28, adapted to receive motion by bevel-gear 29 from the main shaft 30 of the dressing-machine. The spindles 24 of the feed-rollers 21, together with the spindles of the connecting-gear which may be employed, are mounted vertically in two frames, 31 31, which are pivoted on a sleeve, 32, bolted to the main frame, as shown at 33, and serving as bearing for the upper end of the vertical shaft 28.

By mounting the feed-rollers 21 21 on movable carriages or frames 31 31 I am enabled to employ mechanism for pressing them against the hoop with any desired force, and for this purpose I employ the mechanism shown in Fig. VI, in which 34 is a rectangular lever pivoted to the table at 35, connected by link 36 to the frame 31, and provided on its longer limb with an adjustable weight, 37.

The rotary knife 38 for dressing the inside of the hoop is placed midway between the two sets of feed-rollers, and mounted on vertical shaft 39, supported in the main frame, as shown in Fig. IV, and adapted to be driven by pulley 40 from any moving part of the machine.

In order to press the hoop up against the dressing-knife in a manner to regulate its thickness when dressed, I employ a supplementary roller, 41, mounted loosely on spindle 42, which is carried by slide 43, moving in dovetail guides 44 on the dressing-table, and adjustable by hand-screw 45. A set-screw, 46, in one guide enables the fixing of the slide and the roller at any desired position, so as to produce hoops of a constant thickness.

To the rear end of the machine, on top of the table, is journaled the transverse shaft 47, adapted to be driven by pulley 48 from any desired portion of the machine, and having

fluted or roughened rollers 49 to receive the pole from which the hoop has been split, and to turn it forward to a convenient position for the operator to again seize it. The shaft is for this purpose driven in a direction contrary to the feed.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a machine for making half-round hoops, the combination of a pair of splitters mounted in the same vertical plane, said splitters being beveled and provided on one side with radial ribs formed in two planes, substantially as and for the purpose set forth.
2. In a machine for making half-round hoops, the combination of a pair of splitters mounted in the same vertical plane, said splitters being beveled, provided on one side with radial ribs formed in two planes and having continuous peripheries, substantially as and for the purpose set forth.
3. In a machine for making half-round hoops, the combination, with a pair of splitters arranged in the same vertical plane, one above and one below the level of the table, of a dresser-knife and guide-rollers for feeding the hoop with its split side to the action of said dresser-knife, as set forth.
4. In a machine for making half-round hoops, the combination of a pair of beveled splitters mounted in the same vertical plane, the bevel on one side being in two planes, that nearer the periphery being the more abrupt, for the purpose set forth.
5. In a hoop splitting and dressing machine, the combination, with a pair of vertically-adjustable splitters placed in a vertical plane one above the other, of a vertically-adjustable knot-removing cutter rotating upon a vertical axis to one side of the vertical plane of the splitters, as and for the purposes set forth.
6. In a machine for making half-round hoops, the combination of the knife partially surrounded by a guard for removing the knots from the pole, a pair of rotary splitters mounted in the same vertical plane, one above and one below the level of the work-table, a dresser-knife, and guiding and feeding rollers for presenting the split side of said hoop to the action of said dresser-knife, substantially as set forth.
7. The combination, with the rotary knife 38 and the idle roller 41 opposite thereto fixed against lateral movement, of the two pairs of feed-rollers 20 21 20 21, arranged on the respective sides of said cutters, and the springs 23, for pressing the hoop against said fixed idle roller, as and for the purpose set forth.
8. In a hoop splitting and dressing machine, the combination, with the feed-rollers 21 21, and the swinging frames 31 31 in which they are respectively journaled, of the weighted rectangular levers 34, pivoted to the under side of the frame, and the links 36, for con-



necting said levers with the respective frames 31, substantially as and for the purposes set forth.

9. In a hoop splitting and dressing machine,  
5 the combination, with the dresser-knife 38, of the idle roller 41, the sliding block 43 on which it is mounted, the dovetail guides in

which said block works, the adjusting hand-screw 45, and the jam-screw 46, all constructed and arranged substantially as set forth.

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Witnesses:

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