

No. 662,839.

Patented Nov. 27, 1900.

L. D. VOGEL.

MACHINE FOR SAWING OFF AND GAINING STAVES.

(Application filed Aug. 10, 1900.)

(No Model.)

2 Sheets—Sheet 1.

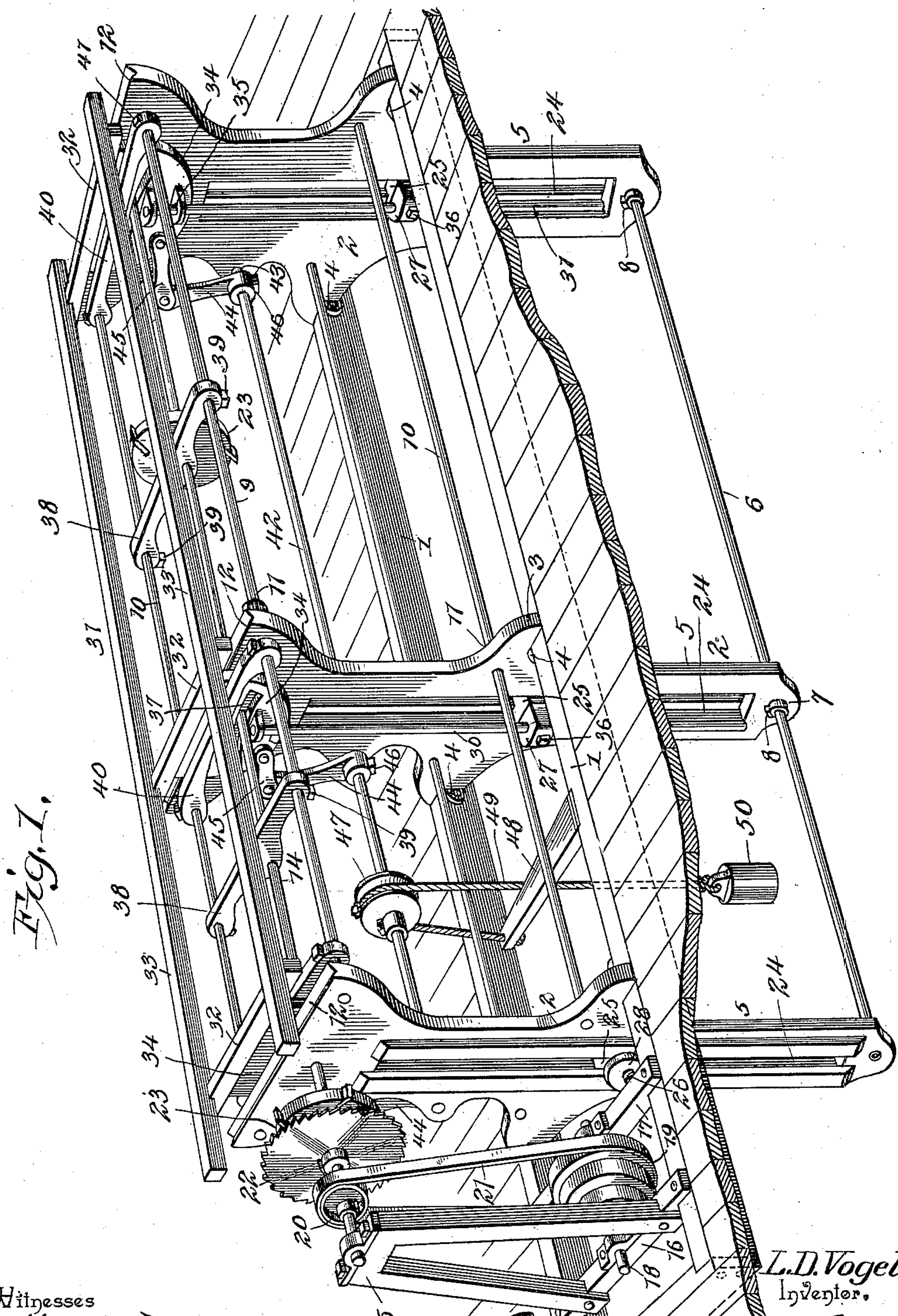


Fig. 1.

Witnesses

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Fig. 2.

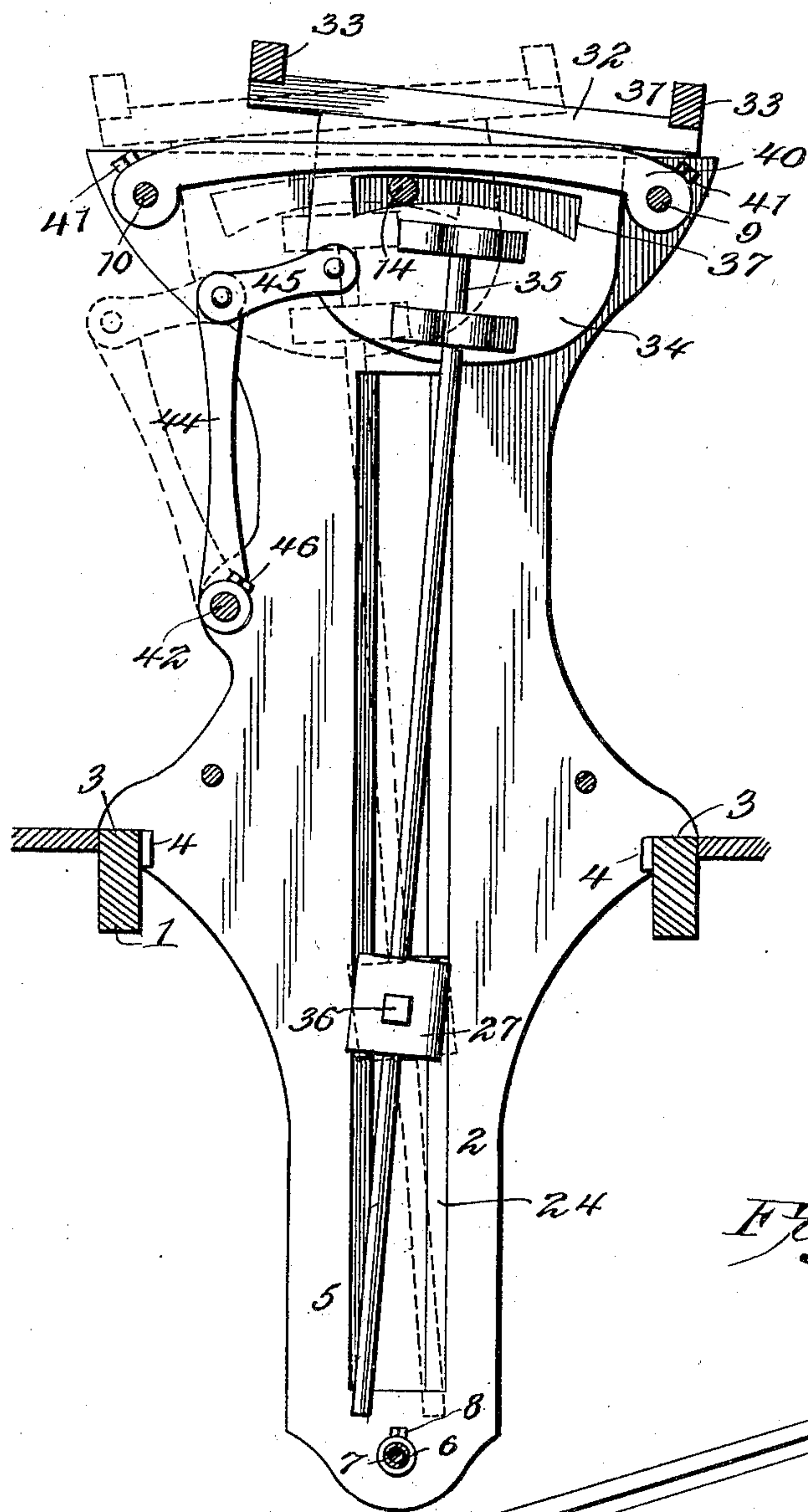


Fig. 3.

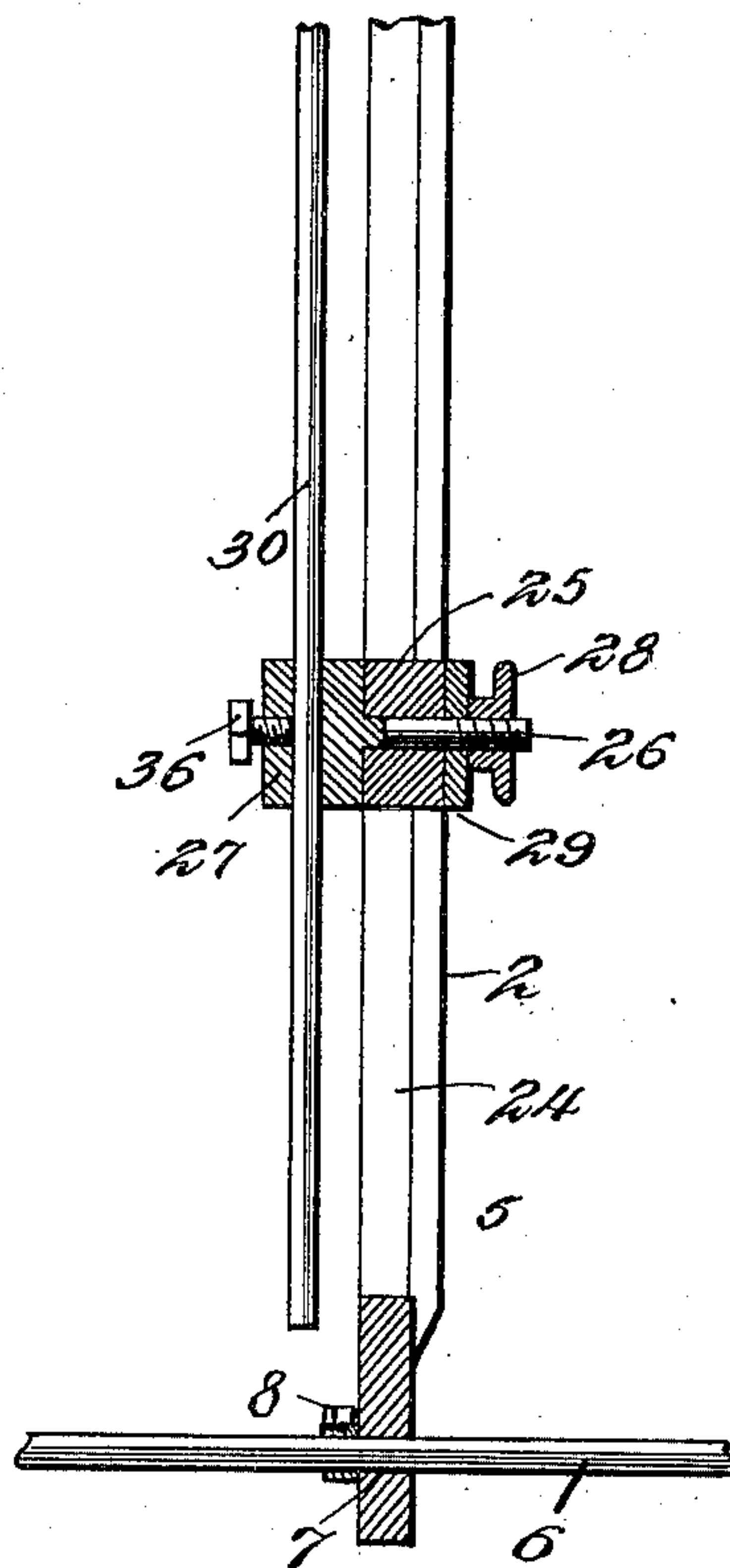
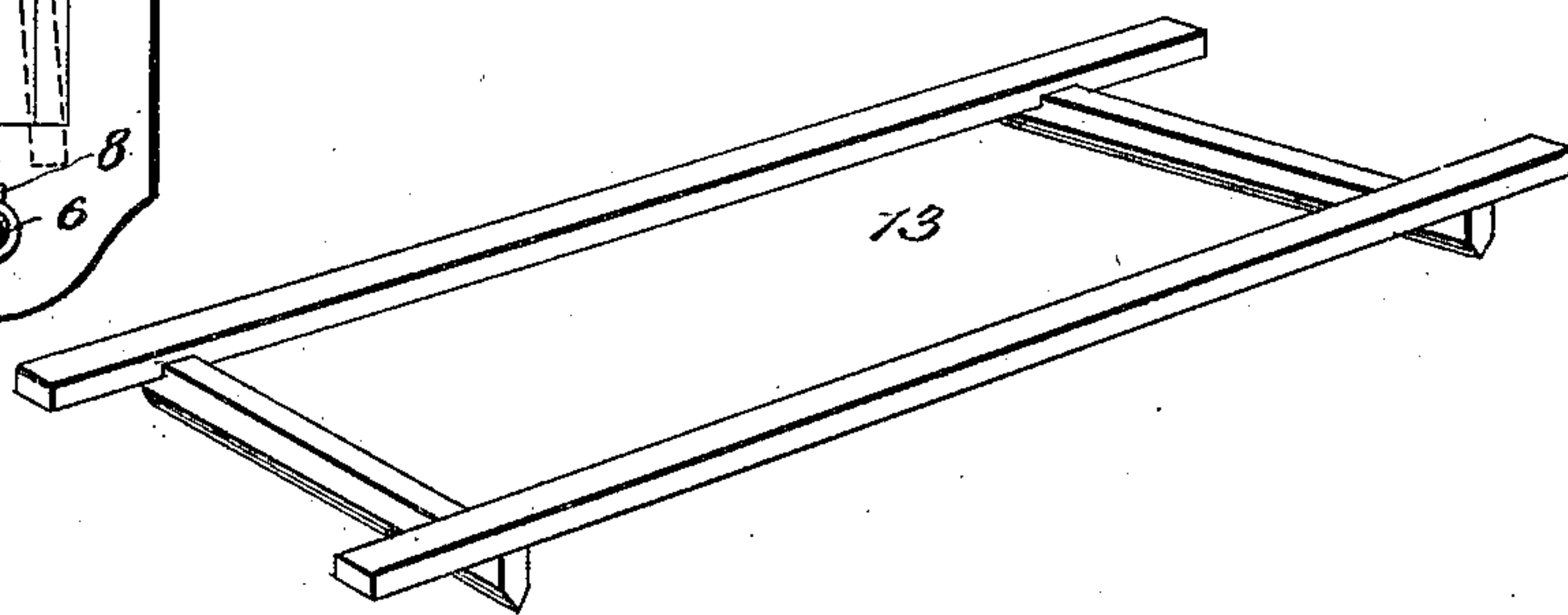


Fig. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

LOUIS D. VOGEL, OF OMAHA, NEBRASKA.

## MACHINE FOR SAWING OFF AND GAINING STAVES.

SPECIFICATION forming part of Letters Patent No. 662,839, dated November 27, 1900.

Application filed August 10, 1900. Serial No. 26,505. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS D. VOGEL, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented a new and useful Machine for Sawing Off and Gaining Staves, of which the following is a specification.

My invention is an improved machine for sawing off and crozing staves for barrels, tubs, and the like; and it consists in the peculiar construction and combination of devices hereinafter fully set forth, and pointed out in the claims.

One object of my invention is to effect improvements in the construction of the machine, whereby the rocking table may be caused to operate in arcs of any desired radius.

A further object of my invention is to effect improvements in the construction of the framework of the machine, whereby the same may be lengthened or shortened, as may be required.

A further object of my invention is to effect improvements in the means for supporting and operating the rocking table.

In the accompanying drawings, Figure 1 is a perspective view of a machine for sawing off and crozing staves constructed in accordance with my invention. Fig. 2 is a vertical transverse sectional view of the same. Fig. 3 is a detail sectional view. Fig. 4 is a detail perspective view of the reciprocating table, which may be employed on the machine in lieu of the rocking table.

In the embodiment of my invention I provide a longitudinal rectangular base-frame 1, which is when the machine is assembled for operation on a level with the floor, as shown in Fig. 1. A series of vertical standards 2 are provided, which are disposed between the sides of the base-frame 1 and bear on the same, as at 3, and said vertical standards are adjustable longitudinally on said base-frame 1 and are secured thereto at any desired adjustment by bolts or screws, as at 4. The said standards extend downwardly below the base-frame for a suitable distance and have their depending portions 5 connected together by a rod or tube 6, which passes through openings 7 in said depending portions and is provided with clamping-collars 8, by which the lower ends of the said stand-

ards may be secured at any desired adjustment on the said tube or rod. The upper portions of the standards are connected together by tubes or rods 9 10, which pass through openings in the standards and are provided with clamping-collars 11 to secure said standards at any required adjustment. The upper ends of the standards are horizontal and are of suitable width to support a table which carries the work. Said standards have their upper sides provided with track-grooves 12, which form guideways for a sliding table 13, which may be employed in lieu of the rocking table hereinafter described.

A longitudinally-disposed shaft 14 has its bearings in the standards 2 and on a stationary standard 15, which is supported at one end of the base-frame 1 on a cross-bar 16, which is bolted to the sides of said base-frame. A cross-bar 17, which is parallel with the bar 16 and disposed at a suitable distance therefrom, is also bolted on the sides of the frame 1, and a counter-shaft 18 has its bearings on said cross-bar. The said counter-shaft is provided with the usual power-pulleys 19, one of which is connected to a pulley 20 on the shaft 14 by an endless power-belt 21. On the said shaft 14 are secured a suitable number of circular saws 22, which are adjustable on said shaft, so that they can be spaced at the required distances apart. The said saws serve to cut the material into the required lengths of the staves. The heads 23 are also adjustably secured on said shaft 14 and are provided with suitable cutters adapted to croze the staves and to operate simultaneously with the saws, so that the material is cut into stave-lengths and the staves crozed simultaneously.

The standards 2 are provided with vertical guideways 24, in which are vertically-adjustable blocks 25. Pivots 26 turn in the said blocks 25 and have heads 27 on one end and clamping-nuts 28 screwed on their threaded stems, the said nuts 28 bearing against plates or washers 29, which engage the standards 2 on opposite sides of the guideways 24. By this construction and combination of devices the pivots 26 are adapted to be adjusted vertically in the standards on the arms or rods 30, which carry the rocking table 31. The said table comprises the cross-bars 32, the longitudinally-disposed side bars 33, and the



bracket-heads 34, on which the cross-bars 32 are secured. The upper ends of the rods or arms 30 are secured to the said bracket-heads, as at 35 or in any other suitable manner.

5 The heads 27 of the pivots 26, and which are adjustable vertically on the arms or rods 30, are provided with set-screws 36 to secure said heads to said rods or arms when the pivots are so adjusted as to cause the rocking frame  
10 or table to move in arcs of the required radius. The bracket-heads 34, which carry the rocking table, bear against the standards 2 and swing between the rods 9 and 10, which connect the upper portions of the said stand-  
15 ards together, and the said bracket-heads are provided with curved slots 37, which clear the shaft 14, as shown in Fig. 2. Transversely-disposed yokes 38, which are intermediate of the standards 2, have bearings  
20 for the rods 9 and the shaft 14, are adjustable thereon, and are secured on the rods 9 at any required adjustment by set-screws 39. The said yokes serve to keep the said shaft  
25 9 and 10, and said yokes bear against the bracket-heads 34, said yokes and the opposing sides of the standards 2 coacting to form guides for said bracket-heads. The yokes 40 are provided with set-screws 41, whereby  
30 they are firmly secured on the rods 9.

A rock-shaft 42 is journaled in bearings 43, with which the standards 2 are provided on one side. Said rock-shaft is provided with a series of rock-arms 44, which correspond in  
35 number with the bracket-heads 34, and said arms are connected to said bracket-heads by links 45. Said rock-arms are adjustable on said rock-shaft 42 and are secured thereto when adjusted by means of set-screws 46.  
40 A pulley 47 is keyed on the shaft 42 and is connected to a treadle 48 by an operating cord or rope 49, one end of which depends from the said pulley and is provided with a weight 50. It will be understood that by op-  
45 erating the treadle 48 the table or frame 31, which carries the material, can be rocked, so as to cause the material to be cut and crozed by the saws and crozing or dado heads.

The table may be of any length appropriate  
50 to the length of the lumber, and the standards are adjustable, so that tables of various lengths may be supported thereby. The yokes 40 are adjustable to enable them to be accommodated to the adjustment of the standards.  
55 The saws and heads 23 are adjustable on the shafts 14, so that they may be spaced apart as may be necessary for the performance of their work. The yokes 38 are adjustable on the rods 9, so that they may be disposed with  
60 reference to the adjustable saws and heads 23 as may be required.

While I have hereinbefore described my invention as being provided with crozing-heads, it will be understood that any suitable  
65 cutter or work heads may be substituted for the crozing-heads and the machine thereby

adapted for other work than the sawing and crozing of staves, and I do not limit myself in this particular. Neither do I desire to limit myself to the precise construction and com- 70  
bination of devices hereinbefore shown and described, as modifications may be made therein without departing from the spirit of my invention.

Having thus described my invention, I 75  
claim—

1. The combination of the standards, a rock-  
ing table having supporting rocking arms,  
and supporting-pivots for said rocking arms,  
adjustable thereon and vertically adjustable 80  
in said standards, substantially as described.

2. In a machine of the class described, the  
combination with a shaft carrying saws and  
work-heads, of a supporting-frame, a rock-  
ing table having rocking arms, and support- 85  
ing-pivots for said rocking arms, said sup-  
porting-pivots being vertically adjustable in  
said supporting-frame and on said rocking  
arms, substantially as described.

3. In a machine of the class described, a 90  
supporting-frame having vertical standards,  
in combination with blocks vertically adjust-  
able in guides in said standards, pivots in  
said blocks, and a rocking frame having sup-  
porting-arms secured to said pivots, the lat- 95  
ter being adjustable on said supporting-arms,  
substantially as described.

4. In a machine of the class described, the  
combination of a base-frame, vertical stand- 100  
ards adjustable longitudinally on said base-  
frame, a shaft carrying saws and work-heads,  
and journaled in said adjustable standards,  
a rocking table having rocking arms, and sup-  
porting-pivots for said rocking arms, adjust- 105  
able on the latter and on said standards, sub-  
stantially as described.

5. In a machine of the class described, the  
combination of a base-frame, vertical stand- 110  
ards adjustable longitudinally on said base-  
frame, a rock-shaft having its bearings in said  
standards and provided with adjustable rock-  
ing arms, a rocking table pivotally supported  
by said adjustable standards, links connect- 115  
ing said rocking table to the rocking arms of  
the rock-shaft and means to actuate the lat-  
ter, substantially as described.

6. In a machine of the class described, the  
combination of a base-frame, standards ad- 120  
justable longitudinally thereon, a rocking  
table carried by said standards, rods connect-  
ing said standards on which the latter are ad-  
justable, a shaft for saws and the like having  
its bearings in said standards, and yokes con-  
necting said shaft and rods, for the purpose  
set forth, substantially as described. 125

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature in  
the presence of two witnesses.

LOUIS D. VOGEL.

Witnesses:

E. D. EVANS,

E. L. PLATNER.