

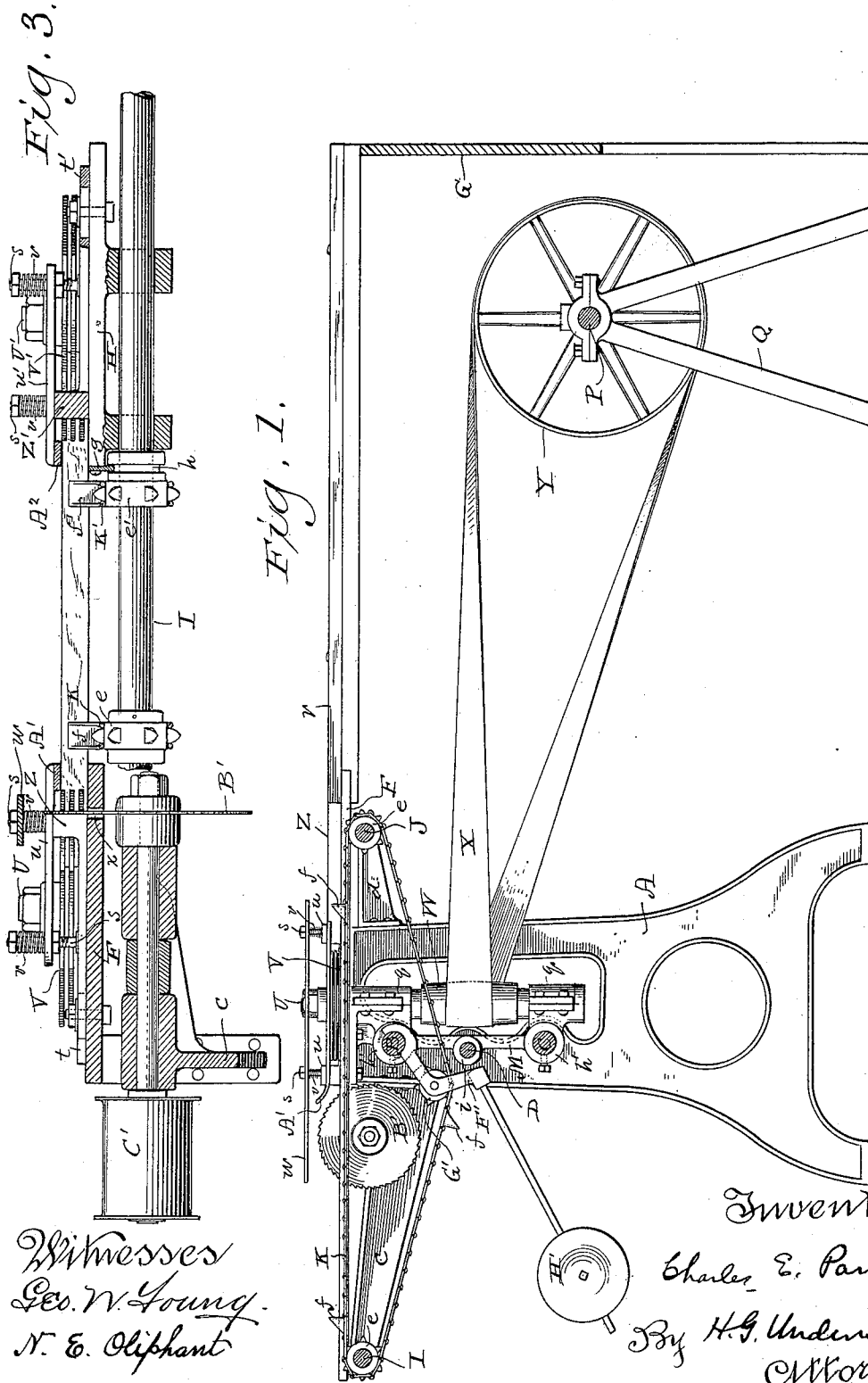
(No Model.)

3 Sheets—Sheet 1.

C. E. PARKS.
DOVETAILING MACHINE.

No. 463,814.

Patented Nov. 24, 1891.



Witnesses
Geo. W. Young.
N. E. Oliphant

Inventor

Charles E. Parks

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Attorney

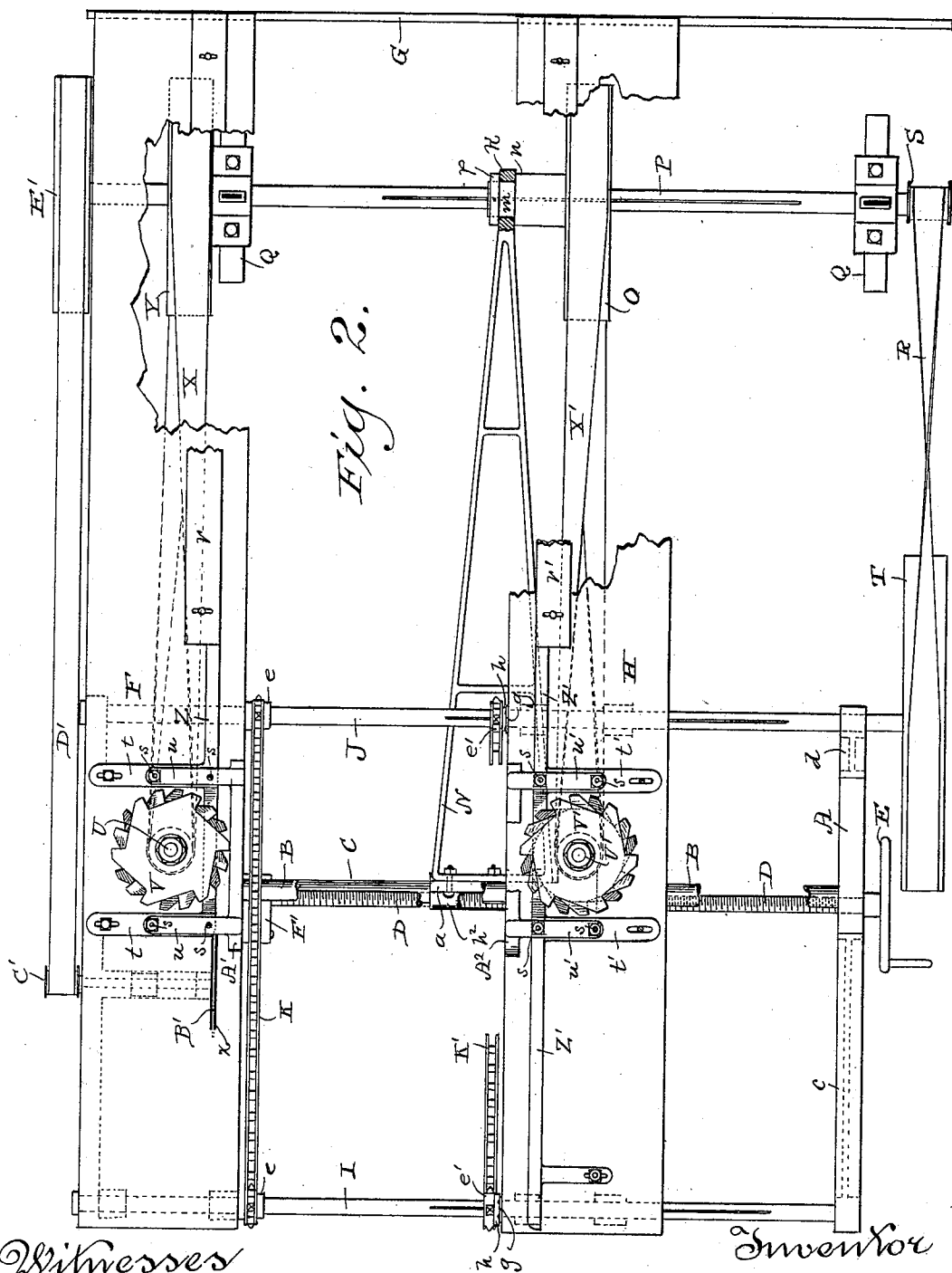
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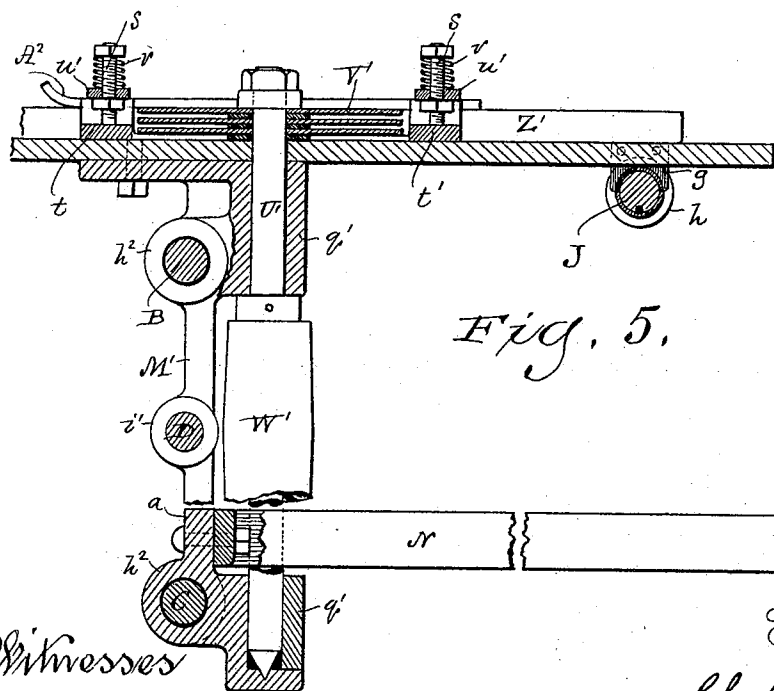
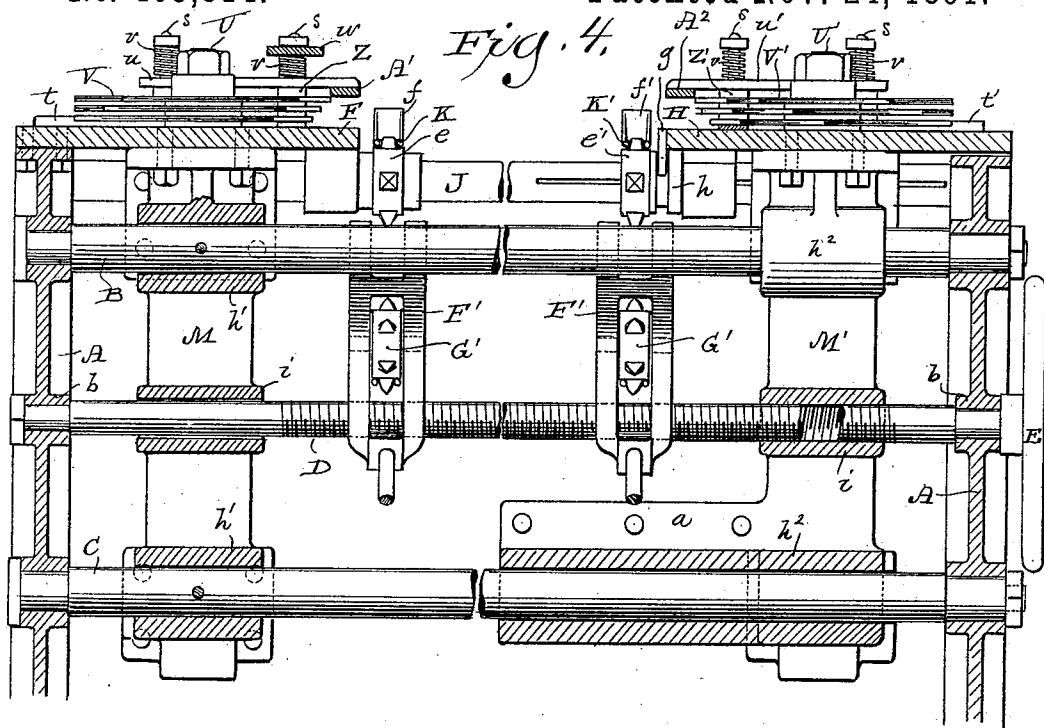
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UNITED STATES PATENT OFFICE.

CHARLES E. PARKS, OF WATERTOWN, WISCONSIN.

DOVETAILING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 463,814, dated November 24, 1891.

Application filed January 26, 1891. Serial No. 379,090. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. PARKS, a citizen of the United States, and a resident of Watertown, in the county of Jefferson, and in the State of Wisconsin, have invented certain new and useful Improvements in Dovetailing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in certain peculiarities of construction and combination of parts to be hereinafter described with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 represents a vertical longitudinal section of a dovetailing-machine constructed according to my invention; Fig. 2, a plan view of the same, certain of the parts being broken away for the purpose of better illustration; Fig. 3, an end elevation, partly in vertical transverse section; Fig. 4, a detail vertical transverse section illustrating certain fixed and laterally-adjustable parts of my machine, and Fig. 5, a detail vertical longitudinal section illustrating certain of the adjustable parts of said machine not seen in the preceding figure.

Referring by letter to the drawings, A represents the rear standards of my machine, these standards being connected by brace-rods B C and provided with bearings *b* for a screw-threaded shaft D, the latter being revolved at will in either direction by means of crank or hand-wheel E, fast thereon.

At one side of the machine is a stationary longitudinal table F, supported on the adjacent rear standard and a transverse front wall G, the upper edge of the latter forming a track for the adjacent end of a laterally-adjustable table H, to be hereinafter more fully described. Brackets *c d* on the rear standards A are provided with bearings for shafts I J, and the tables F H are also provided with bearings for said shafts. Adjacent to the stationary table F a sprocket-wheel *e* is fast on each of the shafts I J, and arranged on the sprocket-wheels is a link belt K, provided at intervals with spurs *f*, as best illustrated in Fig. 1.

Splined on each of the shafts I J is a sprocket-wheel *e'*, and the latter sprocket-wheels are connected by a link belt K', that is pro-

vided at intervals with spurs *f'*, the latter belt and the one K forming an endless carrier for the material fed to the machine. Spanners *g*, depending from the table H, engage the grooved hubs *h* of the sprocket-wheels *e'*, and thus these wheels are moved laterally of the machine on the shafts I J when said table is adjusted.

Fast on the under side of the stationary table F is a depending bracket M, having sleeves *h'* fast on the rods B C, and a bearing *i* for the screw-threaded shaft D, above described. The table H is provided with a similar bracket M', having its sleeves *h''* loose on the rods B C and its bearing *i'* screw-threaded to engage the shaft D, the construction described in this paragraph being best illustrated in Fig. 4. The lower one of the sleeves *h''*, forming part of the bracket M', is provided with a wing *a*, and bolted or otherwise suitably secured to this wing is an arm N, the forward end of the latter being in the form of an eye *k* for engagement with a reduced portion *m* of the hub *n* of a pulley O, that is splined on a drive-shaft P, the latter having its bearings on standards Q, and said arm is held in place on said hub by means of a set-collar *p*, as best illustrated in Fig. 2. A rotation of the shaft D will cause the bracket M' to travel thereon, and thus the table H will be adjusted to or from the one F at the will of the operator, the sprocket-wheels *e'* and link belt K' moving with the first of said tables. The bracket M' being connected to the pulley O by the arm N, said pulley is thus caused to move laterally on the shaft P to conform to the adjustment of the table H, as above described. By means of a belt R a pulley S on the drive-shaft P is connected with another pulley T on the shaft J, whereby the endless carrier, above specified, is actuated, the speed being determined by the relative diameter of said pulleys.

The bracket M, above described, is provided with bearings *q* for a vertical shaft U, that extends up through the table F and carries a cutter-head V, the latter being preferably composed of a series of toothed plates spaced apart by washers, the teeth of one plate breaking joints with those adjacent thereto, as best illustrated in Fig. 2. The vertical shaft U is also provided with a pul-

ley W, and a belt X connects this pulley with another Y on the drive-shaft P, whereby the cutter-head V is rotated. The bracket M' is provided with bearings q' for a vertical shaft U', that extends up through the table H and carries a cutter-head V', similar to the one V above described, and this latter vertical shaft is also provided with a pulley W', that is connected by a belt X' with the pulley O on the drive-shaft, whereby rotary motion is imparted to the cutter-head V'.

The table F is provided with a laterally-adjustable metal gage Z, and extended from the inner end of this gage to the front wall G is a wooden continuation r, the same being also laterally adjustable, and I provide the table H with a gage Z' and continuation r', similar to the ones described in connection with the former table.

The means for effecting a lateral adjustment of the gages Z Z' above described may be various; but those shown consist in having the arms t t', as well as such auxiliary arms as may be parallel thereto, and the continuations r r' of said gages slotted in the direction of the adjustment to engage bolts on the table, and by means of set-nuts on these bolts the aforesaid gages and continuations thereof are held in their adjusted position.

Loose on bolts s, extended up from the arms t t', respectively, of the gages Z Z', are the arms u u', respectively, of guards A' A², that overhang the tables F H between the endless carrier and the cutter-heads, said guards being for the purpose of preventing the material from flying off said tables and carrier when in contact with said cutter-heads. Arranged on the bolts s, above the guard-arms, are spiral springs v, and thus the guards themselves are free to yield to inequalities of thickness in material fed to the machine. The springs on those bolts nearest the cutter-head V support another guard w, (omitted in Fig. 2,) that overhangs a circular saw B' in line with the gage Z, and having its arbor supported in bearings on the bracket c of that standard A that is relative to the table F, the latter being provided with a slot x, through which said saw extends. The saw-arbor is provided with a pulley C', and a belt D' connects this pulley with another E' on the drive-shaft P, as shown in Fig. 2.

In order to keep the link belts K K' taut, I may employ a tightener for each, and the tightener best illustrated in Fig. 1 is the one preferred. This tightener comprises a bell-crank link F', having its upper end recessed to bear against the brace-rod B, a sprocket-wheel G', trunnioned in the yoke at the crook thereof, and a weighted arm H', fast to the lower end of said link. The weighted arm draws down on the link F', and thus the sprocket-wheel G' is brought to bear against the slack side of the adjacent link belt, whereby the latter is drawn and kept taut in its travel.

The table H having been adjusted to suit a certain length of material, the latter is placed on the endless carrier in front of a pair of spurs such as are described in connection with said carrier. The material coming into contact with the saw is trimmed to a length equal to the distance between the gages on the tables F H and carried onto the cutter-heads. These cutter-heads dovetail the ends of the material, and the latter is discharged from the carrier at the front end of the same to rest on the tables until the succeeding material forces it along, said material being finally discharged over the front wall G of the machine.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a dovetailing-machine, the combination of a stationary table, a rotary cutter-head arranged above the same, a laterally-adjustable table parallel with the first, another rotary cutter-head carried with and above the adjustable table, an endless carrier arranged between the tables, gages on said tables, and guards secured to the gages, substantially as set forth.

2. In a dovetailing-machine, the combination of a table, a saw projecting above the same, a cutter-head in front of the saw, a spring-controlled guard arranged above the cutter-head, and a guard for the saw supported on the springs that control the former guard, substantially as set forth.

3. In a dovetailing-machine, the combination of a stationary table, a bracket depending from the table and fast on cross-rods, a vertical shaft having its bearings in the bracket and extended above the table, a cutter-head and pulley fast on the shaft, another table parallel to the first, a bracket depending from the latter table and loosely arranged on said rods, another vertical shaft having its bearings on the latter bracket and provided with a cutter-head and pulley, a screw-threaded adjusting-shaft engaging a screw-threaded bearing on the loose bracket, a drive-shaft, a pulley fast on the drive-shaft and belted to the one on the first cutter-shaft, another pulley splined on said drive-shaft and belt-gearred to the pulley on the cutter-shaft that is carried with the loose bracket, an arm connecting the loose bracket with the splined pulley, and an endless carrier arranged between said tables and driven from the aforesaid drive-shaft, this carrier having a portion thereof movable with the adjustable table, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Watertown, in the county of Jefferson and State of Wisconsin, in the presence of two witnesses.

CHARLES E. PARKS.

Witnesses:

E. J. BRANDT,

CARL E. EMMERLING.