

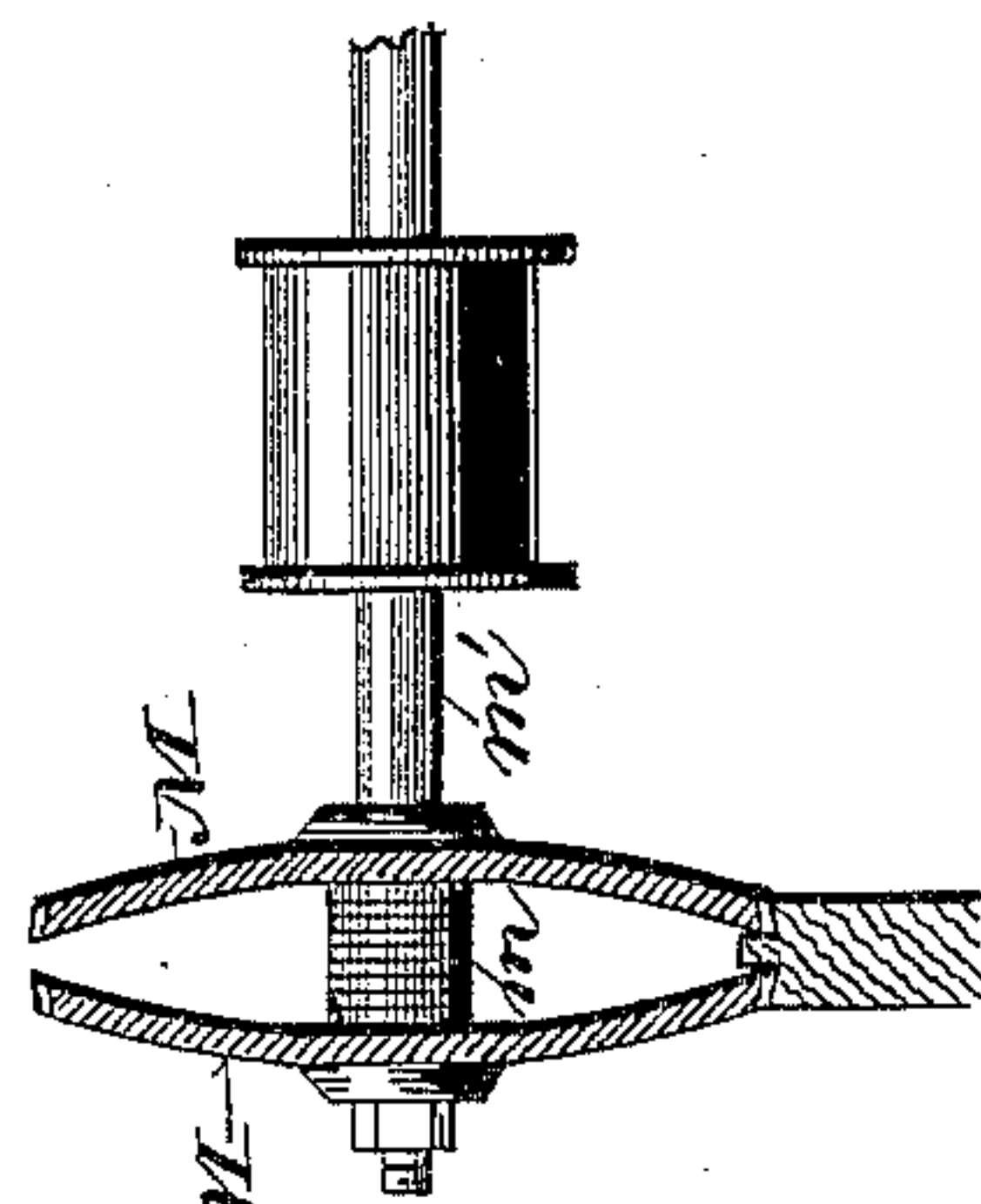
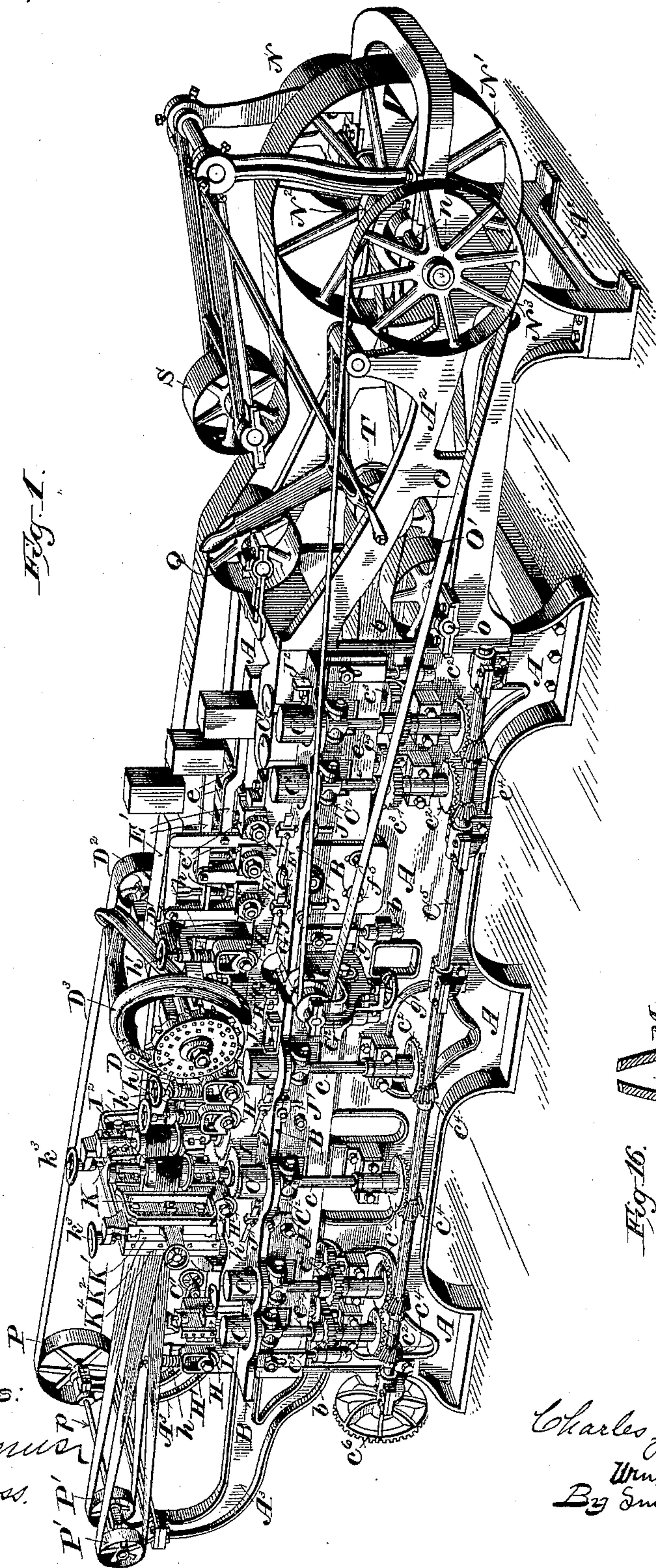
(No Model.)

4 Sheets—Sheet 1.

C. J. L. MEYER.  
MATCHING MACHINE.

No. 462,097.

Patented Oct. 27, 1891.



Witnesses:

E. J. Goss,  
Chas. L. Goss.

Inventor:  
Charles J. L. Meyer,  
Winkler, Flinders,  
By Smith, Bottom & Vils  
Attorneys.



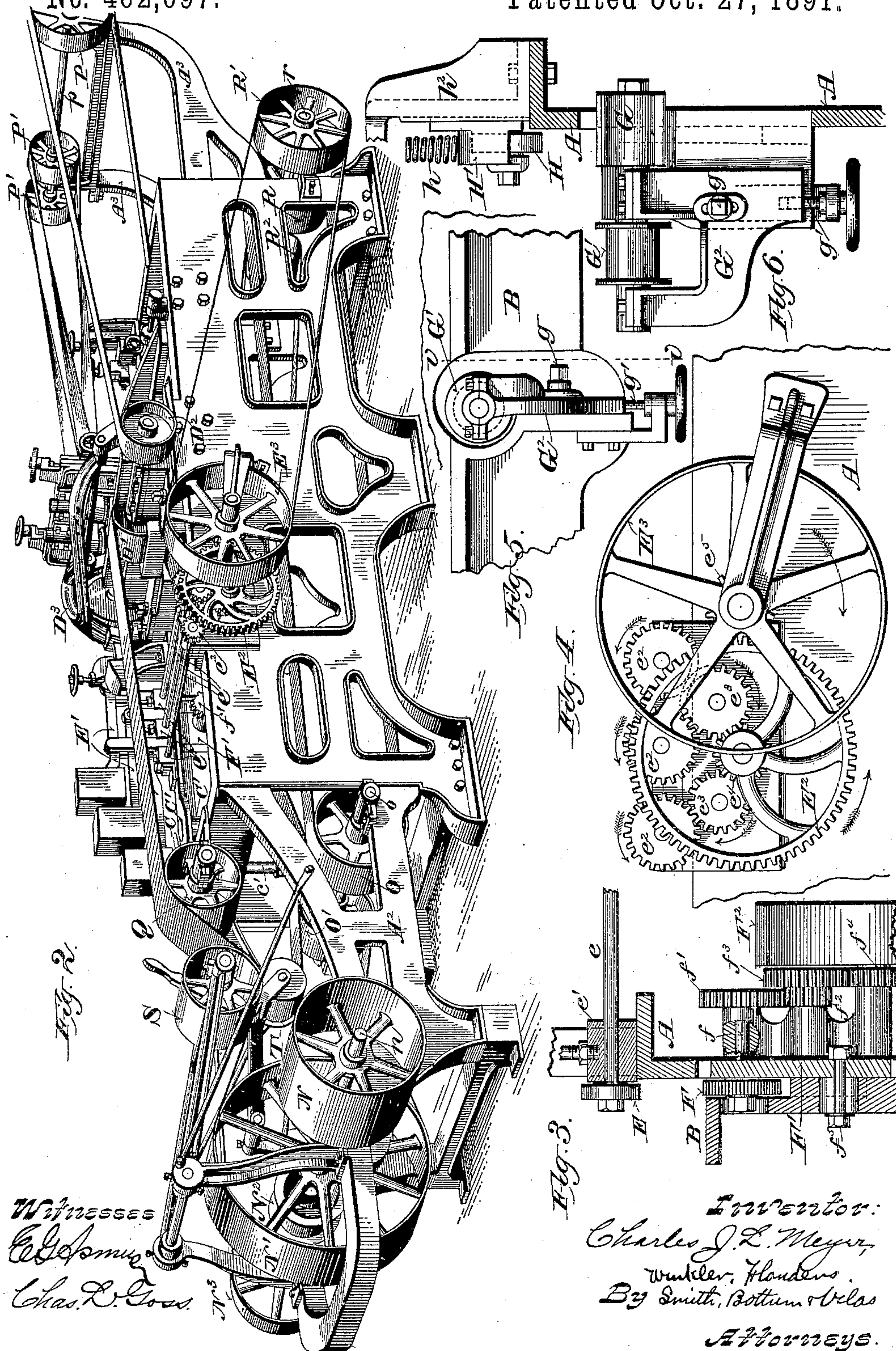
(No Model.)

4 Sheets—Sheet 2.

C. J. L. MEYER.  
MATCHING MACHINE.

No. 462,097.

Patented Oct. 27, 1891.



Witnesses

Chas. R. Goss

Chas. R. Goss

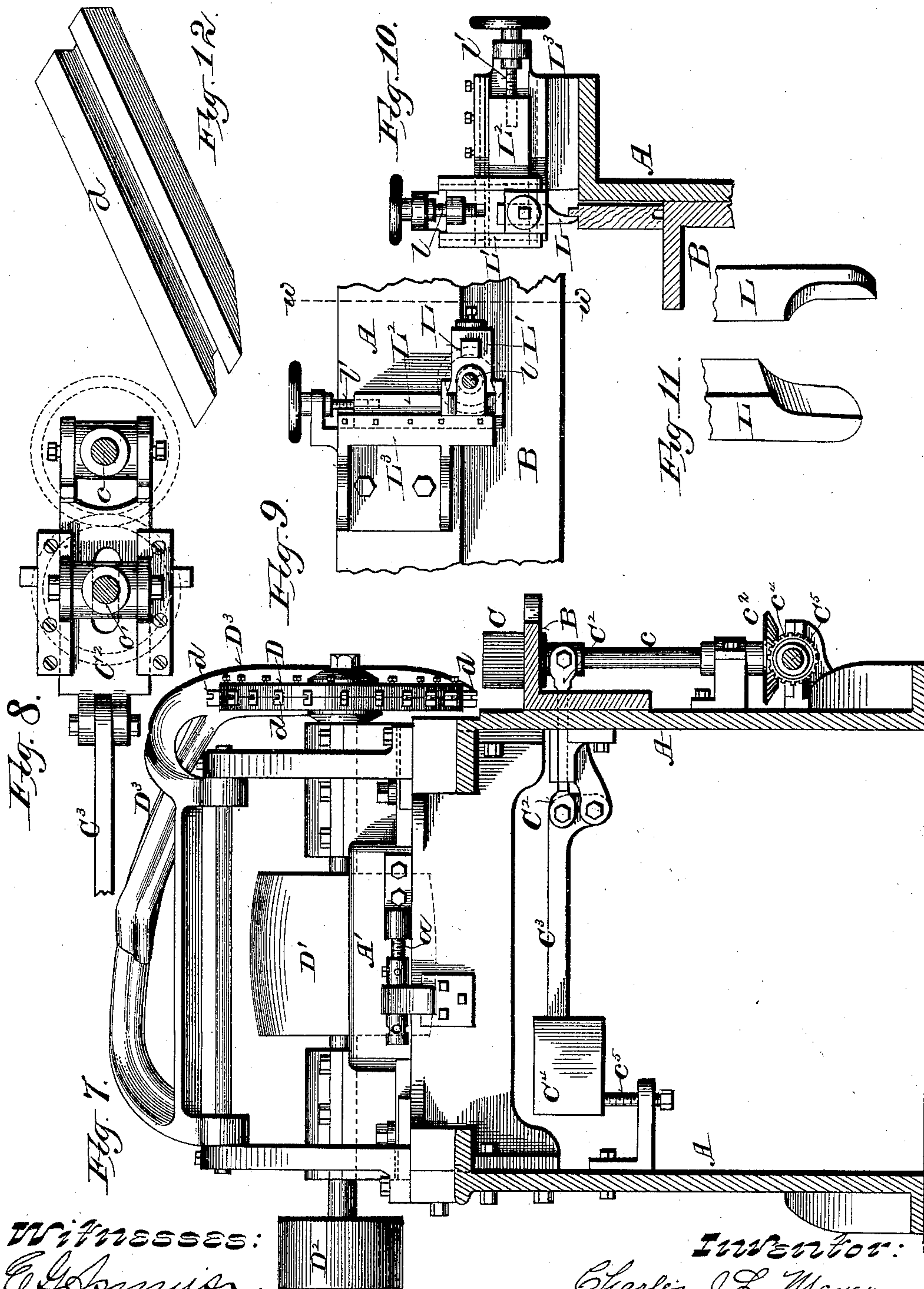
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4 Sheets—Sheet 3.

No. 462,097.

Patented Oct. 27, 1891.



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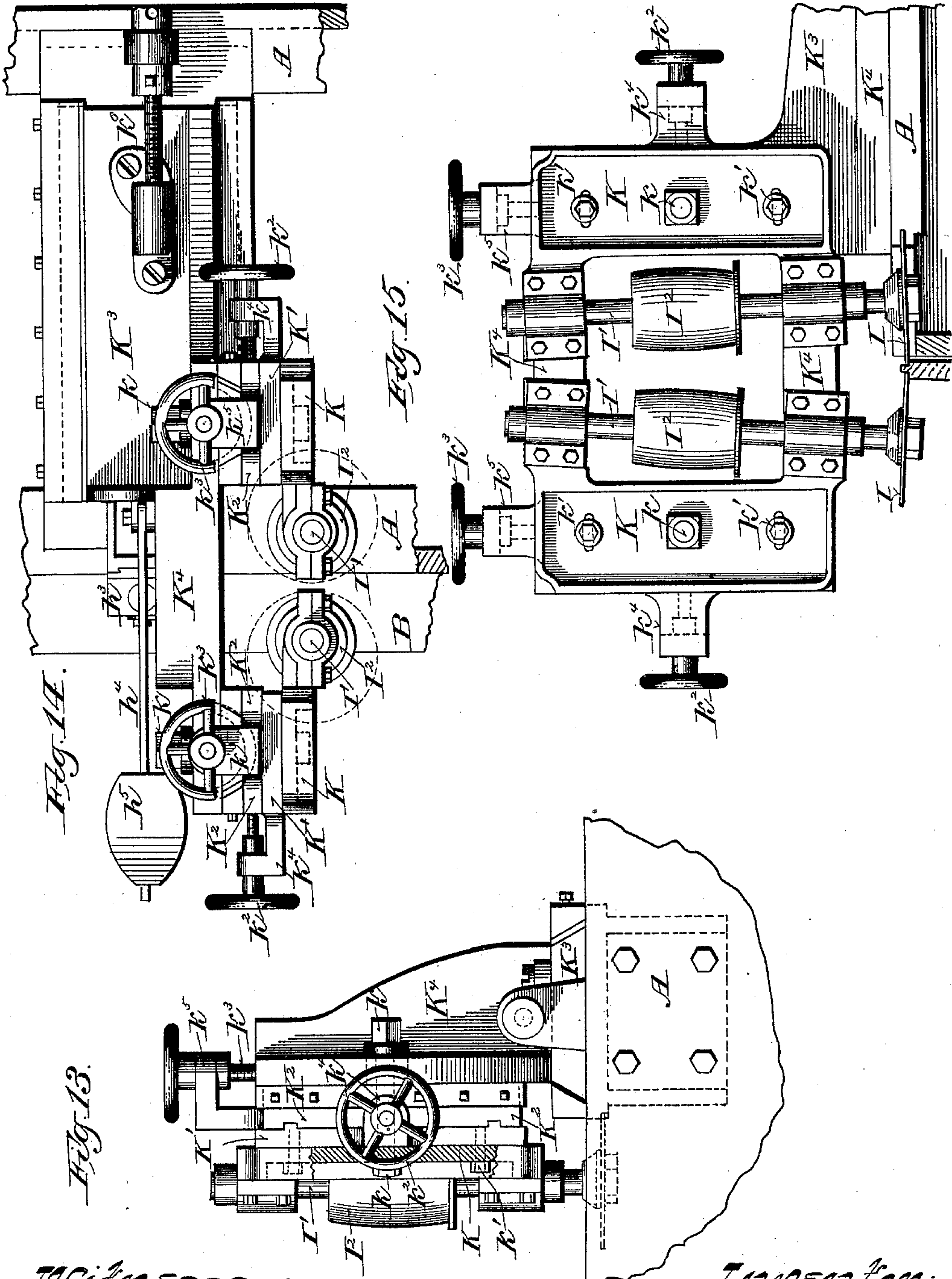
(No Model.)

4 Sheets—Sheet 4.

C. J. L. MEYER.  
MATCHING MACHINE.

No. 462,097.

Patented Oct. 27, 1891.



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# UNITED STATES PATENT OFFICE.

CHARLES J. L. MEYER, OF FOND DU LAC, WISCONSIN.

## MATCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 462,097, dated October 27, 1891.

Application filed September 5, 1888. Serial No. 284,619. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES J. L. MEYER, of Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented certain new and useful Improvements in Matching-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The main object of my invention is to overcome the difficulties of jointing and matching hard wood, particularly maple, for flooring, &c., arising from the hardness of the fiber, toughness of texture, knots and cross-grains, and to produce an accurate, smooth, finely-finished joint with greater economy of material and at less cost than has been possible with the machines heretofore employed for the purpose.

My invention consists, essentially, of the peculiarities of construction and arrangement of mechanism and parts composing my improved machine hereinafter specifically set forth, and pointed out in the claims.

In the accompanying drawings like letters designate the same parts in the several figures.

Figure 1 is a perspective view of the front side of my improved machine. Fig. 2 is a similar view of the reverse side of the machine. Fig. 3 is a vertical cross-section of a portion of the machine, showing in detail the edge feeding-roller and the gearing by which the lower roller is driven. Fig. 4 is a detail view of the gearing employed to drive the upper edge feeding-rollers. Figs. 5 and 5 are detail views, a front and side elevation of the jointer and its adjustable supporting-head, Fig. 6 showing a vertical section on the line *v v*, Fig. 5. Fig. 7 is a vertical cross-section of the machine, showing the tonguing-cutter, its carriage and connections, and one of the upright feeding-rollers and its connections. Fig. 8 is a horizontal section showing the upper bearings of a pair of upright feeding-rollers, a feeding-roller, and its counter-roller. Figs. 9 and 10 represent, respectively, a plan view and side elevation of the scraper

and its head, Fig. 10 being a vertical section on the line *w w*, Fig. 9. Fig. 11 represents a front perspective view and a rear elevation of the scraper. Fig. 12 is a detail view of one of the tongue-cutters. Figs. 13, 14, and 15 represent, respectively, a rear elevation, plan view, and side elevation of the tongue-trimming saws and the devices by which they are adjusted; and Fig. 16 is a vertical medial section of a pair of concave roughing-saws employed to remove most of the material on each side of the tongue and thereby relieve the tongue-cutter.

The frame-work of the machine consists of heavy iron shears A A, of suitable shape and construction to support and accommodate the various essential parts of mechanism to do the required work. To the front side of said frame is suitably attached a vertically-adjustable bed or way B, upon which the strips or sections are moved or guided on edge to and past the various cutters, scrapers, &c., and held accurately in position while operated upon thereby. It is raised or lowered for the purpose of jointing and tonguing sections of different widths by means of the vertical adjusting-screws *b b*. (Shown in Fig. 1.)

C C are corrugated or milled feeding-rollers mounted upon the upper ends of vertical shafts *c c* and projecting upwardly through openings provided therefor in the bedway B. The roller-shafts *c c* are supported and bear at their lower ends in boxes attached to the frame A and at their upper ends in boxes swiveled in slides C<sup>2</sup> C<sup>2</sup>, movable transversely thereto through openings provided therefor in the front side of frame A, as shown in Figs. 1, 7, and 8. To the inner ends of said slides C<sup>2</sup> are pivoted the bell-crank levers C<sup>3</sup>, which are fulcrumed to the inner side of frame A and project horizontally across the machine, as shown in Fig. 7, being provided at their free ends with counter-weights C<sup>4</sup>. The downward movement of these levers is limited at the desired point by vertical stop-bolts *c*<sup>5</sup>, which are threaded in brackets attached to inner side of frame A on the side of the machine opposite the slides C<sup>2</sup>. The weights C<sup>4</sup> force the feed-rollers C C with a yielding pressure against the strip or section, causing them to engage its outer face and move it end-



wise upon the bedway B to be operated upon by the cutters.

C' C' are upright counter-rollers, having either smooth or milled peripheries, which project slightly through openings in the front side of frame A, adjacent to the rollers C C or to some of them, as seen in Fig. 1. They are mounted like rollers C C on the upper ends of vertical shafts  $c'$ , which have bearings in boxes attached to the inner side of the front shear of frame A. At their upper ends the shafts  $c'$  pass through slots in slides  $C^2$ , and their upper boxes are swiveled between ears on the ways in which said slides bear, as shown in Fig. 8. An independent lateral movement of the feed-rollers C toward and from the counter-rollers C' or the adjacent side of the machine is thus permitted.

$C^5$  is a horizontal shaft supported lengthwise along the front of the machine near its base, as seen in Fig. 1, and provided with bevel-pinions  $c^4 c^4$ , which work with the bevel-gears  $c^2 c^2$  on the lower ends of shafts  $c c$ , and thereby drive the feed-rollers C C. The shafts  $c c$  of the feed-rollers C and the shafts  $c' c'$  of the counter-rollers C' are geared together in pairs by like gears  $c^3 c^3$ , whereby the counter-rollers are rotated simultaneously with and at the same rate of speed as the feed-rollers.

E E are milled feed-rollers mounted on the front ends of the transverse horizontal shafts  $e e$  in position to engage the upper edge of the strips or sections passed through the machine. The shafts  $e e$  bear at their front ends next to said rollers E in vertically-movable bearings  $e'$ , (shown in Figs. 1, 2, and 3,) upon which the adjustably-counterweighted levers  $E' E'$  bear. The rear ends of the shafts  $e e$  are provided with gears  $e^2 e^2$ , which are connected by a train of gears  $e^3 e^3, e^4$ , and  $E^2$  with a pinion  $e^5$  on the shaft of a driving-pulley  $E^3$ , as shown in Figs. 2 and 4.

F is a milled feed-roller mounted on the front end of a short horizontal shaft  $f$  and projecting through an opening in the bedway B slightly above its upper face and directly below the rollers E, as shown in Fig. 3. It is driven in the proper direction to feed the strips or sections to the cutters and at the same rate of speed as the rollers E by means of a train of gears  $f', f^2$ , and  $f^3$ , which connect it with the pinion  $f^4$  on the shaft of a pulley  $F^2$ . The roller F, the pulley  $F^2$ , and the intermediate train of gears are all carried by a slide  $F'$ , which is movable vertically with the bedway B, for the purpose of jointing different widths of stuff and independently of it for the purpose of elevating the periphery of said roller more or less above said bedway. The slide  $F'$  is adjustably secured to the vertical portion of the bed B by bolts  $f^5$  passing through slots therein.

Referring to Figs. 1, 5, and 6, G represents a rotary jointer mounted on a short horizontal shaft, which is supported and has bearings in a vertically-movable bifurcated slide  $G^2$  and is inserted in a recess formed there-

for in the front side of the frame A and in the bed B. The slide  $G^2$  is adjustably secured to a bracket projecting from the frame of the machine by a bolt  $g$ , threaded therein and passing through a vertical slot in said slide. It is moved up or down, so as to bring the periphery of the jointer to the desired level with reference to bed B, by means of a vertical adjusting-screw  $g'$ . The jointer-shaft is provided between its bearings in slide  $G^2$  with a pulley  $G'$ . Directly above the jointer a spring-actuated presser-roller H is journaled in a vertically-movable slide  $H'$ , which is in turn supported on a bracket  $H^2$ , attached to the frame of the machine, as shown in Fig. 6. The slide  $H'$  is adjusted vertically by means of the screw  $h'$ , (shown in Fig. 1,) and is borne down normally by the spiral spring  $h$ , so as to hold the strip snugly down to the bed B over the jointer with a yielding or elastic pressure. D is a cutter-head preferably composed of two disks similarly grooved on their inner faces to receive tongue-cutters  $d d$ , which are secured therein by set-bolts and are notched in their cutting-edges, as shown in Fig. 12, so as to give the proper shape to the tongue. The cutter-head D is mounted on the front end of a horizontal shaft supported at right angles to the bed B in bearings provided therefor on a slide  $A'$ , which is movable lengthwise of said shaft in ways formed on frame A. The slide and with it the cutter-head are nicely adjusted, so as to form the tongue in the proper position on the edge of the section by means of the horizontal adjusting-screw  $a$ . (Shown in Fig. 7.) The cutter-head shaft is also provided at or near the middle with a pulley  $D'$  and at the rear end with a pulley  $D^2$ .  $D^3$  is a guard having a hinge-connection with standards rising from frame A, as shown in Figs. 1, 2, and 7, for the purpose of arresting the chips or shavings made by the cutters  $d d$ . Adjacent to the cutter-head D an upright weighted presser-roller holds the strip or section snugly against the vertical side of frame A, forming a part of the guideway. As the strip leaves the tongue-cutters in head D it passes under two horizontally-journaled spring-actuated grooved presser-rollers H, arranged, like that previously described, to bear on the upper edge of said strip or section and hold it snugly down against the bedway B.

Referring to Figs. 13, 14, and 15, in connection with Fig. 1, I I are a pair of trimming-saws located beyond the cutter-head D with reference to the movement of the work and mounted on the lower ends of upright arbors  $I'$ , each of which is provided with a pulley  $I^2$  and is supported in bearings on an adjustable plate. These plates K are each pivoted by a bolt  $k$  to a horizontally-movable slide  $K'$ , to which they are securely fixed, when adjusted, by set-bolts  $k' k'$  passing through curved slots in said plates, as seen in Fig. 15. The slides  $K'$  are in turn mounted upon vertically-movable slides  $K^2 K^2$ , and are adjusted horizon-



tally thereon by screws  $k^2 k^2$ , which have bearings in ears  $k^4 k^4$  projecting from the former and engage threaded holes in the latter. The vertically-movable slides are independently mounted upon the sides of an open vertical quadrangular bracket  $K^4$ , formed on a horizontally-movable slide  $K^3$ , whereby said saws are separately adjusted vertically and both adjusted together transversely to the bed B, so as to trim the tongue approximately formed by the cutters  $d d$  of head D exactly to the required shape, size, bevel, and location on the strip or section, the distance between the peripheries of the saws being adjusted by means of the slides  $K' K'$  and the inclination of their axes for varying the bevel of the sides of the tongue by means of the pivoted plates  $K K$  and set-bolts  $k' k'$ . The slides  $K^2 K^2$  are adjusted vertically by means of screws  $k^3 k^3$ , having bearings in ears  $k^5 k^5$  projecting from said slides and working with threaded holes in the bracket  $K^4$ . The slide  $K^3$  is adjusted by means of a screw  $k^6$ , engaging a threaded hole therein and having a fixed bearing on frame A. The center pivot-bolts pass through the slides  $K'$  and  $K^2$  and the bracket  $K^4$ , which are each slotted to permit of the necessary independent horizontal and vertical adjustment of the saws I I, and next to the face of the bracket  $K^4$  said bolts have broad bearing-heads or washers and wrench-heads, whereby the foregoing parts are tightly held together when the desired adjustments have been made. On the opposite side of the saws I I from the presser-rollers H H, I provide another similar counterweighted presser-roller  $H^2$ , which co-operates with said rollers H H to hold the strips or sections snugly down to the bed B, adjacent to said saws. The slide  $h^3$ , in which said roller is journaled, and the lever  $h^4$  and weight  $h^5$ , by which it is borne down upon the upper edges of the sections, are shown in Fig. 14. An upright presser-roller C is located adjacent to the saws to hold the sections while being operated upon thereby snugly against the vertical face of the way in which they are moved and guided.

Referring to Figs. 9, 10, and 11, L is a scraping-tool properly shaped, as shown in Fig. 11, to finish the angle at the base and on one side of the tongue and to remove any projections left by the preceding cutters that would prevent the perfect closing of the matched joint when the jointed sections are put together. The scraper L is held by a set-bolt in a socket formed for its reception in the vertically-movable slide  $L'$ , which is in turn supported in ways on a slide  $L^2$ , movable horizontally and transversely to the way B in ways provided therefor on bracket  $L^3$ , attached to the frame of the machine. The slides  $L'$  and  $L^2$  are moved, respectively, by the adjusting screws  $l$  and  $l'$ , and the scraper L is by this means very nicely set to do the work required by it. Another spring-actuated horizontally-journaled presser-roller H, like those previously described, and two upright weighted

rollers C C are provided adjacent to said scraper at the delivery end of the machine to hold the sections firmly in place while being operated upon by said scraper. J J are spring presser-arms adjustably held by set-bolts in the heads of spindles  $J' J'$ , which are inserted and adjustably held in sockets in the bedway B, as seen in Fig. 1, for the purpose of guiding the sections to the feeding-rollers C C, and of holding said sections in place between said rollers.  $J^2 J^2$  are guide-blocks secured to the bedway B for the purpose of guiding the sections to the feed-rollers C C at the receiving end of the machine and adjacent to the cutter-head D.

Referring to Fig. 16, M M are a pair of thick concave roughing-saws mounted with their concave faces toward each other on the arbor  $m'$ , which is supported in suitable bearings (not shown) on the frame A of the machine between the presser-rollers E and the cutter-head D and parallel with their shafts. The saws are held at the proper distance apart to produce the required width of tongue by means of the interposed washers  $m$ , more or less being used according as a wider or narrower tongue is desired. The saws M M are driven by a belt connecting the pulley on its arbor  $m'$  with any suitable driving-pulley. (Not shown.) Although the machine operates successfully without these saws, their use materially increases its efficiency and capacity, besides relieving the cutter-head D and its cutters, and thus permitting it to do perfect work. With them the stuff can be fed through the machine much faster and the work is more perfectly done than without them. These saws are concaved to afford the relief on their sides which is ordinarily accomplished by setting, since it is difficult or impossible to set saws of the thickness of those which I employ.

Various forms and arrangements of driving mechanism may be employed to actuate the several cutters and feeding devices hereinbefore described. Among others, that shown in the drawings and hereinafter described conveniently serves the purpose.

$n$  is a cross-shaft supported in suitable bearings in a supplemental frame  $A^2$ , attached to one end of the main frame A. (Shown in Figs. 1 and 2.) Upon it are mounted the pulley N, which is connected by a belt with some suitable source of power, and pulleys  $N'$ ,  $N^2$ , and  $N^3$ . The pulley  $N'$  is connected by a belt with and drives the pulley  $D'$  on the arbor of cutter-head D, said belt passing over the idler Q and under the tightener S, journaled in a swinging frame. The pulley  $N^3$  is belted to and drives the pulley  $G'$  on the jointer-shaft G.

$o$  is a counter-shaft supported in frame  $A^2$  parallel with the shaft  $n$ . It is provided with a pulley O and with a pulley  $O'$ , which is belted to and driven by the pulley  $N^2$ , the belt passing under the tightener T.

$r$  is a parallel cross-shaft at the opposite



end of the machine. It is provided with a pulley R, which is belted to and driven by the pulley O on shaft *o*, with a pulley R', which is belted to and drives the pulley E<sup>3</sup>, as shown in Fig. 2, and with a pulley R<sup>2</sup>, which is belted to and drives the pulley F<sup>2</sup>. (Shown in Fig. 3.) The shaft *r* is also provided at the front of the machine with a bevel-gear, (not shown,) which meshes with and drives the gear *c*<sup>6</sup> on the adjacent end of shaft C<sup>5</sup>. (Shown in Fig. 1.) At the adjacent end of the machine, supported in brackets A<sup>3</sup> A<sup>3</sup>, attached to the main frame A, is a counter-shaft *p*, parallel with the arbor of the cutter-head D and provided with a pulley P, which is belted to and driven from the pulley D<sup>2</sup> on said arbor, and with pulleys P' P', belted to and driving the pulleys I<sup>2</sup> I<sup>2</sup> of the trimming-saws I I.

My improved machine operates as follows: The several adjustments of cutters, cutter-heads, jointer, scraper, presser-rollers, &c., having been made, as hereinbefore described, to produce a tongue of the required shape and size on stuff of given dimensions, the sections are fed to the upright feeding-rollers C C at the receiving end of the machine and are moved by them into engagement with the edge rollers E E and F, which co-operate with them to move each section along the bedway B in proper position to be operated upon by the jointer, roughing-saws, tongue-cutters, trimming-saws, and scraper. The lower edge of each section is first accurately planed true by the jointer G. It then passes under the roughing-saws, which cut away the greater part of the material to be removed on each side of the tongue, and the tongue-cutters then form the tongue, the trimming-saws accurately finishing the sides thereof as it passes between them, and the scraper clearing and perfecting the angle at the base of the tongue, where a close joint is wanted when the stuff is put together, (the sections being correspondingly grooved on another machine presented in a separate application for Letters Patent, Serial No. 286,141, filed Sept. 22, 1888.) The stuff to be matched should be first planed on both sides and sandpapered on the right side.

I claim—

1. In a matching-machine, the combination, with a rotary cutter and a guideway consisting of a horizontal bed with vertical openings therein and of a plane vertical guiding-surface, also provided with vertical openings, of feeding-rollers mounted in pairs on the upper ends of vertical shafts which are geared together so as to be turned simultaneously, the periphery of the inner roller of each pair projecting slightly through an opening in said vertical guiding-surface and the outer roller of each pair projecting upwardly through an opening in said bed, slides movable horizontally and transversely to said guideway in suitable ways on the frame and provided with pivoted bearings in which the shafts of

the outer rollers bear just below the bed of the guideway, and bell-crank levers, the shorter arms of which are fulcrumed to the frame and connected with said slides and the longer arms of which project horizontally rearward and are weighted, substantially as and for the purposes set forth.

2. In a matching-machine, the combination, with a vertical guide plate or frame and a horizontal bedway, of upright feeding-rollers working opposite said vertical guide plate or frame, an edge feeding-roller mounted on a horizontal axis, with its periphery projecting upwardly through an opening in said bedway, and one or more similar rollers supported above said roller on horizontal shafts having upwardly-yielding bearings adjacent thereto, substantially as and for the purposes set forth.

3. In a matching-machine, the combination, with a suitable supporting-frame, of a vertically-adjustable horizontal bed, upon which the sections to be matched are supported and moved endwise on edge, a feed-roller mounted on a horizontal axis in an opening in said bed so as to engage the lower edge of a section thereon, said roller being vertically adjustable with as well as independently of said bed, and a counter-roller supported above said roller on a horizontal shaft which has an upwardly-yielding bearing, substantially as and for the purposes set forth.

4. In a matching-machine, the combination, with a vertically-adjustable horizontal bedway and upright rollers arranged to hold and move the sections on edge thereon, of a rotary jointer projecting through an opening in said bedway and mounted in a vertically-movable slide or head, an adjusting-screw for raising and lowering said slide or head, a vertically-movable and upwardly-yielding slide located above said bedway and jointer, a counter presser-roller journaled in said slide, and an adjusting-screw for raising and lowering said slide and roller, substantially as and for the purposes set forth.

5. In a matching-machine, the combination, with a way for guiding and supporting the sections to be matched, and suitable feeding mechanism, of two concave saws mounted on an arbor with their faces toward each other, substantially as and for the purposes set forth.

6. In a matching-machine, the combination, with a suitable way and feeding mechanism, of a tongue-forming cutter and a pair of concave roughing-saws set with their concave faces toward each other, substantially as and for the purposes set forth.

7. In a matching-machine, the combination, with a suitable way for supporting and guiding the sections of a saw-arbor, a pair of concave saws mounted thereon with their concave faces toward each other, and interposed separately-removable washers whereby said saws may be held at different distances apart, substantially as and for the purposes set forth.

8. In a matching-machine, the combination, with a tongue-cutter provided with tongue-



forming knives and a guideway, of a pair of trimming-saws mounted on separate arbors beyond said tongue-cutter, with their peripheries presented toward each other and constructed and arranged to operate upon and dress to the required bevel the sides of the tongue which is approximately formed by said tongue-cutter, the arbors of the trimming-saws being set transversely with reference to the arbor of the tongue-cutter, and feeding mechanism arranged to move the stuff to said tongue-cutter and trimming-saws in the order in which they are mentioned, substantially as and for the purposes set forth.

9. In a matching-machine, the combination, with a tongue-cutter consisting of a rotary head provided with adjustable and removable tongue-forming knives, a suitable bed, and feeding mechanism, of two trimming-saws mounted on separate arbors, with their peripheries presented toward each other in position to operate upon and dress the side of the tongue which is approximately formed by said tongue-cutter, and supports provided with bearings for said arbors and each capable of angular movement in a plane transverse to said bed, whereby the inclination of said arbors and saws to each other may be adjusted as desired, the arbors of said saws being set transversely with relation to the arbor of the tongue-cutter, substantially as and for the purposes set forth.

10. In a matching-machine, the combination, with a tongue-cutter consisting of a rotary head provided with adjustable and removable tongue-forming knives, a suitable guideway, and feeding mechanism, of two trimming-saws mounted on separate arbors, with their cutting edges presented toward each other and constructed to dress the side of the tongue which is approximately formed by said tongue-cutter, and two sets of slides movable transversely to each other, one set being supported by the other and provided with bearings for the saw-arbors, whereby the saws may be separately adjusted vertically and laterally, as desired, the arbors of the trimming-saws being set transversely with relation to the arbor of the tongue-cutter, substantially as and for the purposes set forth.

11. In a matching-machine, the combination, with a suitable guideway and feeding mechanism, of a tongue-cutter, a slide movable transversely to said guideway and carrying two sets of slides, one supported upon the other and each set movable transversely to the movement of the other, and two trimming-saws mounted edge to edge on separate arbors and carrying plates provided with bearings for said arbors and pivoted to the outer slides so as to be capable of independent angular adjustment thereon, substantially as and for the purposes set forth.

12. In a matching-machine, the combination, with a guideway and suitable feeding mechanism, of a scraper and an adjustable

head carrying the same, substantially as and for the purposes set forth.

13. In a matching-machine, the combination, with a guideway and suitable feeding mechanism, of a tongue-cutter, a scraper shaped and arranged to clear and finish either angle at the base of the tongue, and a head carrying said scraper capable of movement in two intersecting lines, substantially as and for the purposes set forth.

14. In a matching-machine, the combination, with a suitable bed, of a tongue-cutter, a slide provided with a removable scraping-tool and mounted upon another slide movable transversely to its movement, and adjusting-screws arranged to move said slides each transversely to the other, substantially as and for the purposes set forth.

15. In a matching-machine, the combination, with a suitable supporting-frame having a vertical guiding-surface, of a horizontal bedway projecting therefrom, upright feeding-rollers mounted on upright shafts, horizontally-slotted slides movable transversely to said shafts and to said bedway and provided with bearings in which said shafts are supported a little below said bedway, and counter-rollers mounted on upright shafts, which pass through the slots in said slides and are geared with the shafts of said feeding-rollers, so as to be rotated simultaneously therewith, substantially as and for the purposes set forth.

16. In a matching-machine, the combination, with a suitable horizontal bed and vertical guide, of upright feeding-rollers arranged to move the sections to be jointed on edge along said bed and guide, a pair of concave roughing-saws set vertically with their concave faces toward each other, a rotary cutter-head provided with removable tongue-shaping knives, and a pair of trimming-saws set edge to edge in a horizontal position on opposite sides of the tongue to be trimmed, substantially as and for the purposes set forth.

17. In a matching-machine, the combination, with a horizontal bed and suitable feeding mechanism arranged to move the sections to be matched lengthwise and on one edge along said bed, of a pair of concave roughing-saws set with their concave faces toward each other, and means for varying the distance between them, a vertical rotary cutter-head provided with removable tongue-cutters, a pair of trimming-saws set horizontally edge to edge and capable of independent lateral, vertical, and angular adjustment and of being moved together transversely to said bed, and an adjustable scraper, substantially as and for the purposes set forth.

18. In a matching-machine, the combination of a way composed of a horizontal bed and a vertical guide, upright yielding feeding-rollers arranged to engage one side of the sections to be matched, presser-rollers bearing on the upper edges of said sections and holding them snugly down to said bed, a pair



of concave roughing-saws, a rotary tongue-cutter, and a pair of trimming-saws mounted edge to edge on separate arbors, said saws and cutter being adjustable to produce tongues of  
5 different dimensions and properly located on sections of various dimensions, substantially as and for the purposes set forth.

19. In a matching-machine, the combination, with a way and feeding-rollers arranged  
10 to move the sections on edge along said way, of a presser-roller journaled in a vertically-movable slide and arranged to bear on the upper edge of a section and hold the same snugly down to said bed, a spring bearing downward-  
15 ly upon said slide, and an adjusting-screw arranged to raise and lower said slide, substantially as and for the purposes set forth.

20. In a matching-machine, the combination, with a way composed of a horizontal bed

and a vertical guide, of a feeding-roller 20 mounted upon a vertical shaft, a slide movable transversely to said shaft and forked at one end, a bearing supporting the upper end of said shaft and swiveled in the forked end of said slide, a bracket provided with ways for 25 said slide, and a bell-crank lever fulcrumed at one end to said bracket connected at its angle with the slide and carrying a weight on its longer horizontally-projecting arm, substantially as and for the purposes set forth. 30

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

CHARLES J. L. MEYER.

Witnesses:

GEO. H. FRANCIS,

CHAS. ULM.