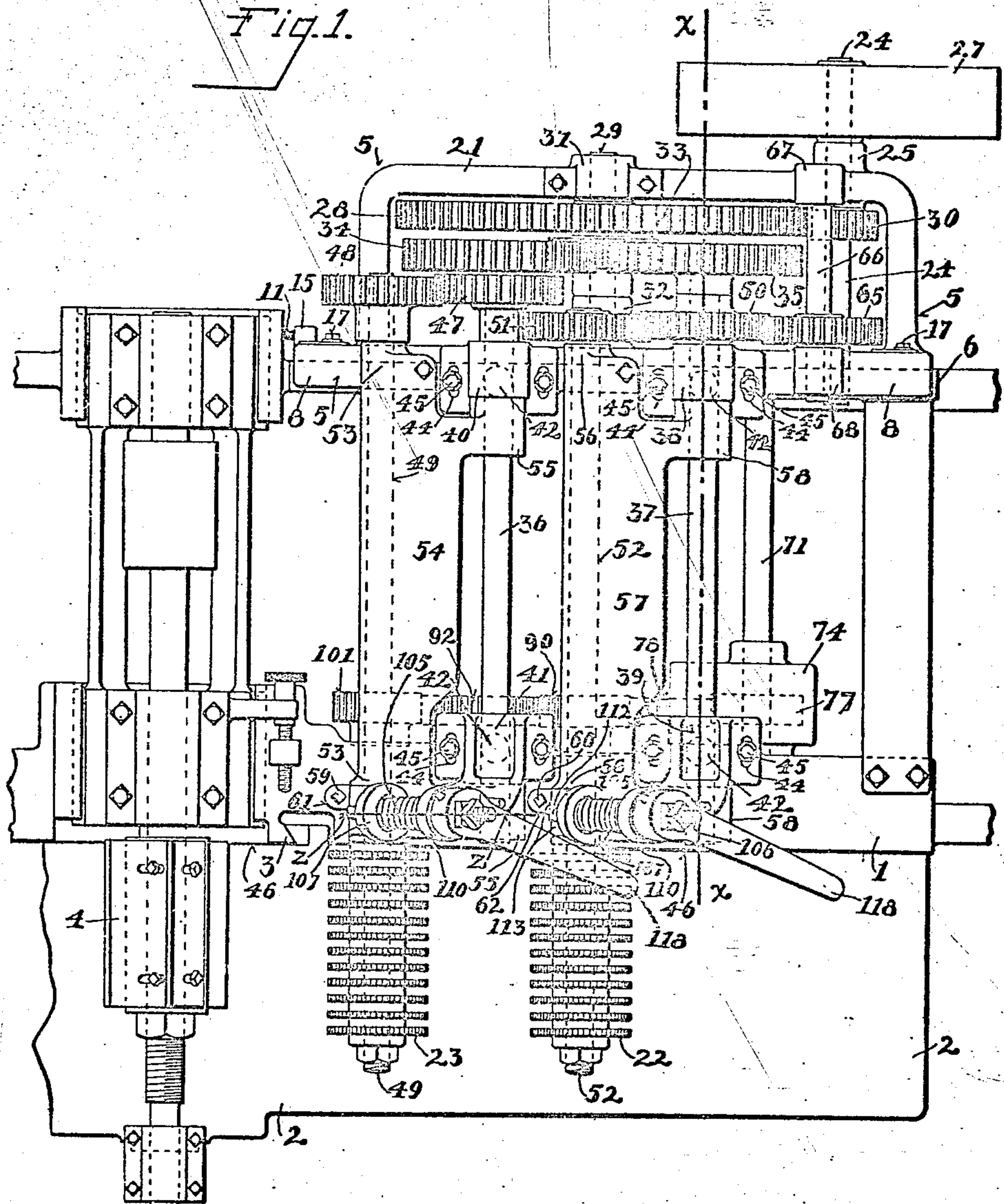


1891, Fred,
Spring Pressed.

J. R. THOMAS & J. J. MEYERS.
FEEDING DEVICE FOR WOODWORKING MACHINERY.
APPLICATION FILED JUNE 10, 1903.

899,143.

Patented Sept. 22, 1908.
3 SHEETS—SHEET 1.



Witnesses.
Homer Bradford.
Harry Center

Inventors.
John R. Thomas.
John J. Meyers;
by R. D. Herbert, Attorney

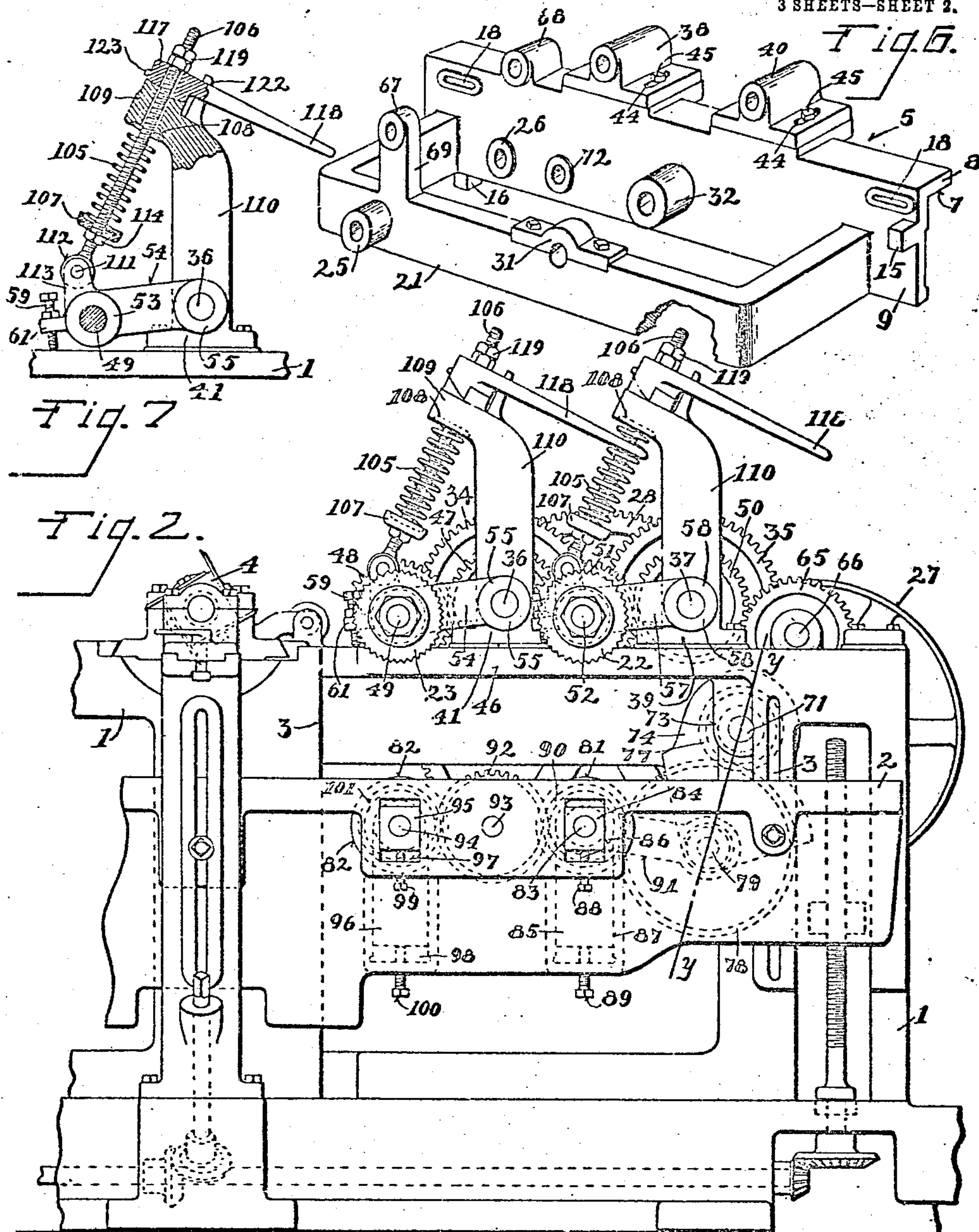
Feed & Press Mechanisms,
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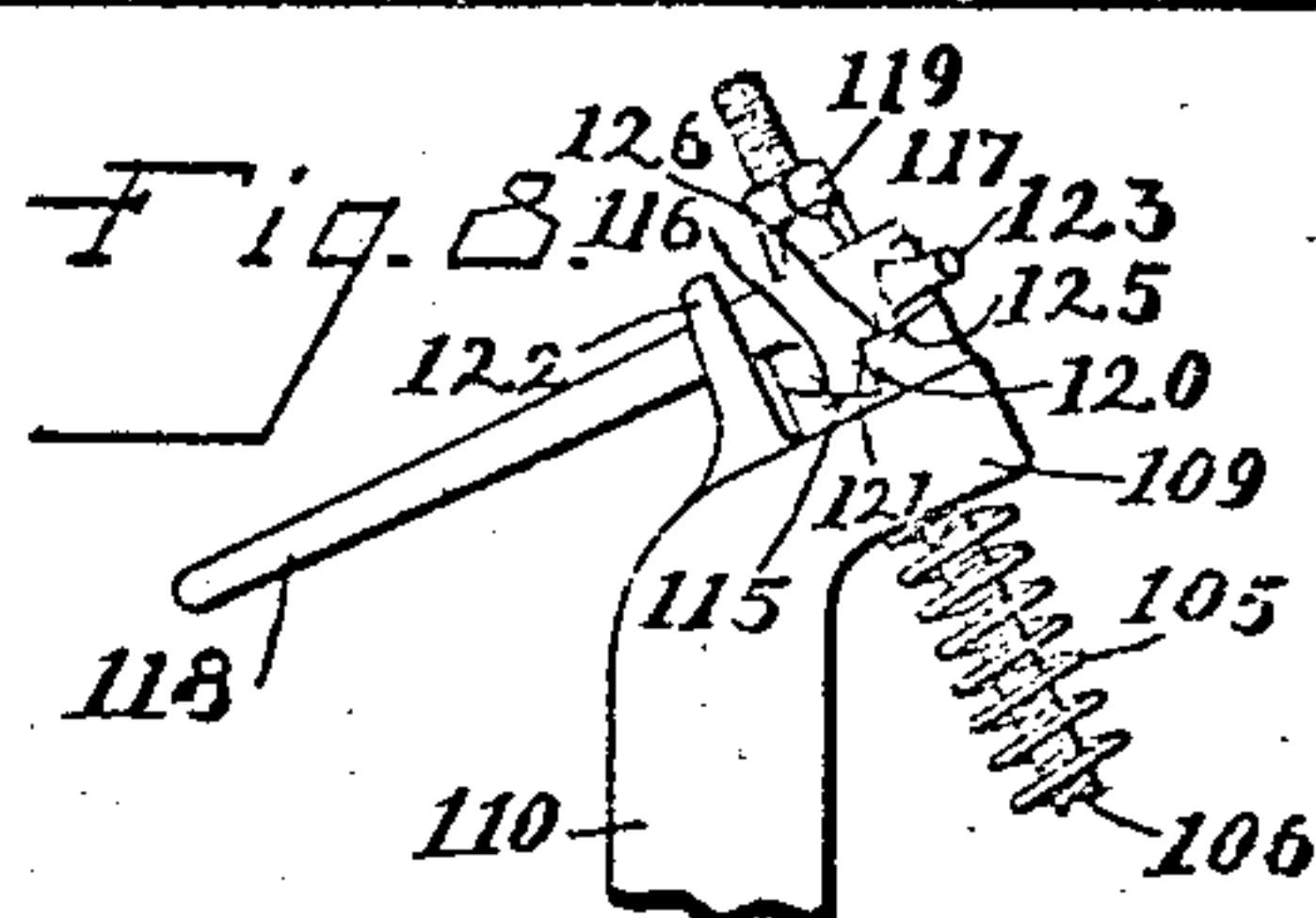
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3 SHEETS—SHEET 2.



Witnesses.
Homer Bradford
Harry Center



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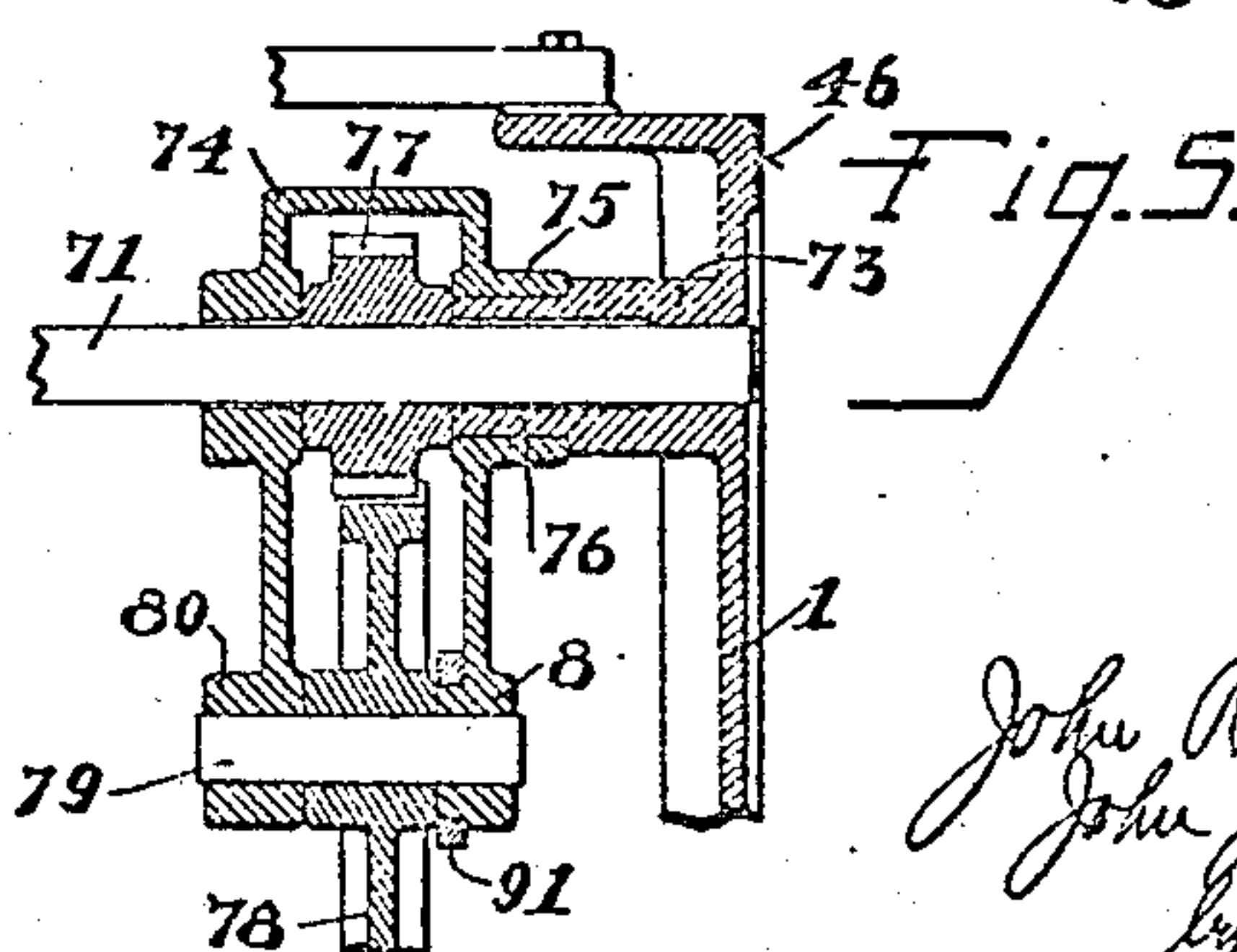
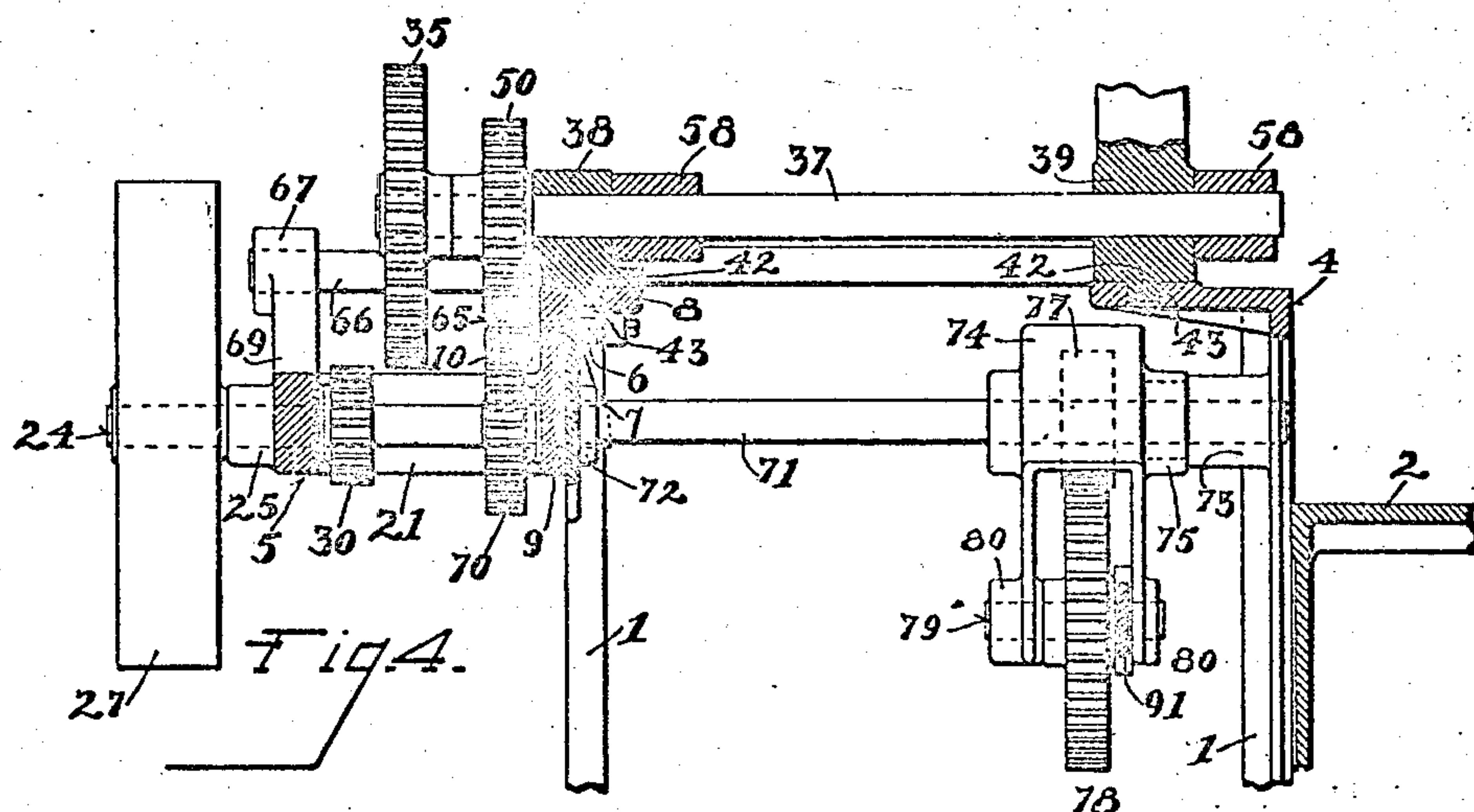
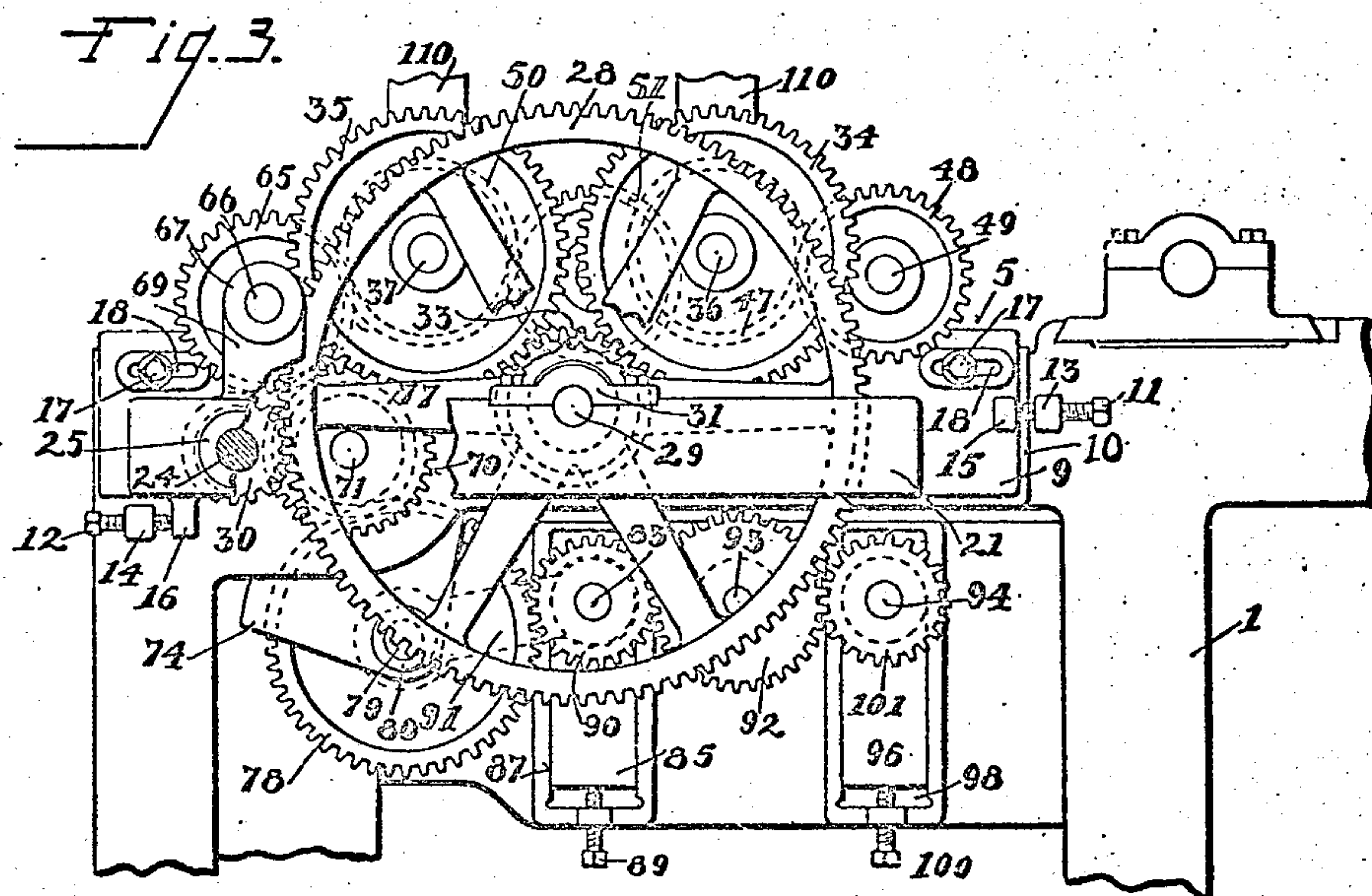
WOODWORKING
 Press Mechanisms,
 Rolls, Feed,
 Spring Presses

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Patented Sept. 22, 1908.

3 SHEETS—SHEET 3.



Witnesses.
 Homer Bradford.
 Harry Cenko

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 by A. P. Dabbs
 Their Attorney.

UNITED STATES PATENT OFFICE.

JOHN R. THOMAS AND JOHN J. MEYERS, OF CINCINNATI, OHIO, ASSIGNORS TO J. A. FAY & EGAN COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF WEST VIRGINIA.

FEEDING DEVICE FOR WOODWORKING MACHINERY.

No. 899,143.

Specification of Letters Patent.

Patented Sept. 22, 1908.

Application filed June 10, 1908. Serial No. 437,705.

To all whom it may concern:

Be it known that we, JOHN R. THOMAS and JOHN J. MEYERS, citizens of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have jointly
5 invented certain new and useful Improvements in Feeding Devices for Woodworking Machinery, of which the following is a specification.

10 Our invention relates to new and improved feeding devices for woodworking machinery, and is shown applied to a so-called outside molding machine in which there is a stock-supporting table adjustable on the out-
15 side of the main frame, the feed-rolls being mounted above said table, although our improvements may, in whole or in part, be employed in other relations.

Our invention consists in providing a sup-
20 plemental frame for the gearing which drives the upper feed-rolls, means being provided for adjusting the supplemental frame longitudinally of the main frame and thereby changing the transverse relation between the
25 bearings of the cross-shafts for said feed-rolls; further in mounting said bearings so as to swing for accommodating the different angles crosswise of the machine into which said drive-shafts may be shifted by the shifting
30 of said supplemental frame; further in providing novel means whereby the feed-rolls may be quickly brought into operative or inoperative position, it being understood that said devices are applicable where a single feed-
35 roll and where a plurality of feed-rolls is employed; and further, in the parts, and in the construction, arrangement, and combinations of parts hereinafter more fully described and claimed.

40 In the drawings: Figure 1 is a plan view of our improved device shown in connection with so much of an outside molding machine as is necessary to illustrate our invention. Fig. 2 is a front elevation of the same. Fig.
45 3 is a rear elevation of the same, the lower part of the main frame being broken away. Fig. 4 is a vertical cross-section of the same on the line $x-x$ of Fig. 1. Fig. 5 is a detail in section on the line $y-y$ of Fig. 2, showing
50 the mounting of the gear-housing for driving the lower feed-rolls. Fig. 6 is a perspective view of the supplemental frame. Fig. 7 is a vertical section on the line $z-z$ of Fig. 1 showing the pressure means for the upper
55 feed-roll and the means for quickly bringing

the same into operative and inoperative positions; and, Fig. 8 is a detail in rear elevation showing the upper end of the latter.

1 represents the main frame on which a stock-supporting table 2 is adjustable verti- 60
cally in guide-ways, one of which is shown at 3, in any suitable or usual manner.

4 represents a cutter-head shown as an upper cutter-head, and if desired, further cutter-heads for cutting the lower face and 65
the side edges of the stock may also be provided in usual manner, that part of the machine in which these cutter-heads are usually mounted not being shown, as the same forms no part of our present invention. 70

5 is a supplemental frame which is mounted and adjustable on the main frame. We have shown this mounting accomplished by providing the main frame with a guide-way 6 on which the supplemental frame is slidable 75
on a slideway 7 of a flange 8, the supplemental frame preferably also comprising an apron 9 which slides against the side guide-way 10 of the main frame. Set-screws 11 12 are threaded in lugs 13 14 on the main frame and engage 80
lugs 15 16 on the supplemental frame. The manipulation of these set-screws will force the supplemental frame lengthwise on the guide-ways of the main frame. For securing
the supplemental frame in adjusted positions 85
we provide bolts 17 which pass through slots 18 in the supplemental frame and are threaded into the main frame.

The supplemental frame preferably comprises a yoke 21 which extends laterally 90
from the apron 9, the driving gearing for the upper feed-rolls 22 23 being preferably within the yoke and so arranged as to move with the supplemental frame in its adjustments. Thus 24 is a drive-shaft journaled in bearings 95
25 26 in the supplemental frame, the bearing 25 being shown in the yoke and the bearing 26 in the side plate or apron. This drive-shaft may be driven by a suitable pulley 27.

28 is a master gear mounted on an inter- 100
mediate drive-shaft 29 and engaged by a pinion 30 on the drive-shaft 24. The shaft 29 is journaled in bearings 31 32, the bearing 31 being shown on the yoke and the bearing 32 on the apron of the supplemental 105
frame. The shaft 29 also carries a pinion 33 which meshes with the gears 34 35 mounted respectively on the cross-shafts 36 37. These cross-shafts are respectively journaled in bearings 38 39 and 40 41, these bearings 110

38 39 and 40 41 being preferably mounted so as to permit of their swiveling movement. Thus the bearings 38 40 are pivoted on the supplemental frame adjacent the gear ends of said shafts, and the bearings 39 41 are pivoted on the main frame adjacent the roll ends of said shafts. We accomplish this pivoting preferably by providing these respective bearings with a downwardly projecting shank 42 journaled in a socket 43, these sockets 43 at the gear ends of said shafts being on the supplemental frame and at the roll ends of said shafts being on the main frame. These bearings are preferably provided with slots 44 through which bolts 45 pass respectively into the supplemental frame and the main frame for clamping the bearings rigidly in place after the supplemental frame has been adjusted for setting the feed-rolls at an angle crosswise of the table for giving the stock a lead or tendency to press against the side gage 46, this side gage being shown formed by the side face of the main frame. The angle or lead required is different for different classes of stock or different classes of work, and our improved device permits this adjustment to be made by shifting the respective feed-rolls simultaneously from different points while maintaining the cross-shafts parallel. The cross-shaft 36 also has a gear 47 secured thereto which meshes with a gear 48 on a roll-shaft 49. The cross-shaft 37 has a gear 50 secured thereto which meshes with a gear 51 secured to the roll-shaft 52. The roll-shaft 49 is journaled in bearings 53 in a housing 54 pivoted about the shaft 36 as on bearings 55. The roll-shaft 52 is journaled in bearings 56 of a housing 57 pivoted about the cross-shaft 37 as by bearings 58. These roll-shafts respectively carry suitable feeding-rolls as shown at 22 23. These rolls are adjustable toward or from the stock passing over the bed as by means of set-screws 59 60 adjustable in lugs 61 62 of the respective housings and adapted to rest on the main frame.

For driving the lower feed-rolls there is a gear 65 mounted on a shaft 66 journaled in bearings 67 68 respectively on a lug 69 of the yoke and on the apron. The gear 65 is meshed by the gear 50 and in turn meshes with a gear 70 on a cross-shaft 71 journaled in a bearing 72 of the supplemental frame at its power receiving end and in a bearing 73 in the main frame at its power transmitting end. 74 is a gear-housing. It has a bearing 75 on an annular stud 76, there being a gear 77 inside said housing on said cross-shaft 71. There may be loose fit of this cross-shaft 71 at its power-transmitting end.

78 is a gear meshing with the gear 77 and is on a shaft 79 journaled in bearings 80 of said gear-housing.

81 82 are the lower rolls. Lower roll 81 is on a shaft 83 journaled in bearing-blocks

84 85 adjustable in guide-ways 86 87 in the table by means of set-screws 88 89, the said lower roll-shaft 83 having a gear 90 thereon which meshes with the gear 78 and with which it is maintained in mesh by a link 91 connecting the swinging end of the gear-housing with the roll-shaft.

92 is an intermediate gear on a shaft 93 journaled in the table and meshes with the gear 90 on the lower roll-shaft 83. The lower feed-roll 82 is on a shaft 94 journaled in bearing-blocks 95 96 adjustable in slide-ways 97 98 of the table by means of set-screws 99 100. A gear 101 is on the shaft 94 and meshes with the intermediate gear 92.

It is desirable that the feed-rolls be pressed toward the stock which passes over the lower feed-rolls and table. We accomplish this preferably by spring pressure means. Thus 105 is a spring shown as a spiral spring received about a rod 106 having a cup 107 adjacent its lower end in which the lower end of the spring is received, the upper end of the spring being received in a socket 108 in a forwardly extending branch 109 of a bracket 110. The rod is articulated with the roller-housing as by means of a bolt 111 passing through an eye 112 of the rod and lugs 113 on said housing. The rod 106 is preferably a threaded rod. A nut 114 is adjustable at the lower end of said rod for the purpose of positioning the cup 107 and thereby adjusting the tension of the spring.

115 116 are inclined mating faces about said rod, preferably spiral, one of said faces being on said bracket 110 and the other of said faces being on a turn-block 117 received about said rod and having a handle 118 for turning the same. A nut or nuts 119 are adjustable on the upper end of the rod, so that when the handle is turned, the turn-block may contact one of said nuts and raise the rod and feed-roll with said turn-block. These nuts may also be employed for adjustably limiting the descent of said feed-roll. When the handle is turned it causes the inclined-face 116 to slide upon the inclined-face 115 and thereby raises the turn-block 117, forcing the rod 106 upwardly with it for quickly raising the feed-roll out of contact with the work passing thereunder for instantly stopping the feed, this construction forming a very convenient, quickly acting and strong mechanism for instantly bringing the feed-roll into operative or inoperative positions.

For limiting the turning of the turn-block in one direction for permitting descent of the feed-roll, the bracket and turn-block are respectively provided with abutting-faces 120 121, and for limiting the turning of the turn-block in the other direction for preventing overthrow of said inclined faces, the bracket and turn-block are respectively provided with lugs 122 123, the lug 123 contacting the

lug 122 when the turn-block has been turned to its limit for raising the feed-roll housing and the feed-roll therein. When in this latter position, the highest points on the respective inclines rest on the comparatively flat faces 125 126 respectively on the bracket and turn-block for permitting the rolls to remain in raised positions. Each of the feed-rolls is preferably provided with the raising means just described. The brackets or uprights 110 preferably extend from the respective bearings 39 41 of the cross-shafts 36 37.

Having thus fully described our invention what we claim as new and desire to secure by Letters Patent is:

1. In a feeding device for wood-working machinery, the combination with the main frame, of a gear-frame adjustably mounted at one side thereof, and feed-roll cross-shafts having gear-ends and journaled at their gear-ends on said gear-frame and at their other ends on said main frame.

2. In a feeding device for wood-working machinery, the combination with the main frame, of a gear-frame adjustably mounted at one side thereof, swiveling bearings, and feed-roll cross-shafts having gear-ends and journaled at their gear-ends in said swiveling bearings on said gear-frame and at their other ends on said main frame.

3. In a feeding device for wood-working machinery, the combination with the main frame, table and feed-rolls above said table, of a gear-frame at one side of said main frame, feed-roll shafts journaled on said gear-frame at one end and on said main frame at their other end, and means for adjusting said gear-frame longitudinally of said main frame whereby the leads of the feed-rolls above said table are simultaneously adjusted to equal extent.

4. In a feeding device for wood-working machinery, the combination with the main frame, of a table and feed-rolls at one side and a gear-frame at the other side thereof, a main feed-roll drive-shaft and an intermediate feed-roll drive-shaft journaled on said gear-frame, feed-roll cross-shafts journaled at one end on said gear-frame and at their other end on said main frame; gearing between said main drive-shaft, said intermediate drive-shaft and said feed-roll cross-shafts on said gear-frame; and means for adjusting said gear-frame longitudinally of said main frame, whereby said drive-shafts and gearing are shifted longitudinally of said main frame and the angle of said feed-rolls above said table is adjusted, substantially as described.

5. In a feeding device for wood-working machinery, the combination with the main frame, of a table and feed-rolls at one side and a gear-frame at the other side thereof, a main feed-roll drive-shaft and an intermediate feed-roll drive-shaft journaled on said

gear-frame, swiveling bearings, feed-roll cross-shafts journaled at one end in said swiveling bearings on said gear-frame and at their other end on said main frame; gearing between said main drive-shaft, said intermediate drive-shaft and said feed-roll cross-shafts on said gear-frame; and means for adjusting said gear-frame longitudinally of said main frame, whereby said drive-shafts and gearing are shifted longitudinally of said main frame and the angle of said feed-rolls above said table is adjusted, substantially as described.

6. In a feeding device for wood-working machinery, the combination with the main frame, table and feed-rolls above said table, of a supplemental frame, feed-roll drive shafts and gearing therefor mounted on said supplemental frame, feed-roll cross-shafts, swiveling bearings on said supplemental frame and main frame in which said feed-roll cross-shafts are journaled, and means for adjusting said supplemental frame with the drive-shafts and gearing thereon longitudinally of said main frame for adjusting the angle of said feed-rolls above said table, substantially as described.

7. In a feeding device for wood-working machinery, the combination of a main frame, an upper feed-roll, a lower feed-roll and a table at one side of said main frame, a supplemental frame at the other side of said main frame: a drive-shaft for said upper feed-roll, a drive-shaft for said lower feed-roll and gearing between said drive-shafts and said upper feed-roll mounted on said supplemental frame; cross-shafts for said feed-rolls journaled on said supplemental frame at one end and on said main frame at their other ends, and means for adjusting said supplemental frame longitudinally of said main frame, substantially as described.

8. In a feeding device for wood-working machinery, the combination with the main frame, of a table and feed-rolls at one side of said main frame, a supplemental gear-frame adjustable longitudinally of said main frame at the other side of said main frame, feed-roll cross-shafts, swiveling bearings on said supplemental gear-frame in which said cross-shafts are journaled, said cross-shafts journaled at their other ends on said main frame, and gearing on said supplemental frame for driving said cross-shafts.

9. In a feeding device for an outside molder, the combination of the main frame, the table adjustable thereon, and the feed-rolls above said table, a housing for each of said feed-rolls, a supplemental gear-frame adjustable longitudinally on said main frame, cross-shafts about which said feed-roll housings are respectively pivoted, bearings on said gear-frame for one end of said cross-shafts, bearings on said main-frame for the other end of said cross-shafts, gearing on said

gear-frame for driving said cross-shafts, and means for adjusting said gear-frame on said main frame, whereby said feed-rolls are adjusted simultaneously to similar angular positions above said table while said cross-shafts are maintained parallel, substantially as described.

10. In a feeding device for wood-working machinery, the combination with the main frame, of a table and a feed-roll at one side of said main frame, a supplemental gear-frame adjustable longitudinally of said main frame at the other side of said main frame, a feed-roll cross-shaft journaled on said supplemental frame at one end and on said main frame at its other end, and gearing on said supplemental frame for driving said feed-roll cross-shaft.

11. In a feeding device for an outside molder, the combination with the main frame and table, of a plurality of feed-rolls overhanging one side of said main frame above said table, a cross-shaft for each of said feed-rolls, a supplemental gear-frame adjustable on the other side of said main frame, gearing on said supplemental frame for driving said cross-shafts, bearings on said supplemental frame for the gear-ends of said cross-shafts, bearings on said main frame for the roll-ends of said cross-shafts, and means for adjusting said supplemental frame on said main frame for changing the transverse relation between the bearings for said respective cross-shafts and changing the direction of overhang of said feed-rolls above said table while maintaining said cross-shafts parallel, substantially as described.

12. In a feeding device for wood-working machinery, the combination with a feed-roll and a feed-roll bearing, of a rod having connection with said bearing, a normally rigid part, a spring received about said rod for depressing said bearing; a turn-block, said turn-block and normally rigid part having a spiral face and contact-face therefor between them for quickly changing the elevation of said feed-roll by the turning of said turn-block, and a stop for said turn-block, for the purpose specified.

13. In a feeding device for wood-working machinery, the combination with a feed-roll and a feed-roll bearing, of a rod having connection with said bearing, a normally rigid part, a spring received about said rod for depressing said bearing; means for adjusting said spring, a turn-block, said turn-block and normally rigid part having a spiral face and contact-face therefor between them for quickly changing the elevation of said feed-roll by the turning of said turn-block, and a stop for said turn-block, for the purpose specified.

14. In a feeding device for wood-working machinery, the combination with a feed-roll and a feed-roll bearing, of a rod having con-

nection with said bearing, a normally rigid part, a spring received about said rod for depressing said bearing, a turn-block, said rod slidable in said normally rigid part and turn-block, adjustable limiting means between said rod and turn-block, said turn-block and normally rigid part having a spiral face and contact-face therefor between them for quickly changing the elevation of said feed-roll by the turning of said turn-block, for the purpose specified.

15. In a feeding device for wood-working machinery, the combination of a feed-roll housing, a spring pressure means therefor, and means for quickly bringing said feed-roll housing into operative or inoperative feeding position comprising a pair of parts having an inclined-face and a contacting face therefor between them, and a rod articulated with said feed-roll housing slidable in said pair of parts and limited in movement by one of the parts of said pair of parts, a stop between said pair of parts, said inclined-face and contacting face therefor arranged about said rod, the turning of one of the parts of said pair of parts causing longitudinal movement of said rod for raising or lowering said feed-roll.

16. In a feeding device for wood-working machinery, the combination of a frame, a bracket extending therefrom, a pivoted feed-roll housing, a turn-block, a rod articulated with said feed-roll housing and slidable in said bracket and turn-block, an adjustable part at the lower end of said rod, a spring received about said rod between said adjustable part and said bracket, adjusting means at the outer end of said rod, said turn-block received about said rod between said last-named adjusting means and said bracket, said turn-block and said upright having an inclined-face and contact-face therefor between them, and constructed and arranged for quickly raising and lowering the feed-roll housing by the turning of said turn-block.

17. In a feeding device for wood-working machinery, the combination with the main frame, of a table and feed-roll at one side of said main frame, a supplemental gear-frame at the other side of said main frame, a feed-roll cross-shaft, a bearing therefor on said supplemental gear-frame, a swiveling bearing therefor on said main frame, an upright on said last-named bearing, a turn-block, and a feed-roll rod slidable in said upright and turn-block, said upright and turn-block having a spiral face and engaging face therefor between them for quickly changing the elevation of said feed-roll by the turning of said turn-block, for the purpose described.

18. In a feeding device for wood-working machinery, the combination with the main frame, of a table and feed-rolls therefor at one side of said main frame, a supplemental gear-frame at the other side of said main frame, feed-roll cross-shafts, swiveling bear-

ings on said main frame for the roll-ends of
said cross-shafts, uprights on said swiveling
bearings moving therewith, turn-blocks on
said uprights acting on said feed-rolls for
5 quickly changing their elevation, and means
for shifting said supplemental gear-frame on
said main frame for causing swiveling move-
ment of said swiveling bearings and the up-
rights thereon, for the purpose described.

In testimony whereof, we have subscribed 10
our names hereto in the presence of two sub-
scribing witnesses.

JOHN R. THOMAS.
JOHN J. MEYERS.

Witnesses:

RICHARD D. COAN,
WILLIAM B. GRIESE.