

D. M. PADDOCK.
 PLANER ATTACHMENT FOR JOINTERS.
 APPLICATION FILED NOV. 10, 1909.

971,553.

Patented Oct. 4, 1910.

4 SHEETS—SHEET 1.

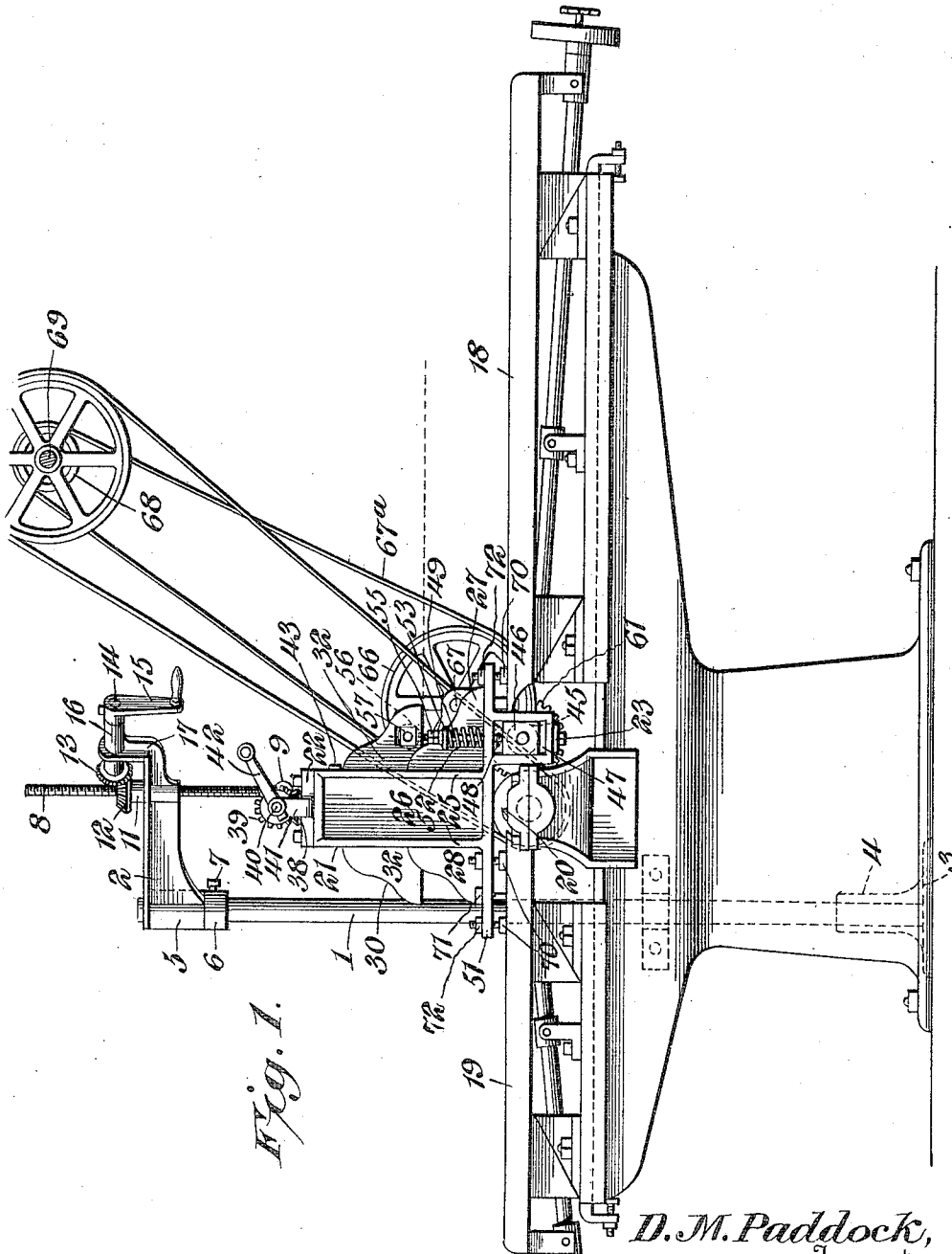


Fig. 1.

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 Inventor,

Witnesses

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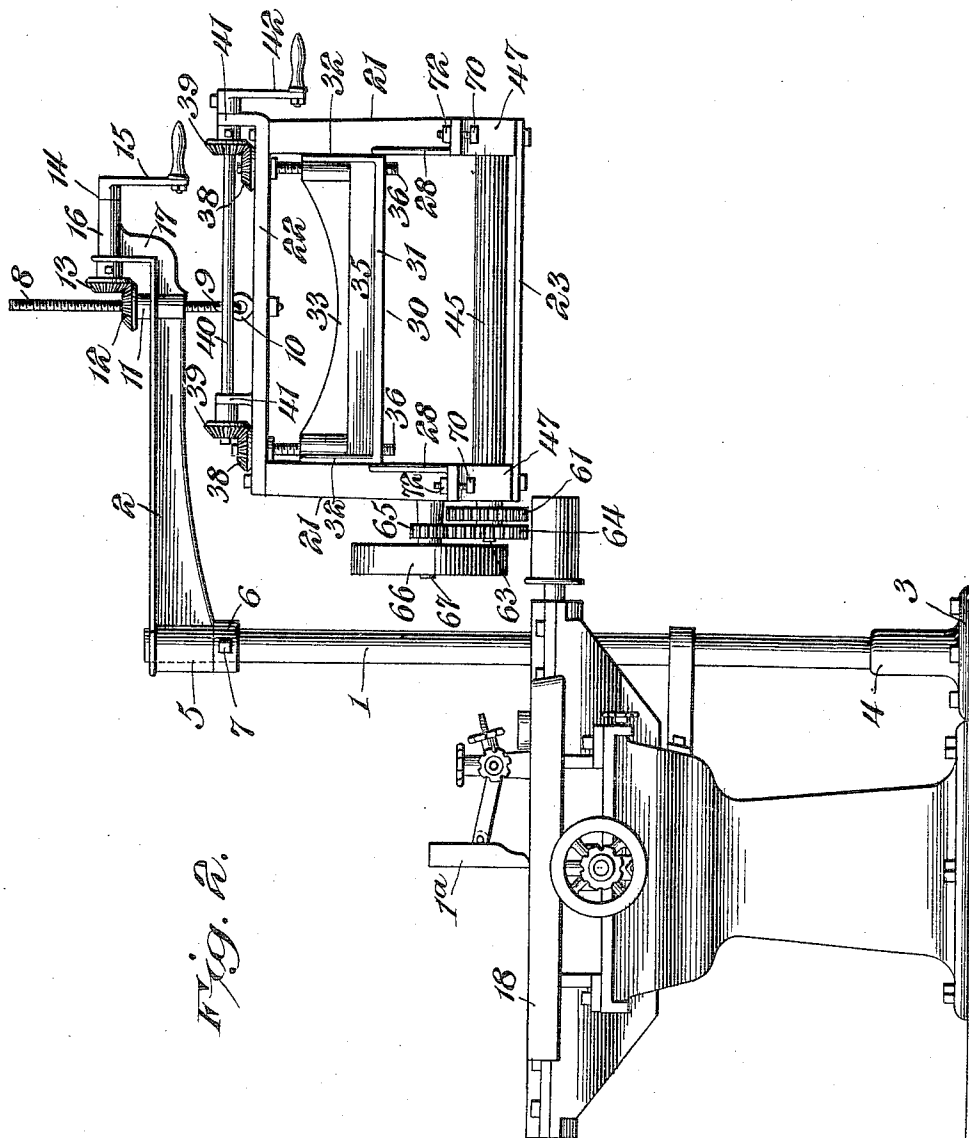


Fig. 2.

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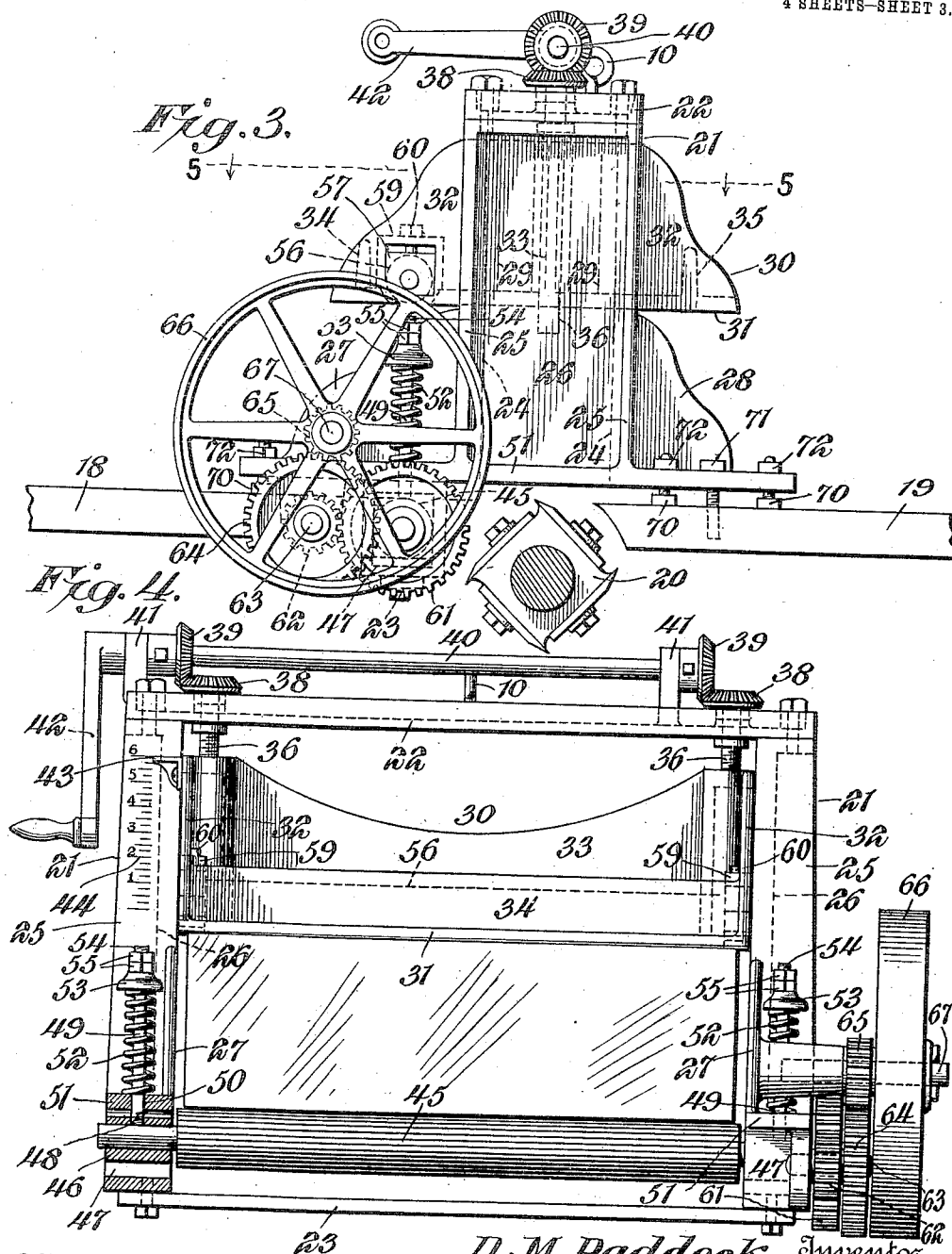
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4 SHEETS—SHEET 3.



Witnesses

Howard D. Orr.
 H. F. Riley

D. M. Paddock, Inventor,

By

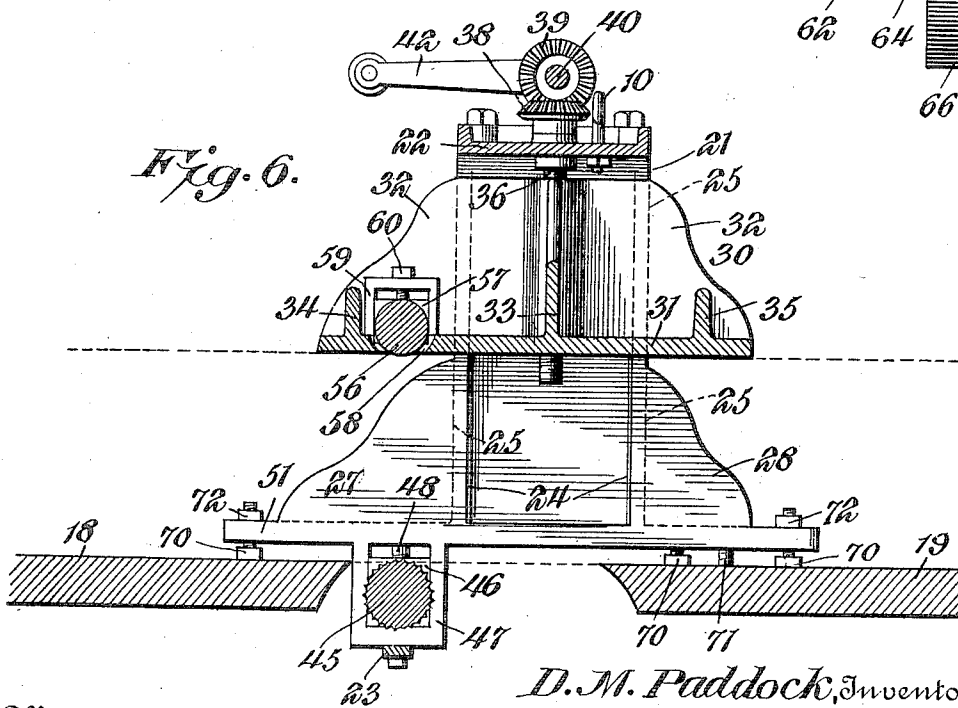
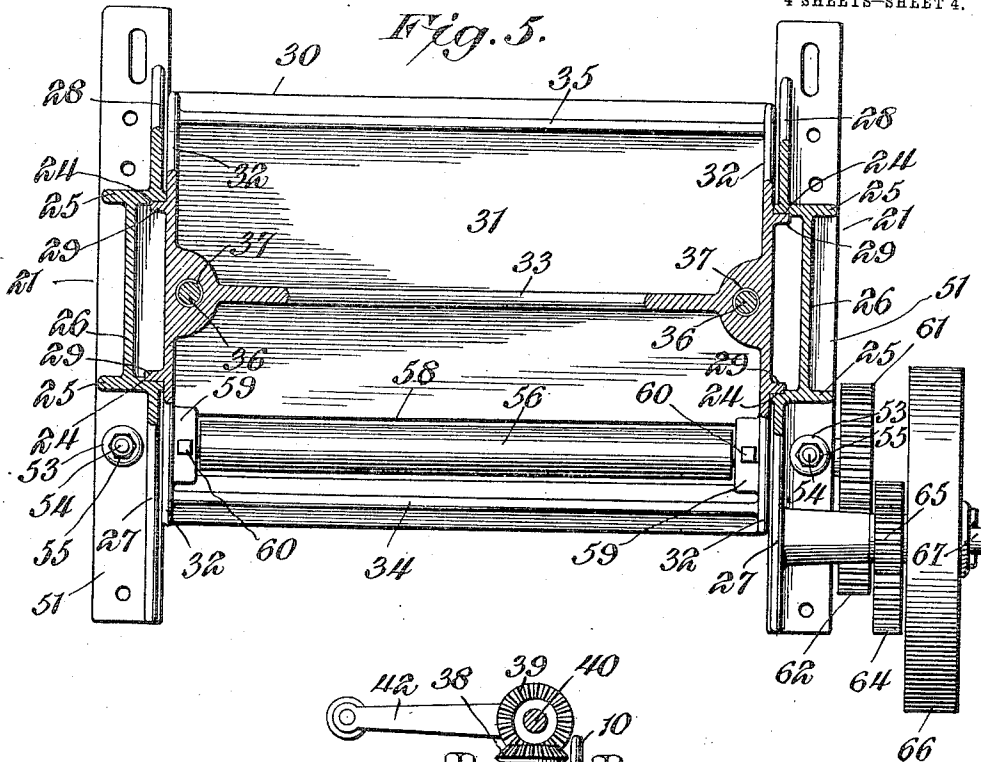
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

DELBERT M. PADDOCK, OF SIDNEY, OHIO, ASSIGNOR TO THE SIDNEY TOOL CO., OF
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PLANER ATTACHMENT FOR JOINTERS.

971,553.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed November 13, 1909. Serial No. 527,336.

To all whom it may concern:

Be it known that I, DELBERT M. PADDOCK, a citizen of the United States, residing at Sidney, in the county of Shelby and State of Ohio, have invented a new and useful Planer Attachment for Jointers, of which the following is a specification.

The invention relates to a planer attachment for jointers.

The object of the present invention is to provide a simple, inexpensive and efficient attachment, adapted to be applied to a jointer for planing and sizing various kinds of timber to an even thickness, and capable of affording the same results as are obtained by the use of a separate jointer and standard pony planer.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a side elevation of a planer attachment, constructed in accordance with this invention and shown applied to a jointer. Fig. 2 is an elevation, the planer attachment being supported beyond the jointer to permit the latter to be used. Fig. 3 is a side elevation of the planer attachment, the shaft of the jointer head being in section. Fig. 4 is a front elevation of the same, partly in section. Fig. 5 is a horizontal sectional view, taken substantially on the line 5—5 of Fig. 3. Fig. 6 is a central vertical sectional view.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

In the embodiment of the invention illustrated in the accompanying drawings, the planer attachment, which consists essentially of a frame, feeding means, and an adjustable gage member, is shiftable by means of a hoisting device to and from a jointer comprising a frame having a horizontal cutter and a table top made in two sections, located at opposite sides of the cutter and adjust-

able upward and downward and toward and away from the cutter. When the planer attachment is mounted upon the jointer, as illustrated in Fig. 1 of the drawings, it converts the jointer into a self feeding planer, and when it is arranged at one side of the jointer, as illustrated in Fig. 2 of the drawings, it permits an independent operation of the said jointer. Preparatory to placing the planer attachment on the jointer, the top thereof is cleared of the gage mechanism 1^a and the means usually employed but not shown in the drawings for holding the work down close to the cutter.

The vertical standard, which may be constructed of tubular or other metal, is provided at its lower end with a suitable base 3, bolted or otherwise secured to the floor at one side of the jointer and provided with an upwardly extending socket 4 in which the lower end of the standard is secured. The horizontally swinging arm 2 is provided at its inner end with a vertical opening 5, receiving the upper end of the standard, which is equipped with an adjustable collar 6, arranged below and supporting the horizontal arm 2 and secured to the standard by a set screw 7. The horizontal arm, which may be mounted on the standard in any other desired manner, is provided near its outer end with a vertical opening through which passes a vertically disposed screw 8, provided at its lower end with an eye 9, linked into an eye bolt 10 of the planer attachment, whereby the latter is connected with the screw. The vertical screw 8 is engaged by a nut 11, supported by the horizontal arm 2 and equipped at the top with beveled teeth, forming a horizontal gear 12, which meshes with a vertical bevel gear 13 of a horizontal operating shaft 14. The shaft 14, which is equipped at its outer end with a crank handle 15, is journaled in a suitable bearing 16 of an upstanding supporting portion 17 of the horizontally swinging arm 2. The operating shaft is adapted to be rotated to actuate the nut 11 through the medium of the gears 12 and 13, for raising and lowering the planer attachment to lift the same clear of the front and rear tables 18 and 19 of the jointer and to place it on the same. When the planer attachment is lifted clear of the jointer, the

horizontal arm is adapted to be oscillated to arrange the planer attachment in the desired position.

The planer attachment, which, when in use, is arranged upon the front and rear tables of the jointer over the jointer head 20, is provided with a frame composed of spaced sides 21 and connecting top and bottom bars 22 and 23. The sides, which are provided at their inner faces with vertical guides 24, are preferably of flanged formation consisting of spaced vertical transverse flanges 25, a central vertical connecting web or portion 26 and front and rear bracing webs 27 and 28, but any other desired construction may be employed. The spaced vertical flanges 25 form recesses to receive vertical ribs or flanges 29 of an adjustable gage member 30 for guiding the same. The gage member 30 is composed of a horizontal bottom 31, upwardly extending sides 32, a central connecting web 33 and front and rear connecting webs 34 and 35, but any other preferred construction may of course be employed. The bottom 31 presents a horizontal lower face to the material and constitutes a rigid upper guide for the lumber.

The gage member is raised and lowered to adjust it vertically with relation to the rotary cutter or jointer head 20 by means of vertical adjusting screws 36, journaled at their upper ends in suitable bearings of the top connecting bar 22 of the frame of the attachment, and extending downwardly therefrom and engaging interior threads of the vertical openings 37 in the side portions of the gage member. The vertical screws are equipped at their upper ends with horizontal beveled gears 38, which mesh with vertical beveled gears 39 of a horizontal operating shaft 40, journaled in suitable bearings 41 of the top connecting bar 22 and provided at its outer end with a crank handle 42, or other suitable operating device. The horizontal shaft 40 is adapted to be rotated to actuate the screws 36 for raising and lowering the gage attachment, which is equipped at one side with a pointer 43 movable vertically over a graduated index 44 at one side of the attachment frame, as clearly illustrated in Fig. 4 of the drawings. The pointer and the graduations enable the gage member to be accurately positioned for planing the material to the desired size.

The lumber to be planed or sized rides over a lower grooved power driven feed roll 45, journaled in vertically slidable bearings 46 mounted in rectangular guides 47, depending from and preferably formed integral with the sides of the attachment frame, and consisting of spaced sides and connecting bottom portions. The bearings or bearing blocks 46 are provided with threaded openings for the reception of lower threaded ends 48 of vertically slidable stems or

pins 49, passing through guide openings 50 of bottom flanges 51 of the sides of the attachment frame and receiving coiled springs 52, which yieldably support the lower grooved feed roll and normally maintain the bearings 46 in contact with the upper ends of the guides 47. The upper ends of the coiled springs bear against washers 53, and the upper ends 54 of the stems are threaded for the reception of adjusting nuts 55, arranged in pairs and adapted to adjust the springs to secure the desired tension of the same.

The adjustable gage member is equipped with an upper idler feed roll 56, journaled in suitable bearings 57 and operating in an opening 58 of the bottom of the adjustable gage member. The gage member is provided above the opening 58 with vertical guides 59, receiving the bearings 57, and preferably consisting of vertical side flanges and a horizontal top connecting flange. The top connecting flanges of the opposite guides are provided with threaded openings for vertical screws 60, having heads at their upper ends and connected at their lower ends with the slidable bearings 57 and adapted to raise and lower the same to position the upper idler feed roll properly with relation to the lower guiding face of the gage member.

One of the journals or gudgeons of the lower grooved feed roll carries a vertical gear 61, meshing with a vertical pinion 62 of a stub shaft 63, which also supports a vertical gear 64 connected with the pinion 62. The gear 64 meshes with a pinion 65, which is connected with a pulley 66. The gear 65 and the pulley 66 are mounted on a suitable stub shaft 67, and the pulley 66 is connected by a belt 67^a with a pulley 68 of a line or counter shaft 69, from which the planer attachment is driven. Any preferred arrangement of gears may be employed for securing the desired number of revolutions of the feed roll. The large gear 61 meshing with the pinion 62 permits the vertical movement of the lower feed roll to enable the same to yield to the inequalities of the material. This vertical movement of the feed roll does not affect the mesh of the gears.

The planer attachment may be placed directly upon the front and rear tables 18 and 19 of the jointer, but it is preferably equipped with adjusting screws 70 and fastening screws 71, located at opposite sides of the attachment frame. The adjusting screws 70 pierce the bottom flanges of the sides of the frame and are arranged at suitable points. They are provided at their lower ends with heads and are equipped with lock nuts 72, located at their upper ends and engaging the bottom flanges of the frame of the attachment. The fastening

screws engage suitable threaded openings of the tables 18 and 19 of the jointer. The adjusting screws and the fastening screws, which may be of any desired number, permit the attachment to be readily leveled and securely fastened to the jointer. When the planer attachment is placed upon the jointer, the gage devices of the jointer are removed to clear the tables for the reception of the planer attachment.

The automatic feeding means positively carries the lumber through the machine and eliminates all liability of the operator being injured by the knives of the machine. The material is run through the machine as often as is necessary to reduce it to the desired size, and a jointer equipped with the planer attachment will give the same results as a separate planer and a separate jointer.

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

1. The combination with a jointer, of a planer attachment having feeding means for engaging the lower surface of the work and shiftable to and from the jointer and adapted to convert the same into a planer, and means for shifting the planer attachment to and from the jointer and for supporting the planer attachment at one side of the jointer to permit independent operation of the latter.

2. The combination with a jointer, of a planer attachment provided with feeding means for engaging the lower surface of the work and shiftable to and from the jointer and adapted to convert the same into a planer, and means for shifting the planer attachment to and from the jointer including a vertical standard, and a horizontally swinging arm from which the planer attachment is suspended, said shiftable means being adapted to support the planer attachment at one side of the jointer to permit independent operation of the latter.

3. The combination with a jointer, of a planer attachment provided with feeding means and shiftable to and from the jointer and adapted to convert the same into a planer, and means for carrying the planer attachment to and from the jointer and for supporting the attachment at one side of the jointer to permit independent operation of the latter and including a horizontally swinging arm, and an adjusting device carried by the arm and connected with the planer attachment for raising and lowering the same.

4. The combination with a jointer, of a planer attachment provided with feeding means and shiftable to and from the jointer and adapted to convert the same into a planer, and means for shifting the planer attachment to and from the jointer and for

supporting the attachment at one side of the jointer to permit independent operation of the latter and including a horizontally swinging arm, and an adjusting device carried by the horizontal arm and comprising a vertical screw connected with the planer attachment, a nut engaging with the screw and carried by the horizontal arm, and gearing for rotating the nut.

5. The combination with a jointer, of a planer attachment provided with feeding means and shiftable to and from the jointer and adapted to convert the same into a planer, and means for shifting the planer attachment to and from the jointer and for supporting the attachment at one side of the jointer to permit independent operation of the latter including a horizontally swinging arm provided with a vertical opening and having an upstanding portion provided with a horizontal bearing, a vertical screw extending through the opening and connected with the planer attachment, a nut supported upon the horizontal arm and engaging with the vertical screw and provided with a gear, and an operating shaft journaled in the said bearing and provided at its outer end with operating means and having a gear at its inner end meshing with the said gear.

6. The combination with a planer attachment for jointers adapted to be placed thereon to convert the same into a planer and removable therefrom to permit the independent operation of the jointer, of a vertical standard provided at its lower end with a base, an arm mounted on the standard, a nut carried by the arm, a screw engaging with the nut and connecting with the planer attachment, and gearing also carried by the arm for rotating the nut to adjust the screw vertically.

7. The combination with a jointer, of a planer attachment adapted to be placed thereon to convert the same into a planer and removable therefrom to permit independent operation of the jointer and including a yieldably mounted power driven feed roll engaging the lower surface of the work, and an adjustable gage member located above and adapted to be spaced different distances from the feed roll and forming a rigid guide for the material.

8. A planer attachment for jointers adapted to be placed on a jointer to convert the same into a planer and removable therefrom to permit independent operation of the jointer and including a frame designed to be mounted on a jointer, lower power driven feeding means yieldably connected with the frame and designed to be located in advance of the cutting mechanism of the jointer, an upper vertically adjustable gage member located above the lower feeding means and above the cutting mechanism of the jointer and forming a rigid guide for the material.

9. A planer attachment for jointers adapted to be placed on a jointer to convert the same into a planer and removable therefrom to permit independent operation of the jointer and including a frame designed to be mounted on a jointed, lower power driven feeding means yieldably connected with the frame and designed to be located in advance of the cutting mechanism of the jointer, an upper vertically adjustable gage member located above the lower feeding means and above the cutting mechanism of the jointer and forming a rigid guide for the material, and an upper idler feed roll carried by the gage member and located above the lower feeding means.

10. A planer attachment for jointers adapted to be placed on a jointer to convert the same into a planer and removable therefrom to permit independent operation of the jointer and including a frame designed to be mounted over the cutting mechanism of the jointer, a lower power driven feed roll located in advance of the cutting mechanism of the jointer and having vertically movable bearings, springs connected with the bearings and yieldably supporting the lower feed roll, and an upper adjustable gage member forming a rigid guide for the material and arranged in spaced relation with the lower feed roll.

11. A planer attachment for jointers adapted to be placed on a jointer to convert the same into a planer and removable therefrom to permit independent operation of the jointer and including a frame designed to be mounted upon the jointer above the cutting mechanism thereof and provided in advance of the latter with depending guides, bearings vertically slidable in the guides, a lower power driven feed roll mounted in the said bearings, stems extending upwardly from the bearings and connected with the same, springs disposed on the stems, adjusting means mounted on the stems for adjusting the tension of the springs, and an adjustable gage member mounted in the frame above the lower feed roll to form a rigid guide for the material.

12. A planer attachment for jointers adapted to be placed on a jointer to convert the same into a planer and removable therefrom to permit independent operation of the jointer and including a frame designed to be mounted on a jointer above the cutting mechanism thereof and provided at opposite sides with vertical guides, lower yieldably mounted power driven feeding means located in advance of the cutting mechanism of the jointer, and a vertically adjustable gage member located above the lower feeding means and above the said cutting mechanism and forming a rigid guide for the material.

13. A planer attachment for jointers

adapted to be placed on a jointer to convert the same into a planer and removable therefrom to permit independent operation of the jointer and including a frame designed to be mounted in a jointer above the cutting mechanism thereof and provided at opposite sides with vertical guides, lower yieldably mounted power driven feeding means located in advance of the cutting mechanism of the jointer, a vertically adjustable gage member located above the lower feeding means and above the said cutting mechanism and forming a rigid guide for the material, and gearing mounted upon the frame and connected with the gage member for adjusting the same.

14. A planer attachment for jointers adapted to be placed on a jointer to convert the same into a planer and removable therefrom to permit independent operation of the jointer and including a frame composed of opposite sides provided with vertical guides, and means for connecting the sides, lower feeding means, a vertically adjustable gage member provided at opposite sides with means for engaging with the guides of the frame and having a horizontal lower face and forming a rigid guide for the material, and means for raising and lowering the gage member.

15. A planer attachment for jointers adapted to be placed on a jointer to convert the same into a planer and removable therefrom to permit independent operation of the jointer and including a frame having spaced sides, a lower feed roll, a train of gears connected with the lower feed roll, a vertically adjustable gage member guided between the sides of the frame, screws connected with the frame and with the gage member, and gearing for rotating the screws to adjust the gage member.

16. A planer attachment for jointers adapted to be placed on a jointer to convert the same into a planer and removable therefrom to permit independent operation of the jointer and including a frame provided at the bottom with depending guides, a lower feed roll yieldably supported in the guides and movable vertically, a pulley mounted on the frame and designed to be connected with a suitable power, gears connected with the pulley and with the feed roll and arranged to permit the said vertical movement of the latter, and a vertically movable gage member operating between the sides of the frame and located above the lower feed roll and forming a rigid guide for the material.

17. The combination with a frame, a cutter, and a table supported by the frame, of a planer attachment having feeding means for engaging the lower surface of the work and shiftable to and from the said frame and forming a planer when arranged there-

on, said planer attachment when removed from the frame permitting an independent operation of the cutter.

18. The combination with a frame, a cutter, and a table supported by the frame, of a planer attachment having feeding means for engaging the lower surface of the work and shiftable to and from the said frame and forming a planer when arranged thereon, said planer attachment when removed from the frame permitting an independent operation of the cutter, and a hoisting device arranged at one side of the frame and connected with the planer attachment for shifting the same to and from the frame and for supporting the planer attachment at one side of the said frame.

19. The combination with a frame, a cut-

ter, and a table supported by the frame and having sections arranged at opposite sides of the cutter, of a planer attachment including a lower power driven feed roll for engaging the lower surface of the work, and an upper adjustable feed roll, said planer attachment being shiftable to and from the frame and forming a planer when arranged thereon and permitting an independent use of the cutter when removed therefrom.

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

DELBERT M. PADDOCK.

Witnesses:

ALFRED C. GETZ,
CHARLES EICHER.