No. 642,733. Patented Feb. 6, 1900.

J. R. THOMAS.

PLANING MACHINE.

(Application filed Aug. 21, 1899.)

(No Model.) 2 Sheets—Sheet 1.

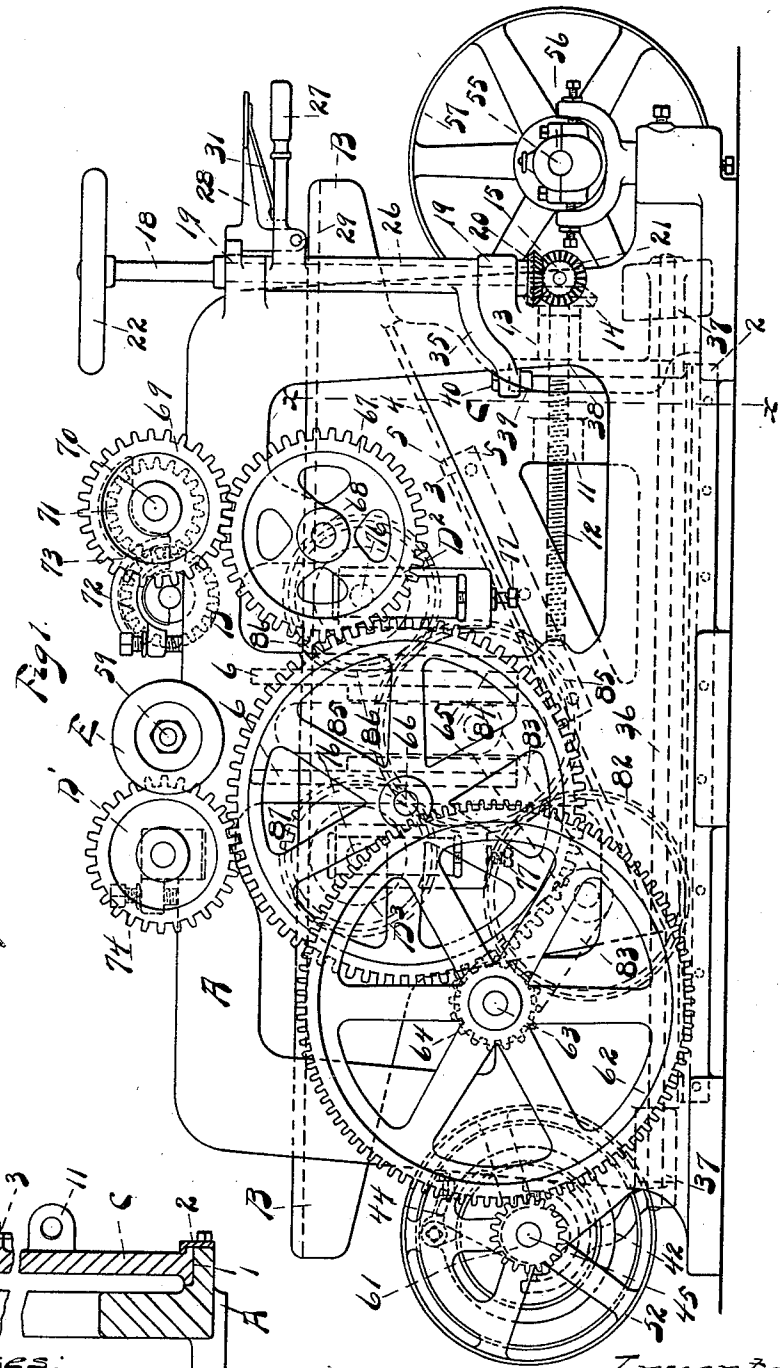


Fig. 1.

Fig. 3.

Witnesses:
Parke S. Johnson
Philip W. Tozzer.

Inventor:
John R. Thomas,
by R. F. Siebsleb, His Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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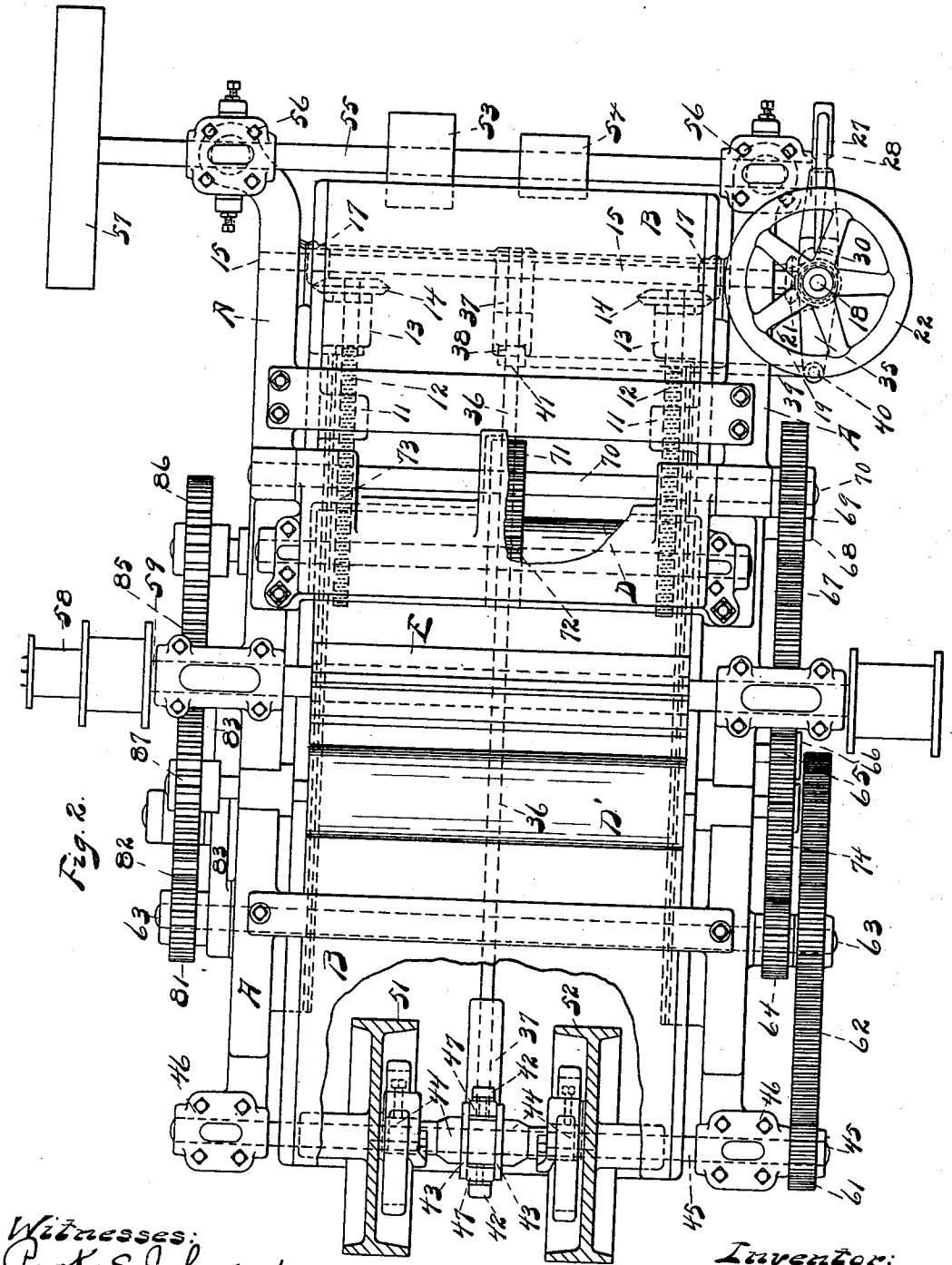


Fig. 2.

Witnesses:
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Inventor:
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by A. F. Stahlberg, His Atty.

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UNITED STATES PATENT OFFICE.

JOHN R. THOMAS, OF CINCINNATI, OHIO, ASSIGNOR TO THE J. A. FAY & EGAN COMPANY, OF SAME PLACE.

PLANING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 642,733, dated February 6, 1900.

Original application filed April 24, 1899, Serial No. 714,274. Divided and this application filed August 21, 1899. Serial No. 727,924. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. THOMAS, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain new and useful Improvement in Planing-Machines, of which the following is a specification.

My invention relates particularly to the adjusting and speed-controlling mechanisms of planing-machines; and it consists in providing an adjusting mechanism for varying the distance between the bed of the machine with the rolls therein and the feed-rolls and the cylinder above the bed and a shifting mechanism for the feed having a common axis and in the parts and the construction, arrangement, and combinations of parts hereinafter more fully described and claimed.

I have made application for Letters Patent filed under date of April 24, 1899, being Serial No. 714,274, for improvement in planing-machines, showing and describing the subject-matter embraced in this application; but I do not claim the same therein, and the present application is a divisional application of the one so previously filed, and reference is hereby respectfully made to the same.

I do not in this application claim the means for hanging and driving the infeeding-roll herein shown and described, reference being hereby made to a separate application for patent on feeding devices for planing-machines executed by me and filed April 24, 1899, Serial No. 714,275, covering that subject-matter of invention.

In the drawings, Figure 1 is a side elevation in my improved device; and Fig. 2 represents a plan view of the same with the feeding-in-roll housing partly broken away to show the roll and manner of gearing the same, also showing a part of the rear end of the bed broken away and the feed-pulleys at that end in horizontal section to more clearly illustrate the feeding devices; and Fig. 3 represents a section on the line X X, Fig. 1, showing one side of the frame of the machine with its wedge and bed and slides for the same.

A represents the frame of the machine, in which a bed B is mounted. The bed rests upon a wedge C. There is a wedge of this kind at each side of the machine. The wedge on its bottom slides on ways 1 in the frame, provided with gibs 2. The wedge is also provided with an upper inclined face forming a way 3, on which the bed rests on corresponding inclined ways 4, a gib 5 acting to retain the parts in place. Each side of the bed is provided with a way of this kind. The bed is caused to raise in vertical lines on vertical ways 6 between the bed and frame.

The wedge C is provided with lugs 11, screw-threaded to receive adjusting-screws 12, which may be journaled in lugs 13 on the frame of the machine and carry gears 14. A transverse shaft 15 is journaled in bearings in the frame of the machine and carries pinions 17, meshing with the gears 14 on the adjusting-screws. An adjusting-shaft 18 may be journaled in lugs 19 on the frame and are operatively connected with the transverse shaft 15 by gears 20 21. A hand-wheel 22 is provided for the adjusting-shaft.

A sleeve 26 takes over the adjusting-shaft 18 and turns on the axis of the latter. A shifting-lever 27 extends from the sleeve, having a catch 28 mounted thereon on a pivot 29, adapted to take into a notch 30 and to be held in normal position by a spring 31. An arm 35 extends from the sleeve. A rock-shaft 36 is mounted in the frame of the machine, as in bearings 37, and has an arm 38 extending therefrom. A link 39 connects the arms 35 38, respectively, by pivots 40 41. The rock-shaft 36 also carries an arm 42, preferably fork-shaped, which takes between collars 43 on a clutch mechanism 44, mounted slidably on a shaft 45, but rotating therewith. The shaft 45 is journaled in bearings 46 in the frame. Antifriction-rollers 47 may be placed on the arm 42 to take between the collars 43 on the clutch mechanism. The clutch mechanism is adapted to slide on the shaft 45 and to be brought into operative contact with a pulley 51 or a pulley 52, loosely mounted on the shaft 45, but secured against endwise movement thereon. It may also be brought out of contact with both, depending on the position of the shifting-lever 27. When the catch 28 on the shifting-lever engages the notch 30, the clutch mechanism 44 is in nor-

mal position out of contact with both pulleys 51 52, and when thrown to one side or the other of the notch a slow or a fast feed is given to the feed-rolls, depending on which of the pulleys 51 52 is engaged by the clutch mechanism. The pulley 51 receives motion from a pulley 53 and the pulley 52 from a pulley 54, mounted on a shaft 55 in bearings 56 in the frame, which pulleys receive their motion through a pulley 57 on the shaft 55 and a pulley 58 on a cylinder-shaft 59. The pulleys 53 and 54 are of different diameters and transmit continuous speed-differing motion to the pulleys 51 and 52, rotatably mounted on the shaft 45. When the clutch mechanism is brought into operative contact with either of the pulleys 51 52, motion is imparted through it to the shaft and thence to the feeding-rolls.

The shaft 45 carries a pinion 61, which meshes with a gear 62 on a shaft 63, also carrying a pinion 64, transmitting motion to a gear 65, mounted on a stud 66 on the frame and transmitting motion to a gear 67 on a stud 68 on the frame to a gear 69 on a shaft 70 in the frame, which latter also carries a gear 71, meshing with a gear 72 on a feeding-in roller D, mounted in a roll-housing 73, pivotally hung on the shaft 70. D′ is a feeding-out roll receiving motion through a gear 74, meshing with the gear 65.

E represents a cutting-cylinder for the machine. The upper rolls D D′ are shown as mounted in the frame of the machine. A lower feeding-in roll D^2 and a lower feeding-out roll D^3 are also provided, shown as mounted in bearings 76 in the bed of the machine, which bearings are given suitable vertical adjustment by set-bolts 77. The lower feeding-in roll receives its motion from a pinion 81 on the shaft 63, a gear 82, mounted in an expansion device 83, connecting the shaft 63 with a stud 84 in the bed of the machine. The stud 84 carries a gear 85, which latter meshes with a gear 86 on the shaft of the in-feeding-roll. The lower feeding-out roll has its shaft provided with a gear 87, which meshes with the gear 85.

If it is desired to raise or lower the bed for a difference in cut or to produce a variation in the distance between the bed and lower feed-rolls therein and the cylinder and upper feed-rolls, the adjusting-shaft 18 is manipulated by means of the hand-wheel 22, and if it is desired to start or stop the feed or vary the speed of the feed the shifting-lever 27, mounted on the sleeve 26, whose axis is coincident with that of the adjusting-shaft 18, is manipulated, bringing the parts for manipulating both agencies to the same point on the machine where they are most convenient to the operator and under his ready control and in such manner that both devices may be manipulated at almost the same instant, thus saving time.

The lever for stopping, accelerating, or diminishing the feed is hung upon the same axis as the shaft for adjusting the bed, producing economy of construction, ease and readiness for operation, compactness of parts, and efficiency in product, the adjusting and the stopping and starting mechanism and the mechanism for controlling the speed of the feed being located at one point under the ready and direct control of the operator. The upper feed-rolls may also be provided with suitable weighting devices.

It is obvious that changes may be made in the construction I have preferred to show without departing from the spirit of my invention.

I claim—

1. In a planing-machine, the combination of an adjusting-shaft for the bed of the machine, with a sleeve taking thereabout and rocking thereon, a feed mechanism, and a connection between the sleeve and the feed mechanism, constructed and arranged for controlling the latter, substantially as described.

2. In a planing-machine, the combination of an adjusting-shaft for varying the distance between the bed of the machine with the feeding devices therein and the cutting-cylinder above the bed, with a sleeve taking about the adjusting-shaft and rocking thereon, a feed mechanism, a controlling device for the feed mechanism, and a connection between the sleeve and the controlling device, constructed and arranged for controlling the feed of the machine, substantially as described.

3. In a planing-machine, the combination of an adjusting-shaft for the bed of the machine, a sleeve taking thereabout, an adjusting-lever extending therefrom, a rock-shaft, connections between the sleeve and the rock-shaft for operating the latter, a revoluble shaft, a plurality of pulleys thereon, and a connection between the rock-shaft and the revoluble shaft for operatively engaging the pulleys with the latter, substantially as described.

4. In a planing-machine, the combination of an adjusting-shaft for the bed of the machine, a sleeve taking thereabout, an adjusting-lever extending therefrom, a rock-shaft, connections between the sleeve and the rock-shaft for operating the latter, a revoluble shaft, a plurality of pulleys thereon, and a connection between the rock-shaft and the revoluble shaft for operatively engaging the pulleys and the latter, and a connection between the shifting-lever and the frame for normally holding the revoluble shaft and the pulleys thereon out of operative engagement, substantially as described.

In testimony whereof I have signed my name hereto in the presence of two subscribing witnesses.

JOHN R. THOMAS.

Witnesses:
PARKE S. JOHNSON,
PHILIP W. TOZZER.