H. V. STREIT.

Endless-Bed Surface-Planer.

No. 214,062. Patented April 8, 1879.

Fig. 1.

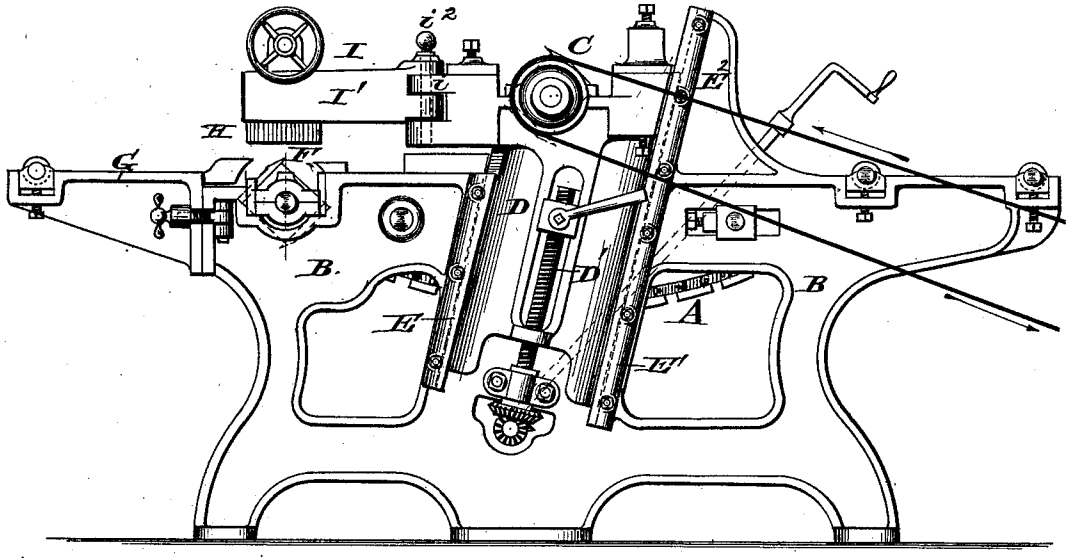
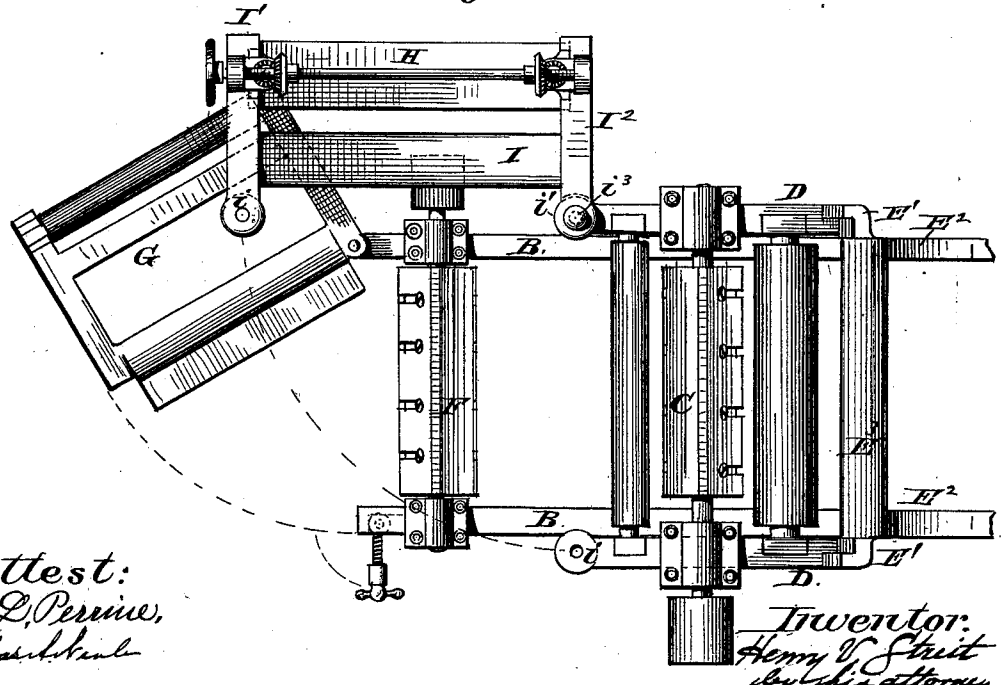


Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY V. STREIT, OF CINCINNATI, OHIO, ASSIGNOR TO J. A. FAY & CO., OF SAME PLACE.

IMPROVEMENT IN ENDLESS-BED SURFACE-PLANERS.

Specification forming part of Letters Patent No. **214,062**, dated April 8, 1879; application filed February 21, 1879.

To all whom it may concern:

Be it known that I, HENRY V. STREIT, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Endless-Bed Surface-Planers; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates more particularly to planing-machines which operate with an endless traveling bed for feeding the lumber, and with an upper and a lower planing-cylinder for dressing both sides of the lumber, and which, by reason of such construction and operation, are technically termed "double-cylinder endless-bed surface-planing machines."

The invention is shown and will be described as applied, in whole, to such a planing-machine having a non-adjustable endless bed, but an adjustable upper planing-cylinder, adapting it to plane lumber of varying thickness. The invention is in part applicable, however, to other styles of machines for planing or dressing lumber.

In such planing-machines as above particularized a presser-bar is used over the lower planing-cylinder to hold the lumber down on the bed and to back it against the cutting-blows of said lower planing-cylinder. This presser-bar must always be maintained in the same relative plane relatively to the upper planing-cylinder, to effect which is attended with considerable difficulty in planing-machines of this character as heretofore constructed, because said presser-bar has there no connection with the upper planing-cylinder, and consequently requires a separate adjustment every time the upper planing-cylinder is adjusted up or down.

One of the objects of this invention is to render unnecessary such separate adjustments of said presser-bar. Another object of the invention is to connect the presser-bar over the lower planing-cylinder to its supports in such a way that it can be conveniently swung aside, in order that free access may be had to the lower planing-cylinder from above.

Another object of the invention is to guard against undue vibrations of the upper planing-cylinder, which are liable to occur when said cylinder is elevated some distance above the bed in operating on thick lumber.

To these ends the invention consists in connecting the presser-bar over the lower planing-cylinder to the housings of the upper planing-cylinder, so that said presser-bar will rise and fall with the upper planing-cylinder in adjusting the latter up or down; also, in hinging said presser-bar, or rather its yoke, to the housings of the upper planing-cylinder, so that said presser-bar may be swung aside; also, in prolonging to a suitable extent above the main frame and bed those rails of the guides in which the housings of the upper planing-cylinder move, which receive the strain consequent upon the draft of the belt driving said planing-cylinder, such prolongations being braced to the sides of the main frame to render them as rigid as practicable. These several features are specifically set forth in the claims at the close of this specification.

I have illustrated and will now proceed to describe that form of my invention which I at present regard as the best embodiment thereof.

In the annexed drawings, Figure 1 is a side elevation of a double-cylinder endless-bed surface-planing machine embodying my invention. Fig. 2 is a plan of a portion of such a planing-machine, showing both the presser-bar and the supplemental table of the lower planing-cylinder swung aside, so that free access may be had to said planing-cylinder.

The same letters of reference are used in both figures in the designation of identical parts.

The traveling endless feed-bed A is arranged between the sides of the main frame B, below the upper planing-cylinder, C. This endless bed, constructed of chains and lags, in any approved manner, moves around drums, (one of which is horizontally adjustable for suitably stretching the endless bed,) and is supported by a fixed platen, as usual, where it carries the lumber under the upper planing-cylinder. The endless bed always moves in

the same plane; in other words, it is non-adjustable except as regards stretching it. The upper planing-cylinder, C, turns with its journals in boxes of the housings D D, which are rigidly connected together by one or more string-bars. These housings are mounted in slanting guides on the exterior of the respective sides of the main frame A, and are supported on adjusting-screws D′, which can be turned simultaneously by means of suitable gearing to raise or lower the housings when the upper planing-cylinder requires to be adjusted up or down. The bars E of the guides for the housings terminate with the top of the sides of the main frame; but the bars E^1 of said guides project such a distance above the top of the sides of the main frame that the housings will receive support therefrom to the top when elevated to the highest point. The prolongations of the bars E^1 are braced to the sides of the main frame by knees E^2, and are connected together by a stringer or cross-bar, E^3. These prolongations of guide-bars E^1 will thus be very rigid, and prevent all undue trembling of the housings and upper planing-cylinder when elevated to operate on thick lumber, and will at all times firmly back the housings against the pulling strain of the belt for driving the upper planing-cylinder. The guide-bars may be formed on the sides of the main frame, and capped with removable bars, as shown.

The lower planing-cylinder, F, is mounted in boxes near the end of the main frame, and a little in advance of endless bed A. A supplemental table, G, is hinged to the end of the main frame to support the lumber after its under side has been planed by the lower planing-cylinder. The supplemental table is hinged to the main frame in order that it may be swung aside, as shown in Fig. 2, to afford access to the lower planing-cylinder from the end of the machine. When the supplemental table is in working position, it may be secured by a clamp-screw, as shown.

H refers to the presser-bar over the lower planing-cylinder, F. This presser-bar is mounted on the side bars, I^1 and I^2, of a yoke, I, in such a manner that it can be independently adjusted vertically to a limited extent by screws driven by bevel-gearing. Other known means of adjustment may be used instead. The yoke I is supported on the housings D of the upper planing-cylinder, the side bars, I^1 I^2, of the yoke being connected by knuckle-joints i and i^1 to projecting arms of the housings. The knuckle-joints are made very strong and close-fitting, so that the yoke may be as rigid as practicable. It will be observed that any adjustment of the housings and upper planing-cylinder will be accompanied by a corresponding adjustment of the yoke I and its presser-bar H, so that no separate adjustment of the latter will be required in changing from thin to heavy lumber, or vice versa. The pintles i^2 and i^3 of the knuckle-joints are removable, and on withdrawal of either one the yoke and presser-bar may be swung aside on the other one, so as to afford free access to the lower planing-cylinder from above.

The pressure-rollers are mounted on and rise and fall with the housings of the upper planing-cylinder.

I lay no claim to this feature of construction, being aware that it was known before my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, substantially as before set forth, of the adjustable upper planing-cylinder, the lower planing-cylinder, and the presser-bar over the latter connected to rise and fall with the former.

2. The combination, substantially as before set forth, of the presser-bar over the lower planing-cylinder, the yoke of said presser-bar, and the housings of the upper planing-cylinder, to which housings the side bars of said yoke are respectively jointed.

3. The combination, substantially as before set forth, of the housings of the upper planing-cylinder and the prolongated guide-bars extending above the bed or platen of the machine.

4. The combination, substantially as before set forth, of the adjustable upper planing-cylinder and the presser-bar connected to rise and fall therewith.

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

HENRY V. STREIT.

Witnesses:
ALBERT N. SPENCER,
CHAS. G. JONES.