(No Model.)

G. F. WETHERELL & R. B. JONES.

WOOD PLANING OR OTHER MACHINE.

No. 341,975. Patented May 18, 1886.

Fig. 1.

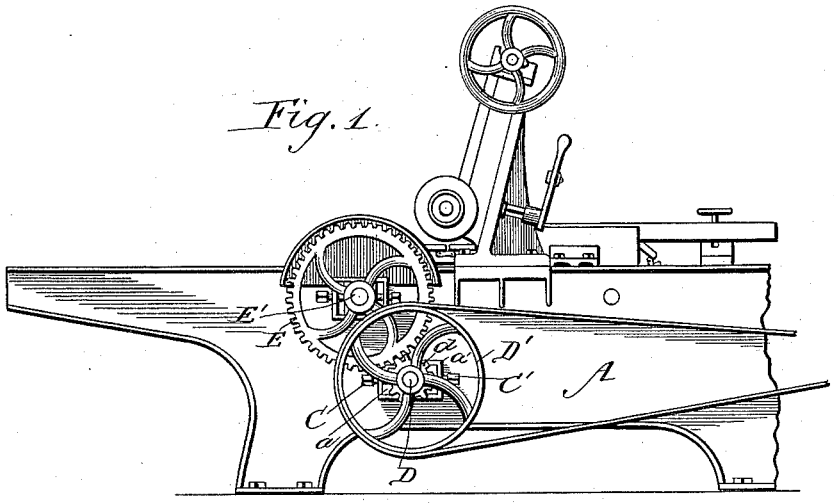


Fig. 2.

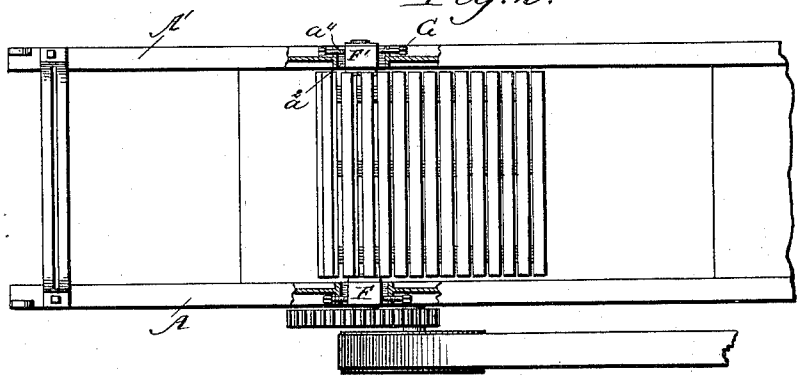
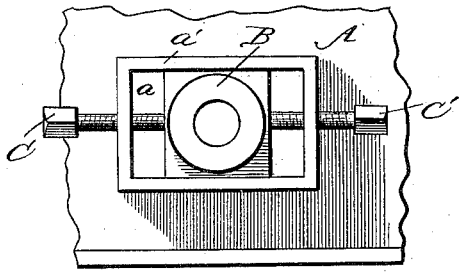


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE F. WETHERELL AND RICHARD B. JONES, OF CHICAGO, ILLINOIS, ASSIGNORS OF ONE-THIRD TO RANSOM RICHARDS, OF SAME PLACE.

WOOD-PLANING OR OTHER MACHINE.

SPECIFICATION forming part of Letters Patent No. 341,975, dated May 18, 1886.

Application filed December 19, 1885. Serial No. 186,137. (No model.)

To all whom it may concern:

Be it known that we, GEORGE F. WETHERELL and RICHARD B. JONES, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wood-Planing and other Machines, of which we do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

In wood-planing, resawing, and other machines in which there is employed a belt-pulley shaft that is geared by means of cog-wheels to the moving parts of the machine it has been found that the constant strain of the driving-belt upon the pulley-shaft causes the journal of this shaft to wear the side of its bearing in the direction of such strain, so that after considerable usage the bearing becomes worn away to such an extent that the belt tends to run or slip constantly off the pulley. Moreover, this wearing away of the pulley-shaft bearing is apt to cause more or less separation of its cog-wheel from the wheel with which it is geared, and to injuriously affect the relative working of such wheels.

Our present invention has for its object, first, to compensate for this wear of the pulley-shaft bearing; and to this end it consists in mounting the end of such shaft nearest the belt-pulley or both ends in an adjustable journal box or bearing, so that as the bearing becomes worn away the shaft can be adjusted to its proper position.

In wood-planing machines of that class wherein an endless carrier-belt composed of slats supported upon sprocket-chains is employed for feeding the lumber through the machine, it frequently happens that the sprocket-chain and the corresponding sprocket-wheel at one side of the carrier-belt become more worn than those at the opposite side of such belt. This unequal wear of the sprocket chains and wheels is apt not only to speedily cause the carrier-belt to move unevenly and to chafe against the side guides of the machine, but there is also danger that if a board be moved laterally after being started into the machine such lateral movement will cause the slats of the carrier-belt to ride unevenly on their guideways, and hence cause an uneven action of the cutting-knives upon the board. It is at present customary to sustain the idler-shaft, over which the carrier-belt passes, and which is located toward the front of the machine in adjustable bearings; but this adjustment of the idler-shaft, as we have found by long practice, is incapable of perfectly compensating for any inequality in the wear of the sprocket-wheels on the driving-shaft of the carrier-belt, or for any unequal wear of such shaft in its bearings incident to the constant strain of the carrier-belt.

A further object of our invention is to insure a uniform working of the endless belt; and to this end our invention consists in mounting the driving-shaft of such belt in adjustable bearings or boxes.

In this connection also our invention further consists in combining with the driving-shaft for the carrier-belt adjustably mounted, as above mentioned, a belt-pulley shaft adjustably sustained so that the proper relative position of its cog-wheel with respect to the gear-wheel of the carrier-belt shaft can be constantly maintained.

In the accompanying drawings, Figure 1 is a view in side elevation of a planing-machine embodying our invention. Fig. 2 is a plan view, parts being removed and parts being shown in section for the purpose of better illustration. Fig. 3 is an enlarged detail view in side elevation of one of the adjustable journal-boxes.

A and A′ designate the sides of the main frame of a wood-planing machine, the various parts of which, except in the particulars hereinafter noted, may be of the usual well-known construction. At opposite points in these sides are formed the spaces *a*, around which extend the flanges *a′*, and within the seats thus formed are held the journal-boxes B, the positions of which are controlled by means of the adjusting-screws C and C′. These boxes B constitute the bearings for the journals of the shaft D, that carries the pulley D′.

Upon the pulley-shaft D is held the cog-wheel *d*, that meshes with the gear-wheel E, fixed to the end of the driving-shaft E′, and it will be apparent that by the adjustment of the journal-boxes B the proper relative position of the cog-wheel *d* and gear-wheel E can be

constantly maintained, and at the same time the wear upon the journal-boxes of the pulley-shaft incident to the strain of the driving-belt can be compensated for, so as to keep such shaft in alignment and prevent any tendency of the belt to slip off the pulley D'.

It is not necessary in practicing our invention that both of the journals of the pulley-shaft should be adjustably sustained, (although this is the preferred construction,) as it is the adjustment of the journal nearest the belt-pulley which maintains the pulley and the cog-wheel of the shaft in proper position.

Within the spaces a^2, formed at opposite points in the sides of the main frame, are held the journal-boxes F and F', which serve to sustain the driving-shaft E', and which are adjusted by means of the screws G, that pass through suitable threaded seats in the flanges a^4 of the frame. The shaft E' is provided with sprocket-wheels of usual construction (not shown) adapted to engage with the sprocket-chains H, that carry the slats H', constituting the endless carrier-belt. The construction of this belt and adjustable idler for sustaining the front portion of the same are so well known as not to require particular description. By thus mounting the driving-shaft of the carrier-belt in adjustable bearings any inequality in the wear of the sprocket wheels or chains can be readily compensated for, and a perfectly true movement of the carrier-belt can thus at all times be maintained.

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

1. The combination, with a gear-wheel and a pulley-shaft having a cog to mesh with said gear-wheel and having a belt-pulley on the free outer end, of an adjustable journal-box for said shaft, substantially as described.

2. In a planing-machine, the combination, with the carrier-belt, of a driving-shaft for said belt mounted in adjustable bearings, substantially as described.

3. In a planing-machine, the combination, with the carrier-belt and its driving-shaft, of adjustable journal-boxes for said shaft and an adjustable belt-pulley shaft in gear with said driving-shaft, substantially as described.

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