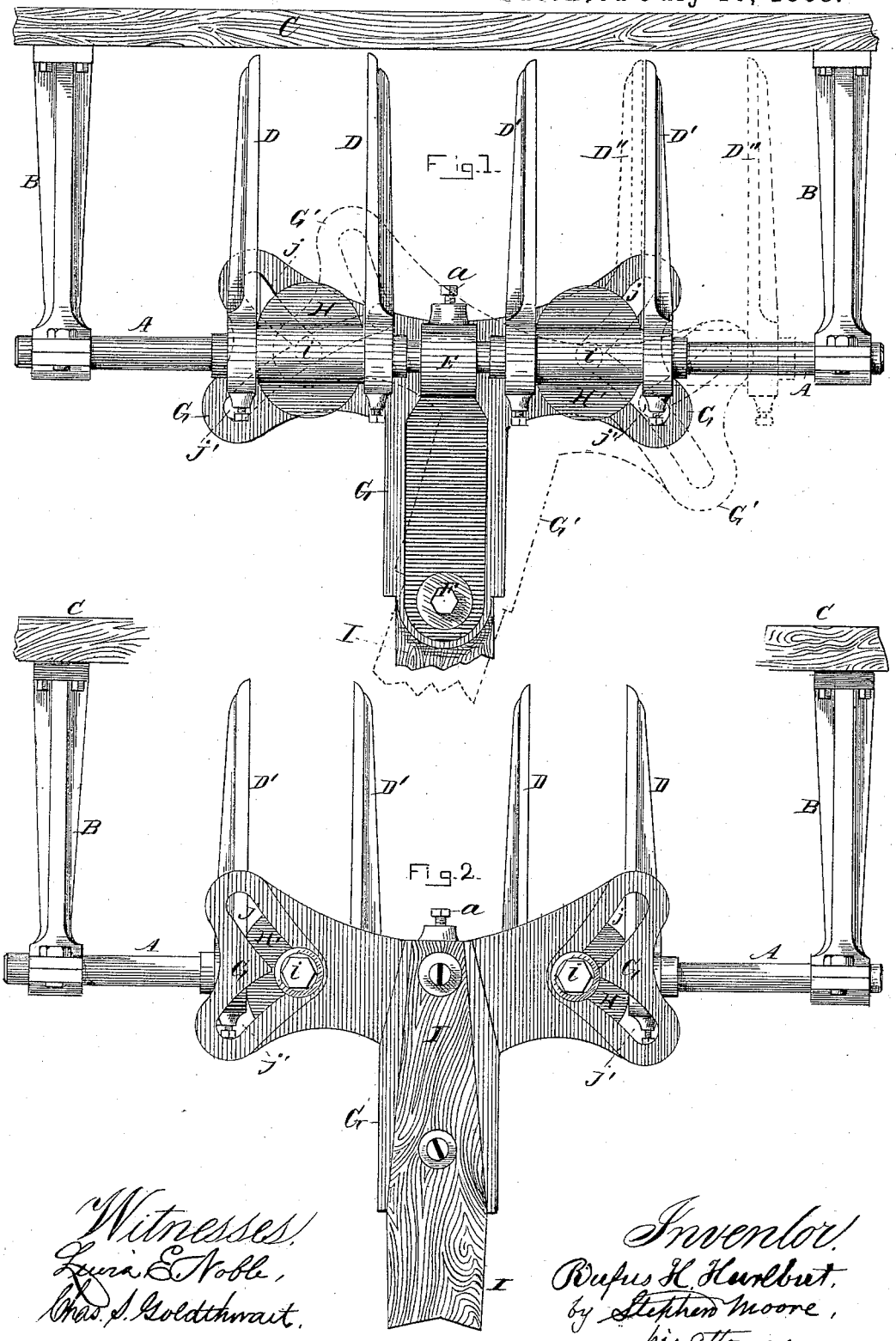
(No Model.)

R. H. HURLBUT.

BELT SHIPPER.

No. 385,713. Patented July 10, 1888.



Witnesses.
Laura E. Noble,
Chas. S. Goldthwait.

Inventor.
Rufus H. Hurlbut,
by Stephen Moore,
his Attorney.

UNITED STATES PATENT OFFICE.

RUFUS H. HURLBUT, OF SUDBURY, MASSACHUSETTS.

BELT-SHIPPER.

SPECIFICATION forming part of Letters Patent No. 385,713, dated July 10, 1888.

Application filed March 12, 1888. Serial No. 266,983. (No model.)

To all whom it may concern:

Be it known that I, RUFUS H. HURLBUT, of Sudbury, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Belt-Shippers, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to shippers for belts which drive the counter-shafts of lathes and similar machines which require two belts, either for running the machine in opposite directions or at differing rates of speed. It is desirable that either belt may be shipped onto a tight or loose pulley at will by one and the same lever, and it is customary to accomplish this by having one loose pulley for each belt of a face double the width of the belt and a tight pulley between them. Then, by means of a shipper that shifts both belts at the same time, either one may be run onto the tight pulley at will, the other moving from one side to the other of the wide loose pulley upon which it runs.

The object of my invention is to dispense with the extra width of pulleys beyond the width of the belt and to move only one belt at a time; and it consists of a rigid shipper-bar upon which slide two independent shippers, each being operated by a cam-groove in an oscillating plate, said grooves being of such a shape that one of said shippers remains at rest while the other is shifted by the oscillation of the plate, the operator being able to move either at will. This will be readily understood by reference to the drawings, of which—

Figure 1 is a rear view, and Fig. 2 a front view, of the apparatus.

A represents a shipper-bar rigidly supported by the hangers B B from the beam C. On this bar two plates, H H′, are arranged to slide freely, each carrying two projecting bars, D D D′ D′, at a distance apart on each plate about equal to the width of the belt to be shipped. Between these two plates, and midway between the ends of the bar A, is a plate, E, rigidly attached to it by a set-screw, *a*. The other end of this plate E carries a stud or bolt, F, to which is pivoted the plate G, (see Fig. 2,) which extends from said pivot, so as to be above the bar A and the plates H H′ upon it. Near each end of this plate G, and over the plates H H′, will be noticed a double cam-groove, in which is a stud and a roll, the studs being attached rigidly one to each of the sliding plates H H′. The lower portion of each of these grooves *j′ j′* forms a part of the circumference of a circle, of which the stud F is the center. A wooden handle, I, is attached to the plate G, of a convenient length to be reached by the hand of the operator. It will be readily seen that by moving the lower end of the handle I to the left, (in Fig. 1,) and thus moving the upper part of the plate G to the right, as shown by the dotted lines, the stud *i*, attached to the plate H′, will be thrown to the right, carrying that plate and its shipper-bars to the position shown by the dotted lines, (D″ D″ showing the bars,) while the stud attached to plate H will not be moved at all, as the groove *j′* is circumferential to the center of motion of the plate G—viz., the stud F. By moving the handle back to its first position the shipper H′ will also be restored, and a movement to the right or reverse will move the shipper H to the left, while H′ will remain at rest. Thus, by a movement of lever I, either shipper can be vibrated at will, carrying its belt to the tight or loose pulley, it being understood that one belt is supposed to run between the bars D D and another between D′ D′.

I do not limit my invention to the precise form shown in the drawings, as the plate E, carrying the pivotal stud F, may be dispensed with and the pivot F attached to an independent support. The cam-grooves in the plate G may be reversed, having the upper portions circumferential to the stud F, and the lower portions at an angle with the upper ones, so that the shippers would be thrown inward instead of outward from their normal position by the movement of the lever, and thus each belt might be thrown upon one and the same central pulley, if desired, (not, of course, simultaneously.)

I claim—

1. The combination of independently-moving plates H H′, provided with bars D D D′ D′, with the oscillating plate G, having double cam-grooves, one of which at each end of the plate is circumferential with the pivot about which said plate oscillates, arranged and to operate substantially as described.

2. The sliding plates H H′, provided with studs *i i*, in combination with plate G, having cam-grooves *j j j′ j′*, and movable about a pivot, F, whereby either of said plates H H′ can be shifted independently of the other, substantially as set forth.

3. The bar A, sliding plates H H′, provided with bars D D D′ D′, and studs *i i*, in combination with the plate G, pivoted at F, and having cam-grooves, as described, to receive the studs *i i*, as and for the purpose set forth.

4. The bar A, sliding plates H H′, provided with studs *i i*, in combination with the plate E, rigidly attached to bar A, and the oscillating plate G, pivoted to plate E at F, and having cam-grooves, as described, adapted to receive the studs, as set forth, whereby the plates H H′ may be moved independently of each other, substantially as specified.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 7th day of March, A. D. 1888.

RUFUS H. HURLBUT.

Witnesses:
H. STORER BARRY,
STEPHEN MOORE.