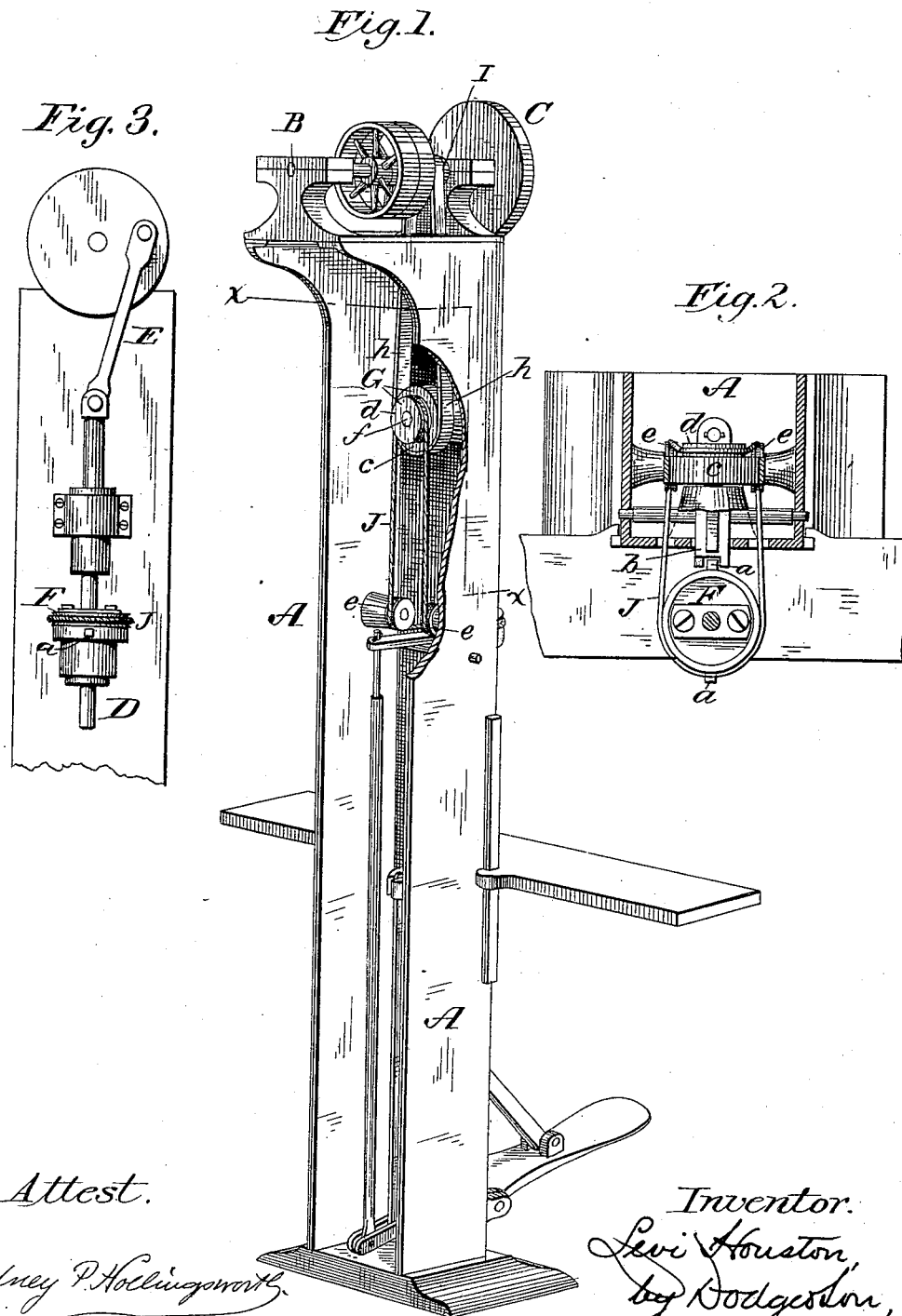


(Model.)

L. HOUSTON.
MORTISING MACHINE.

No. 266,156.

Patented Oct. 17, 1882.



Attest.

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UNITED STATES PATENT OFFICE.

LEVI HOUSTON, OF MONTGOMERY, PENNSYLVANIA.

MORTISING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 266,156, dated October 17, 1882.

Application filed August 8, 1882. (Model.)

To all whom it may concern:

Be it known that I, LEVI HOUSTON, of Montgomery, in the county of Lycoming and State of Pennsylvania, have invented certain Improvements in Mortising-Machines, of which the following is a specification.

My invention relates to mortising-machines; and it consists in interposing between the driving-shaft and the reversing-head a double pulley, the two sections of which are of different diameters, and belting from the driving-shaft to the larger section and from the smaller section to the reversing-head, whereby the movement of the latter is rendered comparatively slow without lessening the speed of the driving-shaft, and all danger of breaking off the stops or lugs of the reverse or detent is avoided.

In the accompanying drawings, Figure 1 represents a perspective view of my improved machine, and Fig. 2 a section on the line *x x*, looking down from above the machine. Fig. 3 is a front face view of the upper part of the machine.

In the practical use of machines of this class it has been found that when running at high speed the lugs or stops of the reversing-head (commonly called the "reverse") or the stops of the locking-bar or detent are frequently broken off or so battered as to interfere with the proper operation of the machine, thus rendering the machine for the time useless. This fact has rendered it necessary to reduce the speed of the machine, and consequently to lessen the work done thereby, or has caused great loss of time and expense of repair when the speed has not been so reduced. It is to overcome these difficulties that my invention is designed, and I accomplish this result by first belting from the driving-shaft to the larger section of a double pulley, and from the smaller section of said pulley to the reversing-head or reverse, as illustrated in the accompanying drawings, in which—

A represents the frame or body of the machine, at the upper end of which is mounted the main driving-shaft B, carrying at its end a crank-wheel, C, with which the spindle or

holder of the cutting-tool is connected by a pitman, in the usual manner.

F represents the reversing-head or reverse, through which the tool spindle or stem passes, said reverse being provided with the usual lugs or stops, *a*, to be engaged by the locking bar or detent *b*, these parts, together with the work holding and elevating devices, being of ordinary construction and operation, and therefore not described in detail.

G represents the double pulley, consisting of the sections *c d*, the former carrying a belt, H, which passes about a pulley, I, on the driving-shaft, and the latter carrying a belt, J, which passes beneath guide-pulleys *e* and thence around the grooved body of the reverse F, imparting motion thereto. The pulley G is mounted upon a horizontal spindle or stem, *f*, secured to the main frame, as shown. As indicated in the drawings, the pulley I on the driving-shaft, by which the belt is carried, is quite small, and but very little larger than the shaft, this being the usual construction. The consequent reduction of speed of the reverse is, however, insufficient to accomplish the end in view in the present case, and hence the necessity of further reducing the speed of the reverse relatively to that of the driving-shaft. This I accomplish by the use of the double pulley arranged and operating as above explained. In practice it is preferred that the belt H be flat and the belt J round.

I am aware that a pulley having a series of grooves in its periphery has been interposed between the driving-shaft and the reverse and connected by separate belts with the two, respectively, the pulley being of uniform diameter throughout its entire length, and hence I do not broadly claim the use of an intermediate double pulley.

Having thus described my invention, what I claim is—

1. In a mortising-machine, the combination of a driving-shaft, a tool-carrier driven thereby, a reversing-head, and a double pulley having its two sections of unequal diameter, interposed between the driving-shaft and the reversing-head, and serving to impart motion

from the former to the latter, as explained, whereby the reversing-head is given a slow motion relatively to the driving-shaft.

2. The combination, substantially as shown
5 and described, of the shaft B, provided with pulley I, the reversing-head F, the double pulley G, having sections of unequal diameter, interposed between the shaft and reversing-

head, and connected with the two by belts H and J, respectively, and the guide-pulleys e, all 10 arranged and operating as and for the purpose set forth.

LEVI HOUSTON.

Witnesses:

JOHN H. WEAVER,

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