H. J. CORDESMAN, Jr.

Paneling-Machine.

No. 199,268. Patented Jan. 15, 1878.

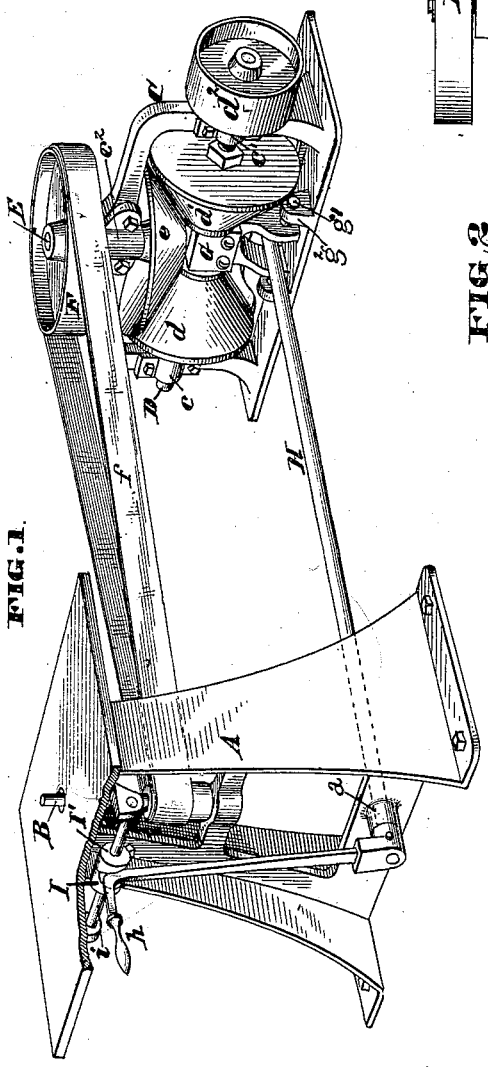

FIG. 1.

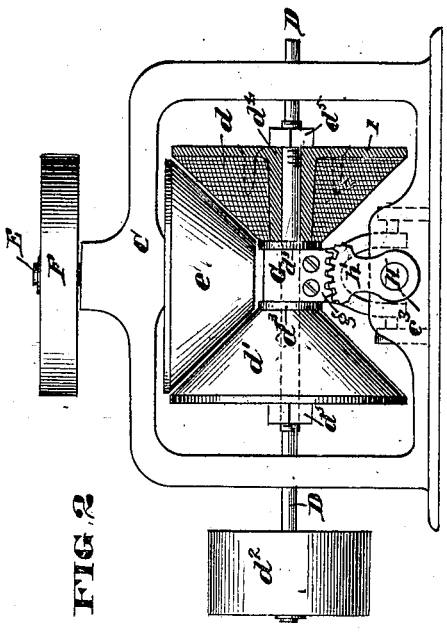

FIG. 2.

Witnesses

John E. Jones.

Jas. Boyle

Inventor

Henry J. Cordesman

By Edgar J. Moses

Attorney

UNITED STATES PATENT OFFICE.

HENRY J. CORDESMAN, JR., OF CINCINNATI, OHIO, ASSIGNOR TO CORDESMAN, EGAN & CO., OF SAME PLACE.

IMPROVEMENT IN PANELING-MACHINES.

Specification forming part of Letters Patent No. **199,268**, dated January 15, 1878; application filed August 24, 1877.

To all whom it may concern:

Be it known that I, HENRY J. CORDESMAN, Jr., of Cincinnati, Hamilton county, State of Ohio, have invented an Improvement in Molding-Machines, of which the following is a specification:

My invention relates to a class of frizzing-machines or carvers adapted for paneling, edging, &c., employing a reversible friction-gear connection with the motor for the purpose of instantaneously reversing the cutter-spindle—a feat that in the working of a coarse-grained wood, where it is desirable to cut "with the grain," becomes absolutely necessary to the production of smooth work; and my invention has for its objects, first, the cheapening of the cost and the bettering of the form, and consequent increased durability by reason of superior compactness of construction; second, the provision of a yielding or elastic pressure to keep the gear in connection, so that inequalities in the friction-surface of the gear may be accommodated without damage to the parts; and, third, the provision of means for conveniently changing the location of the devices which engage the yielding pressure that keeps the gear in connection, so that the wear of the gear may be compensated for in the holding of them to an operative position.

My invention consists, in the first part, in such a construction of shifter-clutch as that it will not only act to shift the driving-pulleys, but will act as a bearing for the journal.

My invention consists, in the second part, in the provision of a shaft, provided with suitable crank-connection to the shifter-clutch, and operator's hand-lever, and the employment of its torsional strain-resisting qualities as an elastic bearing for the holding of the drivers up to the driven pulley.

My invention consists, in the third part, in the provision of certain adjustable stops, the position of which may be varied to engage the hand-lever in different position in the act of holding the driving-pulleys up to the driven, so as to compensate for the wear of the gear; and my invention consists, in the fourth part, in the provision of a flanged sleeve in connection with a flange and retaining-nut upon the driving-shaft, the whole to act as a foundation for the friction-surface of the gear, more fully described hereinafter.

In the accompanying drawings, Figure 1 is a perspective view of my improved frizzing-machine. Fig. 2 is a back elevation of the counter-shaft frame, showing one of the drivers in section.

A is the frame of the machine, having the upright frizzing-spindle B journaled therein, in the usual manner.

C is the counter-shaft frame, provided with the usual horizontal bearings c c^1 for the counter driving-shaft D, and the usual upright bearing c^2 for the counter driving-shaft E. The driving-shaft D is provided with two beveled friction-pulleys, d d^1, and a belt-pulley, d^2, the latter being employed to communicate motion from suitable power motor, and the former to interchangeably impart motion to the beveled friction-pulley e upon driven shaft E. Of necessity, to operate as desired, the friction-pulleys d d^1 are so located upon shaft D as that they present their beveled surfaces toward each other, and the friction-pulley e is so located upon the lower end of upright shaft E as that it presents its beveled surface downward and between the beveled surfaces of the pulleys d d^1, and the pulleys d d^1 are so located upon the shaft D, as regards distance apart, that they cannot simultaneously engage with the pulley e, so that while one is engaged therewith the other is disconnected.

The object of this style of gearing is, of course, to admit, by the engaging of either driver-pulley d d^1 with the driven pulley e, of the rotation of the shaft E in contrary directions, and thus, through belt-pulley F located thereon and belt f, to operate the frizzing-spindle B in like contrary directions, to adapt the cutting of the machine to the grain of the wood to be cut without extra handling of the wood.

Now, the ordinary means of shifting the shaft E endwise to accomplish the above result has been in the employment of a pivoted yoke to engage around both ends of the shaft, or other kindred devices equally expensive of construction, and cumbersome in the amount of room taken; and to obviate all this I attach to the shaft E a clutch, G, at a point between the drivers, and connect it by suitable means

to an operating-lever upon the frame A, thereby obviating the use of double clutches, &c., and the result being a most simple and inexpensive manner of forming the shifting device.

H is a shaft, journaled at *a* in the frame A, and at c^3 in the counter-shaft frameE. To the end journaled in frame A is secured an operating or hand lever, *h*, and to the end journaled in frame C is, in this instance, secured a segmental gear, *h*, which engages with a rack, *g*, on the clutch G. The clutch G is formed in the nature of a journal-box, and is fitted to slide and be supported on the frame C by means of slide g^1 running in slideways g^2 formed upon the frame; and in this form the clutch acts as a journal-box to support the shaft D at the center, while also acting as a shifting-clutch.

To secure the hand-lever *h* in any of the three positions, first, that will bring the driver-pulley *d* into contact with pulley *e;* second, that will bring the driver-pulley d^1 into contact with pulley *e;* and, third, that will preserve both drivers from contact with said pulley, I provide stops I I′, located upon a rod, *i*, secured to the under side of the table of the machine.

When neither driver is in contact with the driven pulley, the lever *h* assumes a position between the stops, the stops being cut away to receive it, as seen in Fig. 1, and when either of the two drivers is in contact with the driven pulley the lever *h* assumes a position beyond either stop, as the case may be. Should the surfaces of the two drivers, by use, become worn or compressed, and thus the distance between them be widened, necessitating a greater amount of throw in shifting between the extremes, I provide for the securing of the hand-lever *h* at the extremes of this increased distance of throw by simply adjusting the stops I I′ at greater distances apart upon the rod *i*.

It will be seen that the shaft H is interposed between the clutch G and the hand-lever *h*, and its resistance to torsional strain acts as a yielding medium to hold the driving-pulley in contact with the driven pulley in such a manner that inequalities in the surface of the pulleys may be compensated for without injury to the parts of the machine.

The shaft D is provided with collars d^3, between which the clutch G engages, and against which the sleeves d^4 are forced by the nuts d^5. The sleeves d^4 have flanges 1, and between these and the collars d^3 the bodies of the wheels d d^1, which are preferably made of paper, are secured.

To prevent slipping, the paper bodies may be secured to the flanges by screws, as shown in dotted lines, Fig. 2. Furthermore, the sleeve d^4 is made slightly tapering, in order to facilitate tightening in securing the paper body, and to admit of a limited amount of slip in the paper when shrinking.

Having thus described my invention, I claim—

1. In a reversible frizzing-machine, the combination, with the driving-shaft, of a shifting-clutch located between the driving-pulleys, and having a sliding connection and support upon the frame, the whole to act as a shifting-clutch, and also as a center journal for the shaft.

2. In a reversible frizzing-machine, the combination with driving-shaft D, having driving-pulleys d d^1 and clutch G, the operating-shaft H, substantially as and for the purpose specified.

3. In a reversible frizzing-machine, the combination, with driving-shaft D and shifting devices G H *h*, of the adjustable stops I I′, substantially as and for the purpose specified.

4. In a friction-pulley for frizzing-machines, the combination of flanged shaft D d^3 and flanged sleeve d^4 1, secured together, to operate substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

HENRY J. CORDESMAN, JR.

Witnesses:

EDGAR J. GROSS,

JOHN E. JONES.