Dec. 8, 1953 T. E. BROWN 2,661,950

STACK JOGGER

Filed Dec. 3, 1947

FIG. 1

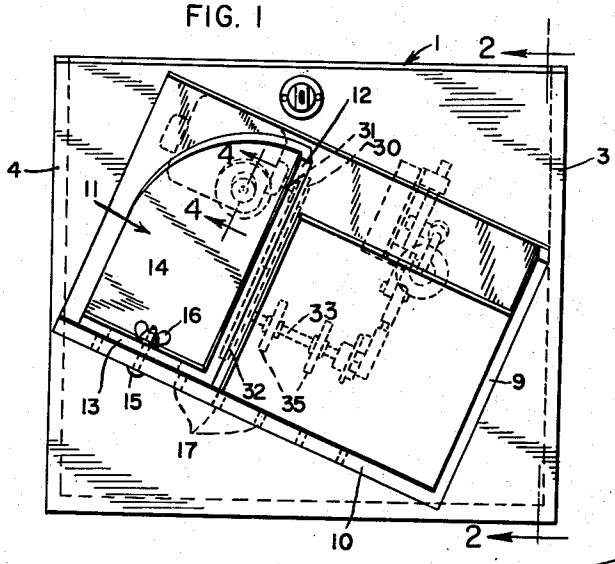


FIG. 5

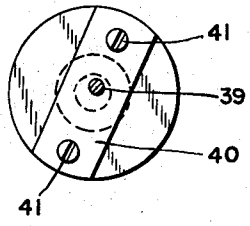


FIG. 2

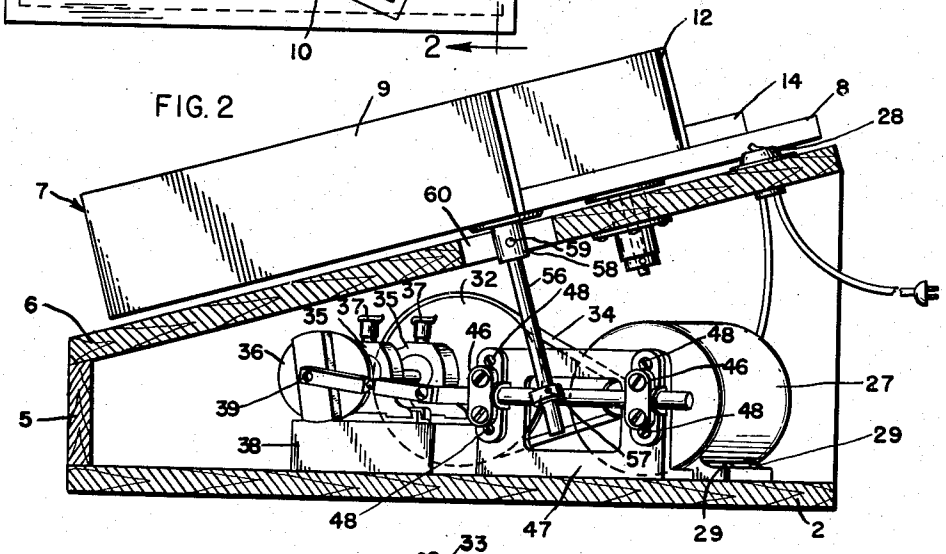


FIG. 4

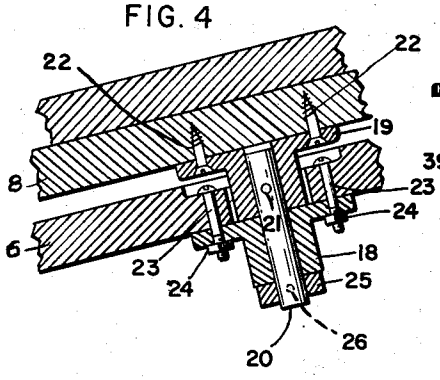
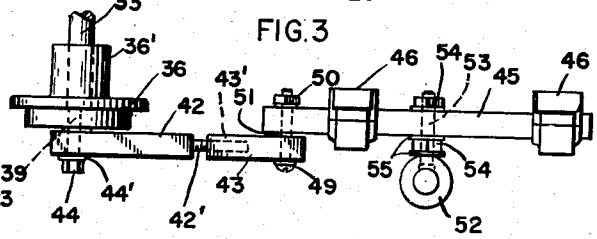


FIG. 3



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STACK JOGGER

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4 Claims. (Cl. 271—89)

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This invention relates to improvements in joggers.

Heretofore jogging machines have been of heavy construction, cumbersome, complicated in structural details and expensive to build and repair. It was to overcome these objectionable defects in prior joggers that the present invention was conceived.

The main objects of this invention are to provide a novel, improved, inexpensive and transportable jogging machine; to provide such a device which is adjustable and adaptable to substantially all types of printing, binding and trimming machines and machines used in allied industries; to provide a device of this character which may be constructed of wood or other light inexpensive material; to provide a device of this character having a pivotally operated tray disposed on a housing cover and having an oscillating action transmitted to it by means of a motor; to provide a device of this character having adjustable means to accommodate different sizes and weights of paper; to provide a device of this character in which the motion of the jogger tray is in a single plane normal to the single rigidly mounted tray supporting pivot located off geometric center of the tray; and to provide a device of this character which is simple in construction, safe, convenient and simple to operate and readily adjustable to different sizes and weights of work.

An illustrative embodiment of this invention is shown in the accompanying drawings in which:

Figure 1 is a top elevational view of my invention.

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a vertical sectional view of the pivot member taken on the line 4—4 of Fig. 1.

Fig. 5 is a face view of the eccentric member.

Referring in detail to the drawings, the housing generally indicated by the numeral 1 is preferably constructed of wood, or a similar light weight material and comprises a base 2, a pair of side frame members 3 and 4, the upper edges of which are diagonally disposed, as clearly shown in Fig. 2, a front frame member 5 and a top or cover plate member 6 secured to the upper edges of the side frame members 3—4. It will be apparent from Fig. 2 that the top 6 lies in a diagonal plane.

A jogging tray generally indicated by the numeral 7 comprises a base 8, a side wall 9, a front

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wall 10, and an adjustable end frame 11. The end frame 11 comprises a pair of side walls 12 and 13 attached in any suitable manner to base 14. The entire end frame 11 is adjustable toward and away from side wall 9 and is held in position on base 8 by the bolt 15 and wing nut 16. The bolt 15 is inserted and seats in any one of the spaced apertures 17 located in side wall 10 in accordance with the setting desired.

The tray 7 is positioned in parallel relationship to the top 6 of the housing 1 and is spaced away therefrom by means of an anchor pivot. The anchor pivot is fully illustrated in Fig. 4 and comprises two flanged collar members 18 and 19 having a shaft 20 common to both of them. Collar 19 is anchored to shaft 20 by any suitable means, such as by rivet 21, so as to make the collar 19 and shaft 20 a single unit. Collar 19 is secured to the underside of base 8 of the tray 7 by any suitable means, such as by screws 22 passing through apertures in the flange portion of collar 19.

Collar 18 is anchored to the lower face of top 6 of the housing 1 by bolts 23—23 and nuts 24—24 which pass through apertures located in the flange of collar 18. It thus becomes apparent that the tray 7 is pivotally anchored to the housing 1 and that the collar 18 acts as a bearing for the shaft 20.

To prevent displacement and play in the collar-bearing 18, a retention collar 25 is secured to the shaft 20 by any suitable means, such as by a set screw 26. It will be noted that the pivotal connection is located off dead center, i. e., the vertical axis of both the tray and housing.

The oscillating action of the tray is accomplished by the mechanism located within housing 1, and comprises a motor 27, connected to an electrical source in the usual manner and is controlled by switch 28. Motor 27 is anchored to base 2 in any suitable manner such as by bolts 29. A pulley wheel 30 is attached to the motor shaft 31 in any suitable manner, such as by set screw (not shown). A large pulley wheel 32 is secured to one end of the driven shaft 33 and is connected to the pulley wheel 30 by belt 34.

Shaft 33 is located forward of the motor and is journaled in bearing blocks 35—35 having oil cups 37—37 located on the upper surface of the blocks 35—35 to lubricate the shaft 33. The bearing blocks 35—35 are anchored to the support block 38 which is anchored to the base 2. A flange 36 having a collar 36' is secured to driven shaft 33 in any suitable manner at the end opposite pulley wheel 32. A rectangular plate

40 is secured to outer face of the flange 36 by screws 41—41 and contains stub shaft 39 mounted on said plate 40 eccentrically of the axis of the shaft 33.

One end of link arm 42 is provided with an aperture in which said eccentric stub shaft 39 seats and extends therethrough. The distal end of shaft 39 is threaded and provided with a lock washer 44 and nut 45 whereby to retain the arm 42 on said shaft 39. The free end 42' of arm 42 is threaded. A second link arm 43 is provided with a threaded bore 43' into which the threaded end 42' is loosely threaded as shown in Fig. 3.

A rod 45 is slidably mounted in spaced bearing blocks 46—46 which are anchored to an upright supporting frame 47 in any suitable manner such as by bolts 48. One end of rod 45 extends beyond the forward bearing block and is pivotally secured to the free end of arm 43 by a bolt 49 and nut 50. It will be apparent from Fig. 3 that arm 43 and rod 45 are provided with aligned apertures through which the bolt 49 is loosely threaded. The arm 43 and rod 45 are spaced away from each other by a washer 51. A pivot collar 52 is anchored to rod 45, substantially medially between bearing blocks 46—46, by means of a bolt 53, which extends through suitable apertures in rod 45, and nuts 54. Washer 55 serves to minimize friction. It will be apparent from Fig. 2 that the collar is pivotally mounted to said rod on an axis normal to the axis of said rod 45.

The lower end of connecting shaft 56 is slidably held in collar 52, a set screw 57 being provided in the collar for locking the shaft to the collar during shipment so as to support the cantilevered end of the tray 7. The upper end of shaft 56 is fixed in the flanged collar 58 in any suitable manner, such as by set screw 59. Collar 58 is securely attached to the underside of base 8 of tray 7 and extends downwardly into aperture 60 located in housing cover 6.

Power is transmitted from motor 27 to driven shaft 33 by means of the belt 34. Driven shaft 33 rotates the flange 36 and its eccentrically positioned stub shaft 39 which in turn transmits motion to link arms 42 and 43 and they in turn reciprocate rod 45 which imparts oscillating motion to the tray 7 by means of the connecting shaft 56 about pivot 20.

The material to be jogged is fed over and slides across the top edge of end frame 11, such method of feeding causing the sheets of paper, or other material used, to become separated by retarding and separating each sheet and thus allowing an air pocket to come between each sheet. By the action of the machine, the sheets are then jogged into the corner which is formed by the intersection of side walls 9 and 10 and formed into a uniform mass. I have found that my invention functions most efficiently when a motor of 1/40 to 1/4 horse-power is geared down to operate from 400 to 800 R. P. M., depending upon the material to be jogged.

It will be apparent from the foregoing that by using the pivotal collar 52 and loose threaded connection between the arms 42 and 43 all wobble motion usually present in apparatus of this character is eliminated and only a forwardly and backwardly oscillatory motion is imparted to the tray 7 about the axis of the pivot shaft 20.

It will be understood that some of the details set forth may be altered or omitted without departing from the spirit of the invention as defined by the following claims.

I claim:

1. In a device of the class described, comprising a housing, an inclined cover member therefor, a tray pivotally attached at one point only to said cover member and spaced substantially parallel relationship thereto, and means for oscillating said tray about said pivot, the axis of said pivot being normal to the plane of said housing cover member and off geometric center of said tray.

2. In a device of the class described, comprising a housing having an inclined cover, a tray having a base, a front wall and a side wall, one of the ends of each of said front and side walls abutting at the same corner of the base to form a right-angle, an adjustable frame on said tray for retarding and separating paper being fed into said tray, said tray being pivotally attached at a single point only to said cover and spaced away therefrom, the axis of said pivot being normal to the plane of said housing cover member and off geometric center of said tray and means for oscillating said tray about said pivot.

3. In a device of the class described, comprising a housing having an inclined top thereon, a tray pivotally secured and supported at one point only to said top and lying in a parallel plane thereto and spaced away therefrom, the axis of said pivot being normal to the plane of said housing top and off center with respect to the geometric center of said tray, and means for rapidly oscillating said tray about said pivot.

4. In a device of the class described, comprising a stationary housing having a horizontally positioned base, vertical side walls and an inclined cover plate thereon, a tray having a base pivotally attached at a single point to said cover plate and lying in a plane parallel to the plane of said cover plate, the axis of said pivot being normal to the plane of said cover plate and off center with respect to the geometric center of said tray, a shaft journalled in spaced bearings, said bearings being mounted on said housing base, an eccentric attached to one end of said shaft, a pair of link arms loosely connected together end to end, one end of one of said arms being connected to said eccentric, a slidable rod secured to the free end of the other of said link arms, said rod lying in a horizontal plane and journalled in spaced bearing blocks, a collar pivotally mounted on said rod on a pivot axis normal to the axis of said rod, a connecting rod secured at one end to said tray base and having its other end fixed in said collar, and a motor in said housing for driving said eccentric.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
226,604	Ellery	Apr. 20, 1880
703,271	Jelf	June 24, 1902
1,448,301	Hotchkiss	Mar. 13, 1923
1,715,993	Cummings	June 4, 1929
1,823,744	King	Sept. 15, 1931
2,257,688	Jones	Sept. 30, 1941
2,277,511	Daneke	Mar. 24, 1942
2,494,075	Weyandt	Jan. 10, 1950

FOREIGN PATENTS

Number	Country	Date
145,419	Austria	Apr. 25, 1936
623,695	Germany	Dec. 31, 1935