March 19, 1946. G. F. BRISENDINE 2,396,822

VIBRATING AND JOGGING MACHINE FOR SHEET STOCK

Filed April 15, 1942 2 Sheets-Sheet 1

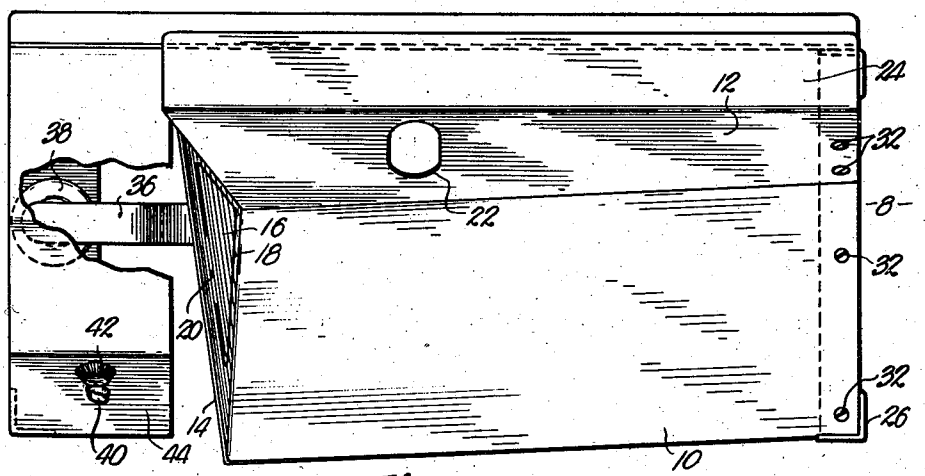


Fig. 1.

Fig. 2.

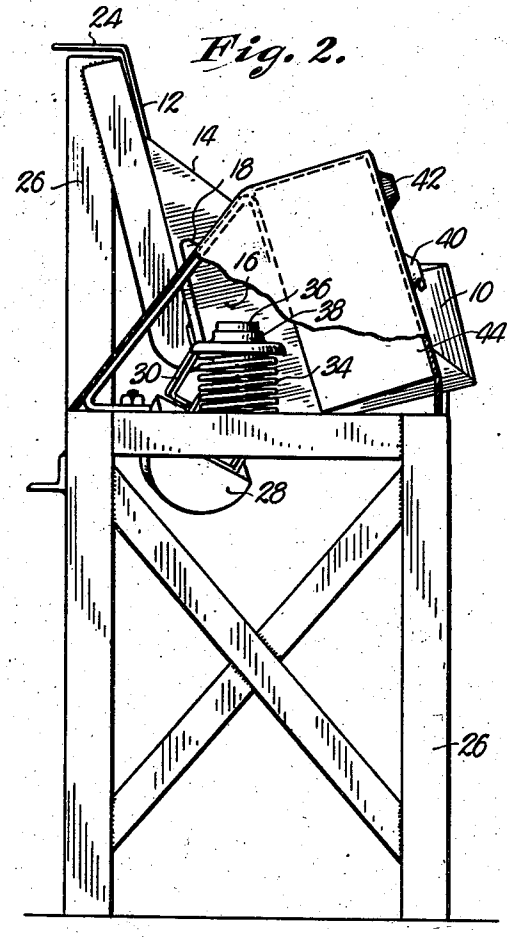
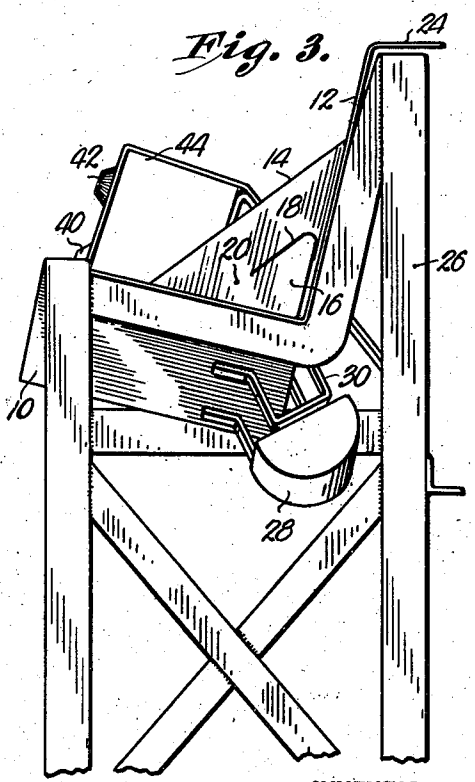


Fig. 3.



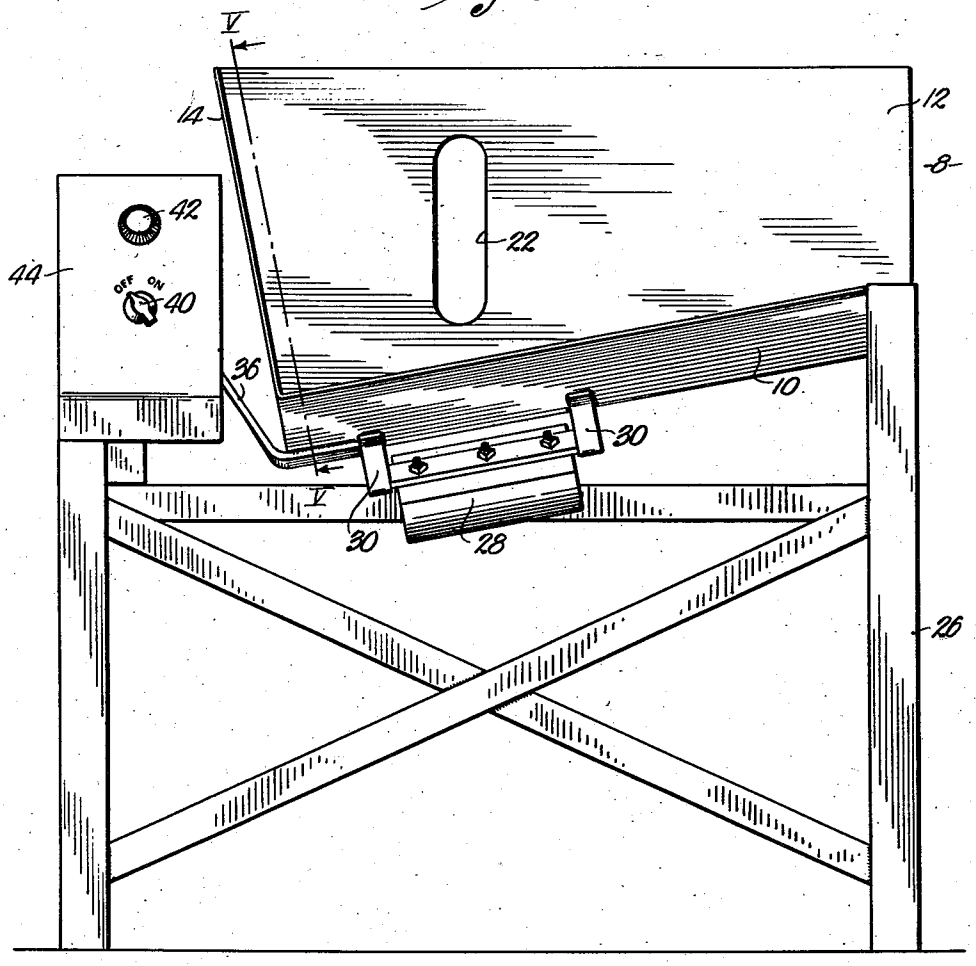
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Fig. 4.



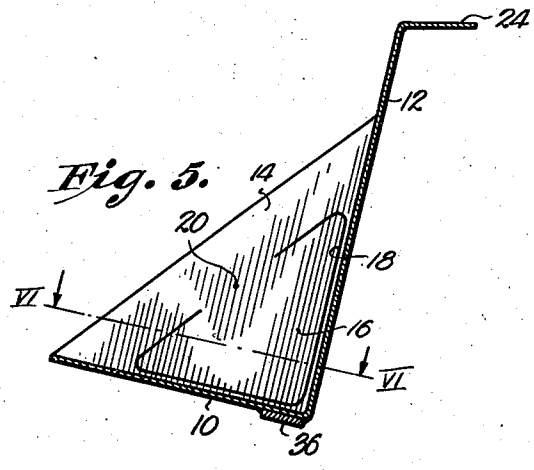


Fig. 5.

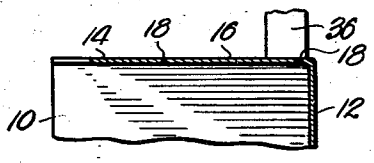


Fig. 6.

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UNITED STATES PATENT OFFICE

2,396,822

VIBRATING AND JOGGING MACHINE FOR SHEET STOCK

Guy F. Brisendine, Kansas City, Mo., assignor to Carbon Systems, Inc., Kansas City, Mo., a corporation of Missouri

Application April 15, 1942, Serial No. 439,064

2 Claims. (Cl. 271—89)

This invention relates to apparatus for handling sheet stock and particularly means for vibrating and jogging superimposed sheet material for the purpose of aligning one or more edges thereof.

One of the important objects of the instant invention is to provide a vibrating and jogging machine for sheet stock that is effective and quick in operation; that includes means for jogging a number of sheets held by the operator prior to dropping the same into a specially formed cradle; that has one or more stops against which the edges of the sheets may rest as they are fed into the cradle; that has uniquely mounted resilient means for supporting one end of the cradle whereby the vibrating motor and the action of gravity combine to motivate the sheets along the face of the cradle floor; and that has a vibrating motor hung from the cradle at a point where vibrating movement is imparted to the cradle in two directions.

This invention has for a further aim the provision of a machine of the aforementioned character, wherein is included an uniquely formed cradle having an end wall and a side wall, the former being slit to present a tongue, the frequency of vibration whereof is greater than the frequency of vibration of the remaining portion of the end wall from which the tongue is cut.

Other objects of the invention will appear during the course of the following specification, referring to the accompanying drawings wherein:

Fig. 1 is a top plan view of a vibrating and jogging machine for sheet stock made in accordance with the present invention.

Fig. 2 is an end elevational view of the machine.

Fig. 3 is an elevational view of the opposite end of the machine from that shown in Fig. 2.

Fig. 4 is a front elevational view of the machine.

Fig. 5 is a fragmentary detailed sectional view through the cradle of the machine taken on line V—V of Fig. 4; and

Fig. 6 is a fragmentary sectional view taken on line VI—VI of Fig. 5 looking in the direction of the arrows.

Gathering sheets, and especially sheet material such as thin paper, carbon and the like, becomes difficult when manually collected in superimposed relation with the edges thereof in alignment. Shaking or otherwise jolting the air from between the sheets is an arduous task when manually performed, and in most instances, a high percentage of the sheets is not disposed within the stack with edges aligned as desired. Accordingly, this invention contemplates mechanical means for vibrating and jogging sheets of material that are gathered into stacks prior to padding, stitching, or otherwise joined for use.

In the preferred embodiment of the invention the equipment is as shown in the accompanying drawings. In said drawings the numeral 8 designates a cradle composed of a floor 10, a side wall 12, and an end wall 14.

Floor 10 is inclined both longitudinally and transversely with respect to the horizontal, to present a sheet receiving surface, one corner of which is lower than the remaining part of the entire floor. Walls 12 and 14 extend upwardly from two adjoining edges of floor 10 and are preferably perpendicular to the face of said floor. These walls 12 and 14 present stops for the sheet material, not here shown, and abut two edges of the sheet material as it is piled upon floor 10.

End wall 14 has a tongue 16 provided therein. This tongue is formed by slitting wall 14 as at 18 and leaving only a relatively narrow neck 20, whereby a part of the area of end wall 14 is caused to vibrate at a greater frequency than the remaining portion of the wall and cradle.

Side wall 12 has a hand opening 22 in approximately the position illustrated in Figs. 1 and 4, for the purpose of facilitating the grasping of stacked stock when it is desired to remove such stock from cradle 8. The upper edge of wall 12 is provided with a horizontal table 24 that is free to vibrate and when the machine is in operation, this table 24 will move vertically to assist the operator in jogging sheets of material just prior to dropping the same into the cradle. Table 24 and a portion of wall 12 adjacent thereto, should be spaced a sufficient distance from support 26 to permit free vibration.

Support 26, in this instance, is built of conventional material but it is contemplated that the support may be otherwise made to present a more desirable appearance and yet to afford the necessary under-pinning for cradle 8.

A vibrating motor 28 is hung from cradle 8 at a point intermediate the ends of floor 10 through the medium of brackets 30. These brackets are preferably U-shaped and straddle the line of connection between one longitudinal edge of floor 10 and a like edge of wall 12. So mounting motor 28, as rendered clear by the illustrated embodiment in Fig. 3, insures that effective movement will be imparted to cradle 8 by motor 28 and that floor 10 and wall 12 will definitely be vibrated with a sufficient degree of intensity to move the sheets downwardly along floor 10 toward walls 12 and 14.

The uppermost portion of cradle 8 is rigidly secured to one of the cross members of support 26 by screws or analogous means 32, care being taken not to dispose one of said screws close to the upper edge of wall 12 and near table 24. The lowermost portion of cradle 8 is hung upon a spring through the medium of an arm 36, formed as shown in Figs. 1 and 4. A head 38 resting upon the upper end of spring 34 is joined to one end of arm 36, while the other end of said arm is rigidly fastened to the under surface of floor 10 adjacent to the lowermost portion of cradle 8.

Motor 28 is connected to a source of electrical supply through conventional wires or the like, not here shown, and a switch 40 together with a conventional rheostat 42 are mounted upon housing 44 carried by support 26.

The operation of the vibrating and jobbing machine, above described and illustrated herewith, becomes obvious to one skilled in the art, and it will be recognized that two edges of superimposed sheets lying in cradle 8 will positively be aligned when moved against walls 12 and 14 by the constant vibration of the entire cradle. Tongue 16 terminates very close to the upper face of floor 10 in order that its relatively high rate of vibration might be effective upon only a few sheets as they are piled in the machine. As the operator stands before the jogging machine it will be easy to grasp a number of sheets and hold them vertically with their lower edges resting upon table 24, where a preliminary jogging occurs prior to dropping the packet into cradle 8.

Cradle 8 is preferably formed of sheet metal in order that motor 28 may operate efficiently and transmit vibrations to the walls thereof.

In actual practice, this machine will efficiently stack a large number of sheets during a given period, all without the consumption of a great amount of electrical energy, to the end that inexpensive operation is possible. The machine may be made to present physical characteristics other than those illustrated in the drawings, and therefore, it is desired to be limited only by the spirit of the invention and scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A machine of the character described for aligning edges of superimposed sheets, comprising a cradle having a floor, inclined with respect to the horizontal, a side wall and an end wall; a rigid support for the uppermost portion of the floor; and a vibrating motor mounted on the cradle at the lowermost portion thereof, said end wall having a vibratable tongue formed therein to abut the edges of the sheet material when the same are against the portion of the end wall around said tongue.

2. A machine of the character described for aligning edges of superimposed sheets, comprising a cradle having a floor, inclined with respect to the horizontal, a side wall and an end wall; a support for the uppermost portion of the floor; and a vibrating motor mounted on the cradle at the lowermost portion thereof, said end wall having a tongue formed therein to abut the edges of the sheet material when the same are against the portion of the end wall around said tongue, said tongue being connected to the end wall by a relatively narrow neck whereby to cause the tongue to vibrate at higher frequencies than the frequency of vibration of the remaining portion of the cradle.

GUY F. BRISENDINE.