June 28, 1927. 1,633,655

H. B. WALTER

HAND OPERATED CREASING DEVICE

Filed July 26, 1926

Fig. 1

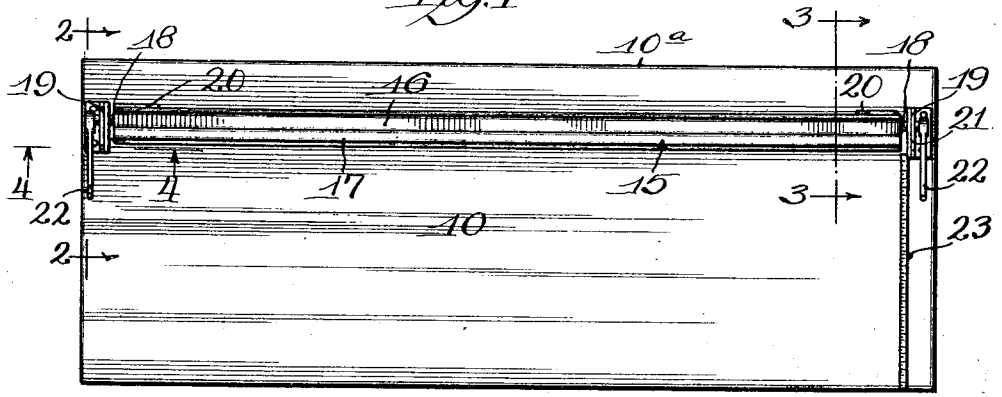


Fig. 2

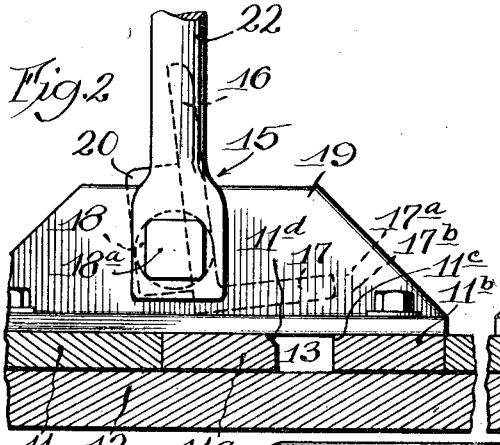


Fig. 3

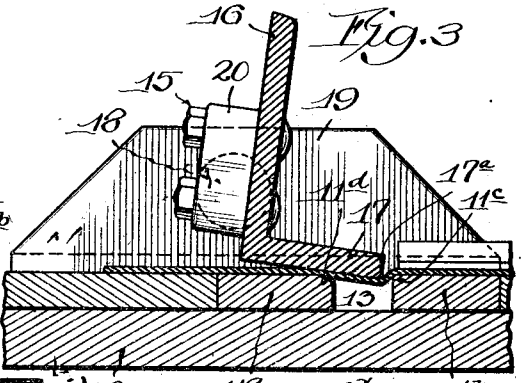


Fig. 4

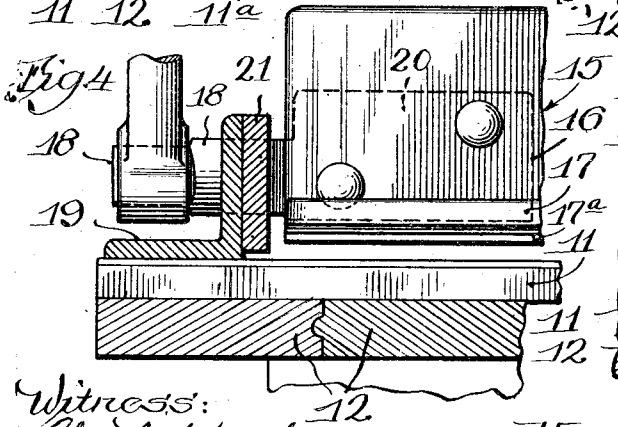
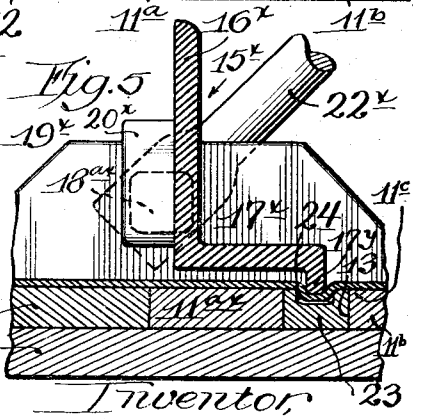


Fig. 5



Witness:
Chas. L. Tourse.

Inventor,
Harrison B. Walter,
by Clarence E. Wallace his Atty.

Patented June 28, 1927. 1,633,655

UNITED STATES PATENT OFFICE.

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HAND-OPERATED CREASING DEVICE.

Application filed July 26, 1926. Serial No. 125,001.

This invention relates to a hand-operated creasing machine for creasing heavy fibre or paper board, corrugated board and the like, by hand and consists of the matters hereinafter described and more particularly pointed out in the appended claims.

Machines for creasing heavy fibre or paper board and the like, as generally constructed, include a grooved female member and a male member, with mechanism for bringing about a relative. vertical, reciprocatory movement of the two parts, whereby the male member is caused to engage the blank to be creased against the female member and forcibly depress the board into the groove thereof, thus forming the crease. The operation of such a machine requires enormous power and accordingly is necessarily motor or engine driven.

The object of my invention is to provide a machine including novel elements for producing the crease in heavy fibre or paper board, which elements co-act with each other in a way so that only such power is necessary as may be exercised by the ordinary workman in the use of a hand lever.

My improved machine is of special advantage for use in the hands of packers who have neither the facility nor the machinery for operating the ordinary power driven creasing machines and where the use of a creasing device, which is more or less sporadic and only required to meet the necessities of a single packer, would make the installation of the usual power driven creasing device prohibitive in cost. An example of the use of my improved machine is offered in the method of packing doors, sashes and the like as described in a companion application executed of even date herewith, wherein it is required that large boards be creased at the time of packing and by the one making the package.

The advantages of my invention will appear more fully as I proceed with my specification.

In the drawings:

Figure 1 is a top plan view of my improved creasing device.

Figure 2 is a view representing a side elevation of the same on a somewhat larger scale than that of Figure 1.

Figure 3 is a view representing a vertical section of the device on the same scale as that of Figure 2 in a plane indicated by the line 3—3 of Figure 1.

Figure 4 is an enlarged detail elevation of one end of the creasing member adjacent its journal bearing.

Figure 5 is a view similar to Figure 3 showing a somewhat modified form of the invention.

Referring now to that embodiment of my invention illustrated in the drawings and particularly to Figures 1 to 4 thereof: 10 indicates a table or bed which is adapted to receive the blank or sheet to be creased and upon which are mounted the operating parts of the mechanism. Said table or bed is made of heavy boards 11 mounted on cross pieces 12. The table as a whole is supported on suitable legs or standards (not shown) adapted to maintain it at a suitable elevation at about the level of a point between the knees and the hips of the operator, so that he will be in a position to advantageously operate a hand lever, which actuates the device as will presently appear.

On the table and extending longitudinally thereof near the rear edge 10^a is provided a slot or groove 13 (see Figs. 2 and 3). This slot may be conveniently provided by spacing two of the boards 11^a, 11^b a distance apart sufficient to provide the slot or groove 13. The board providing the front edge of the groove, namely the board 11^b has a sharp right angular corner 11^c at the edge of the groove. The other board namely 11^a providing the rear edge of the groove has its top corner 11^d beveled. The groove or slot 13 constitutes the female member of the machine.

Mounted on an axis extending longitudinally of the table in a position above the table and back of the groove 13 is the male member of the machine 15. Said member in its preferred form consists of a rigid angle bar or plate having an upright leg 16 and a horizontal leg 17. 18—18 indicate studs or trunnions fixed to the ends of the upright member 16 of the member 15 and journaled in brackets or standards 19 rising from the bed or table 10. Each of the studs 18 as shown is integral with a flat bar or plate 20, which is attached by rivets to the face of the leg 16 of the member 15. Said

studs or trunnions engage in suitable bearing openings formed in the upright standards 19 and said standards are preferably reinforced about the bearing openings by means of plates 21. Beyond the standards each trunnion 18 is provided with a square or other polygonal head 18^a to receive a lever arm 22, which is provided with a suitable polygonal opening or eye for the purpose. The end or edge 17^a of the horizontal member 17 of the male member 15 constitutes the active part of the male member 15 and the member 17 is made of such width with reference to the axis upon which the member 15 swings that its end or edge 17^a will clear the top corner 11^c of the board 11^b adjacent to the slot 13 by a space equal to or somewhat less than the thickness of the board to be creased.

The machine as above constructed is more especially intended for use in creasing corrugated board. For creasing solid fibre board a somewhat modified form of the machine is preferred. Such modification is shown in Figure 5.

In this case the parts are all as made before except the female member and the active element of the male member. Instead of the slot in the machine heretofore described, there is provided in the modified form a grooved metal bar 23 which constitutes the female member. This bar is supported on the cross pieces 12 in the position occupied in the other case by the groove 13. 24 indicates a groove in the upper face of the bar 23. 15^x indicates the male member, in this case, and 17^x the horizontal member thereof. Said member has at its outer end or edge a depending, transversely rounded rib 17^y which is adapted to engage in the groove 24 of the bar 23 and which constitutes the active element of the male member.

The operation is the same as in the other case; but by reason of the grooved metal female member and the depending rib 17^y, the more forcible compression required in the case of solid fibre board is brought about.

While in describing my invention I have referred to many details of mechanical construction and arrangement of parts it is to be understood that the same is not to be limited thereto except as may be pointed out in the appended claims.

I claim as my invention:—

1. A creasing machine comprising a table, means providing a slot or groove in said table, a male member mounted on said table back of said slot or groove on an axis extending parallel thereto, said male member having an active element adapted to co-act with said slot or groove, and a hand lever for operating said male member.

2. A creasing machine comprising a table, means providing a slot or groove in the top surface of said table, a rigid angle bar pivotally mounted on said table, studs fixed to the ends of one leg of said angle bar, bearing plates rising from said table and providing pivotal support for said angle bar adapting it to rock on an axis extending parallel to and located back of said slot or groove, one of said studs being prolonged beyond its bearing and being provided with a polygonal head, and a lever provided with an eye adapted to engage said polygonal head.

3. A creasing machine comprising a table, means providing a slot or groove in the top surface of said table, a rigid angle bar pivotally mounted on said table, studs fixed to the ends of one leg of said angle bar, bearing plates rising from said table and providing pivotal support for said angle bar adapting it to rock on an axis extending parallel to and located back of said slot or groove, one of said studs being prolonged beyond its bearing and being provided with a polygonal head, a lever provided with an eye adapted to engage said polygonal head, and a gauge extending at right angles to said slot or groove.

4. A creasing machine comprising a table, means providing a slot or groove extending lengthwise of said table, an angle bar, means fixed to one leg of said angle bar to provide studs, fixed bearings for said studs, the axes of said bearings being located back of and extending parallel to said slot or groove, a lever for rocking said angle bar in said bearings, the other member of said angle bar being formed to co-act as a male element with said slot or groove as a female element.

5. A creasing machine comprising a table, a metal bar mounted on said table and provided with a groove extending lengthwise of said table, a rigid angle bar, plates fixed to the end of one leg of said angle bar and formed to provide studs extending beyond the end of said angle bar, bearings for said studs mounted on said table with their axes extending parallel to the groove in said first named metal bar, and a lever adapted for rocking said angle bar, the second leg of said angle bar being provided with a depending rib adapted to co-act as a male member with the groove in said metal bar as a female member.

In testimony that I claim the foregoing as my invention, I affix my signature this 17 day of July, A. D. 1926.

HARRISON B. WALTER.