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Gauge for Paper Cutting Machines

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Gauge for Paper-Cutting Machines

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The main object of this invention is to provide in a paper cutter an improved means for squaring the sheets so that they may be accurately cut, which is simple and economical in structure and at the same time is capable of handling heavy bodies of sheets.

Objects pertaining to details and economies of my invention will definitely appear from the description to follow. The invention is defined in the claims.

A structure which embodies the features of my improvements is clearly illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary perspective view of a paper cutting machine embodying the features of my invention.

Fig. 2 is a fragmentary plan view of the cutting table with my improvements in operative relation thereto.

Fig. 3 is a detail view mainly in vertical section on a line 3—3 of Figs. 1 and 2.

Fig. 4 is a detail section corresponding to that of Fig. 3 with the gauge bar in actuated position.

Fig. 5 is a detail view mainly in section on line 5—5 of Figs. 1 and 2.

Referring to the drawing, 1 represents the frame of the machine in which the cutterhead 2 is mounted for vertical reciprocating movement. The details of the actuating mechanism for the cutterhead are not described herein as they form no part of this invention.

The table 3 extends to one side of the frame 1 to support the sheets in operative relation to the cutter, a body of sheets being conventionally shown at 4. The table has a longitudinal slot 5 in which the cutter gauge 6 is adjustably mounted, this gauge being disposed in parallel relation to the cutter 7.

At the side of the table 1 I mount a support 8 having an angled face, the horizontal portion 9 of which is flush with the surface of the table 3. On this support I mount a gauge bar 10 for sliding adjustment. The gauge bar is slidably mounted on said support, and is further supported by the rod-like slides 11 which are arranged in pairs and connected by the cross pieces 13. These cross pieces are connected by the longitudinal rod 14.

An actuating lever 15 is pivoted at 16 and is of the bell crank type. The arm 17 of the lever has a slot 18 therein through which the rod 14 is disposed.

On the bracket 19 carried by the support 8 I mount a cylinder 20. The piston 21 is connected by the pitman or connecting rod 22 with the arm 23 of the lever 15 so that as the piston is forced downwardly the gauge is actuated.

In the embodiment illustrated the gauge is returned to its initial position by the coiled springs 24 which are disposed between the cross pieces 13 and the support, the cross pieces being provided with studs 25 and the supports with corresponding studs 26 with which the ends of the springs are engaged, thereby retaining the springs in position.

The cylinder is connected to a suitable source of air supply under pressure by the conduit 27. The control valve is not illustrated.

I have illustrated and described my improvements in a simple and practical embodiment. I have not attempted to illustrate or describe certain modifications or adaptations which I contemplate as it is believed this disclosure will enable those skilled in the art to embody or adapt my improvements as may be desired.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a structure of the class described including a cutter and a table operatively associated therewith, the combination of a gauge support mounted at the side of the table and having an angled face, the horizontal portion of which is disposed in a plane flush with the surface of the table, a gauge bar slidably mounted on said support, pairs of adjusting rods for said gauge bars slideable in said support, cross pieces connecting the outer ends of said rods, a longitudinal rod connecting said cross pieces, a bell crank actuating lever pivoted on said support, one arm of which is slotted to engage said rod, a cylinder mounted on said support, a coacting plunger pro-
vided with a connecting rod connected to the
other arm of said lever, and return springs
for said gauge bar disposed between said
cross pieces on said adjusting rods and said
support.

2. In a structure of the class described in-
cluding a cutter and a table operatively asso-
ciated therewith, the combination of a gauge
support mounted at the side of the table and
having an angled face, the horizontal portion
of which is disposed in a plane flush with the
surface of the table, a gauge bar slidably
mounted on said support, pairs of adjusting
rods for said gauge bars slideable in said sup-
port, cross pieces connecting the outer ends
of said rods, a longitudinal rod connecting
said cross pieces, a bell crank actuating lever
pivoted on said support, one arm of which is
slotted to engage said rod, a cylinder mount-
ed on said support, and a coacting plunger
provided with a connecting rod connected to
the other arm of said lever.

3. In a structure of the class described in-
cluding a cutter and a table operatively asso-
ciated therewith, the combination of a gauge
support mounted at the side of the table, a
gauge bar slidably mounted on said support,
pairs of adjusting rods for said gauge bars
slideable in said support, cross pieces connect-
ing the outer ends of said rods, a longitudinal
rod connecting said cross pieces, and a bell
crank actuating lever pivoted on said sup-
port, one arm of which is slotted to engage
said rod.

4. In a structure of the class described, the
combination of a table, a gauge support
mounted at the side of the table, a gauge bar
slidably mounted on said support, gauge bar
slides disposed at the ends of said support,
a bar connecting the outer ends of said slides,
a bell crank lever one arm of which is opera-
tively connected to said connecting bar, a cy-
linder and coacting piston, and a connecting
rod for said piston to the other arm of said
lever.

5. In a structure of the class described, the
combination of a table, a gauge bar, support-
ing slides at the ends of said gauge bar, a
connecting bar for said slides, an actuating
lever operatively associated with said con-
necting bar, a cylinder and a coacting plunger
operatively connected to said lever.

In witness whereof I have hereunto set my
hand.

CLARENCE O. THORNE.