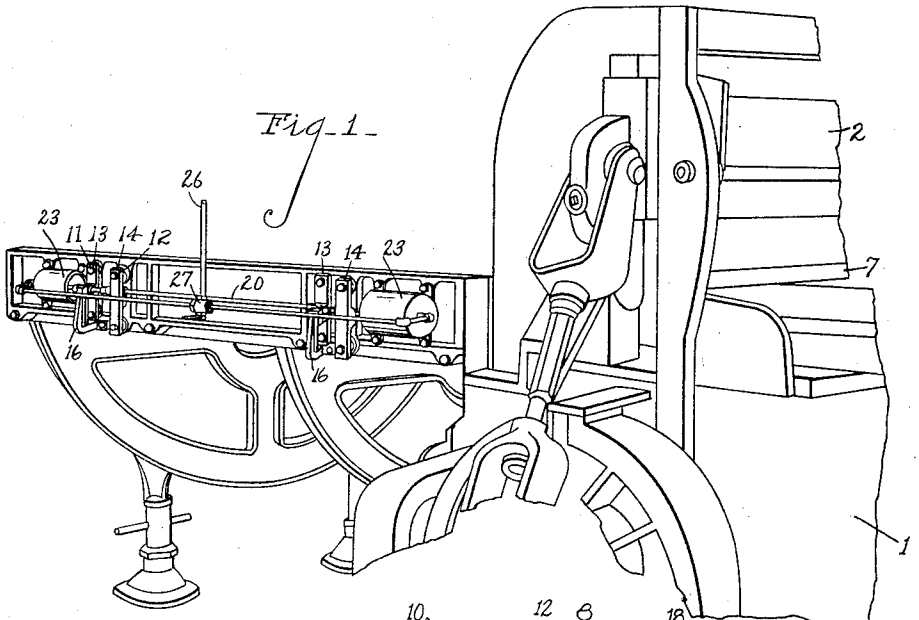
March 25, 1930. C. O. THORNE 1,752,125

GAUGE FOR PAPER CUTTING MACHINES

Filed July 2, 1928 2 Sheets-Sheet 1

Fig. 1.



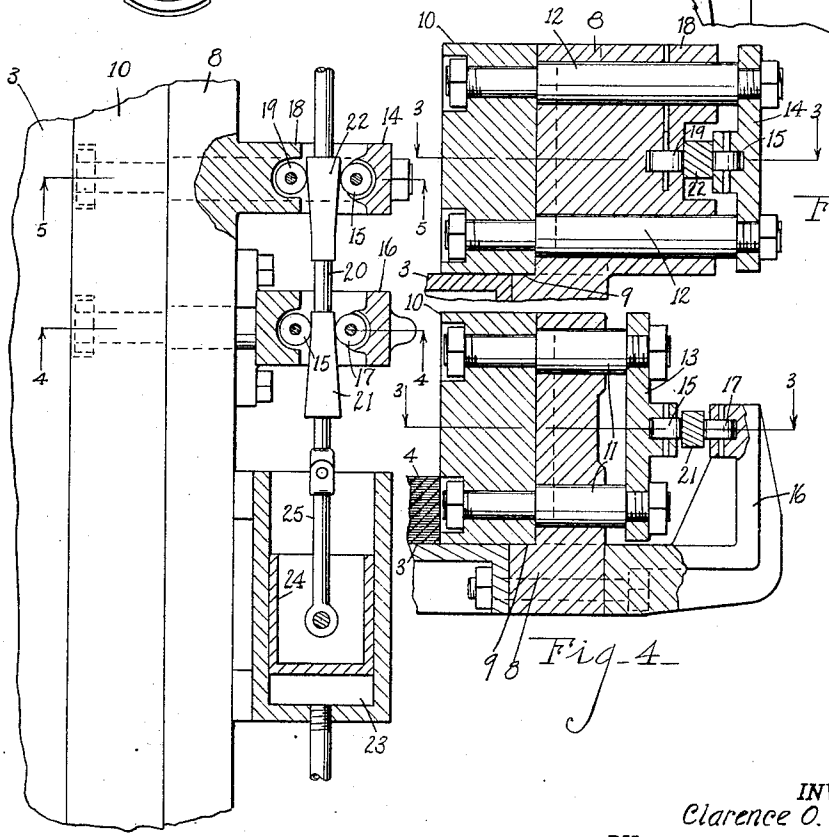


Fig. 3.

Fig. 5.

Fig. 4.

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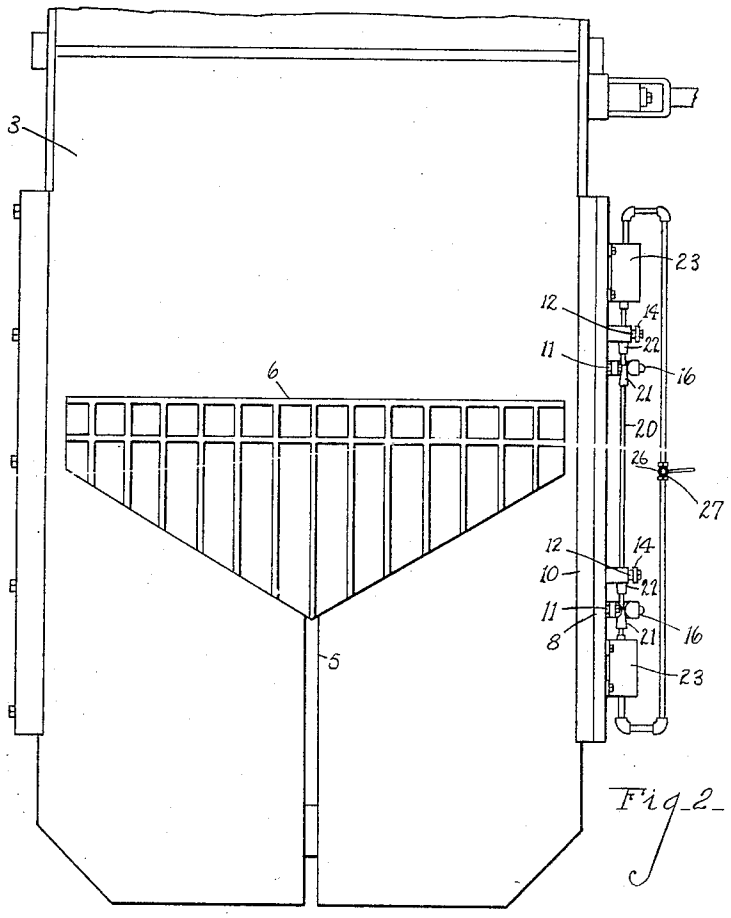


Fig. 2.

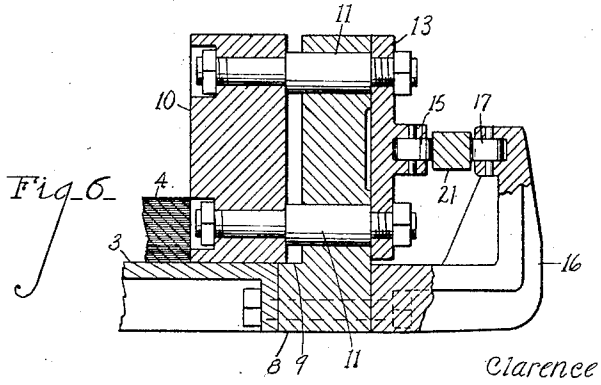


Fig. 6.

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UNITED STATES PATENT OFFICE

CLARENCE O. THORNE, OF WATERVLIET, MICHIGAN

GAUGE FOR PAPER-CUTTING MACHINES

Application filed July 2, 1928. Serial No. 289,650.

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 or gauged which is capable of very rapid manipulation to gauge or jog the sheets so that they are cut to true rectangular form, and which is capable of handling a very heavy body 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 invention is clearly illustrated in the accompanying drawing in which:

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

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

Fig. 3 is an enlarged detail view partially in section on line 3—3 of Figs. 4 and 5.

Fig. 4 is a detail section on line 4—4 of Fig. 3.

Fig. 5 is a detail section on line 5—5 of Fig. 3.

Fig. 6 is a detail section corresponding to that of Fig. 4 showing the gauge bar in actuated or sheet squaring position.

Referring to the drawing, 1 represents the main body or frame of the machine and 2 the cutterhead which is mounted for vertical reciprocating movement. The details of the actuating means for the cutter head form no part of this invention and therefore are not described herein.

The table 3 extends at one side of the frame 1 to support the sheets in operative relation to the cutter, a body of sheets being indicated at 4.

The table has a longitudinal slot 5 therein in which the gauge 6 is adjustably mounted and disposed with its face parallel to the cutter 7. At the side of the table I mount a support 8 having an angled face, the horizontal portion 9 of which is flush with the surface of the table 3 as shown in Fig. 4. On this support I mount a gauge bar 10 slidable on the support and on the face of the table. The gauge bar is further supported by the rod-like actuating slides 11 arranged in pairs at each end of the gauge bar and also the rod-like retracting slides 12 also arranged in pairs adjacent the ends of the gauge bar.

The slides 11 are connected at their outer ends by means of the cross pieces 13 while the retracting slides are connected at their outer ends by means of the cross pieces 14. These cross pieces are provided with rollers 15. Angled abutment arms 16 are mounted on the support and provided with rollers 17. The supports are provided with abutments 18 in opposed relation to the cross pieces 14, these abutments having rollers 19.

The actuating rod 20 is mounted for reciprocatory movement and provided with oppositely disposed cams 21 and 22 coacting with the rollers on the cross pieces and abutment so that as the actuating rod is reciprocated one cam acts to move the gauge bar in one direction and the other in the opposite direction.

The actuating rod is preferably controlled by a pair of cylinders 23 arranged in alinement with the actuating rod, the pistons 24 being connected to the ends of the actuating rod by the pitmen or connecting rods 25. The source of air supply under pressure 26 is controlled by a three-way valve 27 shown conventionally in the drawings.

With this arrangement of parts I provide a powerful actuating means for the gauge bars so that heavy bodies of sheets may be quickly positioned relative to the cutter.

I have illustrated and described my improvements in an embodiment which I regard as very satisfactory. I have not attempted to illustrate and describe certain details and adaptations which I contemplate as it is believed the disclosure made 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, a gauge bar slidably mounted on said support, pairs of actuating slides for said gauge bar slidable in said support, cross pieces connecting the outer ends of said actuating slides, abutments disposed in opposed relation to said cross pieces, pairs of retracting slides slidable in said support, cross pieces connecting the outer ends of said retracting slides, abutments on said support arranged in opposed relation to said cross pieces on said retracting slides, an actuating rod provided with oppositely disposed cams coacting with said cross pieces and abutments whereby the gauge bar is adjusted by the reciprocation of said actuating rod, and cylinders disposed longitudinally of said actuating rod and each provided with plungers connected to said actuating rod.

2. 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, a gauge bar slidably mounted on said support, pairs of actuating slides for said gauge bar slidable in said support, cross pieces connecting the outer ends of said actuating slides, abutments disposed in opposed relation to said cross pieces, pairs of retracting slides slidable in said support, abutments on said support arranged in opposed relation to said cross pieces on said retracting slides, and an actuating rod provided with oppositely disposed cams coacting with said cross pieces and abutments whereby the gauge bar is adjusted by the reciprocation of said actuating rod.

3. 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, a gauge bar slidably mounted on said support, pairs of actuating slides for said gauge bar slidable in said support, cross pieces connecting the outer ends of said actuating slides, abutments disposed in opposed relation to said cross pieces, and an actuating rod provided with cams coacting with said cross pieces and abutments whereby the gauge bar is adjusted by the reciprocation of said actuating 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, gauge bar actuating slides disposed at the ends of said support, gauge bar retracting slides, and an actuating rod provided with cams coacting with said slides, said support being provided with supporting abutments for said cams.

5. In a structure of the class described, the combination of a table, a gauge bar, supporting slides at the ends of said gauge bar, an actuating rod mounted to reciprocate in a plane parallel to said gauge bar, and cams on said actuating rod operatively associated with said slides whereby the gauge bar is positively actuated and retracted.

6. 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, gauge bar actuating and retracting slides on said support, and actuating cams disposed in coacting pairs and coacting with said slides.

7. In a structure of the class described, the combination of a table, a gauge bar, supporting slides at the ends of said gauge bar, and actuating cams disposed in coacting pairs and operatively associated with said slides whereby the gauge bar is positively actuated and retracted.

In witness whereof I have hereunto set my hand.

CLARENCE O. THORNE.