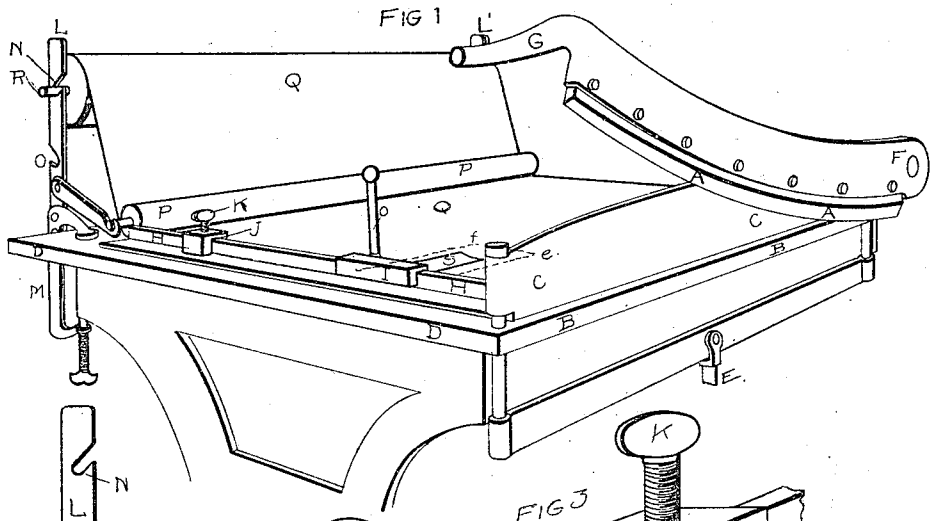
W. E. REAVIS.

CLOTH FEEDING ATTACHMENT FOR BINDERS' BOARD SHEARS.

APPLICATION FILED APR. 28, 1917.

1,285,377. Patented Nov. 19, 1918.

FIG 1



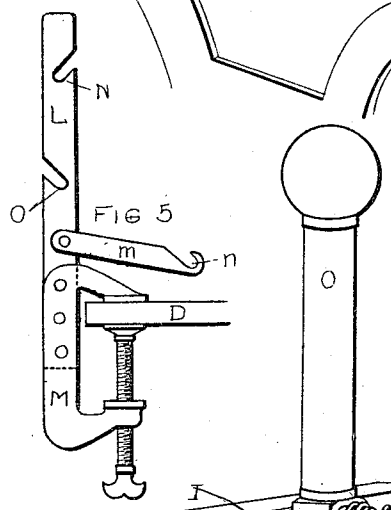


FIG 5

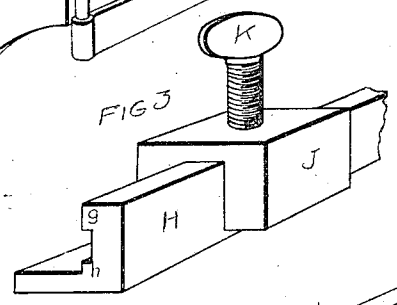


FIG 3

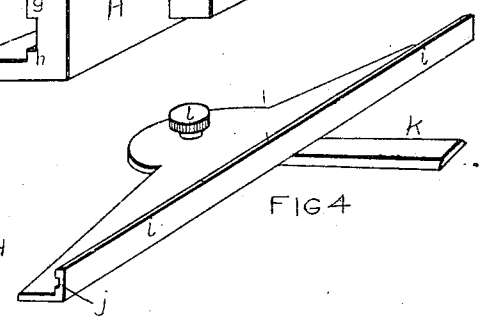


FIG 4

FIG 2

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UNITED STATES PATENT OFFICE.

WINFRED ELMO REAVIS, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO PACIFIC LIBRARY BINDING COMPANY, OF LOS ANGELES, CALIFORNIA, A CORPORATION OF CALIFORNIA.

CLOTH-FEEDING ATTACHMENT FOR BINDERS'-BOARD SHEARS.

1,285,377. Specification of Letters Patent. Patented Nov. 19, 1918.

Application filed April 28, 1917. Serial No. 165,134.

To all whom it may concern:

Be it known that I, WINFRED ELMO REAVIS, a citizen of the United States, residing at Los Angeles, county of Los Angeles, State of California, have invented a new and useful Cloth-Feeding Attachment for Binders'-Board Shears, of which the following is a specification.

My invention relates to an attachment for binder's board-shears, or table shears, as used in the bookbinding and allied industries, by means of which cloth, or other material of similar form, supported in rolls on or above the table of the shears, is moved at intervals, in measured lengths, into position for cutting with the shears. The objects of my improvement are, first by means of a suitably placed gripper mechanism to grip the rolled cloth near its one end, unroll and move it forward between the shear blades into position for cutting; second, while the operation of cutting is in progress, to release the gripper mechanism from its hold on the cloth and move it away from the shears to a stop placed at a measured distance therefrom; and, third, to repeat the first and second operations in sequence until the desired number of cuts are made, varying the position of the back stop when other lengths are desired.

A further object of my improvement is to provide an attachment by means of which any usual design of binder's board-shears may be readily converted into a cloth-cutting machine to perform work now commonly done by hand; and which attachment is simple, easily placed in position and easily removed when not in use.

I attain these objects by the mechanism illustrated in the accompanying drawing, in which—

Figure 1 is a view in perspective of a usual type of binder's board-shears, with my cloth feeding attachment added; Fig. 2, a view in perspective of the gripper mechanism of my attachment; Fig. 3, a view in perspective of a portion of the bar on which the gripper mechanism travels, and of the movable stop; Fig. 4, a view in perspective of the side table-guide commonly used on binder's board-shears; and Fig. 5, a side elevation of one roll-carrying rack of my attachment. Similar letters refer to similar parts throughout the several views.

The principal parts of my attachment (all shown in Fig. 1) are the roll-carrying racks L and L′; the gripper mechanism O, I, S; the bar H; and the back stop J; the clamp C of the board-shears serves as front stop, thus limiting the movement of the gripper mechanism O, I, S between the two stops J and C.

It is convenient to permanently attach the bar H to the table of board-shears of the common type without interference with the regular uses of the shears, but the spirit and intent of my invention will not be departed from if other methods of attachment are employed, nor if the bar H is entirely eliminated, as may be accomplished by mounting the gripper mechanism on one edge of a suitably formed side table-guide of the board-shears. Fig. 4 shows a side table-guide grooved (see *j*) for such a purpose.

In greater detail the drawings may be described as follows:

The table DD, the clamp CC operated by means of a foot lever attached to the connecting element E, the lower shear blade BB fixed on the table DD, and the upper shear blade AA pivoted at F and operated by means of the handle G, constitute the principal parts of the common bookbinder's board-shears to which my attachment is here applied.

The bar HH is screwed to the table DD, on the table's edge nearest the operator, and at right angles to the shear BB, and serves as the track on which the gripper mechanism O, I, S is moved; the adjustable stop J is held in position on the bar HH by means of the thumb screw K; and the cloth holding racks L and L′ are secured to the table DD by means of screw clamps, of which one (M) is shown. N and O are

slots in the rack L for receiving rods passed through rolls of cloth; P is a weighted roller to hold the cloth flat on the table DD; and QQ a roll of cloth unwound from the rod R, passed beneath the weighted roller P, along the surface of the table DD, between the foot S and the plate *ef* of the gripper mechanism O, I, S, under the clamp CC and up to the edge of the shear blade BB.

Fig. 2 shows the important parts of the gripper mechanism; the gripper foot S and the handle O are formed substantially of one continuous piece of metal and pivoted on the axis C set in the block I; this block I supports also the thin plate *eeff* located beneath the gripper foot S, and is grooved at *a* and *b* to receive corresponding tongues *g* and *h* in the bar H (Figs. 3 and 1) on which it is intended to slide. In use, the cloth to be cut is passed between the gripper foot S and the plate *eeff*, against which this foot is held by means of the spring *dd;* pressure exerted by the operator on the handle O forward (*i. e.* in the direction toward the edge *ee* of the plate *eeff* acts in conjunction with the spring *dd* to close the foot S tightly against the plate *eeff* and to grip the cloth placed between these two; pressure exerted by the operator on the handle O backward (*i. e.* in the direction toward the edge *ff* of the plate *eeff* acts in opposition to the spring *dd*, and lifts the foot S from the plate *eeff*.

As the entire gripper mechanism O, I, S when in use is moved backward and forward on the bar H, at intervals, by the pressure of the operator exerted through his hand on the handle O, the cloth is consequently automatically successively gripped and released with the recurring forward and backward movements of the gripper mechanism, and thus fed at intervals in measured lengths between the shear blades for cutting.

Fig. 3 shows a perspective view of a portion of bar H on which is placed the stop J in the form of a clamp grooved to slide on the bar H, and held at any desired position by means of the thumb screw K. The exact form of this stop is immaterial, the requirement being merely to have an easily adjusted stop that will limit the backward movement of the gripper mechanism O, I, S on the bar H.

Fig. 4 shows a perspective view of a recognized type of side-guide, frequently used on binder's board-shears, which is held in position on the table of the shears by means of plate *k* and screw *l* in conjunction with a suitable groove in the table of the shears. The groove *j* when cut in this type of side-guide (Fig. 4) makes it possible to fit the gripper mechanism O, I, S directly onto the side-guide, thus eliminating the use of the bar H (Fig. 1). Another variation, more convenient in the case of certain types of board-shears, is to screw the bar H permanently to the face *ii* of the side-guide, instead of to the table of the shears (as in Fig. 1).

In Fig. 5, the ordinary screw clamp, suitable for quick attachment to the table of the shears (see Fig. 1, M), is made the basis of the cloth roll-rack. An upward extension with the desired number of slots (as O and N) serves to receive rods which support the rolls of cloth, and a similar forward extension *m* serves to receive in its slot *n* the rod of the weighted roller (as P, Fig. 1).

The operation of my improvement, already indicated in the foregoing may be summarized as follows: With the cloth passed from its roll R under the weighted roller P, through the gripper mechanism O, I, S, under the clamp C and up to the shears BB; first by means of foot pressure bring down clamp C firmly onto the cloth; second, with left hand holding handle O move gripper mechanism O, I, S backward, thus automatically releasing cloth, until mechanism O, I, S touches stop J, and at the same time with right hand on handle G bring down shear AA to cut cloth; third, release clamp CC from foot pressure and raise shear AA with right hand; fourth, by means of left hand on handle O move same forward, thus automatically gripping cloth, and continue pressure until gripping mechanism O, I, S is moved forward against clamp C, bringing the cloth with it into position for cutting; fifth, repeat same cycle of operations.

An important feature of my improvement is that the attachment is applicable to all makes of binder's board-shears with but one slight permanent alteration in the original machine, viz: the provision of a track or bar on which to operate the gripper mechanism. I have in the foregoing specification revealed at least three ways of locating this track or bar, and others may be used without departing from the spirit of my invention.

My attachment can, of course, be used as well for paper and other materials, provided only they first be rolled; likewise several pieces may be cut at one time, if so located as to unroll from convenient axes, and if placed together as one in the gripper mechanism.

I claim:

An attachment for binder's board shears or the like, consisting of a track, a stop adjustable on said track, and a gripper mechanism comprising a member slidable on said track, a plate bent at right angles and hav-

ing its vertical portion attached to said member, the horizontal portion of said plate forming a fixed jaw, a broad jaw pivoted at one side thereof to said member and adapted to coöperate with said fixed jaw, a handle extending from the other side of the pivotal point of said movable jaw, and a yielding means to press the movable jaw in engagement with the fixed jaw.

W. ELMO REAVIS.

Witnesses:
STELLA MORSEY,
A. D. DAYTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."