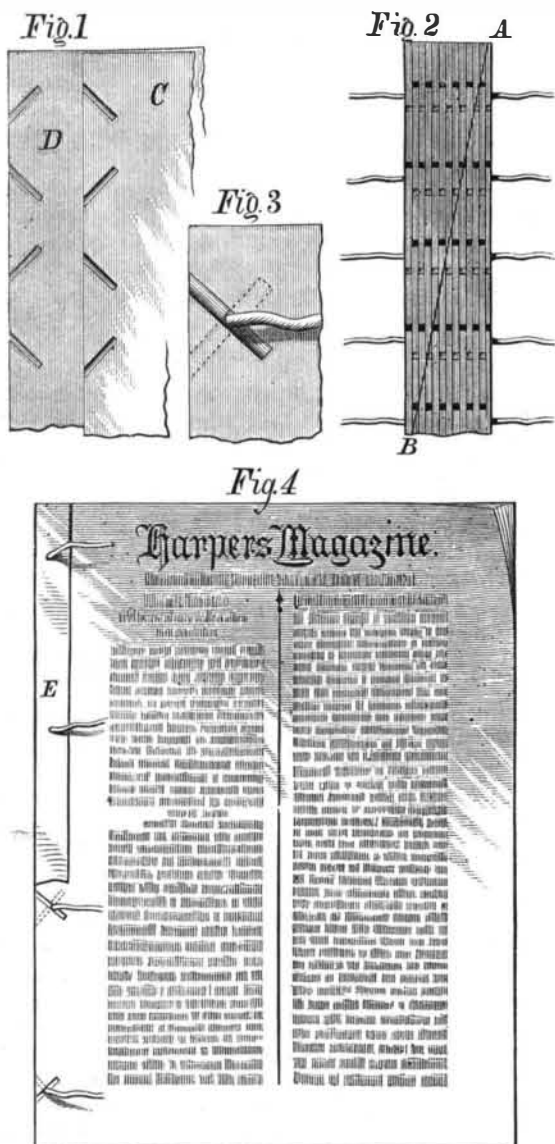


**A NEW METHOD OF BOOKBINDING.**

The annexed engravings represent a new system of binding books, for which a number of important advantages are claimed. It obviates stitching, allows of each leaf being firmly secured, and hence is especially well suited for single-leaved books. It admits of plates and maps being bound in their proper places instead of being pasted in, and renders the book much stronger and more durable. The inventor claims a saving of 40 to 75 per cent of the time required for stitching, and of 50 per cent of the time needed in ordinary rebinding work.

The mode of operation is as follows: On receiving the sheets, the binder folds them and places them in consecutive order, according to the printer's signature. The front and bottom edges of the book are then trimmed so as to obtain two straight sides; and the backs of the sheets are cut off, transforming them into single leaves. Horizontal lines are now marked with pencil across the back of the book for the saw cuts; and a diagonal line, A, B, Fig. 2, is drawn to serve as a guide in replacing the leaves in their proper places. A thin coat of glue is next applied to the back; and when this is dry, the book is divided into sections of from four to eight leaves (without counting them) entirely disregarding the printer's signatures, but placing the sheets in their original order. The binder places the first section removed at his right hand, the next at his left, and so on,



forming two piles. Each pile is then straightened, and in the back of each, a little below the transverse lines, are made bevel cuts with the saw. Said cuts are  $\frac{1}{4}$  inch in length, inclined at an angle of  $45^\circ$ , and so placed that one half their length is above and the other half below the marked line. When one pile of sheets is thus sawn, the other pile is similarly treated; but the corresponding cuts are made at relatively opposite angles. This will be understood from Fig. 1, in which C represents the edge of the right hand pile, for example, and D that of the left hand pile.

The sections of each pile are now returned in their regular order, according to the printer's signatures. Should a section have been misplaced, the diagonal line, being thus broken, will show the fact. It will be seen, however, that this arrangement involves the alternate use of sheets from each pile, so that, when all are put together, the beveled cuts will cross or form dovetails, as shown in Fig. 3. Half inch strips of white paper muslin, E, Fig. 4, are next pasted around the back edges of the first and last sections. This is done to strengthen the hold of the twines in the back of the book, said sections necessarily bearing the whole strain of the covers. The twine used corresponds in size to the holes made by the coincidence of the beveled saw cuts. This twine is passed through the holes by means of a blunt darning needle. The back of the book is shown in Fig. 2; and in Fig. 4 the twines are represented as passed. Nothing further remains to be done but to paste in the fly-leaves and lining, and finish the book in the usual manner.

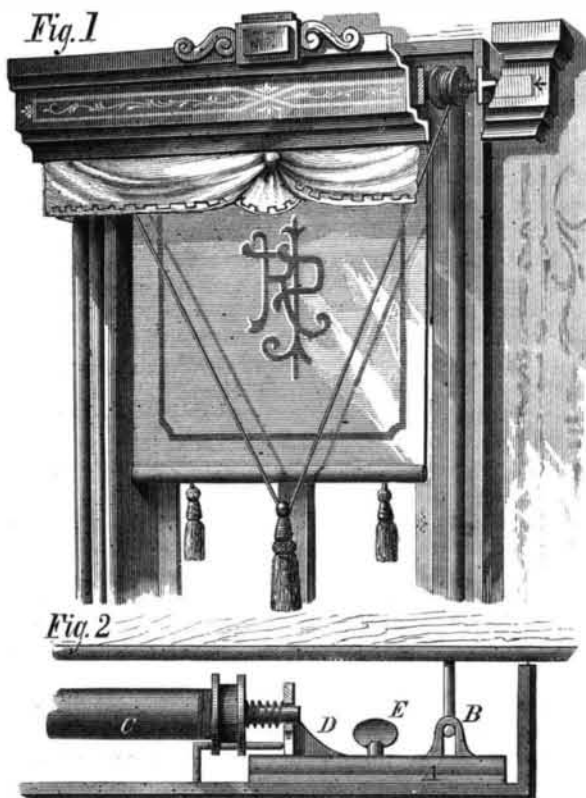
It is evident that this is a very much stronger method of securing the leaves than that in which the twine is simply laid and glued in a straight cut. Each leaf is independently

fastened; and the thread is prevented from cutting through, as is commonly the case when the book has been used to any great extent. Books can be bound to open more or less as desired; and in rebinding, instead of taking the book apart and cutting threads, a thin shaving is sliced off the back, and the leaves are treated in the manner already described.

Patented March 20, 1877, by Mr. Florenz E. Schmitz. For further information, address Messrs. Schmitz and Slosson, box 1180, Middletown, Orange county, N. Y.

**IMPROVED CURTAIN FIXTURE.**

We illustrate herewith an improved curtain fixture, which may be adjusted to windows or curtains of different widths, and is adapted for use in connection with different means for raising and lowering the curtain. Fig. 1 represents the device in place, a portion of the cornice being broken away to exhibit it; and Fig. 2 shows the same in detail.



Attached to the cornice are guides, A, in which are sliding loops, B. The latter may be adjusted to suit the position of the hooks placed in the window case to sustain the cornice, so that said hooks need not be set with any particularity. The curtain roller, C, has both its ends screw-threaded, to receive hollow pulleys, as shown. The spindles projecting from these pulleys are inclosed in coiled springs which press against the bearings, D, and so hold the shade in any position in which it may be placed. The bearings, D, are clasped in the ways, A, and are laterally adjustable. Sliding blocks are also arranged in said ways, and through each block passes a set screw, E. It will be perceived that the bearings may be readily adjusted to curtains of different widths, and the parts may afterward be locked in position by the set screws, E. The curtain may be raised or lowered by cords wound on the hollow pulleys.

Patented December 5, 1876, by Mr. R. J. Pospisil. For further particulars relative to sale of patent, address the Penn Patent Agency, 133 South Second street, Philadelphia, Pa.

**BOOT AND SHOE MACHINERY.**

No manufacturers have taken greater advantage of the ingenuity of the mechanical engineer than the American

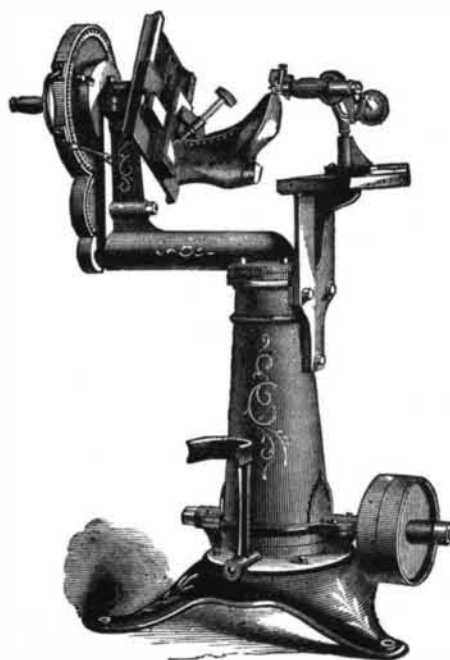


Fig. 1.

boot and shoe makers. Nearly every operation in the complex process of evolving finished boots from the plain skins

of leather is the object of a special class of machinery; and for several years past, we have weekly chronicled the patenting of several improvements in the devices for effecting some of the numerous operations. We present herewith a series of eight labor-saving machines of the most approved construction, which we select from Knight's "American Mechanical Dictionary."\*

Fig. 1 is a shoe-edge trimmer, in which the shoe is mounted on a jack, the carriage of which has a motion of translation and rotation communicated to it: so that, while the side of the sole is being trimmed, the shoe is fed longitudinally against the knife, but at the toe and heel is rotated beneath it. The knife is universally jointed, to permit the hands of the operator to determine the different bevels cut.

Fig. 2 is an ingenious little machine for placing the eyelets of the lace holes in position, and fastening them. The eyelets are fed, one by one, from the reservoir at the top, down the inclined ways, and are seized at the foot between the plunger and anvil, and they are riveted in their proper places in the shoe or strip of leather, which is held and fed by the operator.

Fig. 3 is a machine in which a shoe or boot is chucked and revolved against a burnishing tool, to impart a smooth and elegant finish to the heel. Our engraving shows a machine with what is called in the trade a "hot kit," a heated burnishing tool, with a flexible gas pipe of sufficient length, which follows the oscillations of the burnishing stock, a, and which conveys gas to the interior of the tool, where it is burnt in a jet. The tool is made to reciprocate over the surface of the heel, passing from breast to breast at each oscillation with an elastic pressure.

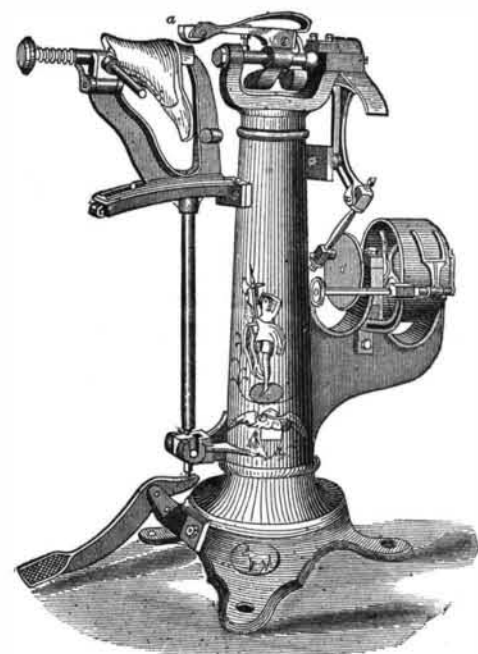


Fig. 3.

Fig. 4 is a machine for pressing together the "lifts" which compose a boot or shoe heel, thus dispensing with the handiwork of the hammer and lapstone. The bed is adjusted vertically by a screw to any thickness to which the blank heel may be built; and the plunger is brought down by the depression of the treadle with such force as to compact the lifts together.

Fig. 5 shows a heel-pricking machine. When the lifts of the heel are fairly pressed together by the appliance shown in Fig. 4, the pricking machine pierces the necessary holes through all the lifts at once by a gang of awls. The compressed heels are first secured together by tacking, and then placed on the platen; and the plunger, with its gang of awls, descends with great force.

Fig. 6 is a heel trimmer, known in the trade as the Coté trimmer. The shoe is held stationary by the treadle clamp; and the knife stock, which is centrally pivoted to the outer plate or jaw bearing upon the tread lift, is then grasped in the hands of the operator, and moved to give a sweeping cut to trim the heel.

Fig. 7 is a machine for pressing boot soles. Beneath the

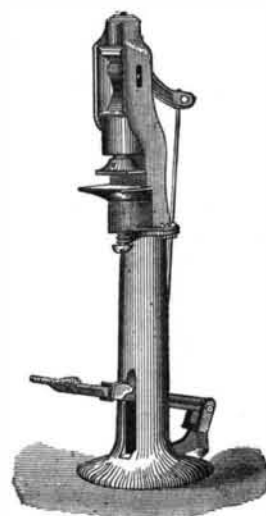


Fig. 4.

\* Published in numbers by Messrs. Hurd & Houghton, New York city.