Nov. 22, 1955 J. V. CAVALERO 2,724,201

MACHINE FOR APPLYING LEAF EDGES TO BOOKS

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Fig. 1

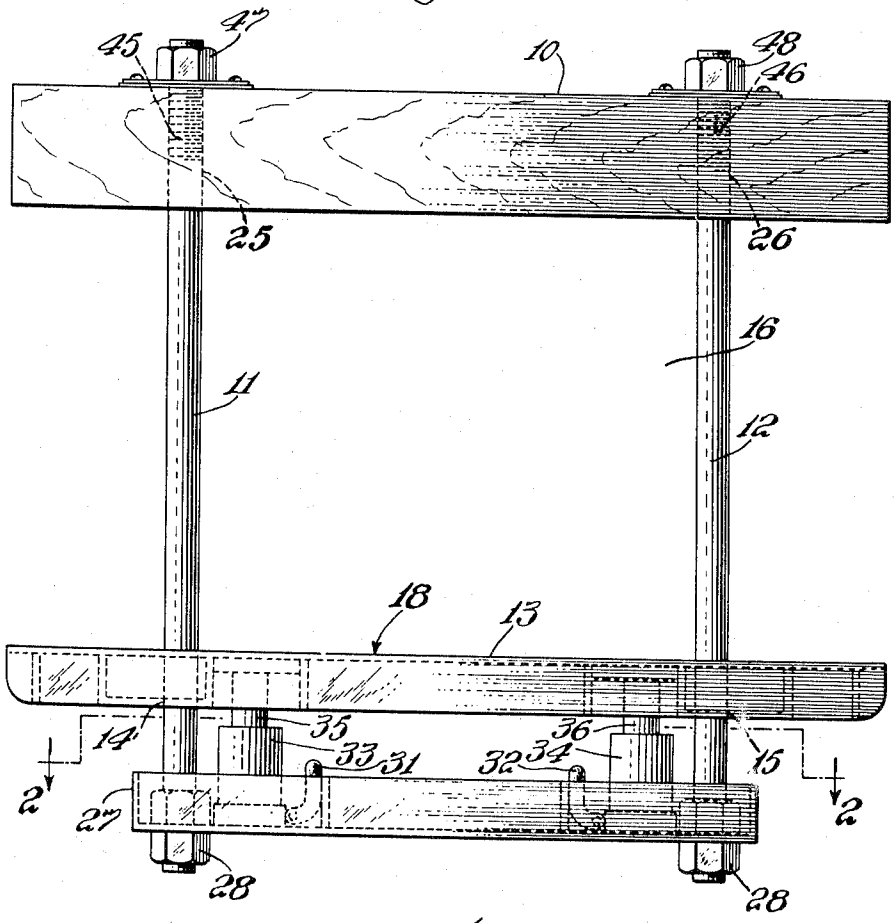

Fig. 2

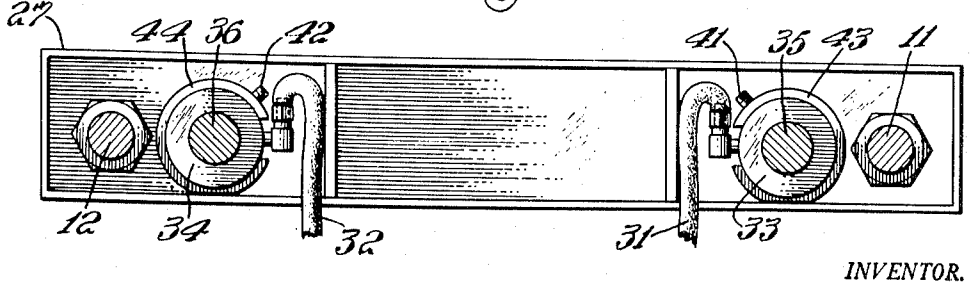

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Fig. 3

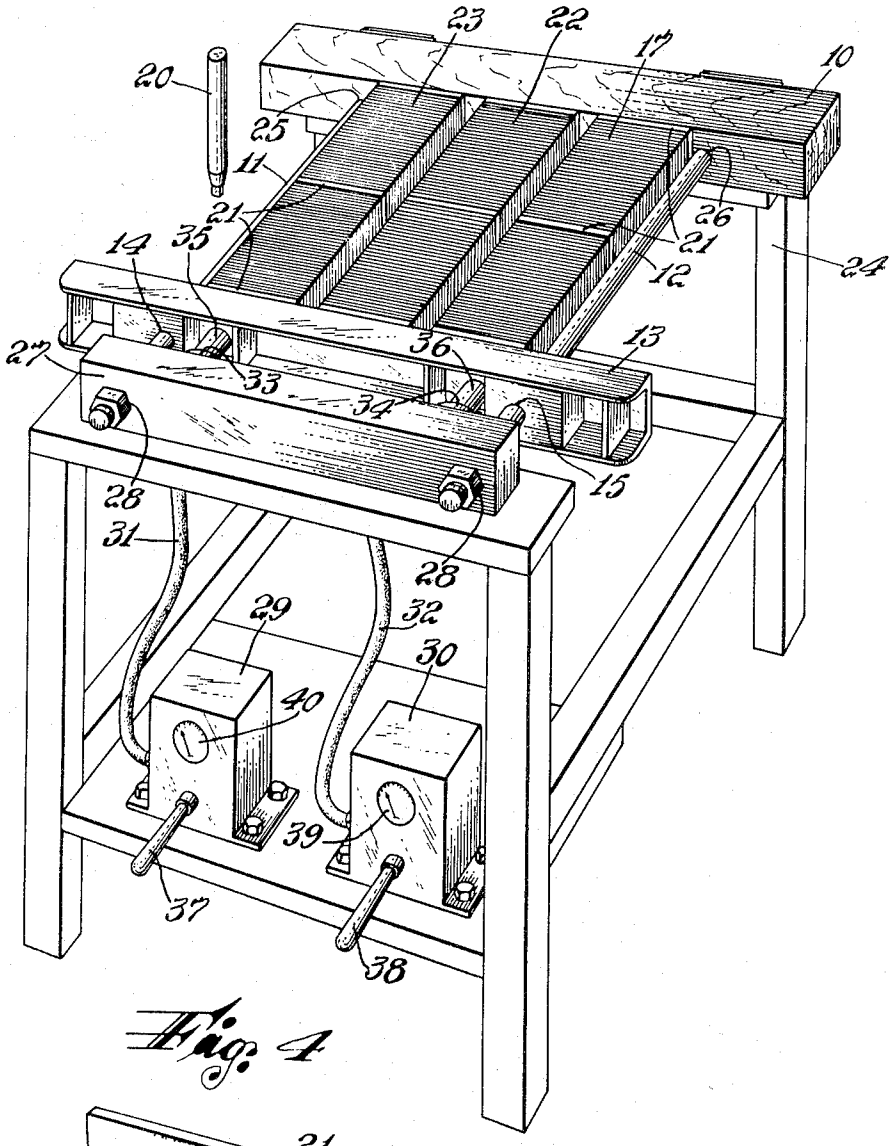
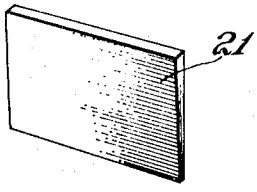


Fig. 4



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MACHINE FOR APPLYING LEAF EDGES TO BOOKS

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1 Claim. (Cl. 41—1)

This invention relates to methods of and machines for applying leaf edges to books. The application of leaf edges to religious and other works, pursuant to the method and apparatus of this invention, may be performed in a highly efficient and economical manner and with uniformly accurate results.

In the accompanying drawings, and the description below, the method of this invention is set forth in connection with a typical machine which may be used in carrying it out.

As will appear from a consideration of the drawings and description, the method may be carried out in machines of other forms; such variations in the machine as well as in the method, within the scope of the appended claim, shall be deemed to be within the purview and comprehension of this invention, and covered by this application.

In the drawings:

Fig. 1 is a top plan schematic view of a machine embodying the invention,

Fig. 2 is an enlarged, fragmentary elevational view thereof, taken on line 2—2 of Fig. 1,

Fig. 3 is a perspective view of one form of such machine, and

Fig. 4 is a perspective view of a form of wedge device which may be used in connection therewith.

As shown in the drawings, the machine of my invention comprises a stop bar **10** to which a pair of rail rods **11, 12** are connected in parallel spaced relation, as shown in Fig. 1. A bearing plate **13** is movably disposed on said rods, as, for example, by being provided with openings **14, 15**, freely receiving said rods. The stop bar **10**, rail rods **11, 12**, and bearing plate **13**, define an opening **16** therebetween for the reception of bank of books **17** which are to have leaf applied to an edge thereof. The leaf is preferably applied to the edge of the books initially in any suitable manner, as, for example, by manually positioning the leaf on said edges. In the normal procedure followed to that end, a single sheet of gold leaf would cover the edges of a plurality of books in length, and such sheets would be applied in overlapping relation. The bank of books **17** positioned in the opening **16** will have had applied to the edge thereof to be treated, the sheets of gold leaf (or other leaf sheets). The bank of books is firmly secured in the opening **16** pursuant to the present invention, and a burnishing tool **20** (Fig. 3) is reciprocated on said bank of books to burnish said leaf into the edges of the book. Pursuant to the present invention, the book edges to be treated are held in firm, tight relation for the burnishing step. Toward that end, preferably there are interposed one or more wedge members **21** (Fig. 4) disposed in downwardly tapered position between the bearing face **18** (Fig. 1) of the plate **13** and the stop bar **10** and in contact with said bank of books. If desired, more than one wedge member may be so inserted, as shown, for example, in connection with the bank **17** of books in Fig. 3. Other banks of books, as, for example, shown at

22, 23, in Fig. 3 may be similarly disposed intermediate the stop bar **10** and bearing plate **13**, pursuant to the invention, so that, for example, several banks of books may be positioned for burnishing at one setting pursuant to this invention. The burnishing tool **20** may be manipulated by the workman along the edge of the book, to burnish the leaf thereinto; then, upon moving the bearing plate **13** away from the stop bar **10**, the banks of books may be removed. In the convenient form of the invention shown in Fig. 3, the stop bar **10** is shown mounted on a frame indicated at **24**, and the stop bar is provided with openings **25, 26** (Fig. 1) through which the rail rods **11, 12** pass. The forward ends of the rail rods are secured to the forward end **25** of the frame, as, for example, by passing said forward ends of the rail rods through an extended housing **27** rigidly secured to the forward end of the frame. Anchoring means **28** may be used to secure the forward ends of the rail rods to said housing **27**. The movably disposed bearing plate **13** may be actuated by hydraulic means generally indicated at **29, 30**, having hydraulic conduits **31, 32** connecting the hydraulic means **29, 30** to hydraulic cylinders **33, 34** (Fig. 2) in which pistons **35, 36** are reciprocated, responsive to hydraulic pressure on actuation of the hydraulic means **29, 30**. The means for actuating the latter may be of any desired or convenient type, as, for example, the levers **37, 38**, which may be manually operated so as to pump the hydraulic fluid and thereby move the plate **13** toward the stop bar **10** to effect compression of the banks of books between the members **10, 13**. In the compression action above noted, wedge members **21** preferably cooperate so that the upper edges of banks of books which are to be burnished are compressed most tightly intermediate said members **10, 13**.

The method and machine of this invention have been found in practice to be highly efficient in operation and to enable the rapid and economical processing of banks of books for application thereto of burnished leaf edges, in a highly uniform and satisfactory manner. The hydraulic means may be provided with accessory devices such as, for example, the pressure gauges **39, 40**. The cylinders **33, 34** may be secured directly to the housing **27** or may be locked as at **41, 42** to casings **43, 44** on the housing **27**, as shown in Fig. 2. The rearward ends of the rail rods **11, 12**, which pass through the stop bar **10**, may be threaded as shown at **45, 46**, so that, by taking up on the nuts **47, 48**, the distance between the bearing plate **13** and stop bar **10** may be varied independently of hydraulic means **29, 30**. The term "hydraulic" as herein used is defined to mean any controllable pressure-exerting medium.

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

A machine for a plurality of parallel clamping banks of books with their edges exposed in a plane for the burnishing of leaf applied thereto; comprising a frame, an elongated horizontally disposed housing secured to one end of the frame, an elongated stop bar supported in the opposite end of the frame in spaced parallel relation to the said housing, a pair of laterally spaced parallel rods disposed at right angles to said housing and said stop bar, corresponding ends of said rods being secured to said housing, said stop bar being provided with a pair of apertures through which the opposite ends of said rods loosely extend, said opposite ends being threaded, nuts on said threaded ends engaged with said stop bar and being adjustable for varying the spacing between said housing and said stop bar, an elongated bearing plate disposed between said housing and said stop bar in parallel relation therewith and being provided with a pair of apertures loosely receiving said rods, said stop bar, rods and bearing plate providing a rectangular

space within which a plurality of parallel banks of books are adapted to be positioned for simultaneous clamping action thereon through said stop bar and said bearing plate, a pair of spaced hydraulic cylinders supported within said housing and disposed between same and said bearing plate, pistons cooperating with said cylinders and individually operatively engaged with said bearing plate, and a plurality of wedges separately insertable between the books in the individual banks for equalizing the pressure in all the banks while being simultaneously clamped in operative position.

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