

PATENTED DEC. 1, 1903.

NO MODEL.

Fig. 1.

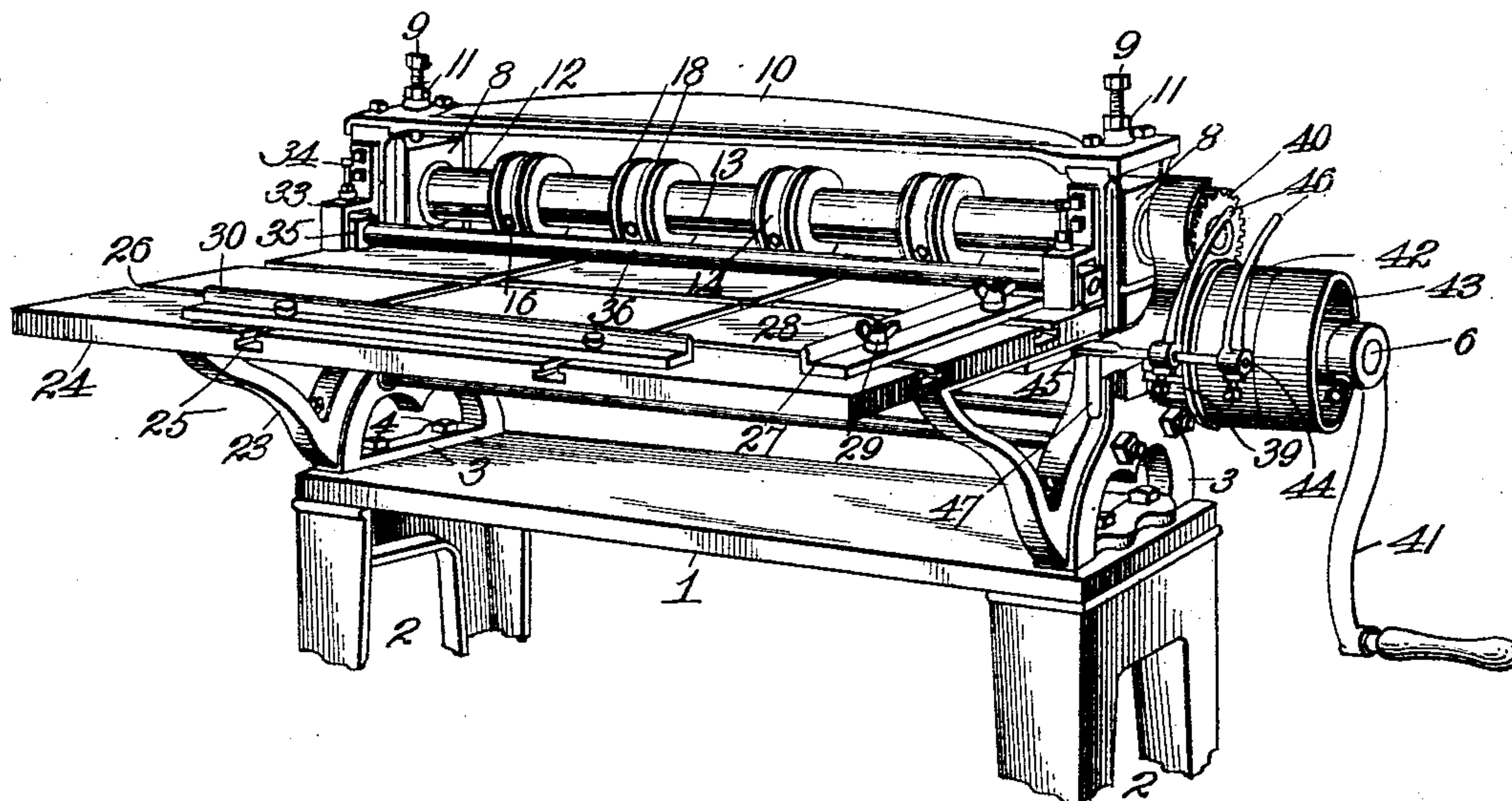


Fig. 2.

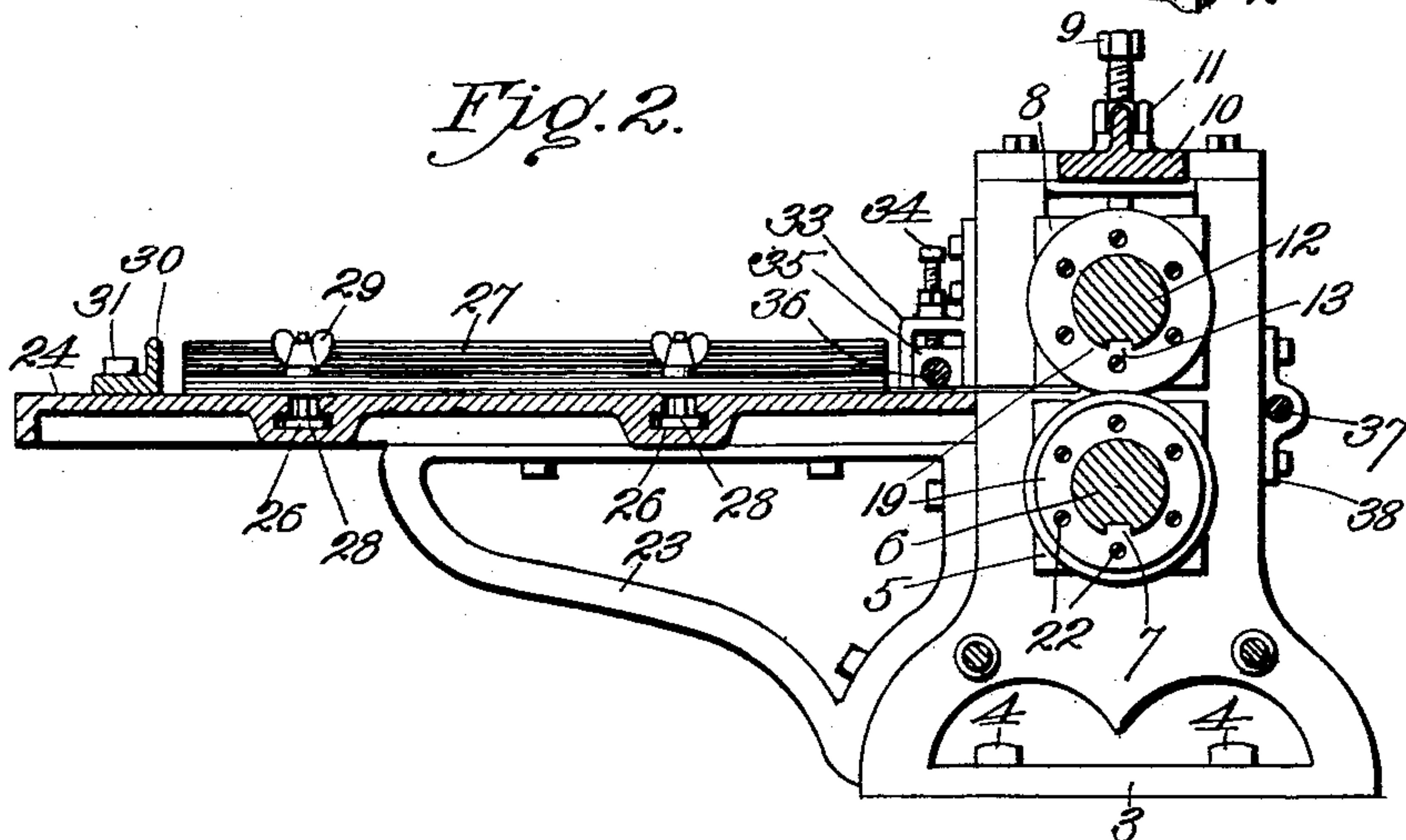


Fig. 3.

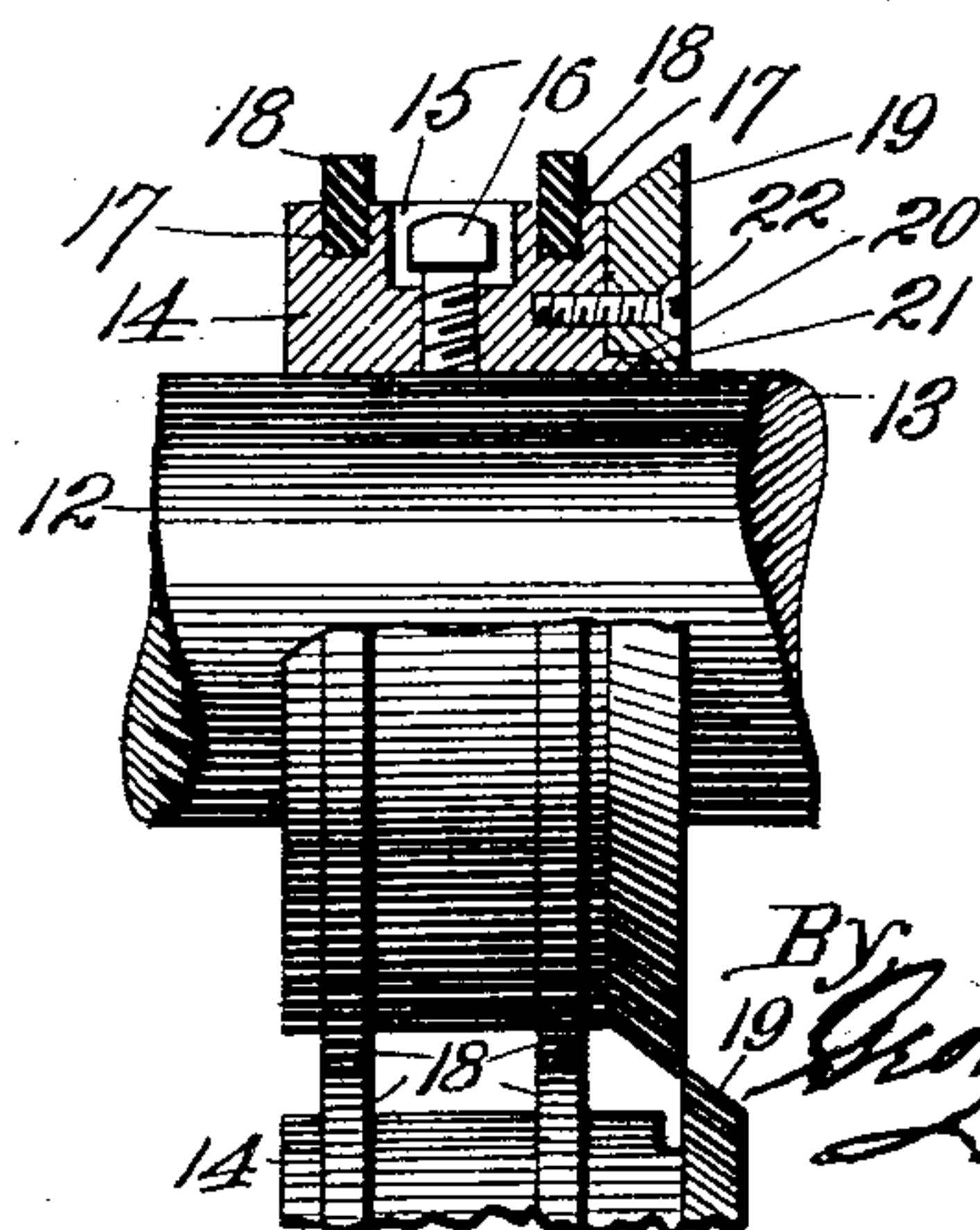
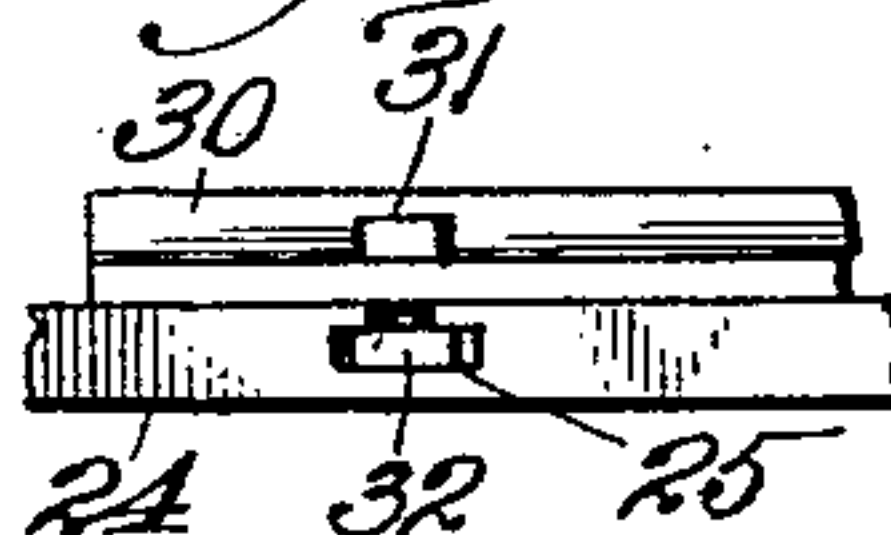


Fig. 4.



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UNITED STATES PATENT OFFICE.

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GANG SLITTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 745,967, dated December 1, 1903.

Application filed November 24, 1902. Serial No. 132,571. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MAGNIEN, a citizen of the Republic of France, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Gang Slitting-Machines, of which the following is a specification.

My invention relates to gang slitting-machines; and my object is to produce a machine of this character which will accurately, rapidly, and easily cut sheet-stock in strips of any desired width within its capacity for the bodies of cans to contain fruit, milk, meat, vegetables, baking-powder, and a great variety of other goods.

A further object is to produce a machine of this character of simple, compact, strong, rigid, durable, and comparatively cheap construction.

To these ends the invention consists in certain novel and peculiar features of construction and combinations of parts, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a perspective view of the upper portion of a machine embodying my invention. Fig. 2 is a vertical cross-section of the same. Fig. 3 is an enlarged detail showing the relative positions of the upper and lower cutting-wheels, one of them being shown partly in section. Fig. 4 is a front view of a part of the table and feed-bar.

Referring to the drawings in detail, 1 designates the base-plate, which may form the top of the bench, of which 2 designates the legs, or it may, independent of said legs, form a connecting-plate for the vertical standards 3, bolted to it at 4. These standards 3 are of the usual bifurcated type to receive the stationary boxes 5 of the lower shaft 6, provided with a longitudinal groove 7, said boxes being by preference made of hard bronze and accurately fitted, while the shaft is of forged steel, heavy and strong, so as to do away with any possibility of springing, the slightest variation in the shaft endangering the cutting-wheels hereinafter described.

8 designates a pair of similar boxes in the upper portion of the bifurcated brackets and adapted to slide up or down therein, according to the direction in which set-screws 9 are

turned, said set-screws being swiveled in the customary manner to the boxes and mounted in the end portions of a bar 10, secured at its ends to the upper ends of said standards, lock-nuts 11 being used to guard against accidental movement of the set-screws.

12 designates the upper shaft, the same being parallel with shaft 6 and journaled at its ends in adjustable boxes 8. It is also provided with a groove 13.

Mounted on each shaft are cutting-wheels constructed as follows: 14 designates a hub having a central cavity 15 in its periphery whereby access may be had with a suitable wrench to the head of the set-screw 16, mounted in the hub and projecting into and bearing upon the base of the registering groove of the shaft and thereby securing the hub at the desired point of adjustment. At opposite sides of said cavity the hub is provided with annular grooves 17, wherein are tightly secured in any suitable manner rubber rings 18, the latter projecting beyond the periphery a distance about equal to the projection of the beveled cutting edge of the circular cutter 19, the said cutter being formed with an annular groove 20 to receive a corresponding flange 21 of the hub. The cutter is clamped rigidly to the hub by means of screw-bolts 22, so that in case of injury to the cutting edge it will not be necessary to replace the hub as well as the cutter.

Secured to standards 3 and projecting forwardly therefrom are brackets 23, carrying horizontally a feed-table 24, having parallel grooves 25 extending at right angles to the shafts and parallel grooves 26 intersecting and extending at right angles to the first-named grooves. An angular gage-plate 27 extends parallel to the first-named grooves for the purpose of insuring that the stock fed to the cutting-wheels shall follow the desired course. The said gage is adjustable to accommodate stock of different dimensions through the medium of bolts 28, extending vertically through the gage and having headed ends engaging grooves 26 and their threaded upper ends engaged by clamping-nuts 29. An angular feed-bar 30 upon the feed-table and extending parallel to the shafts is provided with bolts 31, having headed or enlarged ends 32 in grooves 25 to guide said bar in its move-

ments and to hold it down to its work of feeding the stock to the rollers. As the peculiarity of construction and relation existing between feed-table gage 27 and feed-bar 30 is common in other machinery it is deemed unnecessary to describe it further.

33 designates a bracket secured to front side of each standard 3 at the upper side of feed-table, and each of said brackets carries set-screw 34 for raising or lowering its box 35, wherein is journaled the idler-roll 36, said roll being adjusted to barely permit the stock to pass beneath it in order that said stock may be held perfectly flat as it passes between the cutting-wheels, and in order to keep the stock straight as it emerges from the machine after being cut I provide a transverse roll 37, mounted in bearing 38, bolted to the rear sides of the standards.

The shafts are moved in unison through the medium of the intermeshing guards 39 and 40 on the lower and upper shafts, respectively, and movement may be imparted thereto through the medium of the crank 41 on shaft 6 by preference or the fast pulley 42 upon such shaft, the latter being also equipped with a loose pulley 43, so by shifting the belt (not shown) from one to the other the machine may be started or stopped, as desired. To conveniently shift the belt, a belt-shifter is provided, the same consisting of a rod 44, mounted slidingly in an opening 45 in the contiguous bracket 23, a pair of arms 46, adjustably secured on the said rod, and a handle 47, also projecting from the rod.

In the practical operation of the machine the sheet of tin or analogous material is placed upon the table against gage 27 and is fed to the moving cutting-wheels through the medium of the feed-bar 30. The roll 36 insures the passage of the stock to the wheels in straight condition, so that the resilient rings 18 of the upper and lower wheels shall synchronously engage the stock and guide and carry it without slippage in position to be acted upon by the cutting edges of the wheels, the stock emerging from the opposite side of the machine in strips having their longitudinal edges perfectly parallel and cleanly cut, and in order to keep the strips straight the roll 37 supports them until they can be conveniently grasped by an attendant.

It is obvious that the resilient rings by engagement with the stock in lines at opposite sides of the center of the hubs more reliably guide and carry such stock than if a single ring were used, and it will also be apparent that their resiliency or yielding character automatically accommodates stock of varying thickness—that is to say, the lap of the cutting edges of the wheels determines the thickness, but not the thickness of the stock which can be reliably cut by this machine—and to adjust the wheels for stock of greater thickness the set-screws 9 are manipulated in an obvious manner.

From the above description it will be apparent that I have produced a machine embodying the features of advantage enumerated as desirable in the statement of invention, and while I have illustrated the preferred embodiment of such machine it will be apparent that various changes may be resorted to without departing from its spirit and scope or sacrificing any of its advantages.

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

1. In a slitting-machine, a cutting-wheel comprising a hub having a plurality of resilient guide and feed rings upon its periphery, and a cutting-plate of greater diameter than the hub rigidly bolted to one face of said hub.

2. In a slitting-machine, a pair of cooperating cutting-wheels consisting of a hub having a plurality of resilient guide and feed rings projecting beyond its periphery, and a cutting-plate rigidly bolted to one face of said hub and projecting an equal distance beyond its periphery.

3. In a gang slitting-machine, a pair of shafts, cooperating cutting-wheels thereon provided with peripherally-projecting rings of resilient material, a feed-table, a single idler-roll on the feed side of the cutting-wheels, and a single driven roll to receive and support the stock as it emerges from said wheels.

In testimony whereof I affix my signature in the presence of two witnesses.

GEORGE MAGNIEN.

Witnesses:

H. C. RODGERS,
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