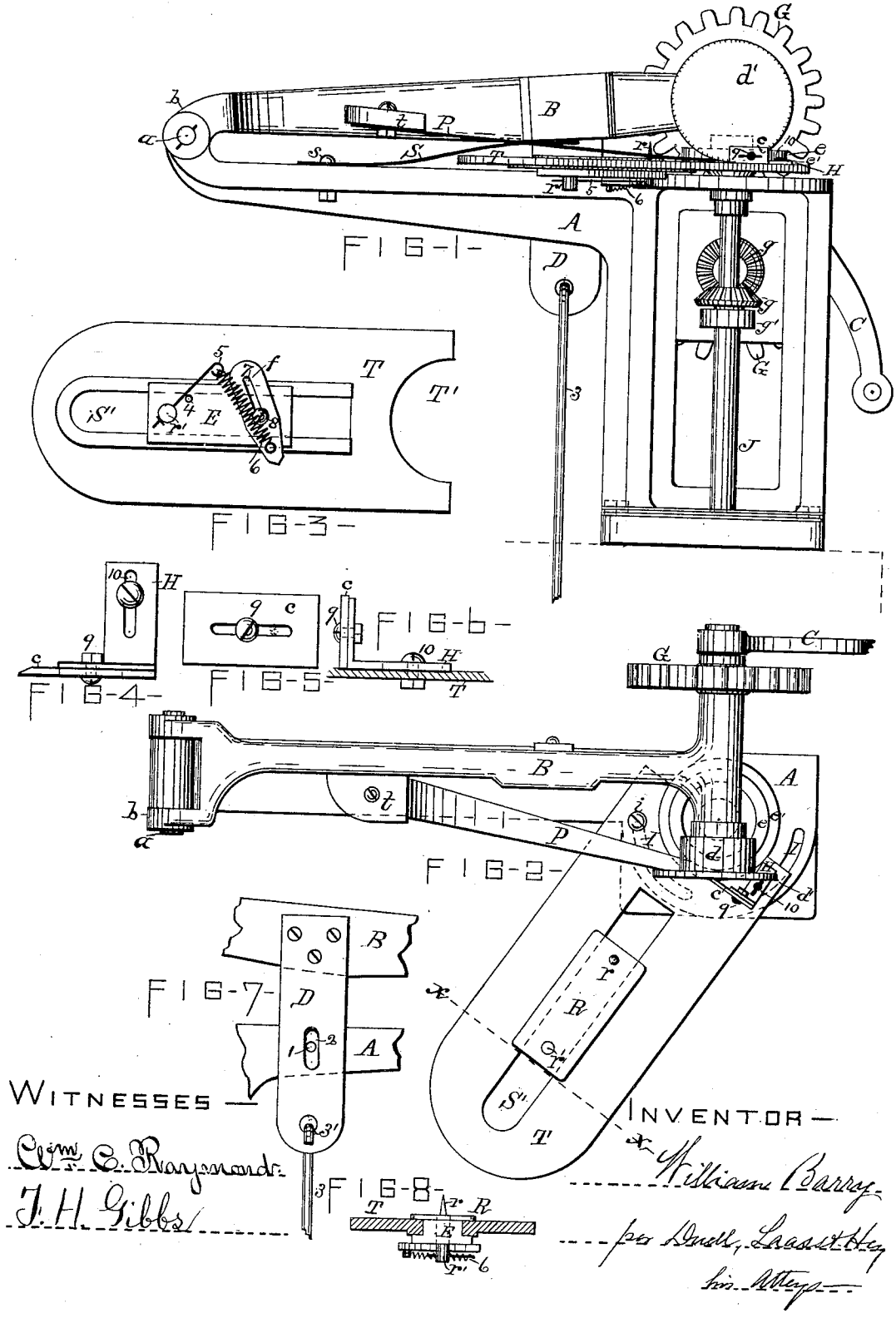
(No Model.)

W. BARRY.

MACHINE FOR CUTTING STRINGS.

No. 266,670. Patented Oct. 31, 1882.



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MACHINE FOR CUTTING STRINGS.

SPECIFICATION forming part of Letters Patent No. 266,670, dated October 31, 1882.

Application filed September 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BARRY, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Machines for Cutting Strings from Straps, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to an improvement in machines for cutting strings of leather or analogous material; and it consists of the novel construction and arrangement of an adjustable platform provided with a sliding carriage upon which the material to be cut is fed, by means of suitable devices for the purpose, to the cutter.

It also consists in the detail construction and arrangement of the various parts of the machine, as more particularly hereinafter described, and specifically set forth in the claims.

The invention is fully illustrated in the annexed drawings, wherein Figure 1 is a side view of my invention, showing the general arrangement of the parts. Fig. 2 is a top plan of the same, showing the adjustable platform or table, sliding carriage, and feeding devices. Fig. 3 is an inverted view of the adjustable platform detached, showing the tension devices. Figs. 4, 5, and 6 are detached details, showing the cutter and cutter-carrier. Fig. 7 is a detail showing pedal attachment; and Fig. 8 is a transverse section on line *x x*, showing the construction of the sliding carriages.

Similar letters of reference indicate corresponding parts in all the figures.

The letter A represents the frame of the machine, constructed as shown in the side elevation, Fig. 1. The projecting arm is provided with a pivotal bearing, to which the carrier-arm B is journaled. A shaft, J, passes vertically between the standards of the frame A, and has at its upper end, on top of the frame, a flanged guide-disk, *e e'*, as clearly shown in the plan view, Fig. 2. The top of the frame A is provided with radial slots I I, Fig. 2. A platform or table, T, constructed as shown in Fig. 3, and having a semicircular indented inner end, T', said indentation T' coinciding with the periphery of the guide-disk *e e'*, is secured on top of the frame A, as shown at Fig. 2, and is adjustably attached to the frame by means of screws *i i*, passing through the inner end of the platform T and the radial slots I I in the top of the frame A. The platform T has a slot, S', lengthwise through its center, extending nearly from end to end thereof. A carriage consisting of the ⊥-shaped body E, riding within the slot S', and the pivoted piece R on the top of the platform, serves to carry the material to be cut centrally toward the cutter. The pivoted piece R has a spike, *r*, upon which the material to be cut is centered and fed. The material to be cut into strings is first cut circular, and the center thereof is placed onto the spike *r*, and the carriage R is then slid or moved forward or backward on the platform T until the material is properly adjusted to the desired cut, and when the feed is actuated the carriage moves forward centrally in the slot S', thus preserving the proper center upon which the leather disk turns, and keeping it coincident with the flanged guide-disk *e e'*, thus securing a uniform width of cut as the diameter of the disk diminishes.

At the inner end of the platform T the cutter-carrier H (shown in Figs. 4 and 6 in detail) is secured. The carrier H consists of an L-shaped bracket adjustably attached to the platform T by means of a screw, 10, which passes through an elongated slot in the bracket of the platform.

The cutter *c* has a chisel-shaped cutting-edge, and is also slotted lengthwise to allow setting forward as its edge is worn off in grinding. A screw, 9, Figs. 4, 5, and 6, passing through the slot in the cutter *c* into the bracket H, serves to hold the cutter firmly in its operative position on the bracket.

The carrier-arm B terminates in a forked joint, *b*, on its outer end, through which passes the pivot *a*, serving to hinge the arm to the frame A. The inner or free end of the arm B terminates in a T-shaped bearing, through which the shaft of the actuating-crank C passes. A flat spring, S, secured to the upper side of the frame A by a screw-bolt, *s*, Fig. 1, bears against the arm B and forces the arm B and the feed-disk *d'* up and out of contact with the disk *e e'* on the frame A.

The disk *d d'* is secured to the inner end of

the crank-shaft journaled in the carrier-arm B, and stands vertically and at right angles to the disk *e e'*. Motion is communicated directly to the disk *d'* by turning the crank C, and by the twin gears G G and the bevel-gears *g g* the same is transmitted to the disk *e e'*, which is geared to run at right angles to the movement of the disk *d'*. The periphery of the disk *d'* is knurled for the purpose of adhering to and drawing the material to be cut onto the cutter.

It will be observed that the flanged disks bear at right angles to each other upon the periphery of the vertical disk *d'* and near the circumference of the horizontal disk *e'*, and that a guide-passage for the string to be cut is formed by the shoulders of the flanges *d e*, while the movement of the disks serves to draw or feed the material to be cut onto the cutter.

In describing the foregoing flanged disks the reference-letters *d d'* and *e e'* are interchangeably used to represent the disks and flanges.

In order to prevent the edge of the material to be cut from curling up as it is fed forward to the cutter, I provide a presser-bar, P, the upper end of which is secured to a lug, *t*, cast on the hinged arm B, as shown at Fig. 2; the foot of the presser-bar P comes in close proximity to the guide-passage between the flanged disks and effectually prevents the extended edge of the material from curling up.

Upon one side of the arm B, I attach a strap, D. This strap has a slot, 2, through which a pin, 1, in the frame A passes. The lower end of the strap is provided with a hole, through which a hook, 3', of the pedal-connection 3 passes. The pedal thus connected serves to bring the disk *d'* into action after the material to be cut has been adjusted in position. Suitable collars, *g'*, are applied to the shafts to retain the gears *g g* in their operative position. The carriage-top R is pivoted to the body E at *r'*, upon which the circular disk of the material to be cut turns, to adjust so as to compensate for irregularities or variation from a true circle in the contour of the disk at its circumference, thus permitting the circumference of the disk to be at all times coincident with the passage-guide between the flanged disks *d d'* and *e e'*.

In order to utilize the pivoted top R for the purpose mentioned it is necessary that said top R shall be held yieldingly in its normal position, and to this end I apply a spring, 6, to a rod, 5, the said rod passing through or around the pivot *r'*, as best shown in the detached inverted view of the platform T, Fig. 3. The rod 5 bears against the pin 4 in the carriage-body E, and when sufficient tension is given to the spring the carriage-top R is allowed to yield to allow for the deviation, and is immediately returned by the spring to its normal position when the circumference of the disk coincides with that of the circle described by the revolution of the disk on its center *r*.

To properly tension the spring for the work required I provide a slotted strap, *f*, to one end of which I attach the spring 6. A screw, 8, passing through the slot 7 into the body E of the carriage, serves to allow the tension to be changed at will.

It will be observed that the platform T can be adjusted at the desired angle on the frame A by loosening the screws *i i*, which allows them to turn in the radial slots I I. The cutter and the cutter-carrier are also adjustable.

To operate the machine, the material to be cut is first cut into a circular disk. Then it is placed on the platform T with its center on the pin or spike *r*. The carriage R is then moved backward or forward, as may be necessary to bring the circumference of the disk-shaped stock in range of the cutter. The proper adjustment is to bring the circumference of the disk in contact with the guide-flange *e'* of the horizontal flanged disk *e*, then pressing down on the pedal 3, which draws down the carrier-arm B and brings into action the presser-bar P and the vertical flanged guide *d'*. Motion is now given to the feed by the crank C, and the leather disk is rapidly drawn on the cutter and converted into a continuous and evenly-cut string. It may be necessary to start the cut by moving the disk with the fingers until the milled-faced feed-guide *d'* takes hold, after which the operation of cutting is continuous, the carriage R moving toward the cutter as the diameter of the leather disk diminishes, as previously described.

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

1. In a machine for cutting strings, the combination of a movable carrier for automatically centering the material to be cut, said carrier being supported and operated upon a platform attached to the frame of the machine, with suitable feeding mechanism and a cutter, substantially as specified and shown.

2. In a machine for cutting strings, a platform adjustably attached to the frame, and provided with a carriage adapted to carry centrally the material to be cut to the cutter by means of suitable feeding mechanism, substantially as specified and shown.

3. In a machine for cutting strings, a platform adjustably attached to the frame, and provided with a carriage adapted to automatically center the material to be cut while being fed to the cutter, said carriage being attached yieldingly to its frame, in the manner and for the purpose specified.

4. The combination of the carrier-platform T, having curved end T' abutting against flanged guide-disk *e'*, and adjustably attached to the frame A by screws *i i* passing through the radial slots I I in the frame A, substantially as specified and shown.

5. The combination of the platform T, adjustably attached to the frame A, as described, with the cutter *c*, adjustably attached to the adjustable cutter-carrier H, substantially as shown and as specified.

6. The combination of the adjustable plat-

form T, attached to the frame A, as described, having slot S′, and a carriage composed of the parts E R, pivot *r′*, rod 5, and spring 6, substantially as described and shown.

7. The combination of the carriage E R, moving in the slot S′ of the platform T, with pivot *r′*, rod 5, post 4, spring 6, and strap *f*, having slot 7 and screw 8, all arranged and operating as described.

8. In combination, the frame A, hinged carrier-arm B, presser-bar P, platform T, and flanged guide-disks *d′ e′* and cutter *c*, substantially as shown and specified.

9. In combination, the frame A, hinged carrier-arm B, spring S, platform T, flanged guide-disks *d′ e′*, cutter *c*, and crank C, as shown and described.

10. In combination, the frame A, hinged carrier-arm B, having a flanged guide-disk, *d d′*, journaled in its free end, and the strap D, having slot 2, through which passes the pin 1 in the frame A, and the pedal-connection 3 3′, in the manner as and for the purpose specified.

11. In combination, the hinged arm B, having journaled in its free end a flanged guide, *d d′*, held out of engagement by the spring S, the presser-bar P, frame A, platform T, cutter *c*, flanged guide-disk *e e′*, and a pedal attached to the arm B, adapted to bring the said arm and its attachments into action, substantially as specified.

12. In combination, the arm B, hinged to the frame A, having the flanged guide-disk *d d′* journaled in its free end, the spring S, platform T, carriage R, cutter-bracket H, and flanged guide *e e′*, all substantially as described.

13. The frame A, hinged arm B, spring S, presser-bar P, platform T, carriage R, spike *r*, cutter *c*, cutter-carrier H, combined with the actuating-crank C, and a pedal, as specified.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 2d day of September, 1882.

WILLIAM BARRY. [L. S.]

Witnesses:
WM. C. RAYMOND,
F. H. GIBBS.