

(No Model.)

C. A. TAFT.
GRINDING MECHANISM.

No. 549,832.

Patented Nov. 12, 1895.

Fig. 1.

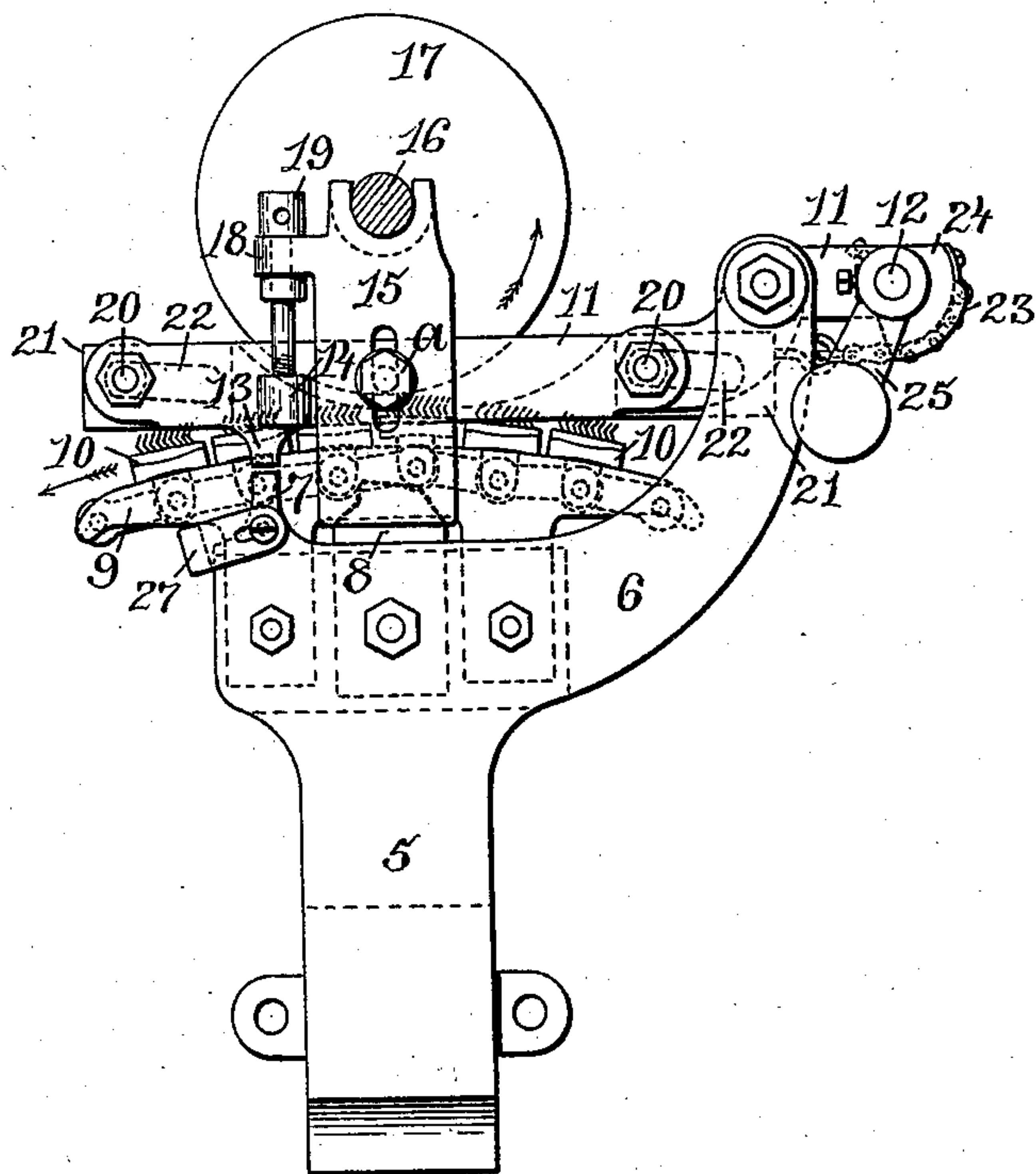


Fig. 2.

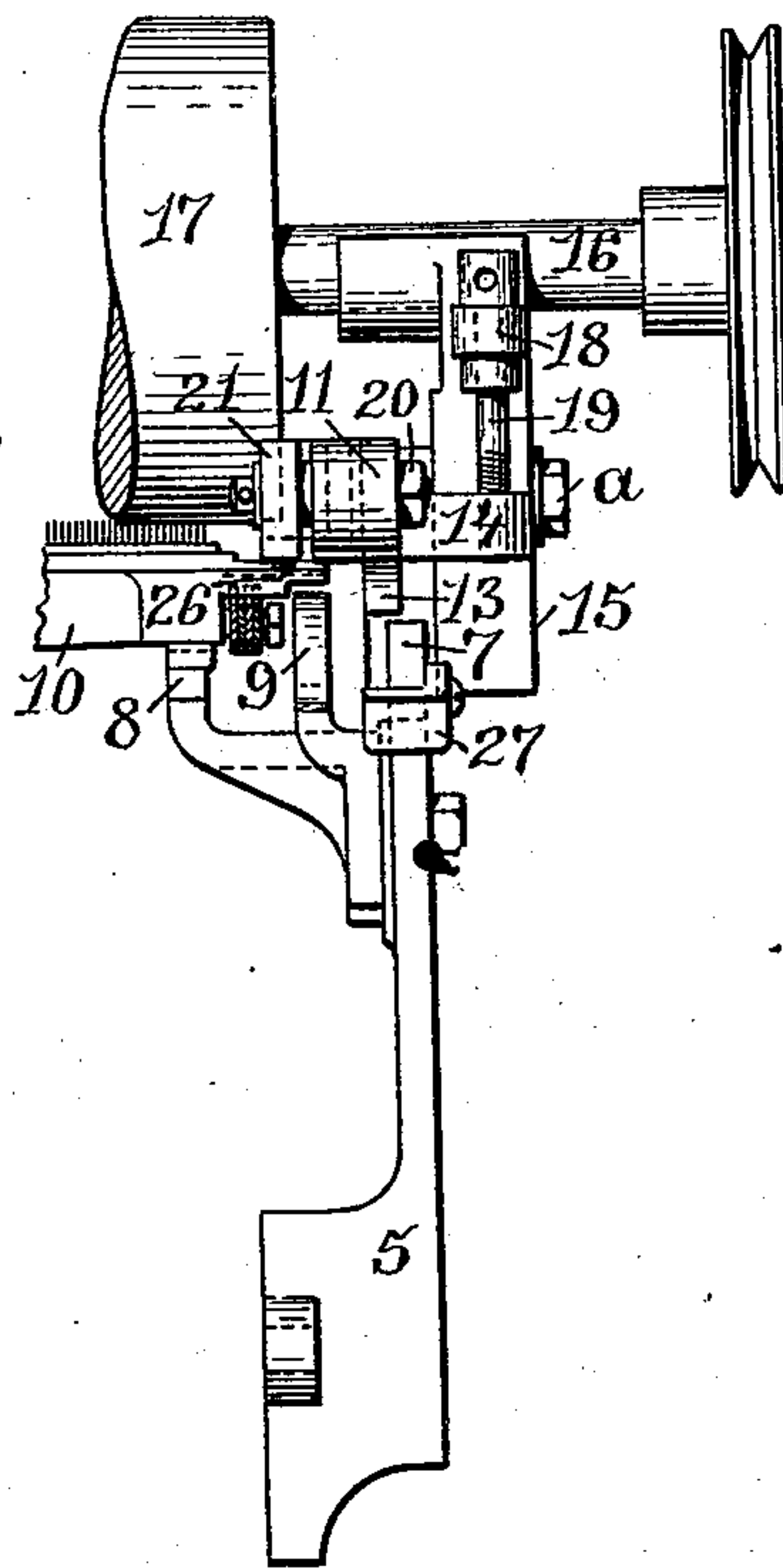
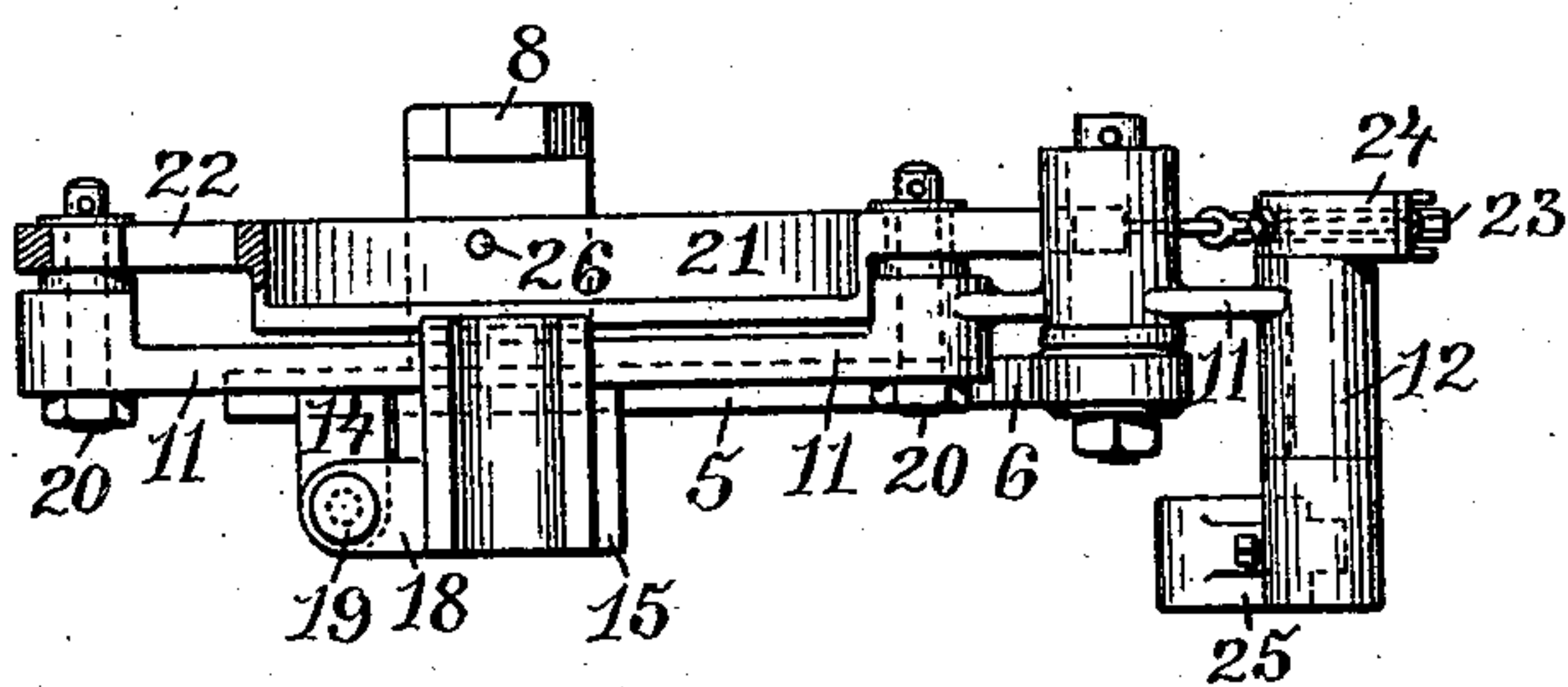


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CYRUS A. TAFT, OF WHITINSVILLE, MASSACHUSETTS, ASSIGNOR TO THE
WHITIN MACHINE WORKS, OF SAME PLACE.

GRINDING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 549,832, dated November 12, 1895.

Application filed March 7, 1893. Serial No. 465,035. (No model.)

To all whom it may concern:

Be it known that I, CYRUS A. TAFT, of Whitinsville, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Grinding Mechanisms; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in mechanisms for grinding the flats of revolving carding-engines.

The object of the invention is to improve the construction of the devices for presenting the flats to the grinding-cylinder.

To this end the invention consists in such peculiar features of construction and combination of parts as may hereinafter be more particularly described, and pointed out in the claim.

The invention also consists in such other peculiar features of construction and combination of parts as will hereinafter be more fully described, and pointed out in the claim.

Figure 1 represents an end view of the improved grinder with a number of flats passing under the grinding-cylinder. Fig. 2 shows a front elevation of one end of the same. Fig. 3 represents a plan view of one end of the improved device, the grinding-cylinder being removed.

Similar numbers and letters of reference designate corresponding parts throughout.

In the drawings, 5 indicates a standard which is adapted to be secured to the frame of the carding-engine and has the upwardly-curved member 6 and the stop 7. Two of these standards 5 are used, one at each end of the carding-engine, and to the inner surface of the standards are secured the central guide-brackets 8 and the guide-frames 9, by means of which the flats 10 10 are guided to the brackets 8. Pivoted to each member 6 is a lever 11, which is provided with a bearing for the shaft 12 and has the downward projection 13 and a vertically-perforated ear 14. To this lever 11 is clamped, by the bolt α , the adjustable bracket 15, having a bearing at the upper end to receive the shaft 16 of the grinding-cylinder 17, and the arm 18, carrying the ad-

justable bolt 19, the lower end of which is engaged in the perforated ear 14. The lower and comparatively straight portion of the lever 11 is furnished with the studs 20 20, and on these studs is supported the guide-bar 21, provided with slanting guide-slots 22 22, through which the studs 20 20 extend, so that the reciprocation of the guide-bar will tend to change the plane thereof to carry the lower edges of the bars nearer to or away from the grinding-cylinder in planes parallel with the plane of these edges when the guide-bars are at rest. To the rear end of the guide-bar is secured the chain 23, the opposite end of which is fastened on the curved surface of the segmental plate 24, mounted on the shaft 12, while also mounted on the shaft 12 is the weighted arm 25, so arranged as to exert a constant rotating strain of the same to draw the chain 23 and the guide-bar 21 backward. The inner surface of the guide-bar is recessed to allow for the usual longitudinal traverse of the grinding-roll, and extending through the lower central portion of the guide-bar is a pin 26, which is engaged by the moving flats to draw the guide-bar in the direction of their travel.

As it is not desirable to have the grinding device in constant operation, I provide the bent arms 27, which are pivoted to the bases of the stops 7, and when turned upward render the grinding mechanism inoperative by engaging with the projections 13, pendent from the levers 11, and thus supporting the grinding mechanism at such a height that the flats can readily pass beneath the grinding mechanism without operating the same. As the flats 10 10 move toward the grinder their ends are guided by the frames 9 9, and they are lifted somewhat by these frames, so that the thicker portions of the flats will readily pass on to the inclined tops of the brackets 8 8, these brackets being of such a height as to force the cutaway ends of the flats firmly against the lower edges of the guide-bars, and the front edges of the flats successively engage the pins 26, extending from the guide-bars, the further movement of the flats causing the forward traverse of the guide-bars, which ride upward on the studs 20 20, the incline of the tops of the brackets 8 8 being

such that the flats will be forced upward in unison with the upward movement of the guide-bars, and the surface of the card-clothing on the flat will be presented to the action
5 of the grinder evenly at an angle determined by the angle of the guide-slots at the ends of the guide-bars. When the extreme points of the guide-brackets 8 8 are passed, the flats will drop onto the guide-frames, and the
10 guide-bars being released are rapidly drawn back into place by the action of the weighted arms 25. As the flats drop from the extreme points of the brackets 8 8 to the frames 9 9 the weight of the mechanism supported on
15 the levers 11 will depress the same to follow the flat, but this downward movement will be limited by the projections 13 striking the stops 7 and the flat is free to move along.

By means of the adjustable brackets 15 the
20 grinding-cylinder may be raised or lowered to bear more or less on the flats passing thereunder. It is evident that the guide-slots 22 may be dispensed with, and the ends of the guide-bars may be supported instead by any
25 form of guides or slides which will tend to

gradually raise the guide-bars during their forward traverse and depress the same when drawn backward.

Having thus described my invention, I claim as new and desire to secure by Letters 30 Patent—

The combination with the standards 25 having the members 6 and stops 7, the levers 11, pivoted to said members, having the pendent projections 13 and carrying the adjust- 35 able-bracket 15 supporting the grinding-cylinder, the inwardly-projecting guide-brackets 8 secured to the standards, and the bent-arms 27 pivoted to the base of the stops 7, of the guide-bars 21 having inclined-slots, the studs 40 20 for supporting the bars, the shafts 12 journaled in a bearing carrying the plates 24 and arms 25, and chains connecting the guide-bars with the plates 24.

In witness whereof I have hereunto set my 45 hand.

CYRUS A. TAFT.

Witnesses:

HENRY J. MILLER,
JOSEPH A. MILLER, Jr.