

No. 654,233.

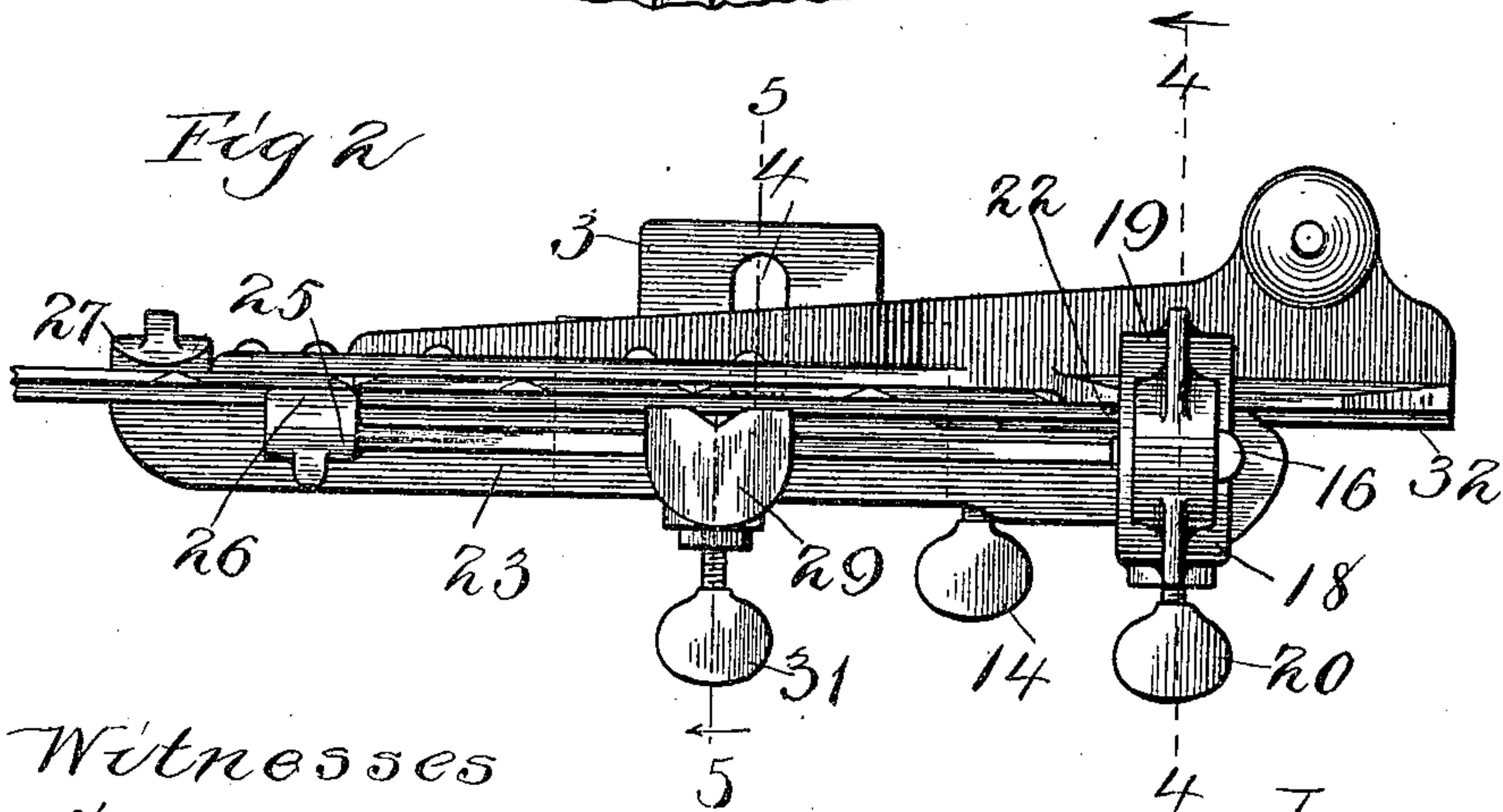
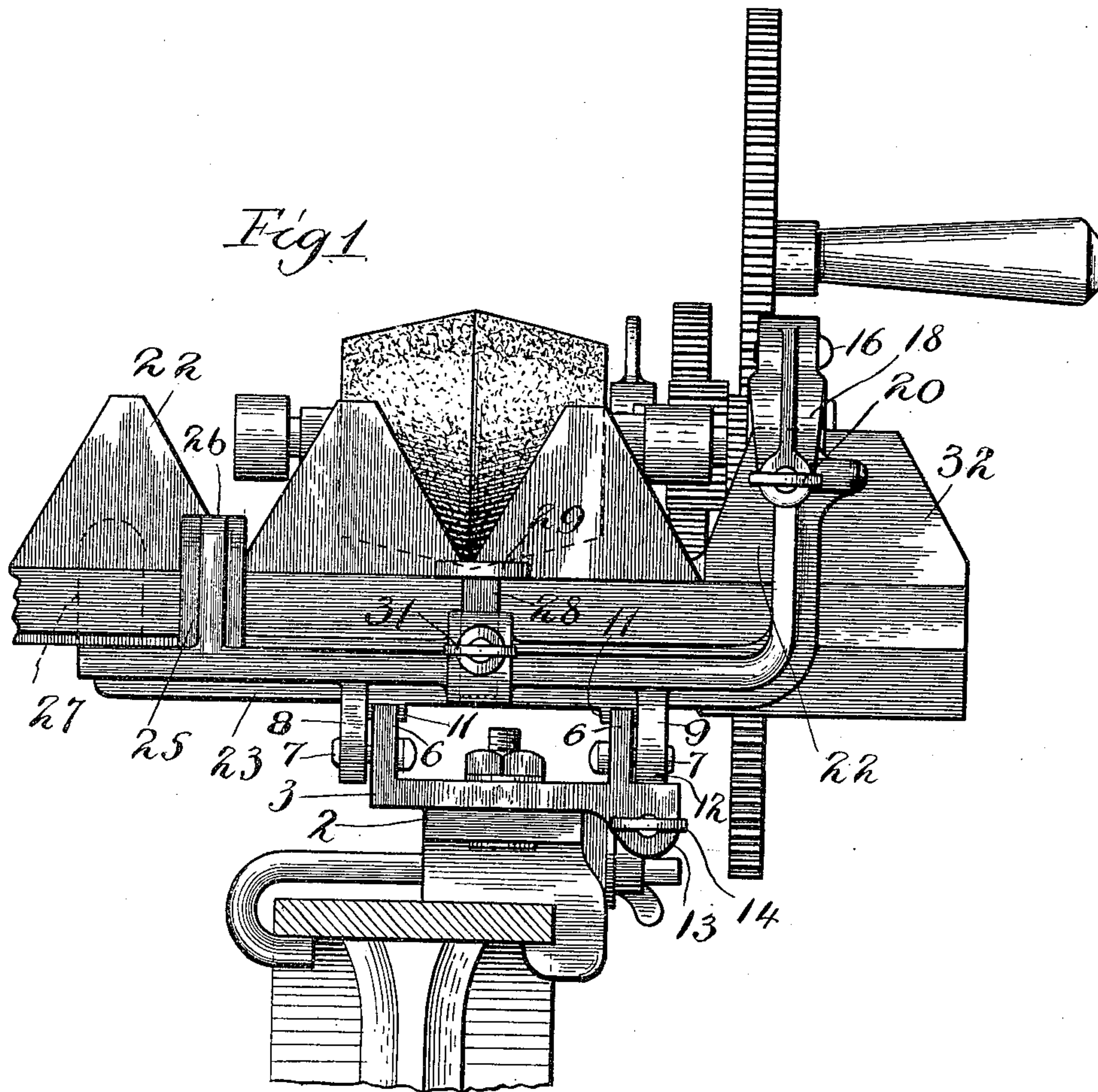
S. K. DENNIS.
GRINDER.

Patented July 24, 1900.

(Application filed Oct. 23, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
W. C. Corlies
Wm. Geiger

Inventor
Samuel K. Dennis
By Coburn, Hibben & McElroy
Attys

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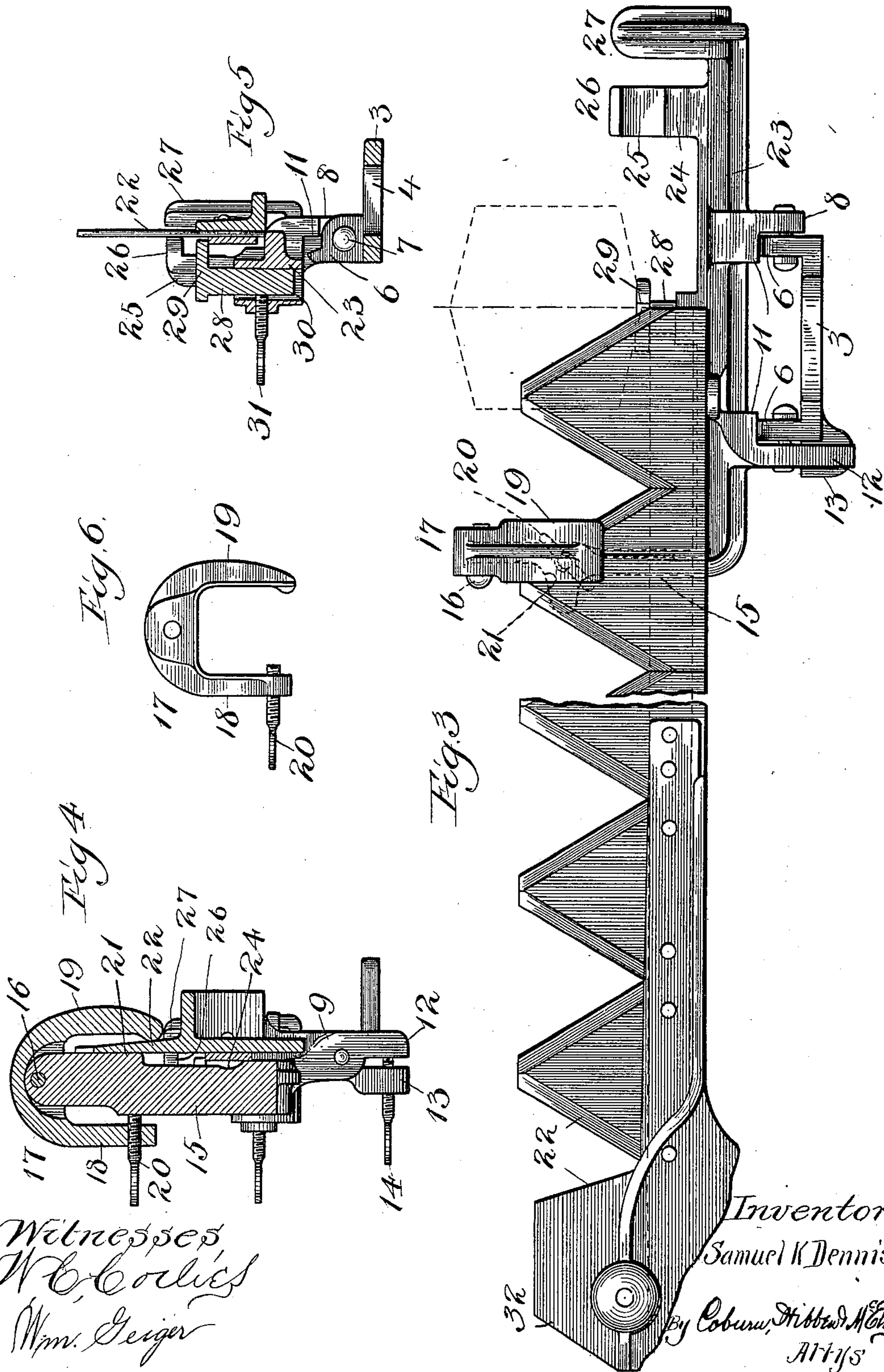
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Witnesses
W. C. Collins
Wm. Geiger

Inventor
Samuel K. Dennis

By Coburn, Hibbard & Co.
Attys

UNITED STATES PATENT OFFICE.

SAMUEL K. DENNIS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PLANO MANUFACTURING COMPANY, OF SAME PLACE.

GRINDER.

SPECIFICATION forming part of Letters Patent No. 654,233, dated July 24, 1900.

Application filed October 23, 1899. Serial No. 734,460. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL K. DENNIS, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Grinders, of which the following is a specification.

My invention pertains to sickle-grinders, and more particularly to the sickle-holder thereof; and its object is to provide a holder so as to accommodate all sickles with different sizes of head or shank, different dimensions of bar, or with a bar smooth or rough on its back. The holder is also so constructed as to permit the grinding of the sections even up to the cutting edge of the last sections on either end.

It is well known that the sickles of the various manufacturers of harvesting machinery have different characteristics and vary considerably as regards the size and shape of head or shank, as well as the dimensions of the bar. Furthermore, some bars have a smooth back, while others have a rough back owing to the projecting rivet-heads. To accommodate all such diversities of sickles by means of a simple and efficient holder is the object of my invention.

Heretofore sickle-grinder holders of the type shown herein have failed to properly hold the extreme outer end of the sickle so as to permit the grinding of the last sections, and, furthermore, the head or shank at the other end has prevented the sliding of the sickle so that the last sickle-sections at this end may be ground, even if this extreme end should have been supported. The holder herein shown overcomes all such objections and permits all the sections to be ground regardless of the size of head or of the location of the sections.

In the drawings, Figure 1 is a front elevation of my holder attached to a grinder and showing a portion of a sickle; Fig. 2, a plan view of my holder with the head end of the sickle therein; Fig. 3, an elevation of my holder looking in the opposite direction as compared with Fig. 1; Fig. 4, a section on line 4 of Fig. 2; Fig. 5, a section on line 5 of Fig. 2, and Fig. 6 an elevation of the clamp.

My holder may cooperate with any type of sickle-grinder which presents to the sickle held by my holder a rotating grinding-wheel, which may be such a one as the wheel 1

shown in the drawings, and which may be provided with suitable means for rotating it and, if desired, with means for simultaneously moving the same in the arc of a circle.

Upon a base-plate 2 (which may form the base-plate also for the sickle-grinder proper) is pivoted a plate 3, having a slot 4, through which and the plate 2 extends a screw-bolt 5, whereby to adjust the plate 3 to present the sickle at the proper angle to the grinding-wheel. This plate 2 has upwardly-extending bearing-lugs 6, through which extend bearing-pins 7 for depending lugs 8 and 9 of the main frame 10 of the holder. The backward movement of the holder-frame is limited by the stops 11 on the frame at the sides of the lugs 8 and 9. The lug 9 has a downward extension 12 below its pivotal point and in front of a lateral extension 13, through which passes a set-screw 14, adapted to bear against extension 12 to adjust the limit of movement of the main frame with respect to the base plate 3.

The main frame has at one side (which is the right side, because the sickle-head will come on that side) an upwardly-projecting shoulder or post 15, on which top is pivoted, by means of the pin 16, a substantially U-shaped clamp 17, but inverted. This clamp has the two arms 18 and 19, the latter of which is preferably curved, and through the former of which near its lower end passes a set-screw 20. The arm 19 extends somewhat below the contact-face 21 and below the plane of the set-screw 20, so as to bear against one of the sickle-sections 22 in such manner as that the resultant of the pressure resulting from tightening the set-screw will be oblique, pressing the sickle inward and downward against the flat surface 23 of the main frame. It is obvious that the clamp 17 is adjustable to receive any thickness of sickle-head within its jaw and also any height of head, owing to the fact that the clamping is done over the top edge. The contact-face 21 is extended forward a sufficient distance to form a clearance-space for the sickle-bar, and, if desired, a groove 24 may be provided in the standard to accommodate projecting rivets of certain sickle-bars. At the other end of the holder-frame, on its outer side, is a projecting finger 25, with an inwardly-directed flange 26 at its top. A similar finger 27, preferably straight,

is located on the inner side of the holder-frame and preferably slightly displaced laterally with respect to finger 25. Between the adjacent planes of these fingers there is thus provided a space sufficient for the sickle-sections to pass through.

Preferably midway of the fingers and the clamp is an adjustable stop comprising, preferably, though not necessarily, a square plug 28, having an inwardly-extending flange 29. The square portion of the plug is received by a somewhat-longer hole 30 in the holder-frame. A set-screw 31 extends into this hole and contacts the plug, whereby the plug may be held in adjusted position both as respects the vertical and the horizontal, owing to its play in the hole.

In Figs. 1 and 2 the head or shank end of the sickle is shown in the holder, so that the edge on the left (Fig. 1) of the last section next to the head may be ground. The other edge of this section does no cutting and need not be and is not generally ground. The clamp extends over the head and bears against the upwardly-projecting portion 32 thereof in the manner before indicated, while the stop or abutment 28 has been adjusted with respect to the height and thickness of bar and the set-screw tightened. The fingers 26 and 27 are rigid and support the sickle at this end of the frame.

In Fig. 3 the outer extreme end of the sickle is shown presented to the grinding-wheel. The overhanging clamp with its pressure downward and inward toward the frame securely holds the last sections before the grinding-wheel. The extreme end of the bar is supported also by the middle stop or abutment.

Although I have described more or less precise forms and details of construction, I do not intend to be understood as limiting myself thereto, as I contemplate changes in form, the proportion of parts, and the substitution of equivalents as circumstances may suggest or render expedient and without departing from the spirit of my invention.

I claim—

1. In a grinder, a sickle-holder comprising a frame for the sickle and a clamp pivoted to, and having a movement independent of, such frame and extending over the sickle and clamping it from above.

2. In a grinder, a sickle-holder comprising a frame, a standard or upward projection therefrom against which the sickle is clamped, and a clamp mounted on such standard to move on such standard in a plane at right angles to the sickle and adapted to clamp the sickle from above.

3. In a grinder, a sickle-holder comprising a frame, a standard or upward projection therefrom, and a clamp pivotally mounted on such standard and adapted when moved in one direction on its pivot to clamp the sickle from above.

4. In a grinder, a sickle-holder comprising

a frame a standard or upward projection therefrom, and a clamp substantially U-shaped and inverted which is pivotally mounted on such standard.

5. In a grinder, a sickle-holder comprising a frame, a standard or upward projection therefrom, a clamp substantially U-shaped but inverted which is pivotally mounted on such standard with one arm on the sickle side of the standard and the other arm on the opposite side, and means for drawing and holding the first-named arm inward toward the frame and against the sickle to clamp it.

6. In a grinder, a sickle-holder comprising a frame, a standard or upward projection therefrom against one side of which the sickle is to be clamped, a clamp substantially U-shaped but inverted which is pivotally mounted on such standard with one arm 19 on the sickle side of the standard and the other arm 18 on the opposite side, and a set-screw passing through arm 18 and adapted to press against the standard to draw the end of arm 19 inward toward the frame.

7. In a grinder, a sickle-holder comprising a frame, a standard or upward projection therefrom against one side of which the sickle is to be clamped, a substantially U-shaped but inverted clamp pivotally mounted on such standard with one arm 19 on the sickle side of the standard and the other arm 18 on the opposite side, and a set-screw passing through arm 18 and adapted to press against the standard, the end of arm 19 pressing against the sickle at a point below the line of pressure from the set-screw.

8. In a grinder, a sickle-holder comprising a frame to receive the sickle, a substantially U-shaped inverted clamp pivoted thereon and adapted to extend over and press the sickle against the frame with one of its arms, and means whereby the clamp may be moved to bring said one of the arms against the sickle.

9. In a grinder, a sickle-holder comprising a frame to receive the sickle, a substantially U-shaped inverted clamp pivoted thereon and adapted to extend over and press the sickle against the frame with the innermost one of its arms and means interposed between the outermost arm and the frame for exerting a pressure therebetween to move such latter arm outward, the lower end of such innermost arm contacting the sickle below the plane of said pressure.

10. In a grinder, a sickle-holder comprising a frame to receive the sickle, a clamp at one end of such frame, upwardly-projecting fingers near the other end of the frame and positioned on either side of the sickle when in the frame and an adjustable stop or abutment on the frame substantially midway of said fingers and clamp.

11. In a grinder, a sickle-holder comprising a frame to receive the sickle, a clamp at one end of such frame, projecting fingers near the other end of the frame and positioned on either side of the sickle when in the frame,

and a stop or abutment on the frame substantially midway of said fingers and clamp and comprising a plug having a flange projecting toward the sickle, said plug being
5 received in an enlarged substantially-vertical opening in the frame, and means for holding the plug in adjusted position both vertically and longitudinally.

12. In a grinder, a sickle-holder comprising
10 a frame to receive the sickle, a clamp at one end thereof, a stop or abutment substantially midway of the frame and at the front thereof, comprising a plug movable vertically in a hole in such frame and having a flange
15 projecting toward the sickle and a set-screw in the frame and entering said hole to press against and hold said plug in adjusted position.

13. In a grinder, a sickle-holder comprising
20 a frame to receive the sickle, a clamp at one end of such frame and an adjustable stop or abutment on the frame substantially midway thereof.

14. In a grinder, a sickle-holder comprising a frame to receive the sickle, a projection 15 25 therefrom having a contact-face 21 against which the sickle-sections bear, a substantially U-shaped inverted clamp pivotally mounted on such projection and having the end of its innermost arm contacting the sickle below said face and a set-screw passing
30 through the other arm and impinging against the projection on substantially the plane of said face.

15. In a grinder, a sickle-holder comprising 35 a frame to receive the sickle, an arm or projection 15 therefrom having its lower portion cut away to accommodate the sickle-bar and forming a contact-face 21, and a clamp mounted on said projection and having a
40 curved arm adapted to press against the sickle on a plane below such contact-face.

SAMUEL K. DENNIS.

Witnesses:

ALLAN A. MURRAY,
HARRIET F. JAMES.