

No. 656,171.

Patented Aug. 21, 1900.

W. H. CLAPP.
GRINDSTONE.

(Application filed Mar. 28, 1899.)

(No Model.)

2 Sheets—Sheet 1.

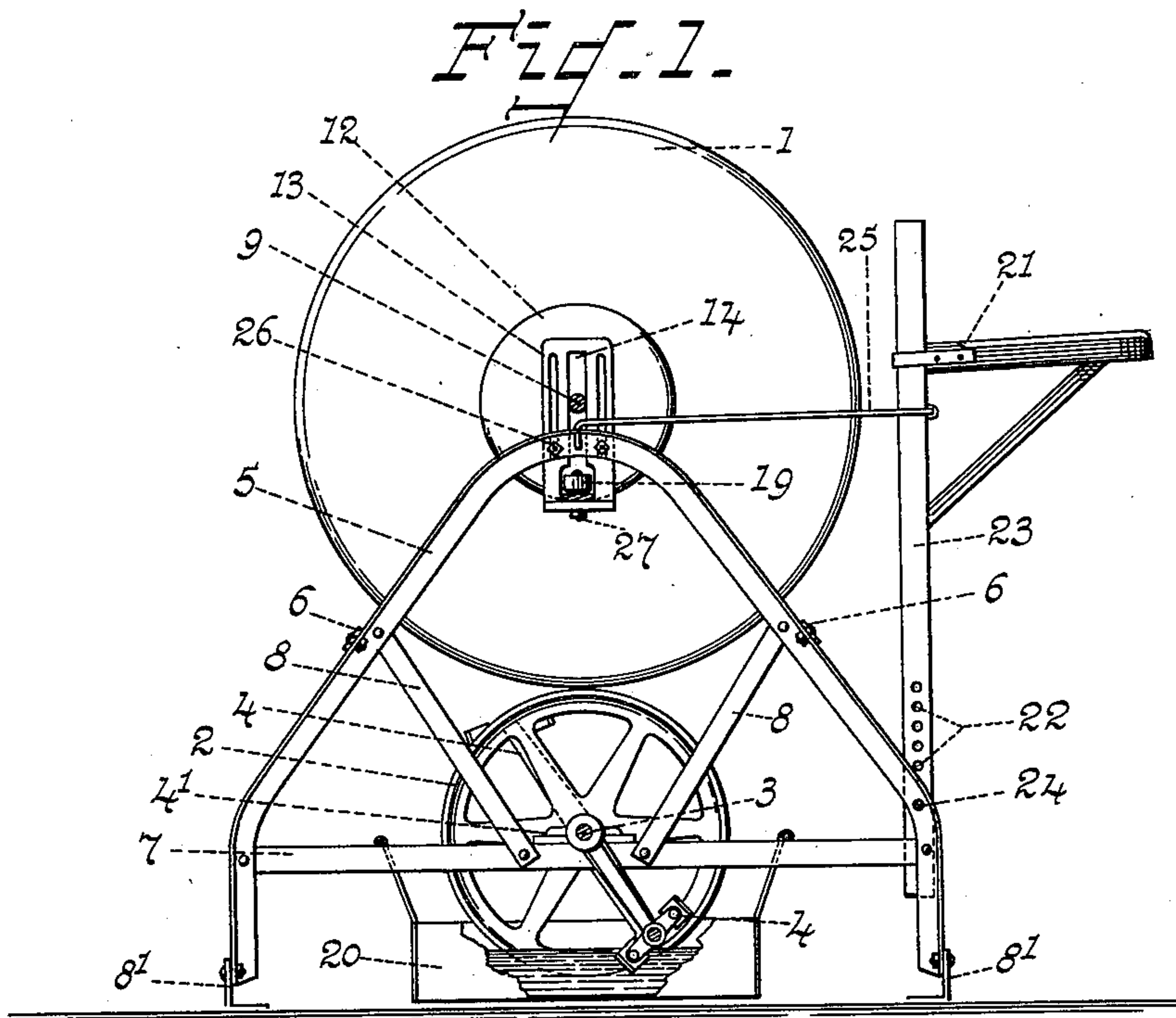
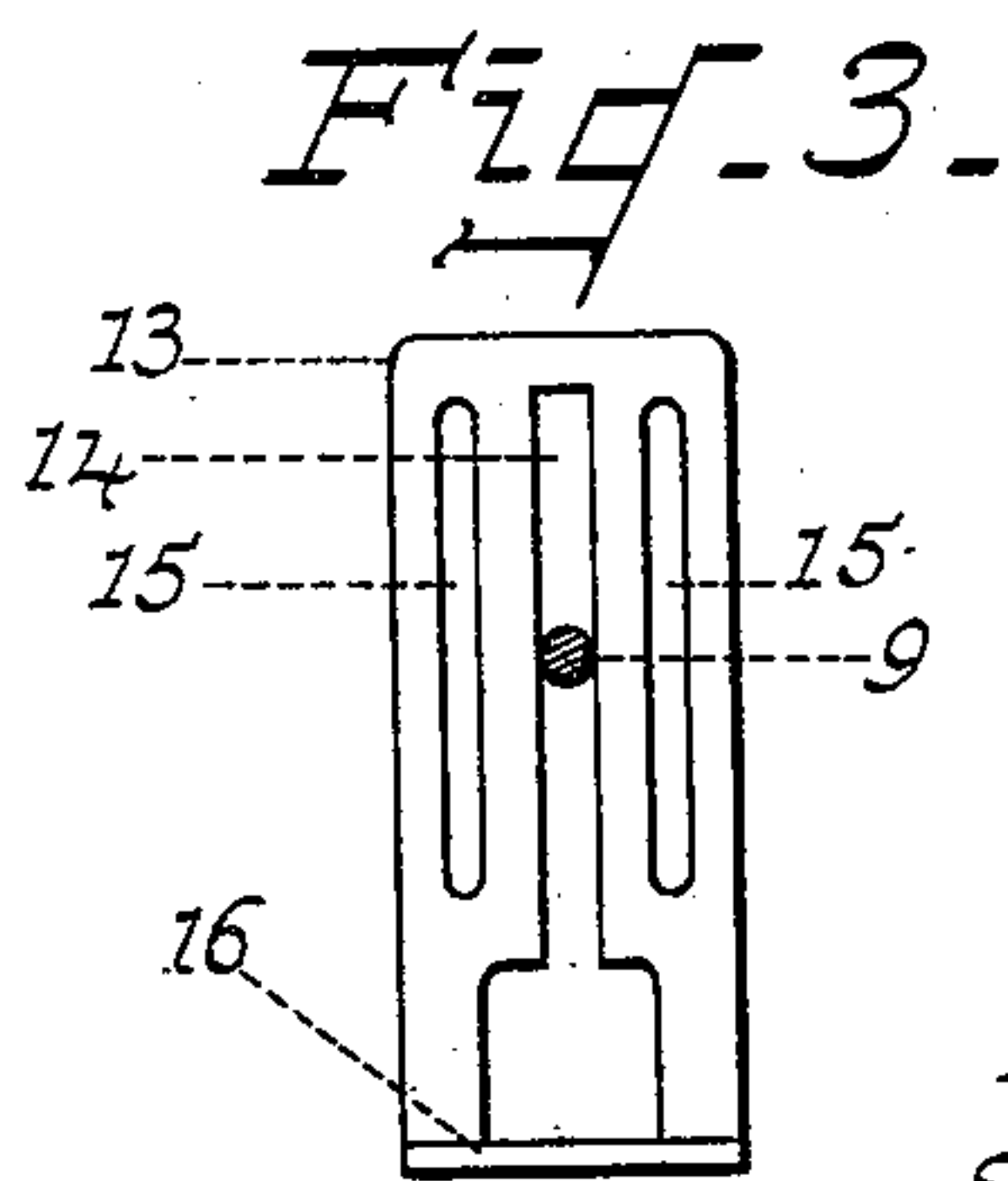
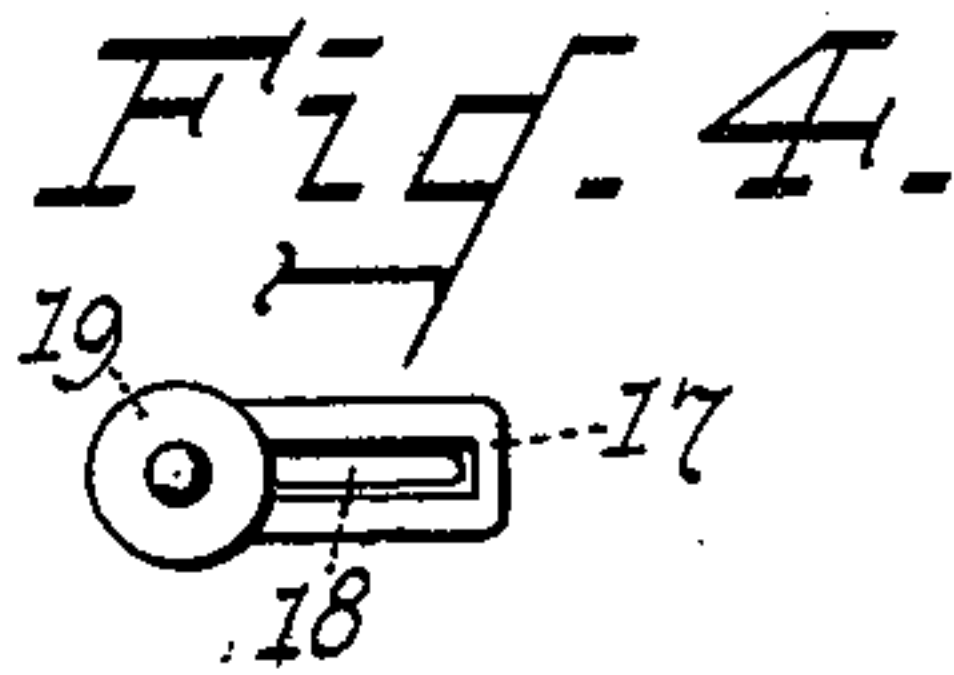
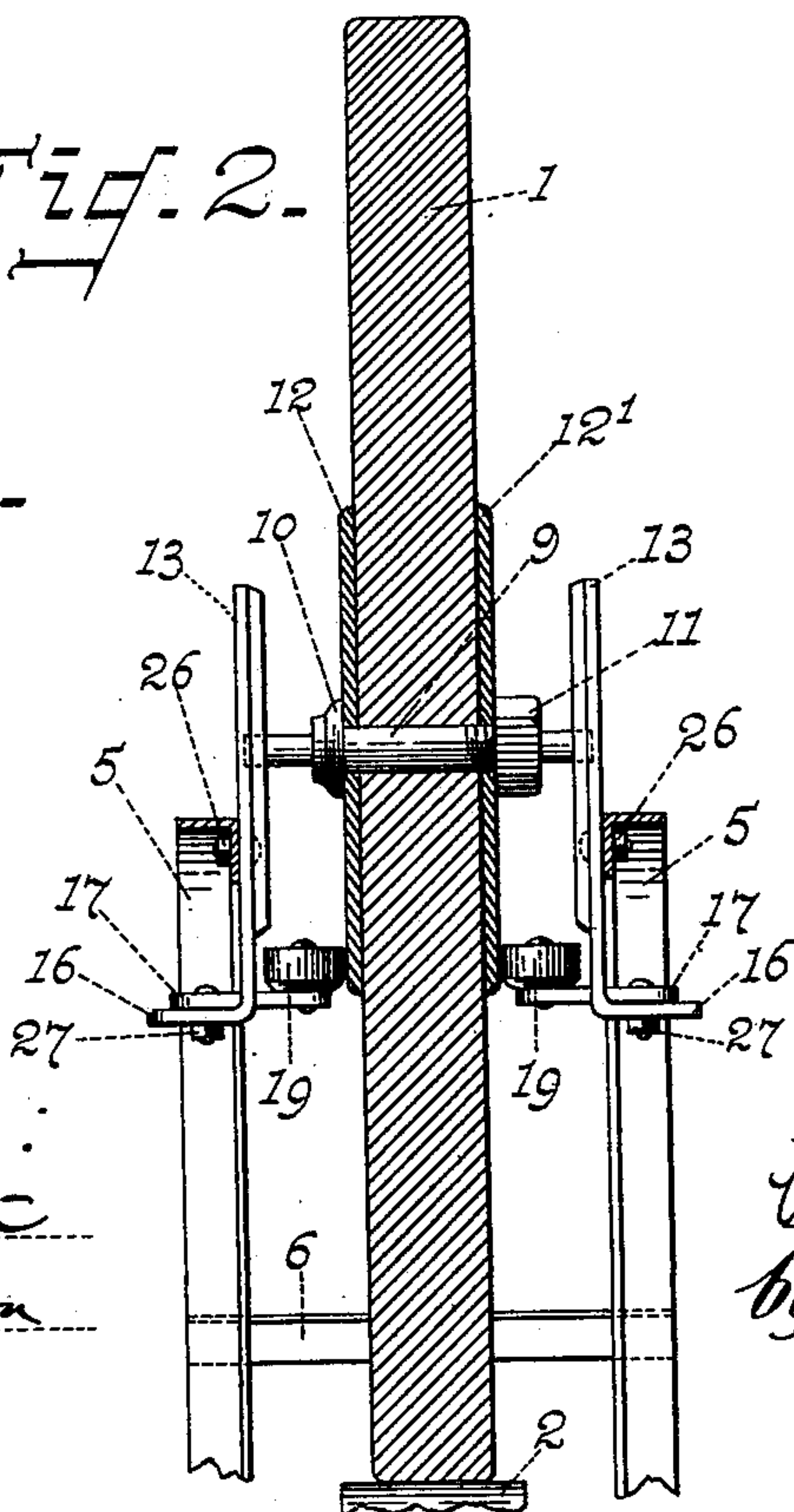


Fig. 2.



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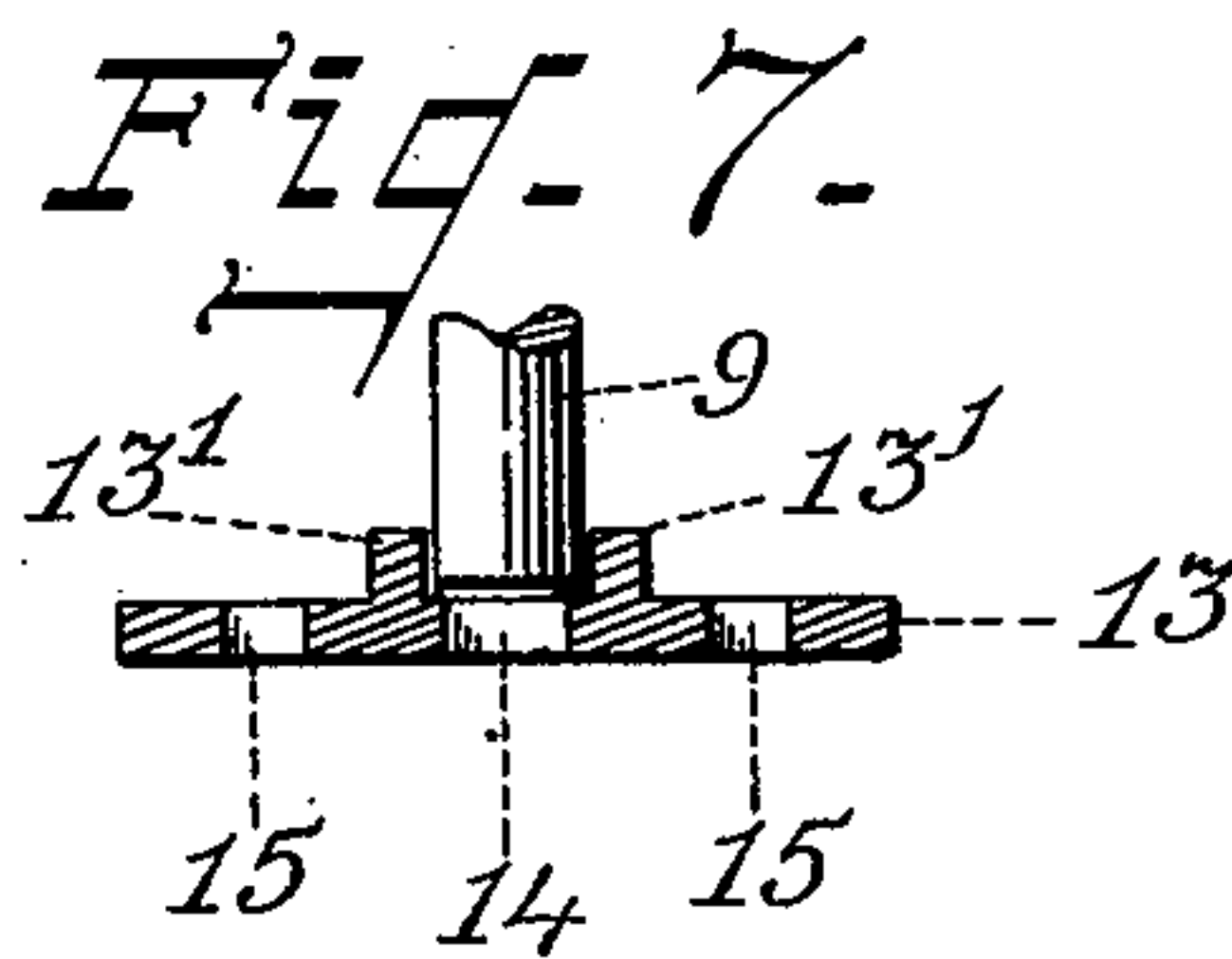
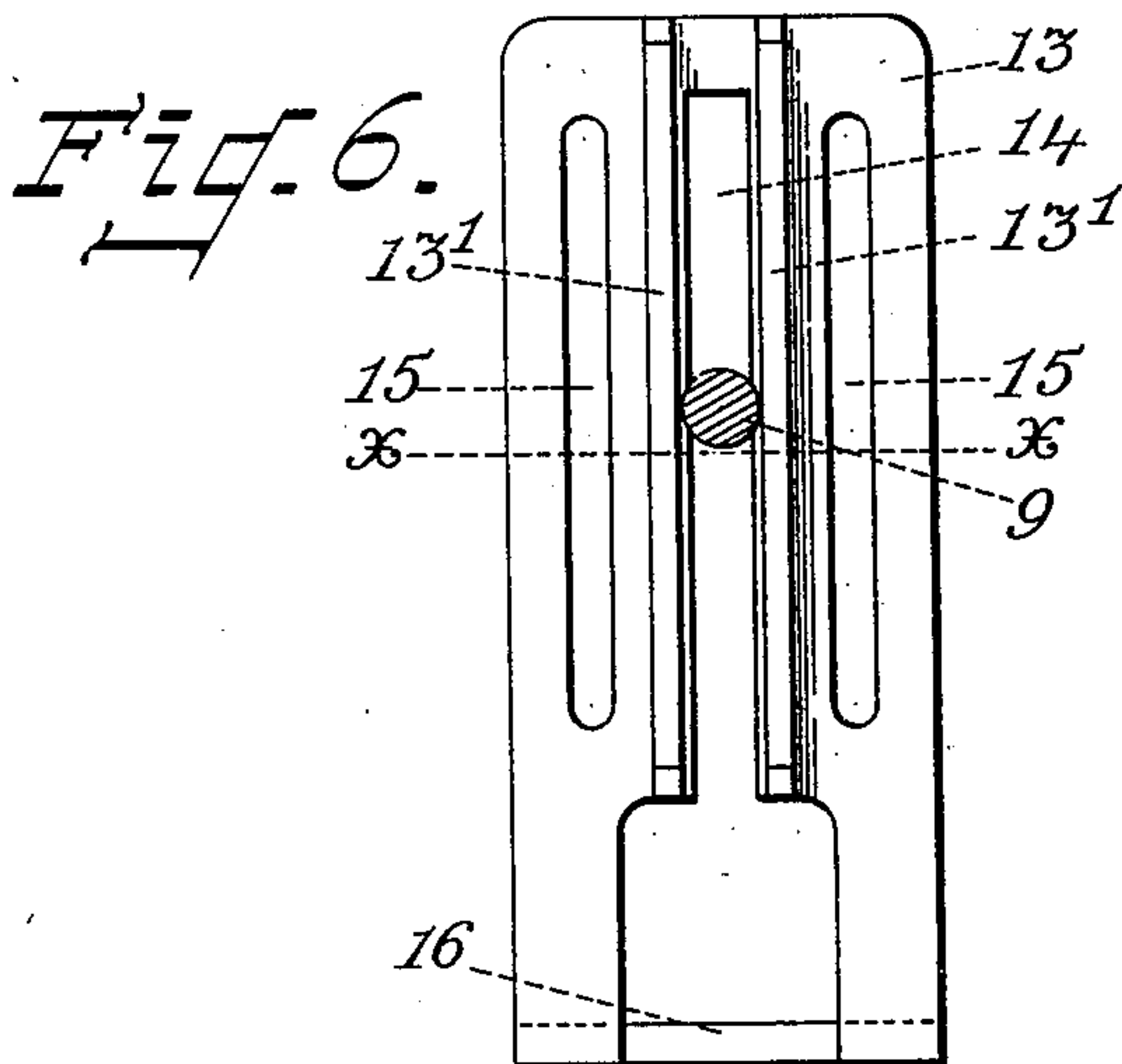
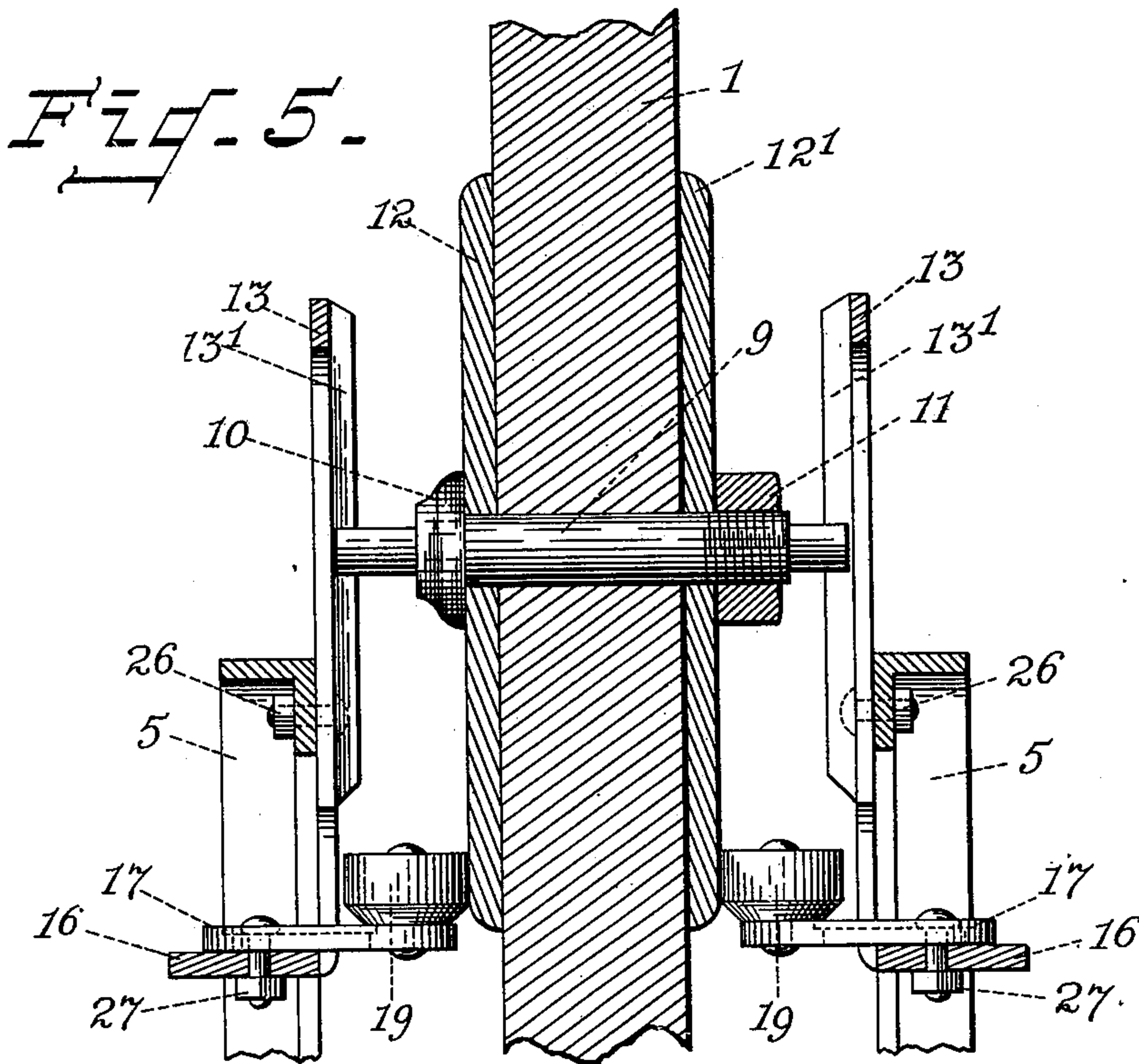
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2 Sheets—Sheet 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM H. CLAPP, OF AUBURN, NEW YORK.

GRINDSTONE.

SPECIFICATION forming part of Letters Patent No. 656,171, dated August 21, 1900.

Application filed March 28, 1899. Serial No. 710,850. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. CLAPP, a citizen of the United States, residing at the city of Auburn, county of Cayuga, State of New York, have invented a new and useful Improvement in Grindstones, of which the following is a specification, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in grindstones, whereby the same are rotated frictionally, and in protecting the sides of the said grindstones from abrasion or wear through the action of the rollers, which serve to keep the face of the grindstone centrally adjusted upon its driving friction-wheel, providing means whereby the grindstone and its supporting-shaft can be removed from and replaced in its normal working position without any disarrangement or disconnection of parts, and in providing a light yet strong and durable framework for carrying the grindstone and its several connected parts. I attain these ends by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the grindstone mounted in the framework and showing the several connected parts affixed in proper position thereon. Fig. 2 is a vertical section taken through the center of the grindstone. Fig. 3 is an elevation of one of the adjustable stands adjustable on the framework, and Fig. 4 is a plan view of one of the adjustable rollers carried on the adjustable stands. Fig. 5, Sheet 2, is an enlarged view of a portion of Fig. 2, showing the stands at the top of the framework in vertical section. Fig. 6, Sheet 2, is an enlarged view of the opposite or inner side of Fig. 3; and Fig. 7, Sheet 2, is a cross-section on the line xx of Fig. 6.

Similar figures of reference refer to similar parts throughout the several views.

The grindstone 1 rests on a friction-wheel 2, which is carried on a shaft 3, provided with treadles 4, said shaft 3 being supported in bearings 4', provided on the framework. The framework consists of the side pieces 5, which are formed of angle metal, as shown, the same being held in place by the upper cross-

pieces 6, the lower cross-pieces 7, the braces 8, and at their bottom ends by the feet 8', as shown in Fig. 1.

The shaft 9 of the grindstone is of such length as to admit of its ends passing down and between the inner sides of the side pieces 5 of the framework, and it carries near one end a fixed collar 10 and near the other end a nut 11, which screws onto a screw-thread provided on said shaft 9 for that purpose.

Placed on the shaft 9 and between the fixed collar 10 and the adjacent side of the grindstone 1 is a metal disk 12 on one side, and between the other side of the said grindstone 1 and the nut 11 is carried on the shaft 9 a similar metal disk 12', and the whole firmly secured in position by the screwing up of the nut 11, as seen in Fig. 2.

At the top and inner sides of the side pieces 5 of the framework are carried the adjustable stands 13 by the bolts and nuts 26, the said adjustable stands 13 being provided with a central slot 14, on either side of which is formed the ribs 13' 13', as plainly shown on the inner or grindstone side of the said adjustable stands 13, Figs. 6 and 7, and between which said ribs 13' 13' the ends of the shaft 9 are free to move vertically, and with slots 15 15 at either side, in which are passed the said bolts 26, having nuts for securing said adjustable stands vertically in desired place, as mentioned. The bottom ends of said adjustable stands 13 are turned into feet 16, which serve to support and carry the adjustable roller-plates 17. The roller-plates 17 are provided with slots 18, through which pass the bolts 27, having nuts whereby said roller-plates 17, which carry at their inner ends the rollers 19, may be adjusted horizontally, as desired. By this arrangement of parts it will be observed that (as the diameter of the grindstone lessens through wear in grinding, its shaft and the disks carried thereon assume a lower position than they at first had) the adjustable stands may be readjusted and secured in place by the bolts 26, which pass through the slots 15 and the side pieces 5 of the framework, thus assuring a mean operative position for the rollers 19 of the roller-plates 17 against the sides of the disks

12 12', and thus keeping the grindstone in proper central position on the face of the friction-wheel 2, which drives it.

A water-receptacle 20 is hung from the lower cross-pieces 7 of the framework, and inside of the same is rotated the friction-wheel 2, by means of the pedals 4, fixed on the ends of its supporting-shaft 3, and which said friction-wheel 2 turns the grindstone 1, and being partially submerged in the water of the receptacle 20 naturally conveys a portion of the same to the face of the grindstone.

The operator's seat 21 is located at one end of the framework, as seen in Fig. 1, and through a series of holes provided in the lower end of its supporting-standard 23 may be raised or lowered through the withdrawal and replacement of its retaining rod or bolt 24, which passes through the holes. The seat may also be tilted forward or backward, as desired, by means of the hook 25, provided near the top of the supporting-standard 23, and hooking into holes provided in the side pieces 5, in line with the hooked position represented, but not visible in the figure owing to the view taken.

Through actual use it has been found that owing to the friable, shaly, or semistratified nature of the material composing the grindstone continuous friction against its sides either from the action of the rollers, which serve to assure its centrality on the face of the friction-wheel 2, or from a flanged friction-wheel having the same object and occasionally rubbing against its sides, is injurious and causes the stone to flake off and crumble; hence the provision of the disks for its protection. I am aware that disks, circular plates, or large washers have been used on grindstones; but I am not aware that they have been used for the purpose herein mentioned. Neither am I aware that grindstones driven by a friction-wheel conveying water to the face of said grindstone, the latter having the disks aforementioned protecting its sides from abrasion, have been used.

Having thus described my improvements and the functions of their several parts, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a grindstone resting on the face of and frictionally rotated by a water-supplying friction-wheel 2, and having disks 12, 12', mounted on its shaft 9, the combination of the vertically-adjustable stands 13, carried on the side pieces 5, 5, of the framework and having the ribs 13', 13', on their inner or grindstone sides adapted to admit the vertical movement between them, of the shaft 9, and to keep the same in working place, the slots 15, 15, adapted for their vertical adjustment and the feet 16, with the horizontally-adjustable roller-plates 17, having the slots 18, and the pivoted rollers 19, substantially constructed in the manner and for the purpose herein described and shown.

2. In a grindstone resting on the face of and frictionally rotated by a water-supplying friction-wheel 2, the shaft 9, carrying the disks 12, 12', centrally on either side of said grindstone in combination with the vertically-adjustable stands 13, carried on the side pieces 5, 5, of the framework and having the ribs 13', 13', on their inner or grindstone sides adapted to admit the vertical movement, between them, of the shaft 9, and to keep the same in working place, the slots 15, 15, adapted for their vertical adjustment, the feet 16; and the horizontally-adjustable roller-plates 17, having the slots 18, and the pivoted rollers 19, rotating on the outer side of said disks 12, 12', in the manner and for the purpose herein described and shown.

In testimony whereof I have hereunto set my hand, this 25th day of March, A. D. 1899, at Auburn, county of Cayuga, State of New York.

WILLIAM H. CLAPP.

Witnesses:

LOUIS E. REEVE,
SAMUEL HADDEN.