

No. 681,950.

Patented Sept. 3, 1901.

A. CLARK.
HINGE PIN.

(Application filed Nov. 30, 1900.)

(No Model.)

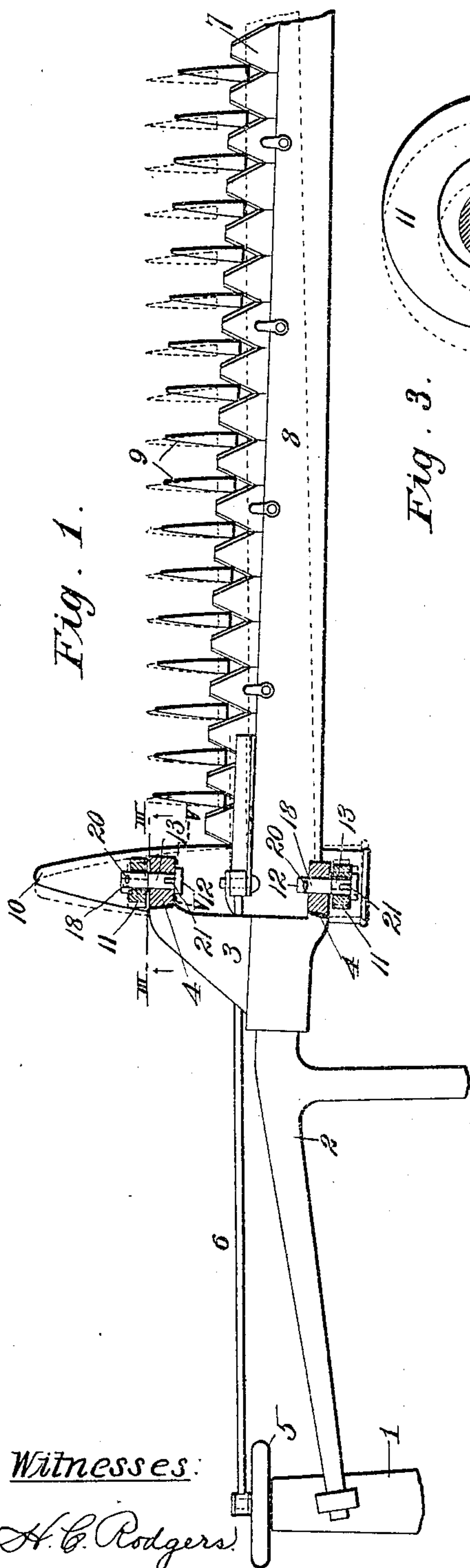


Fig. 1.

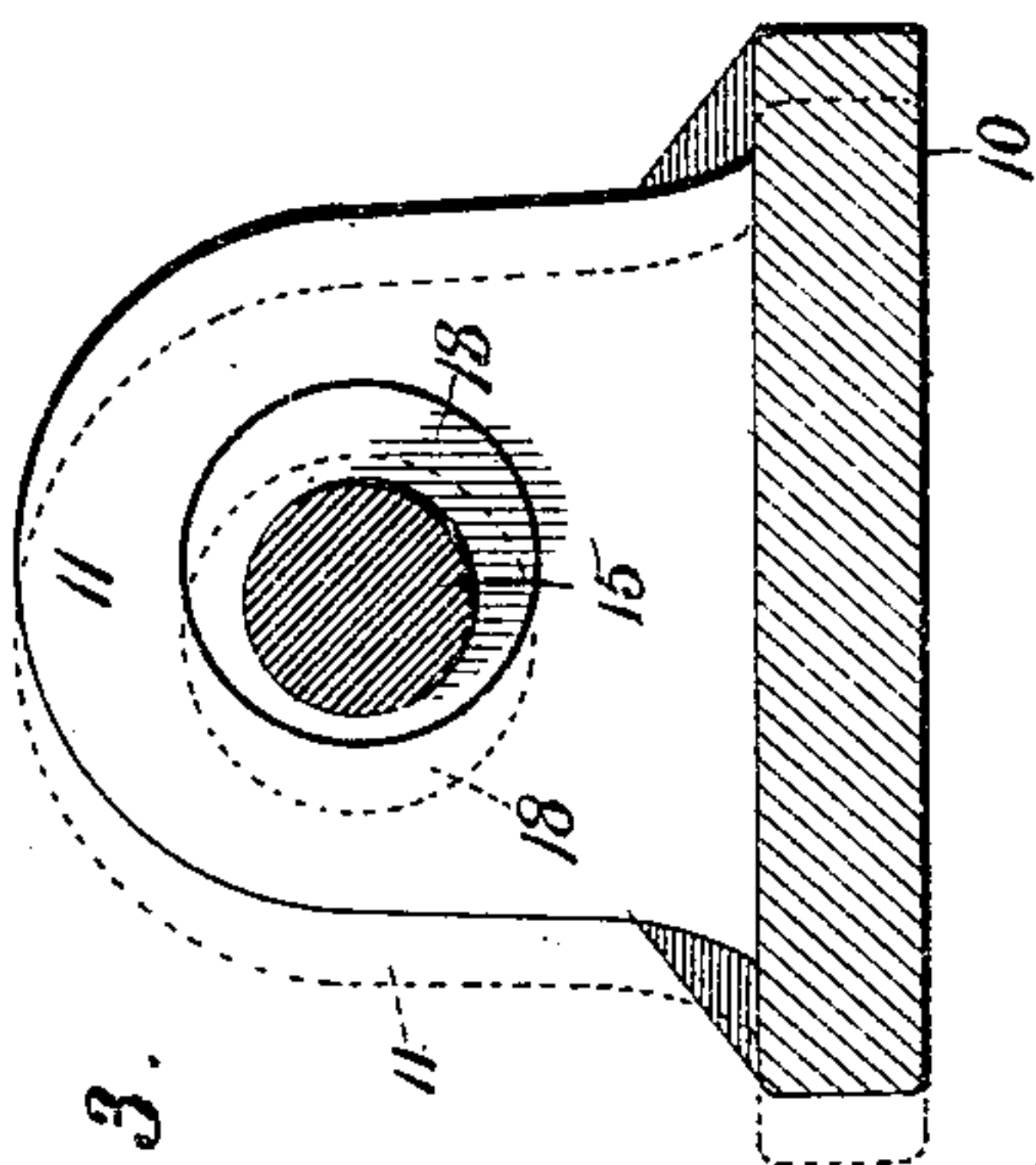


Fig. 3.



Fig. 4.

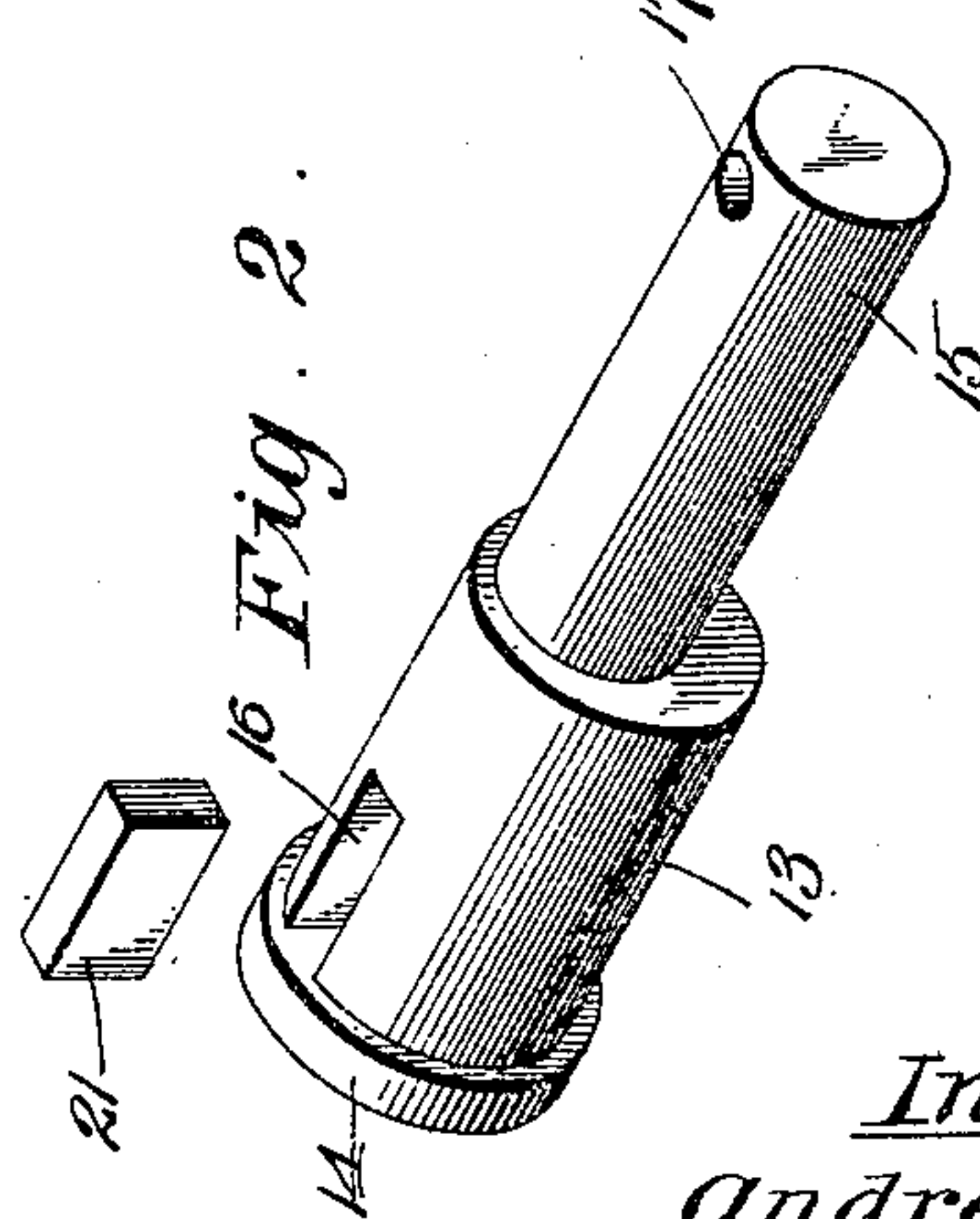


Fig. 2.

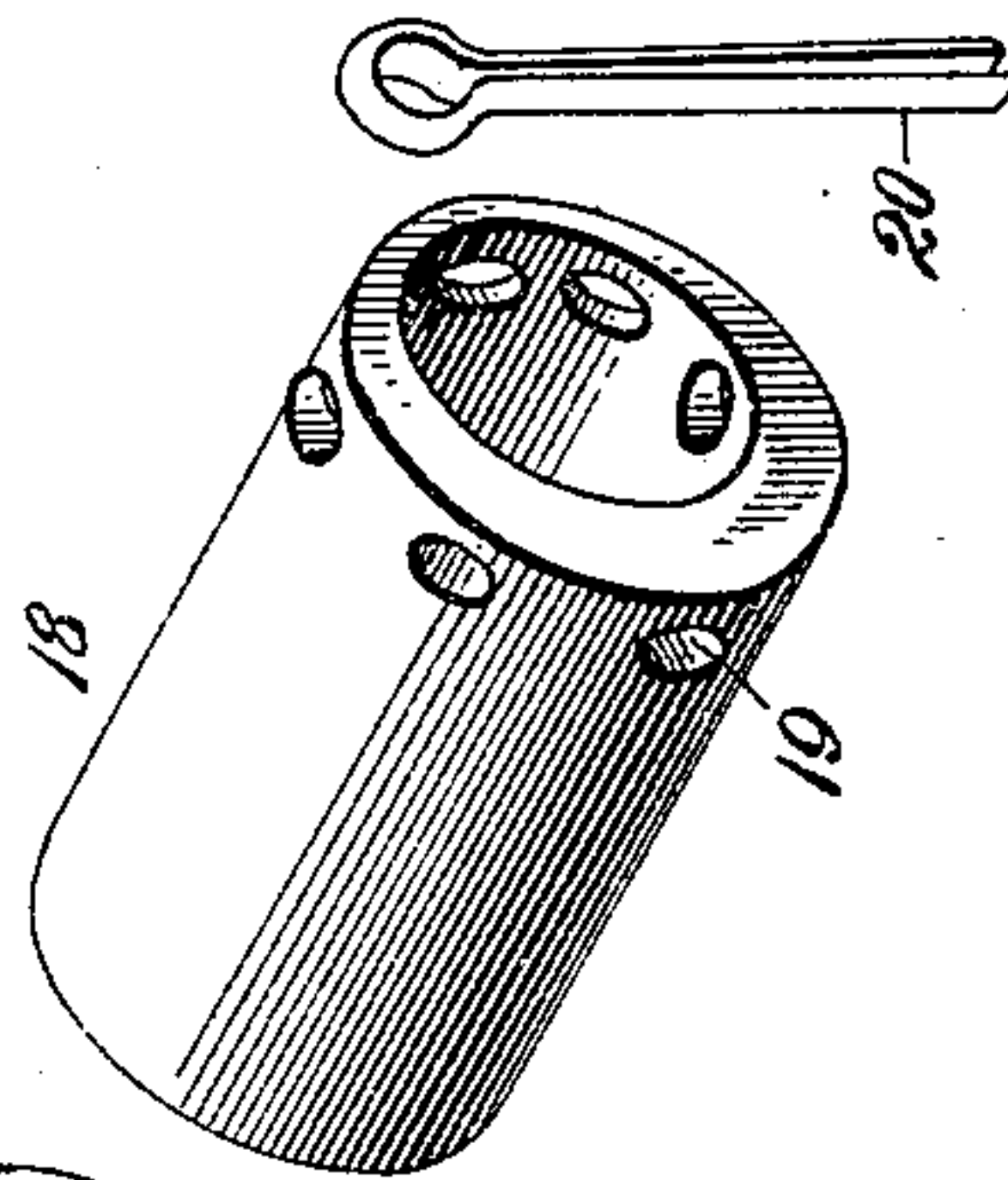
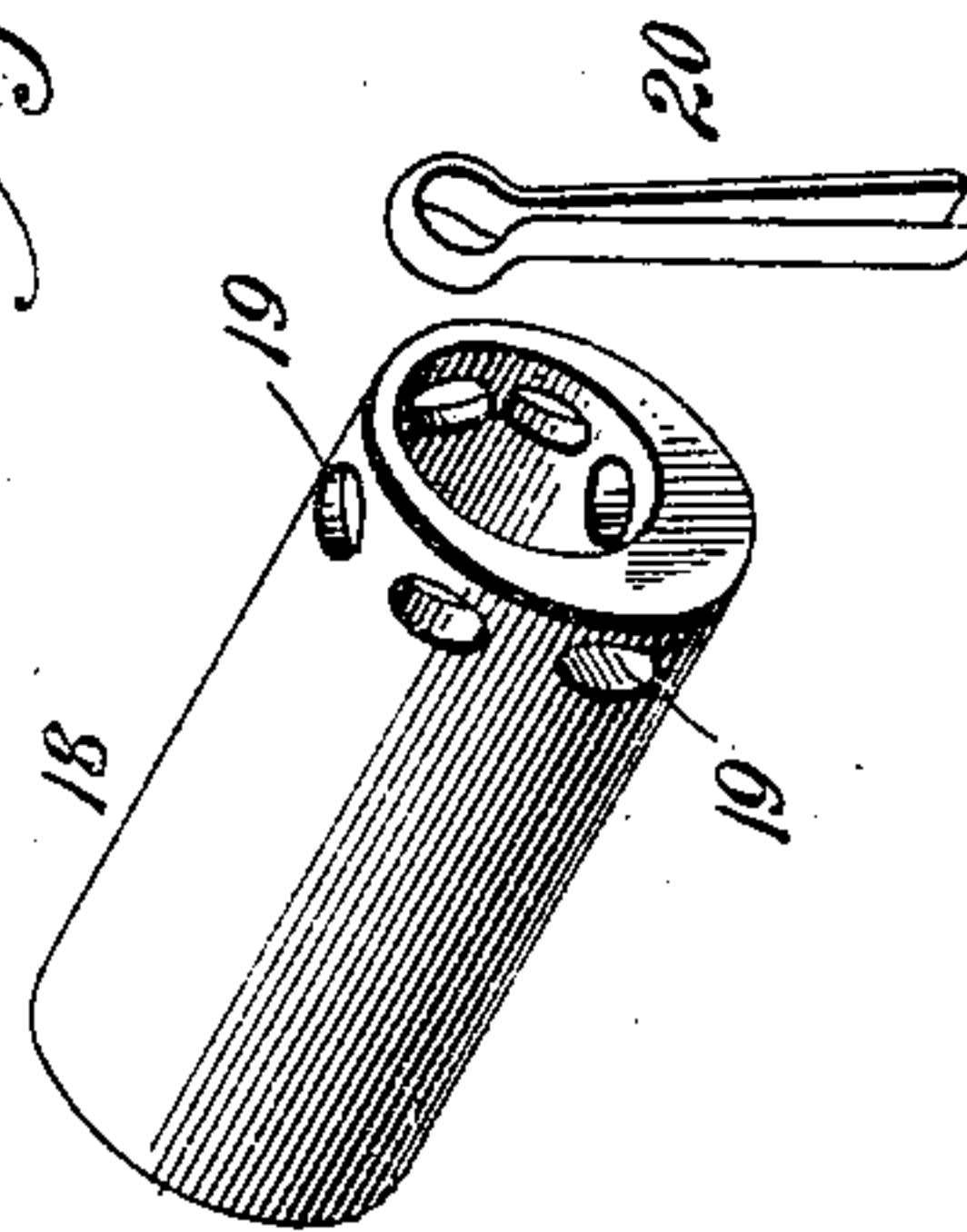


Fig. 5.



Witnesses:
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UNITED STATES PATENT OFFICE.

ANDREW CLARK, OF KANSAS CITY, MISSOURI.

HINGE-PIN.

SPECIFICATION forming part of Letters Patent No. 681,950, dated September 3, 1901.

Application filed November 30, 1900. Serial No. 38,258. (No model.)

To all whom it may concern:

Be it known that I, ANDREW CLARK, a citizen of the United States, residing at Kansas City, Jackson county, Missouri, have invented a new and useful Hinge-Pin, of which the following is a specification.

My invention relates to hinge or connecting pins for the inner shoes of mowing-machines. As now constructed no means are provided for an oscillatory horizontal adjustment of the inner shoes of mowers independent of the "drag-bar" adjustment, the necessity of which independent adjustment is shown by the fact that in most new mowers there is sufficient lost motion in the hinge-pin connection to permit the outer end of the floating bar to swing back or sag approximately three inches. As a result the cutter-bar when at work is out of alinement with the pitman and the draft increased and power wasted. With a machine having seen considerable service the draft and wasted power are proportionately increased.

My object, therefore, is to provide an eccentric-pin capable of effecting a horizontal oscillatory movement of the shoe to restore the cutter-bar to alinement with the pitman and of securing it in such relation.

To this end the invention consists in certain novel and peculiar features of construction and organization, 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 represents a top plan view of a portion of a mowing-machine, the same being sectioned to disclose my eccentric hinge-pin connection. Fig. 2 is an enlarged perspective view of said hinge-pin, the parts being detached. Fig. 3 is an enlarged vertical section taken on the line III III of Fig. 1. Fig. 4 is an enlarged perspective view of a modified construction with the parts detached. Fig. 5 is a section taken on the line V V of Fig. 1.

In the said drawings, 1 designates the frame of a mowing-machine, 2 the drag-bar thereof, and 3 the drag-bar head, shown in this instance as bifurcated to form a pair of bearing-arms 4. In some instances this bifurcation is not provided and a single hinge-pin is employed, such pin, however, being of sufficient

length to project at both ends from the drag-bar head.

5 designates the driven disk, and 6 the pitman, pivotally connected at one end to said disk and at its opposite end to the cutter-bar 7, mounted in the usual or any preferred manner on the finger-bar 8 and occupying the usual relation with the forwardly-projecting guards 9.

10 designates the inner shoe, carrying the corresponding end of the finger-bar and provided, as usual, with arms 11 to receive the projecting ends of the connecting hinge pin or pins 12, mounted in the drag-bar head, the function of these pins as disclosed by their name being to permit the floating bar to be raised to an inoperative position and also to hold it when in operative position, so that the cutter-bar is in line with the pitman.

In practice the hinge-pin fits loosely enough in the bearings of even a new machine to permit the outer end of the long drag-bar to sag back approximately three inches, which throws the cutter-bar slightly out of alinement with the pitman and increases the draft and waste of power to proportionately that extent. This increase of draft and loss of power I obviate by my improved hinge-pin, which will be made of varying forms and proportions to accommodate and be of quick and easy attachment to all of the approved mowing-machines in use. Preferably I provide an entirely new pin in place of the original pin. Where two pins are necessary, my pin of course will be in duplicate, each comprising a body portion 13, a head 14 at one end, and an eccentric stem 15 at the other end, the body portion being provided with a recess 16 near the head, preferably, and the outer end of the stem with a diametric hole 17.

18 designates a sleeve of the same diameter as body portion 13 and eccentrically bored to correspond with and fit upon stem 15, so that it may be so fitted upon said stem as to form in conjunction with the body portion a straight cylindrical pin of equal diameter throughout. In its outer end the sleeve is provided with a plurality of diametrically opposite holes 19, opposite pairs of which may be brought into successive alinement with hole 17 in order that a spring cotter or pin 20 may be utilized to secure the sleeve upon stem 15 in the de-

sired relation. The pins may be fitted with either their body portions 13 or sleeves 18 in arms 4. In the drawings the forward arm in Fig. 1 is shown with the body portion 13 of the corresponding pin journaled therein, whereas the sleeve 18 of the other pin is journaled in the rear arm, it being understood that in both cases either the body portions or sleeves may be journaled in said arms if desired. In the former case the pin is locked rigidly in said arm by means of a key-block 21, fitting in recess 16 and in the mating recess 22 in the arm. In the latter case the sleeve is free to rotate in the arm, being secured upon the stem 15 by means of the cotter 20, as described. In the last-named case the body portion 13 fits in the rear arm 11 of the shoe and is keyed rigidly therein by the block 21 in the manner above described. In the former case the sleeve is journaled in the front bearing-arm 11 of the shoe and when adjusted rotatably on the stem to the left, as the pin proper at the rear end of the shoe is turned to the right, acts to oscillate the shoe in a horizontal plane from approximately the position shown by full lines to approximately the position shown by dotted lines, thereby swinging the outer end of the floating bar forward from the position shown by full to the position shown by dotted lines in order that the cutter-bar may register with the pitman and operate with the minimum of friction. When the bearings are worn sufficiently to require adjustment as above described, the outer end of the floating bar of course can be grasped and pulled forward to the proper position in order to relieve the pins and sleeves of strain, that they may be quickly and easily adjusted without the use of tools.

Fig. 3 shows approximately how the adjustment of the sleeve upon the stem effects the required change of position of the shoe, the stem in this case representing the axis of movement. In the rear pin the sleeve is rotated to change the position of the stem, and consequently of the body portion arranged eccentrically of the stem, the effect being the same in either case.

In some cases it may be desirable to use an eccentrically-bored sleeve upon the old pin,

in which case said pin must be recessed, as at 16, to receive the key 21, as above explained, and be provided with a hole 17, like that of stem 15, the sleeve fitting upon the pin and being secured thereto by means of a spring-cotter 20 in the manner already described.

From the above description it will be apparent that I have produced a hinge-pin for mowing-machines which embodies the features of advantage enumerated as desirable in the statement of invention, and while I have illustrated and described the preferred constructions thereof it is to be understood that the form, proportion, detail construction, and arrangement of the parts may be varied in minor particulars without departing from the essential spirit and scope of the invention.

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

1. A hinge-pin for mowing-machines, comprising a body portion having an eccentrically-projecting stem at one end, a sleeve corresponding in form and diameter to said body portion and eccentrically bored to fit upon the stem and provide in conjunction with the body portion a straight cylindrical pin, and means for securing said sleeve upon the stem at the desired point of adjustment, substantially as described.

2. A hinge-pin for mowing-machines, comprising a cylindrical body portion having a head at one end, and an eccentric stem at the opposite end, a sleeve eccentrically bored fitting on said stem and provided with a plurality of holes, a pin to extend through certain of said holes and said stem to lock the stem and sleeve in the desired relation, in combination with arms in which said body portion and sleeve are journaled, and means for locking one of said parts in its respective arm, substantially as described.

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

ANDREW CLARK.

Witnesses:

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