

(No Model.)

W. KOOTZ.

MACHINE FOR CUTTING LEATHER STRIPS OR STRINGS.

No. 561,999.

Patented June 16, 1896.

Fig. 1.

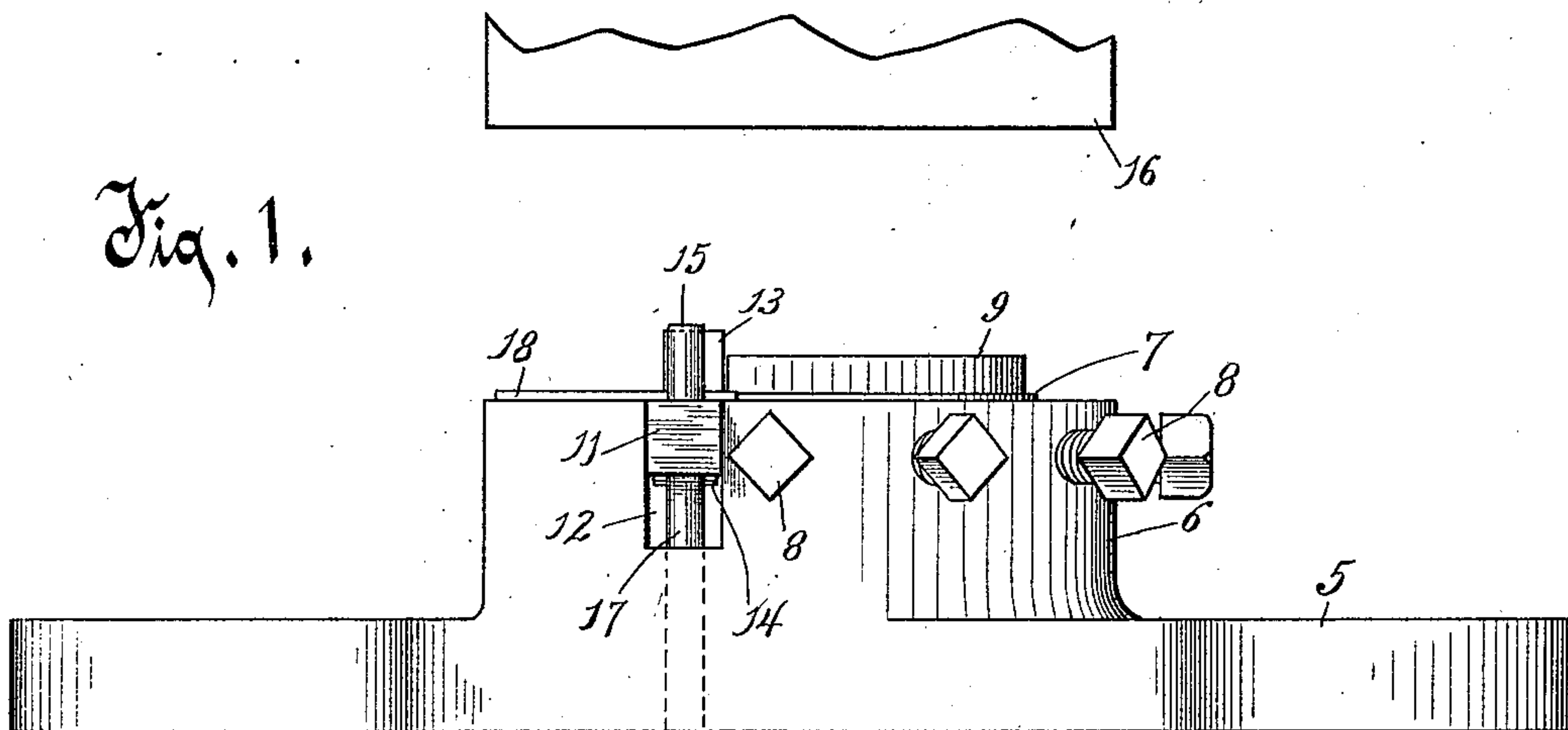


Fig. 2.

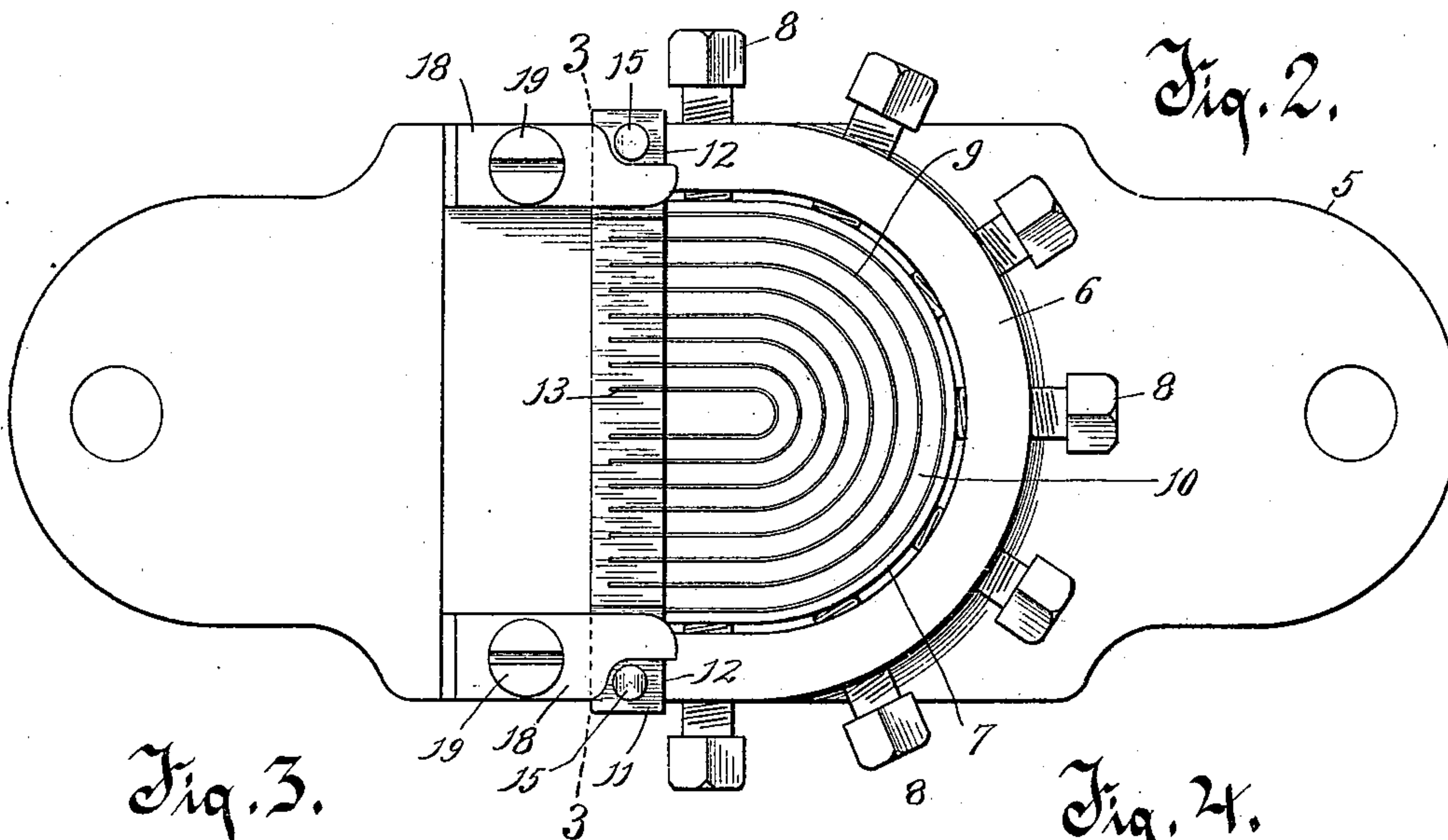


Fig. 3.

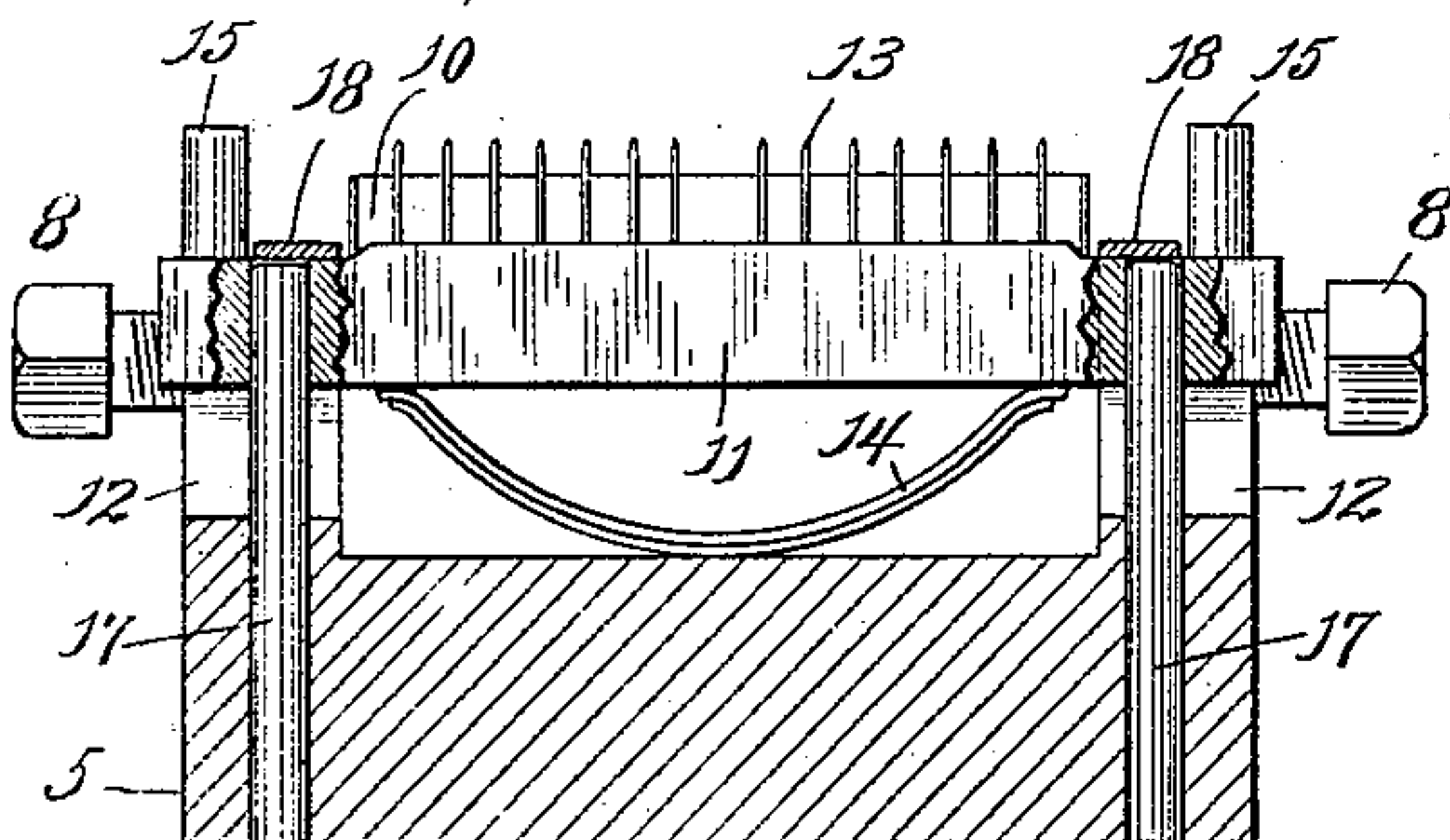
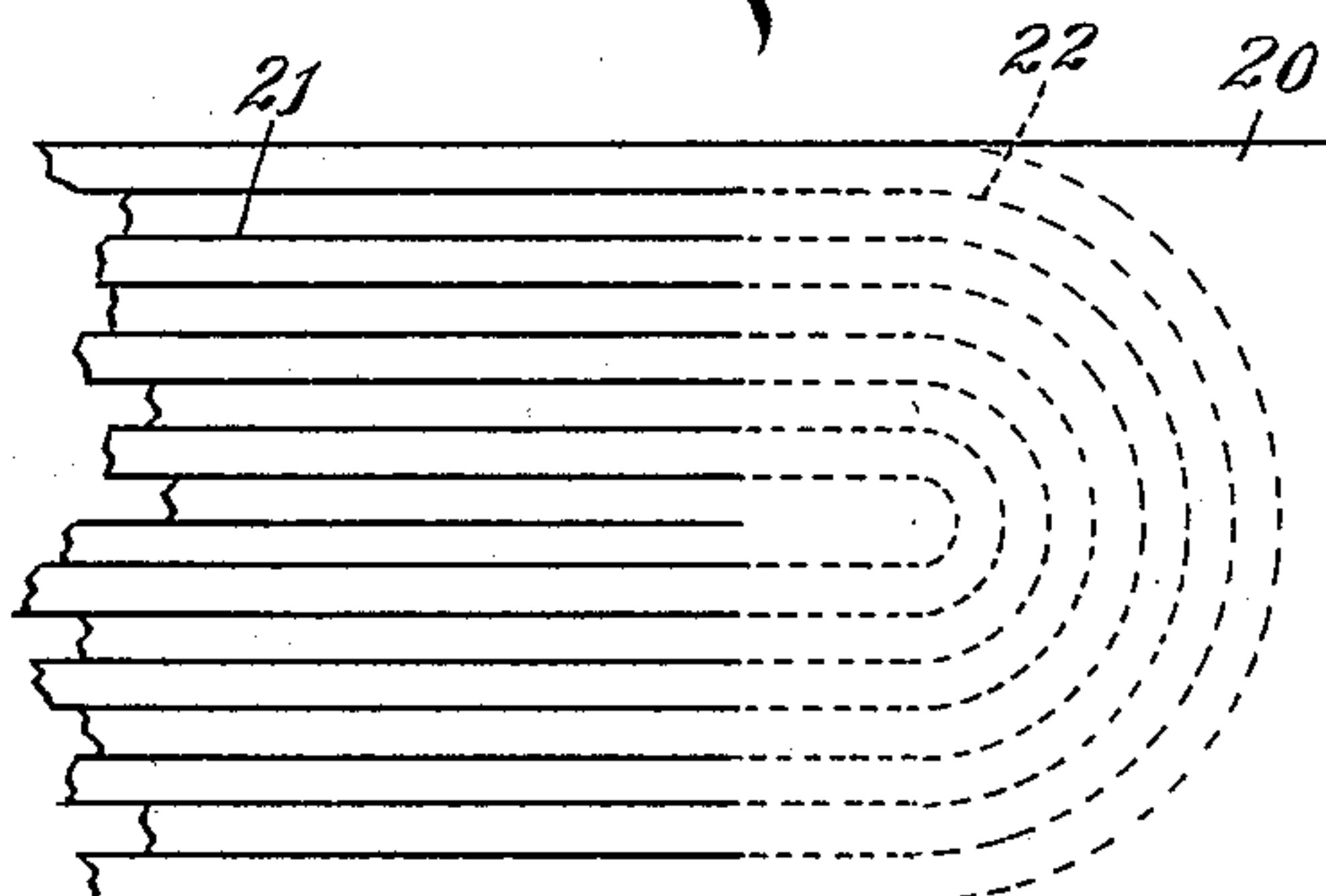


Fig. 4.



Witnesses.

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# UNITED STATES PATENT OFFICE.

WILLIAM KOOTZ, OF MILWAUKEE, WISCONSIN.

## MACHINE FOR CUTTING LEATHER STRIPS OR STRINGS.

SPECIFICATION forming part of Letters Patent No. 561,999, dated June 16, 1896.

Application filed October 9, 1895. Serial No. 565,155. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM KOOTZ, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Machines for Cutting Leather Strips or Strings, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in machines for cutting leather strips or strings.

The invention is of particular utility where continuous strips or strings are formed from short lengths of leather, said strips or strings being of substantially twice the length of the piece of leather from which they are cut.

The object is to provide improved guiding mechanism whereby slits already formed in the leather are guided to the cutting-knives and the slits thereby continued in an accurately true line.

With the above primary object in view the invention consists of the devices and parts or their equivalents, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is an elevation of my invention, showing the plunger of an ordinary press above the same and in position to strike. Fig. 2 is a plan view of the invention. Fig. 3 is a cross-section on the line 3 3 of Fig. 2 with parts broken away; and Fig. 4 is a view of a length of waste stock, showing in full lines the slits made in the same prior to being acted upon by my invention, and in dotted lines showing how said slits are continued by my improved machine in order to provide continuous strips or strings.

Referring to the drawings, the numeral 5 indicates the base of the machine, from which rises upwardly a substantially U-shaped flange 6. The base is provided with holes through which bolts may be inserted for attaching the base to a bed-plate of an ordinary press. Filling the greater portion of the recess formed by the flange 6 is a plate or block 7, which is held within said recess removably by means of screws 8, passing radially through the flange. Secured to the plate or block and extending upwardly therefrom are a series of concentric U-shaped cutting-knives 9, ar-

ranged equidistant apart, and of course each successive inner knife being less in diameter than the preceding outer knife. This arrangement provides a series of concentric spaces 10.

Immediately in advance of the ends of the cutting-knives 9 is a transverse bar 11, the ends of which extend into recesses 12 therefor in the flange 6. From the upper surface of this bar project a series of flat guide-fingers 13, which are in direct alinement with the ends of the cutting-knives. The fingers are of such height that when the bar is in its normal raised position, as shown in Figs. 1 and 3, the ends of the fingers will be above the plane of the cutting edges of the knives. The bar is held up to its normal position by means of spring-pressure. In the drawings I have shown a bowed leaf-spring 14, resting upon the base and having its free ends bearing against the under side of the bar. It is obvious, however, that any other form of spring capable of performing the same function may be used without departing from the spirit and scope of my invention.

Projecting upwardly from opposite ends of the spring-pressed bar are pins 15 15, which are adapted to receive the first impact or blow of the plunger-head 16 of the press. The bar is guided in its vertical movement by means of guide-pins 17 17, extending through suitable openings in the bar near opposite ends of said bar.

In order to cover the upper ends of the recesses 12 and thereby prevent the transverse bar from being forced entirely out of said recesses, I secure to the ends of the flange 6 plates 18 18, the ends of which project over the upper open ends of the recesses. By this arrangement the transverse bar can be readily removed at any time it may become necessary to substitute a new spring by simply taking out the screws 19 19, which secure the plates 18.

In the practical working of my invention a piece of leather, as 20, of such shortness as to ordinarily constitute waste stock, is first slitted by any approved method to form the straight slits 21. (Indicated in full lines, Fig. 4.) Now if these slits were continued straight to the end of this short piece of leather, strips or strings of leather would be formed of in-



sufficient length for the purpose for which such strings are ordinarily used. Therefore, in order to secure a continuous length of string of almost double the length of the leather from which it is cut, I employ my improved machine. The guide-fingers being in the normal position shown in Figs. 1 and 3, the leather is placed on the machine so that said fingers will engage the ends of the respective slits and project through said slits. As the fingers are in direct alinement with the ends of the cutting-knives it is apparent that the leather is so held as to continue the cuts straight from the slits already made. Force is now applied so as to depress the plunger-head 16. Said head will first strike the contact-pins 15 and cause the descent of the transverse bar carrying the guide-fingers. The continued descent of this bar will bring the leather in contact with the cutting edges of the knives, and as the plunger is pressed home the leather is forced down into the spaces 10, whereby the concentric circular slits 22 (indicated by dotted lines in Fig. 4) are made directly in line with the previous straight slits 21, thus forming a series of continuous strips or strings of leather of almost double the length of the piece of leather from which they are cut. The moment the plunger-head starts on its up movement and pressure therefore ceases the expansive force of the spring 14 causes the transverse bar to return to its normal position ready for a repetition of the operation just explained.

It is of course obvious that instead of attaching the base-plate of my machine to the bed of an ordinary press it could be attached to any form of support, and a hand-plunger used for the purpose of causing the descent of the bar carrying the guide-fingers and the consequent cutting of the leather.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In machines for cutting leather strips, the combination of a series of cutting-knives, guide-fingers in line with the ends of said knives, mechanism adapted by contact to depress the guide-fingers, and means for returning said guide-fingers to their normal positions after the contact of said mechanism ceases, substantially as described.

2. In machines for cutting leather strips, the combination of a series of curved concentric cutting-knives, guide-fingers in line with the ends of said knives, mechanism adapted by contact to depress the guide-fingers, and means for returning said fingers to their normal positions after the contact of the mechanism ceases, substantially as described.

3. In machines for cutting leather strips,

the combination, of a series of cutting-knives, a spring-pressed bar carrying a series of guide-fingers in line with the ends of the cutting-knives, the upper ends of said fingers being normally above the plane of the cutting edges of the knives, and means for depressing the finger-carrying bar against the action of the spring, substantially as described.

4. In machines for cutting leather strips, the combination of a base having a U-shaped flange projecting therefrom, a plate seated in the recess formed by the flange, said plate provided with a series of curved concentric cutting-knives, and a spring-pressed movable bar having its ends seated in opposite elongated openings in the flange, said bar provided with guide-fingers in line with the ends of the cutting-knives, substantially as described.

5. In machines for cutting leather strips, the combination, of a base having a U-shaped flange projecting therefrom, a plate seated in the recess formed by the flange, said plate provided with a series of curved concentric cutting-knives, and a spring-pressed movable bar having its ends seated in opposite elongated openings in the flange, said bar provided with guide-fingers in line with the ends of the cutting-knives, and also provided with a projecting pin or pins adapted to receive the impact of a plunger-head, substantially as described.

6. In machines for cutting leather strips, the combination, of a base having a U-shaped flange projecting therefrom, a plate seated in the recess formed by the flange, said plate provided with a series of concentric cutting-knives, a spring-pressed movable bar having its ends seated in opposite elongated open-ended recesses of the flange, said bar provided with guide-fingers in line with the ends of the cutting-knives, and plates removably secured to the flange, and projecting over the open ends of the recesses, substantially as described.

7. In machines for cutting leather strips, the combination, of a base, cutting-knives carried by the base, a spring-pressed bar carrying a series of guide-fingers in line with the ends of the cutting-knives, and guide-pins projecting upwardly from the base and passing through the openings of the spring-pressed bar, substantially as described.

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

WILLIAM KOOTZ.

Witnesses:

ARTHUR L. MORSELL,  
C. H. KEENEY.