

No. 898,025.

PATENTED SEPT. 8, 1908.

A. F. WILSON & E. L. & I. M. SOUTHWICK.
TRANSMISSION MECHANISM.

APPLICATION FILED MAY 11, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

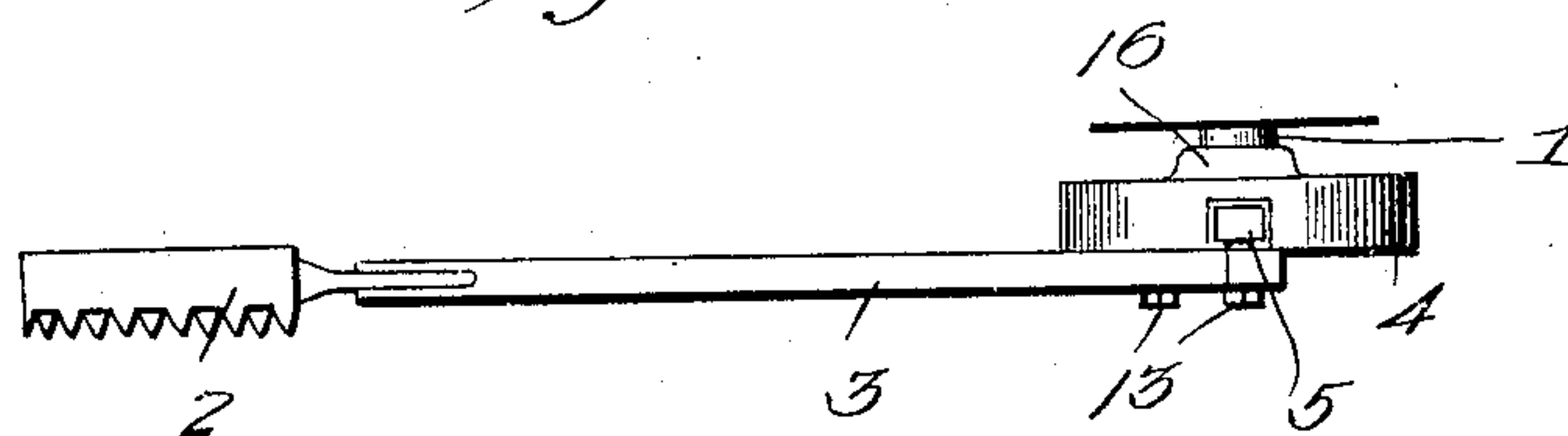
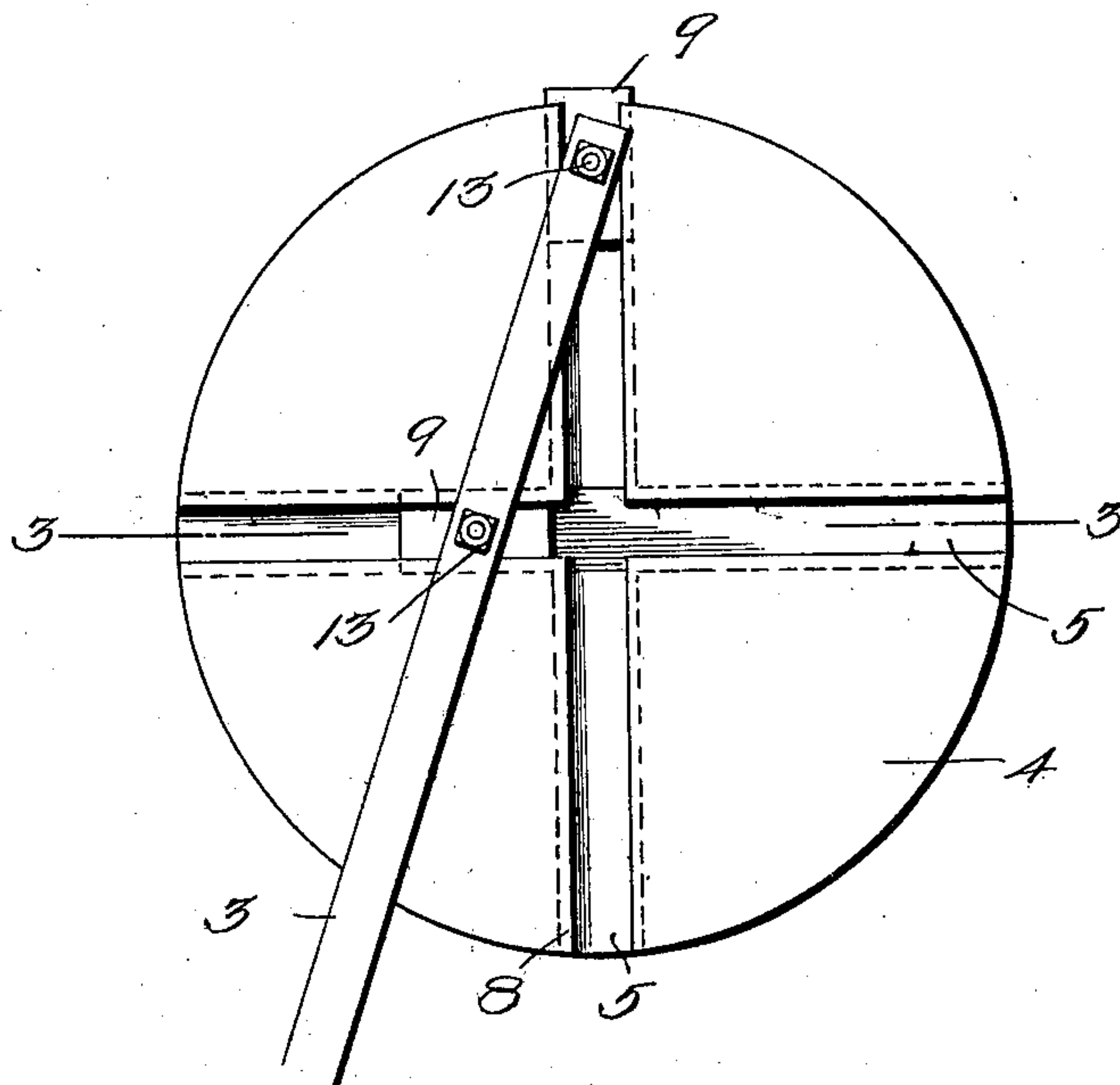


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

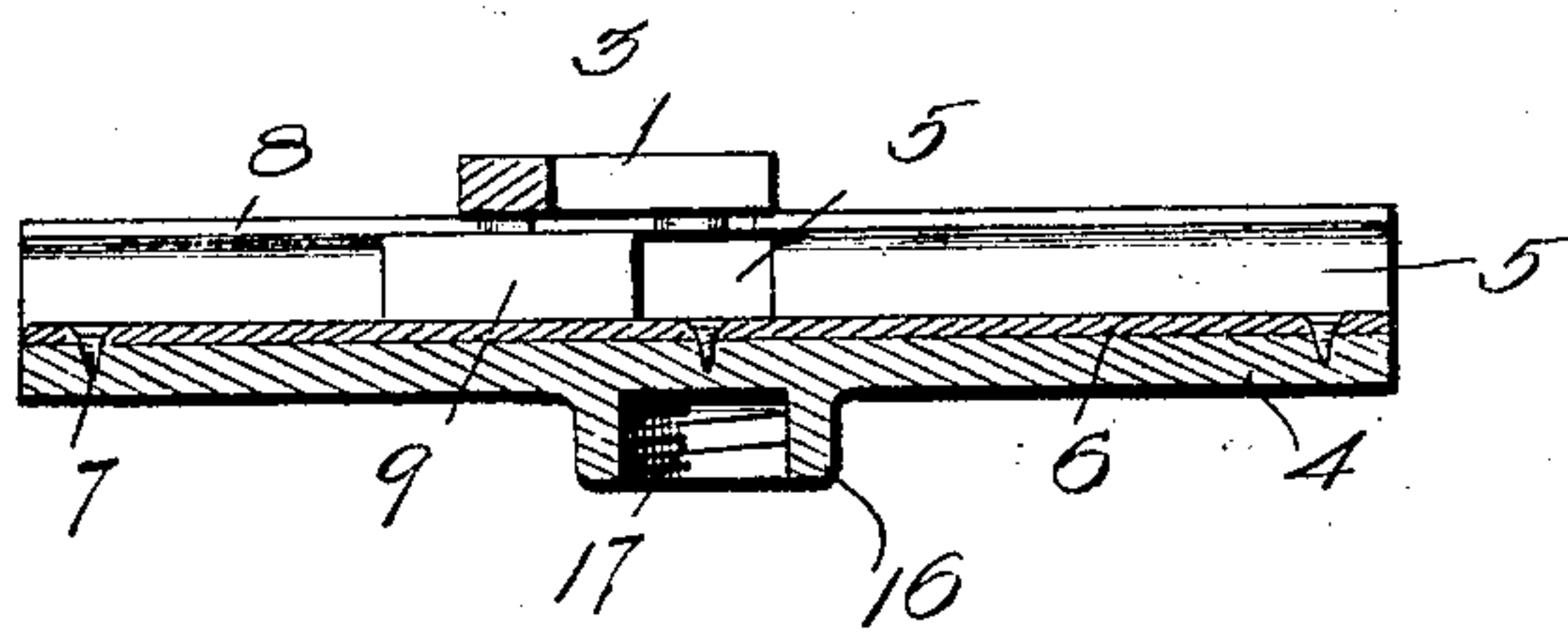


Fig. 4.

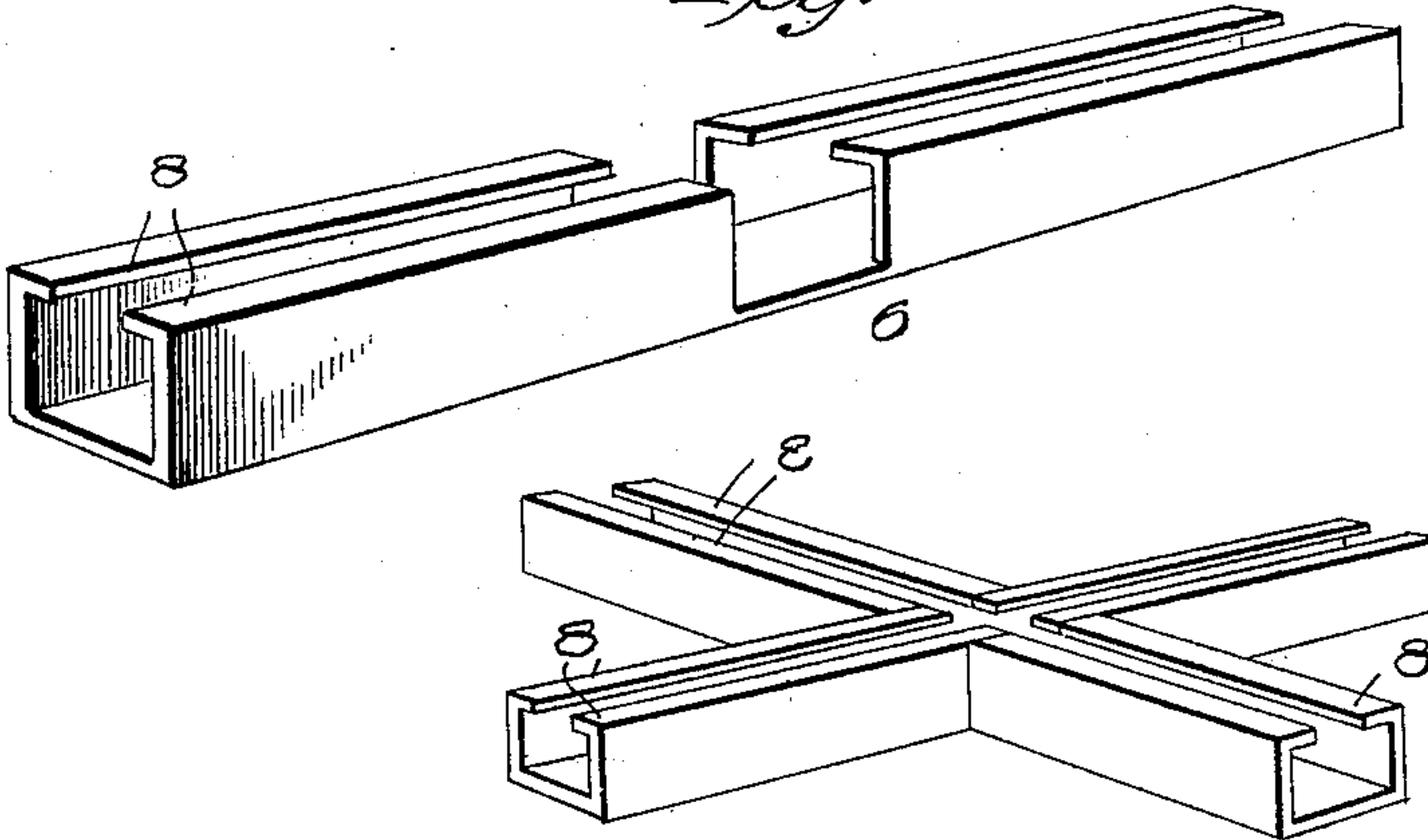


Fig. 7.

Fig. 5.

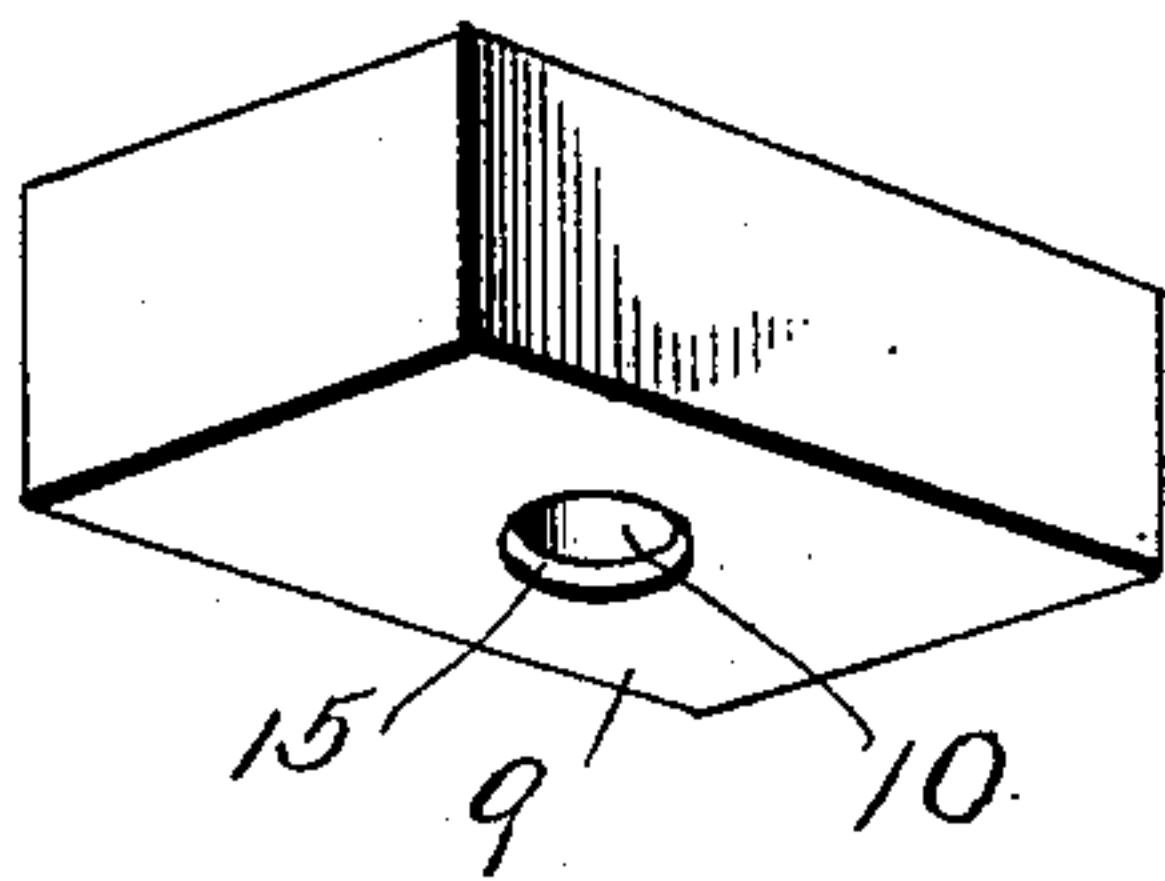
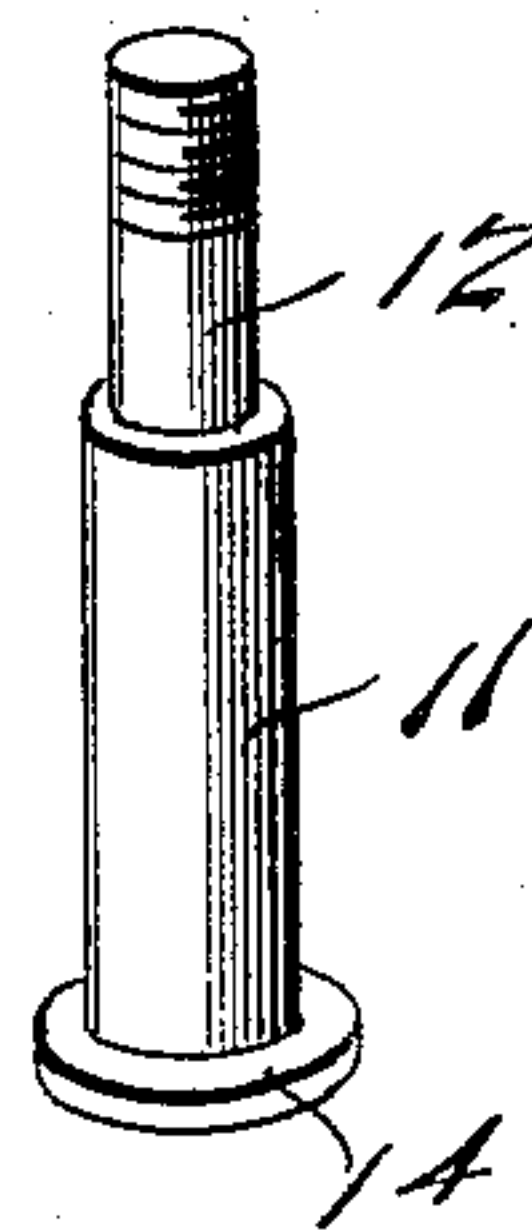


Fig. 6.



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UNITED STATES PATENT OFFICE.

ARTHUR F. WILSON, EDWARD L. SOUTHWICK, AND IRA M. SOUTHWICK, OF MEDO,
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TRANSMISSION MECHANISM.

No. 898,025.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed May 11, 1907. Serial No. 373,040.

To all whom it may concern:

Be it known that we, ARTHUR F. WILSON, EDWARD L. SOUTHWICK, and IRA M. SOUTHWICK, citizens of the United States, residing at Medo, in the county of Blue Earth and State of Minnesota, have invented new and useful Improvements in Transmission Mechanism, of which the following is a specification.

This invention relates to gearing designed especially for use in mowing and reaping machines for operating the reciprocatory sickle bar and to be substituted for the ordinary form of pitman connection now in general use, and has for its objects to provide a comparatively simple, inexpensive device of this character which may be readily applied to the various types of machines now in general use, one whereby an increased speed of the bar may be attained without the employment of high gearing, thus producing a rapid and easy operation of the sickle, and at the same time a reduced draft.

A further object of the invention is to provide a device of this character embodying a trammel having guide grooves containing slide boxes to receive the head blocks, thus to relieve wear on the wheel and prolong the life of the gearing.

With these and other objects in view, the invention comprises the novel features of construction and combination of parts more fully hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a detail plan view of parts of a mowing machine showing the sickle bar, the drive shaft and the pitman. Fig. 2 is a view in elevation showing the pitman wheel and pitman on an enlarged scale. Fig. 3 is a section taken on the line 3—3 of Fig. 2. Fig. 4 is a perspective view of one of the slide boxes. Fig. 5 is a perspective view of one of the head blocks. Fig. 6 is a perspective view of one of the pivoting members. Fig. 7 is a view in perspective exhibiting the arrangement of the wear-plates when assembled.

Referring to the drawings, 1 designates the drive shaft of a mowing machine connected in the manner hereinafter explained with the movable sickle bar 2, said connection comprising a pitman 3 and a trammel 4 fixed on the end of the drive shaft 1 and provided with perpendicularly crossed guide-ways or grooves 5 in which are removably arranged slide boxes 6 secured in place by fastening

screws 7 and provided at their outer edges with inturned bearing flanges 8, the purpose of which will hereinafter appear.

Arranged for sliding movement respectively in the grooves 5 and within the boxes 6 is a pair of sliding blocks or heads 9 of the form shown in Fig. 5, and each having at its longitudinal center a transverse bearing opening 10 formed to receive a pivoting member or bolt 11 terminating beyond the outer face of the block in a reduced portion or spindle 12 which extends through the bearing opening in the pitman 3 and is threaded at its outer end for the reception of a retaining nut 13, there being formed on the inner end of each of the pintles an enlarged flat head 14 adapted to enter a countersunk recess 15 formed in the adjacent face of the block 9 at the end of the bearing opening 10, it being understood, of course, that when the blocks are arranged in place within the boxes 6 they will be engaged at their outer faces by the bearing flanges 8 and will thus be prevented from escaping from the guide-ways and further that the pivotal points of connection of the blocks with the pitman 3 are of such a distance apart as to permit the blocks to play back and forth freely within the respective guide-ways without binding or coming to a dead center.

Formed on the rear face of the trammel 4 is an enlarged hub or boss 16 having an internally threaded socket 17 to receive the end of the drive shaft 1, thus providing for detachable engagement of the wheel with the shaft.

In practice, the shaft 1 is driven directly from the axle or through the medium of intermediate gearing, as usual in devices of this character for imparting rotary motion to the trammel 4, as will be readily understood, and as the wheel 4 rotates, the blocks 9 slide back and forth within their respective guide-ways and impart a reciprocatory motion to the pitman 3, this motion being transmitted to the movable sickle bar 2. During movement of the blocks in the guide-ways they may turn freely on the pintles 11 in accordance with the motion of the wheel 4 and will be prevented from escaping from the ways by means of the flanges 8 provided on the outer edges of the slide boxes 6 which will relieve wear on the trammel 4 and may be renewed from time to time as circumstances require.

In assembling the parts the slide boxes 6 are entered longitudinally into the respective grooves 5 and secured by means of the screws 7, after which the blocks 9 having the
5 pintles 11 entered therethrough are introduced into the respective guide-ways and are finally attached to the pitman 3 by inserting the spindles 12 in the respective openings in the pitman and applying the nuts 13.

10 It is to be particularly noted that under the improved construction provision is made for a rapid reciprocation of the cutter or sickle bar and this without the employment of high speed gearing and consequently with
15 a reduced draft.

While we have herein shown and described the device as applied to mowing and reaping machines, it is to be understood that the same is applicable with equal facility to
20 various classes of machinery in which it is desired to convert a rotary motion into a reciprocatory motion, or that is to operate a reciprocatory member from a rotary member.

What we claim is:

25 In a device of the class described, a rotary

drive shaft, a trammel carried thereby and provided with detachable guide-ways having inturned bearing flanges, one of the guide-ways being transversely channeled intermediate of its ends to establish communication with the other guide-way, head blocks
30 slidably disposed in the guide-ways and retained therein by said flanges, said blocks being provided with bearing openings, pivoting members extended through said openings and having spindles projecting beyond
35 the face of the wheel, a pitman having openings to receive said spindles, retaining members applied to the outer ends of the spindles for securing the pivoting members to the
40 pitman, and a reciprocatory member connected for operation by the latter.

In testimony whereof, we affix our signatures in presence of two witnesses.

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IRA M. SOUTHWICK.

Witnesses:

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