

No. 640,588.

Patented Jan. 2, 1900.

P. POYNEER.
FANNING MILL.

(Application filed Feb. 25, 1899.)

(No Model.)

Fig. 1.

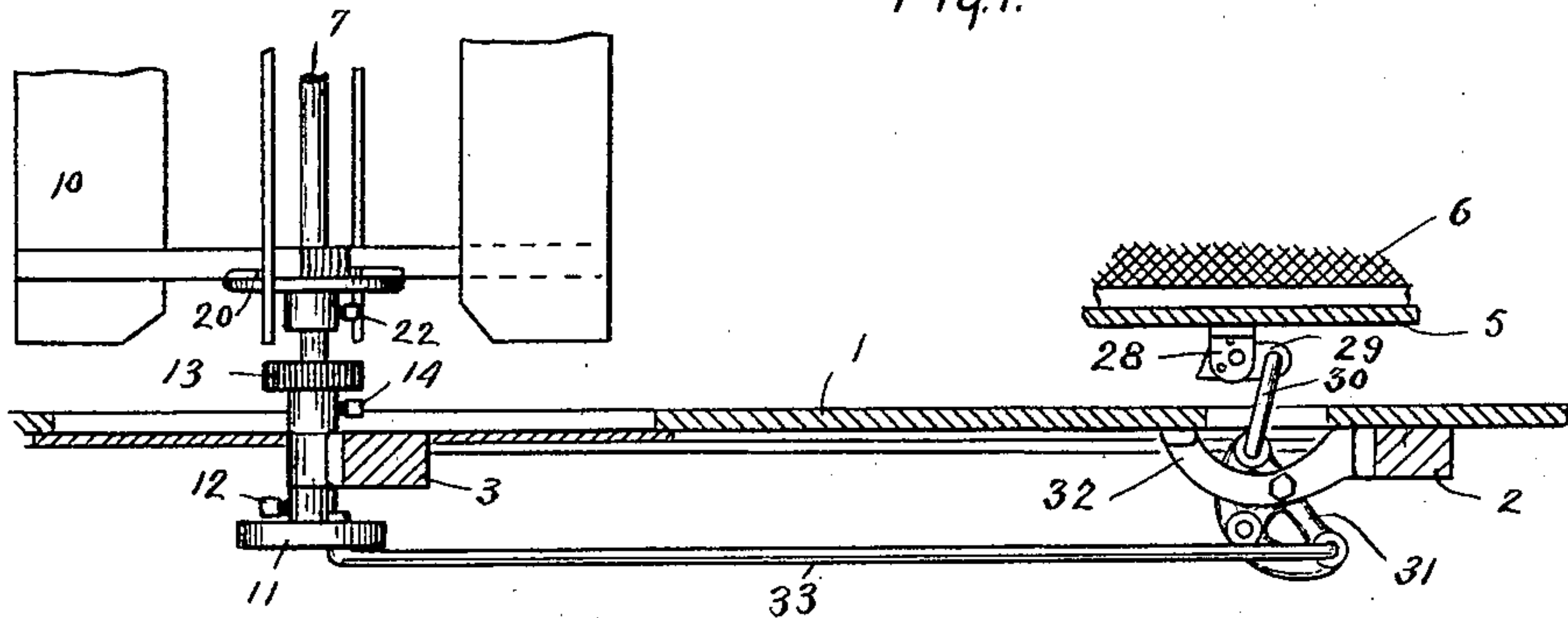


Fig. 2.

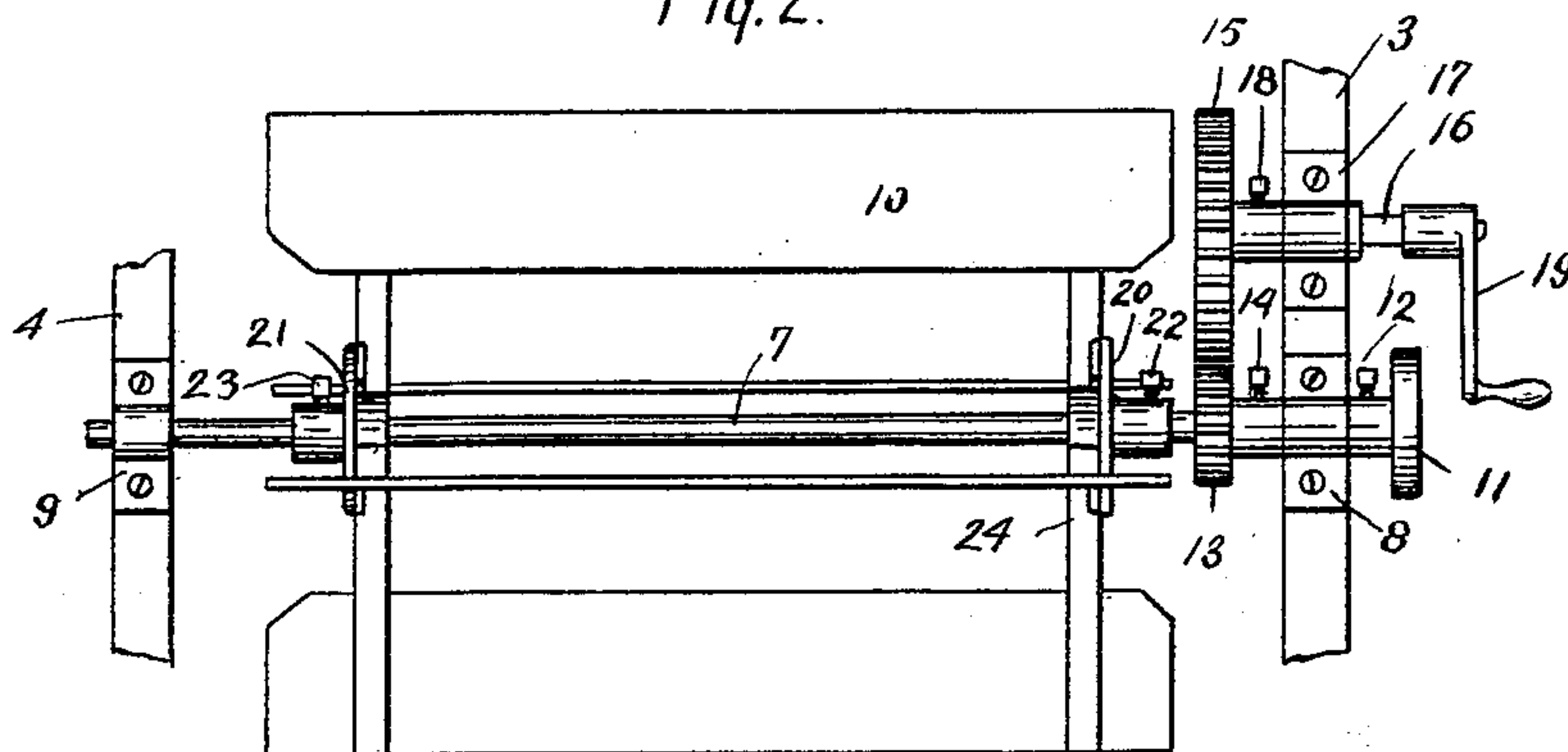


Fig. 3.

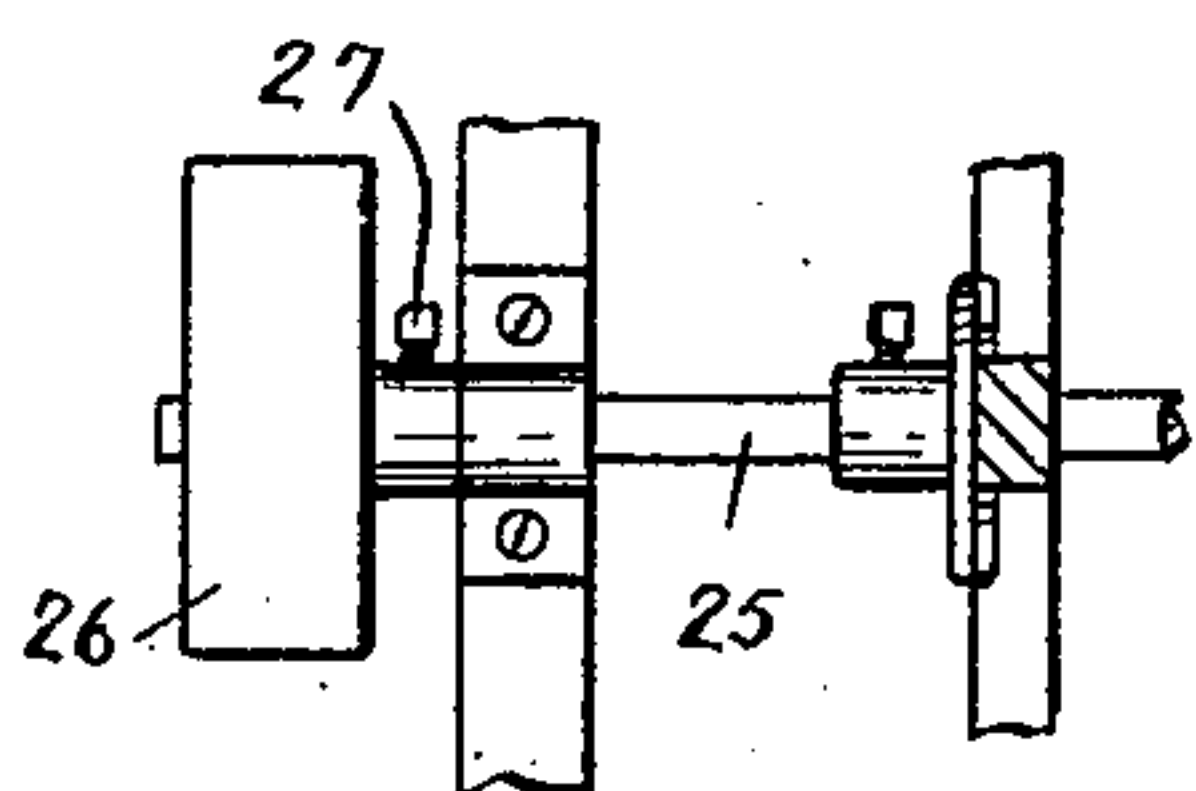


Fig. 4.

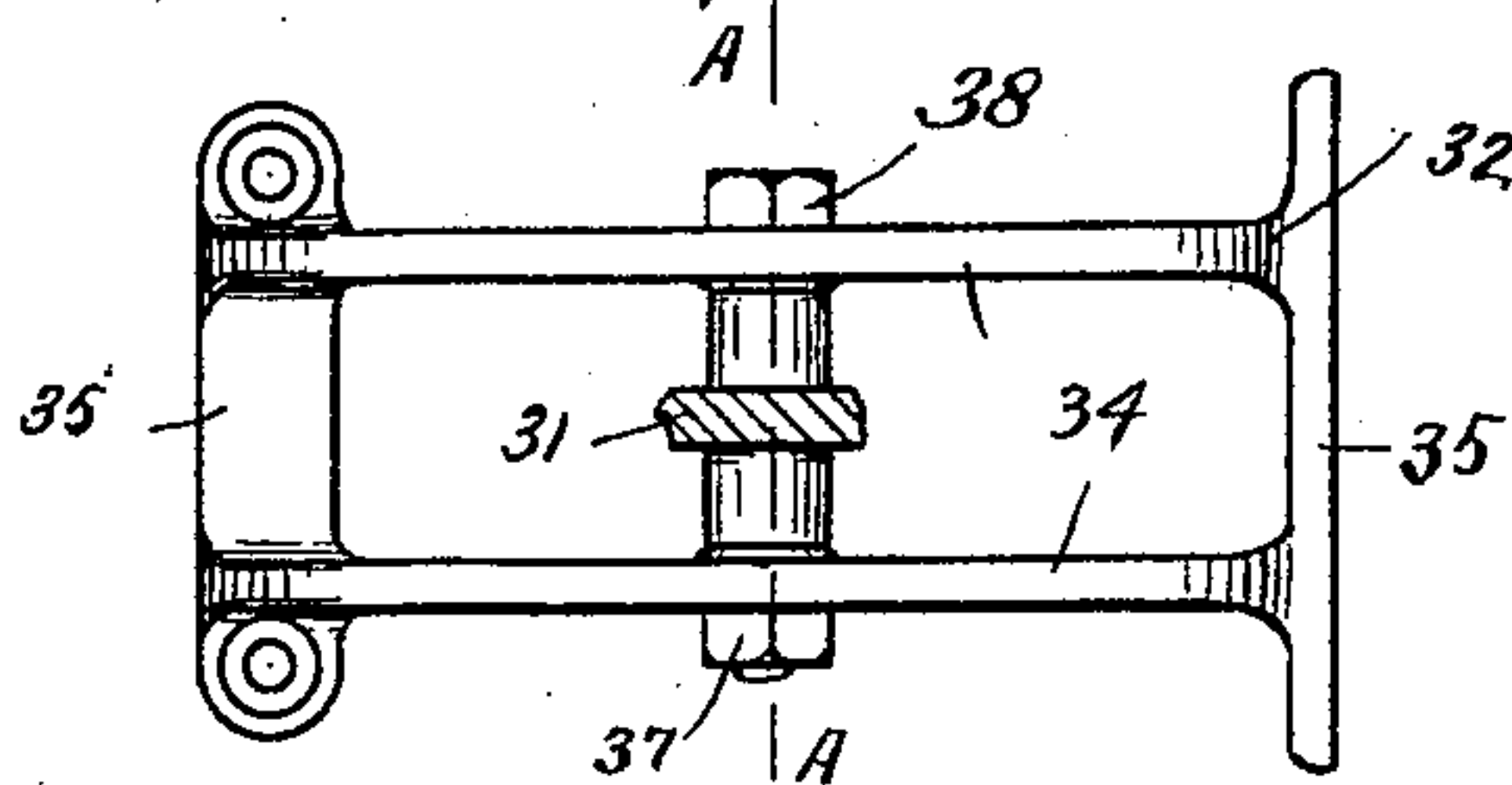
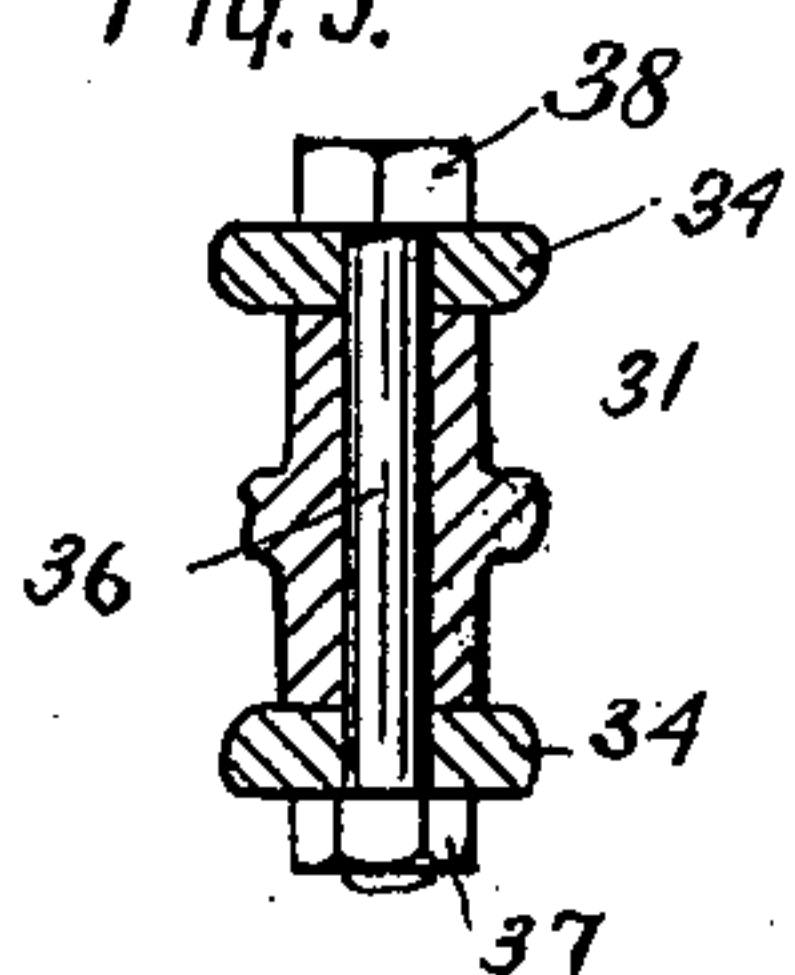


Fig. 5.



Witnesses;

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Inventor,

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By T. H. Lockwood
His Attorney.

UNITED STATES PATENT OFFICE.

PERRY POYNEER, OF COLUMBUS, INDIANA.

FANNING-MILL.

SPECIFICATION forming part of Letters Patent No. 640,588, dated January 2, 1900.

Application filed February 25, 1899. Serial No. 706,850. (No model.)

To all whom it may concern:

Be it known that I, PERRY POYNEER, of Columbus, county of Bartholomew, and State of Indiana, have invented a certain new and useful Improvement in Fanning-Mills; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

The object of said improvements is to increase the positiveness of the operation of the machine in which they are applied and the durability thereof; also, to make it readily convertible from a hand-driven machine to a power-machine or the reverse.

The full nature of my invention will more fully appear from the accompanying drawings and the description and claims following.

In the drawings, Figure 1 is a horizontal section of a portion of one side of the body of a fanning-mill and the shoe thereof, with the means for mounting the fan and driving the shoe shown in plan, said parts being partly broken away, as shown. Fig. 2 is a rear elevation of the fan, its mounting, and means for driving the same, the parts of the framework on which it is mounted being broken away, as shown. Fig. 3 shows a modified form of the shaft on which the fan is mounted with means for applying power other than the hand to said machine, parts being broken away, as shown. Fig. 4 is a plan of the frame or bracket in which the bell-crank for oscillating the shoe is mounted. Fig. 5 is a section on the line A A of Fig. 4.

In detail, 1 is the side of the body, shell, or casing of a fanning-mill, 2, 3, and 4 being upright pieces, preferably of wood, forming a part of said body.

5 is the shoe, and 6 a riddle mounted therein.

The shaft 7 is mounted horizontally in the rear portion of the fanning-mill in bearings 8 and 9 at each end, which are secured to the upright pieces 3 and 4 of the body of the machine, as shown in Fig. 2. On this shaft the fan 10 is mounted, as will be explained. This shaft is perfectly smooth throughout its length, being nowhere turned down or provided with shoulders, as has been the construction heretofore employed in this class of machines. On the right end of said shaft I secure the driving-disk 11 by means of the

set-screw 12, extending through the hub thereof. On said shaft, inside the frame-piece 3, I secure the pinion 13 by means of the set-screw 14, that extends through the hub thereof. This pinion meshes with the gear 15, secured on the spindle 16, mounted horizontally in the bearing 17, parallel with the shaft 7. The gear 15 is secured to it by the set-screw 18, extending through the hub thereof. A crank 19 fits on the outer end of said spindle, and in this manner the shaft 7 is actuated by hand. On said shaft, at suitable places, I secure the fan-holding disks 20 and 21 by means of set-screws 22 and 23, that extend through the hubs thereof. The arms 24 of the fan are secured to said disks in the usual way. Said fan and the shaft 7 are prevented from having lateral movement by reason of the hubs of the disk 11 on the outside of the upright frame-piece 3 and the gear 13 on the inside thereof, said hubs abutting against the bearing 8 on each side and being held in place by the set-screw, as shown and described.

To change readily from a hand-driven to a power-driven machine has of recent years become a necessity in the fanning-mill business. This change is often required where there is no means of modifying the shaft 7 or of taking the parts to pieces in the form in which they have heretofore been made. With my construction the portion of the machine which I have so far described can be readily put together or taken apart with a wrench and the shaft 7 be withdrawn and a longer shaft, such as 25, be substituted therefor and the parts all replaced thereon with a pulley secured to the left end thereof by the set-screw 27, as is shown in Fig. 3. In this way the machine can readily be changed from a hand-machine to a power-machine, or the reverse, or be taken apart for any other purpose.

The shoe 5 is vibrated by the following means: I secure to the side of it the metal extensions or ears 28, horizontally extending, to which I pivot a plate 29, that is connected by the link 30 with the bell-crank 31. Said bell-crank is mounted in the frame or bracket 32 and is driven by the connecting-rod 33, that is connected up eccentrically with the disk 11, mounted on the right end of the shaft 7.

The form of the bell-crank 31 is shown in plan in Fig. 1, it being provided with a suit-

able hole, in which the link 30 is fitted, and with two holes located at different places, in which the link 33 is fitted, whereby the extent of lateral movement given to the shoe 5 can be modified by changing the link 33 from one hole to the other. The said bell-crank is made of one piece of metal, substantially as shown. Heretofore said bell-crank has been provided with a bearing-pin with conical ends 10 that fitted in conical bearing-seats in the inner sides of pairs of horizontal bars 34, which were separably connected at each end to the framework. With this construction said bars would spread apart and there would be much 15 lost motion and much friction in the operation of the bell-crank therein. The result was that the whole construction was weak, loose, and destructive to itself and the connecting parts. I overcome this difficulty by 20 the construction shown in Figs. 4 and 5. The frame or bracket 32 has two horizontal bars 34 integral with the vertical bars 35, which are secured to the body of the mill, as seen in Fig. 1. These parts being integral, the bars 25 34 cannot spread or become loose separately or together; but their relative position is absolutely fixed, however long they may be used. The bell-crank 31 has a hub, as seen in Fig. 5, through which I pass the spindle 36, which 30 is a bolt with a head 38 on one end and a nut 37 on the other. This bolt extends through apertures in the bars 34, as seen in Figs. 4 and 5, and when in place the nut 37 is screwed

down tight, so that said bolt is immovable. This makes a rigid construction or mounting 35 for the bell-crank, so that it is capable of positive action, however long used, in spite of the great strain put upon it by the action of the shoe and the connecting-rod 33.

What I claim as my invention, and desire 40 to secure by Letters Patent, is—

1. A fanning-mill including a fan-shaft smooth throughout its length, suitable bearings in which it is mounted, means secured thereto by set-screws for preventing lateral 45 movement, fan-supporting disks and a driving-disk all secured thereon by set-screws, substantially as set forth.

2. A fanning-mill including a shoe, a bell-crank for oscillating the shoe, means for 50 actuating the bell-crank, a metal frame or bracket secured to the body of the mill and formed of a pair of parallel bars integral with a pair of end bars at right angles thereto, said parallel bars having oppositely-placed holes 55 therethrough, and a bolt passing through the bell-crank hub and the holes in said parallel bars with a nut for securing it therein, substantially as set forth.

In witness whereof I have hereunto affixed 60 my signature in the presence of the witnesses herein named.

PERRY POYNEER.

Witnesses:

DAVID STOBO,
ORLANDO MAY.