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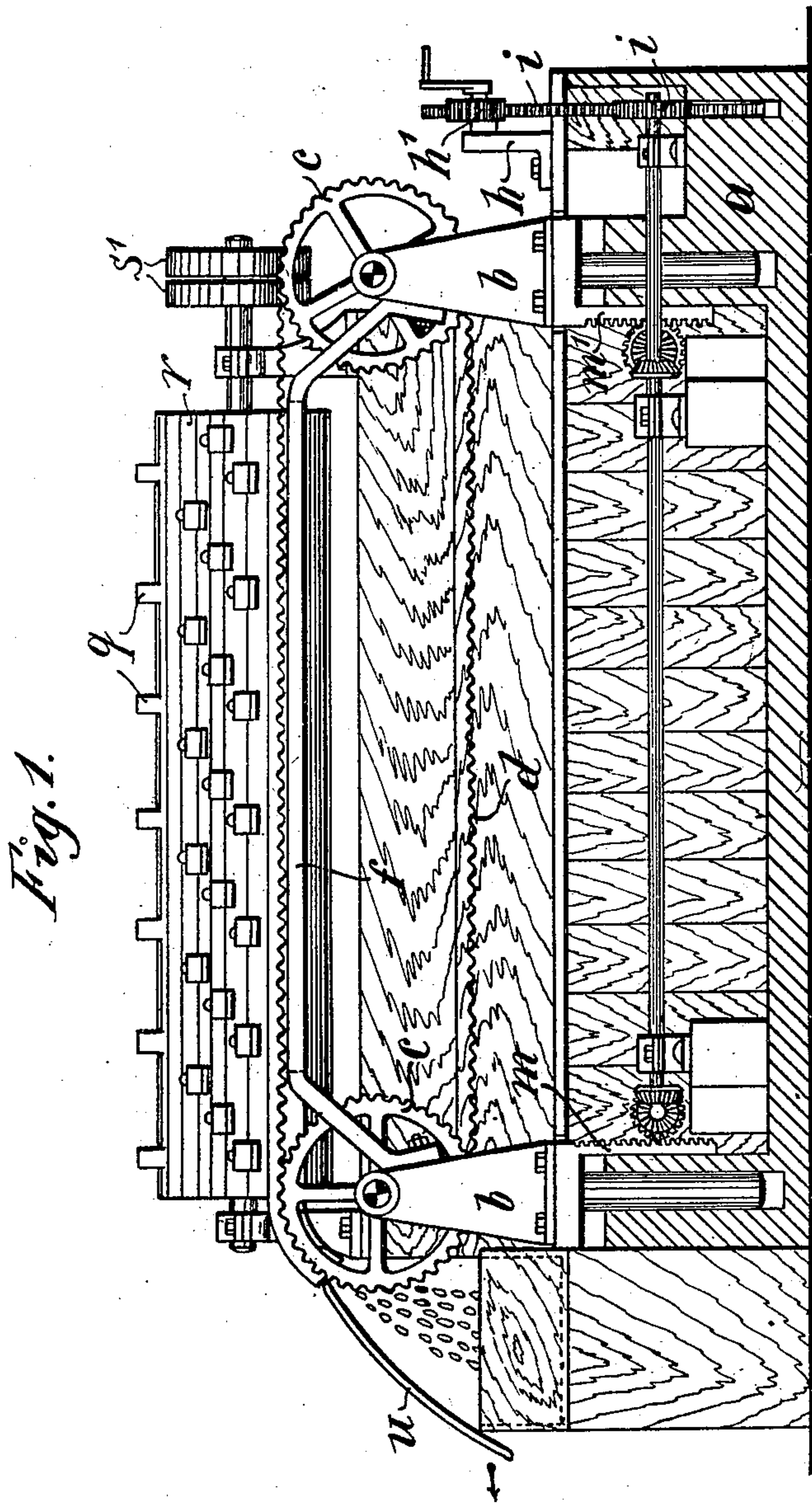
**Patented Aug. 13, 1901.**

**A. VON LOEPER, GEBOREN MÜHLENBECK.  
THRESHING MACHINE.**

(Application filed Jan. 24, 1900.)

(No Model.)

**4 Sheets—Sheet 1.**



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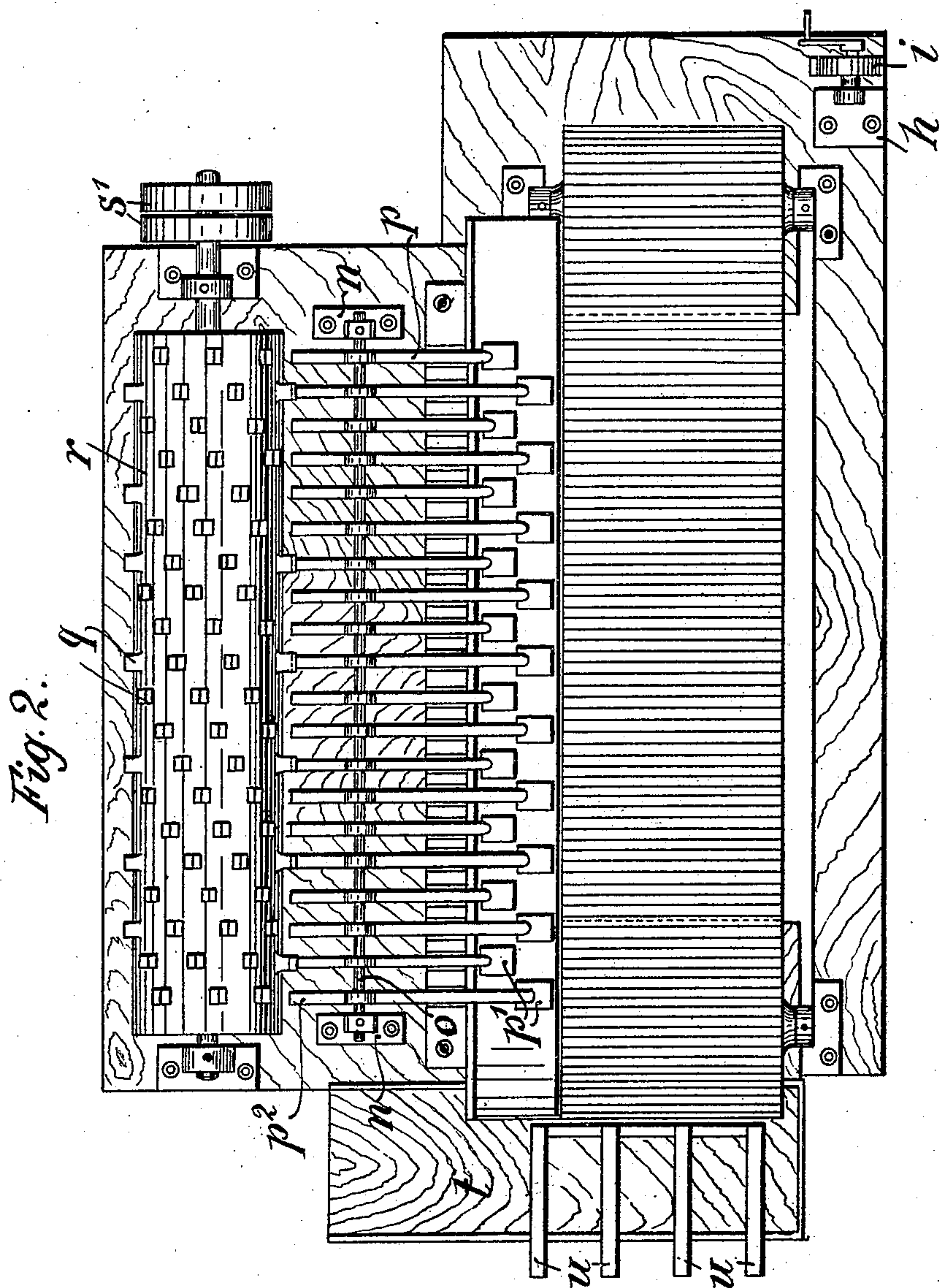
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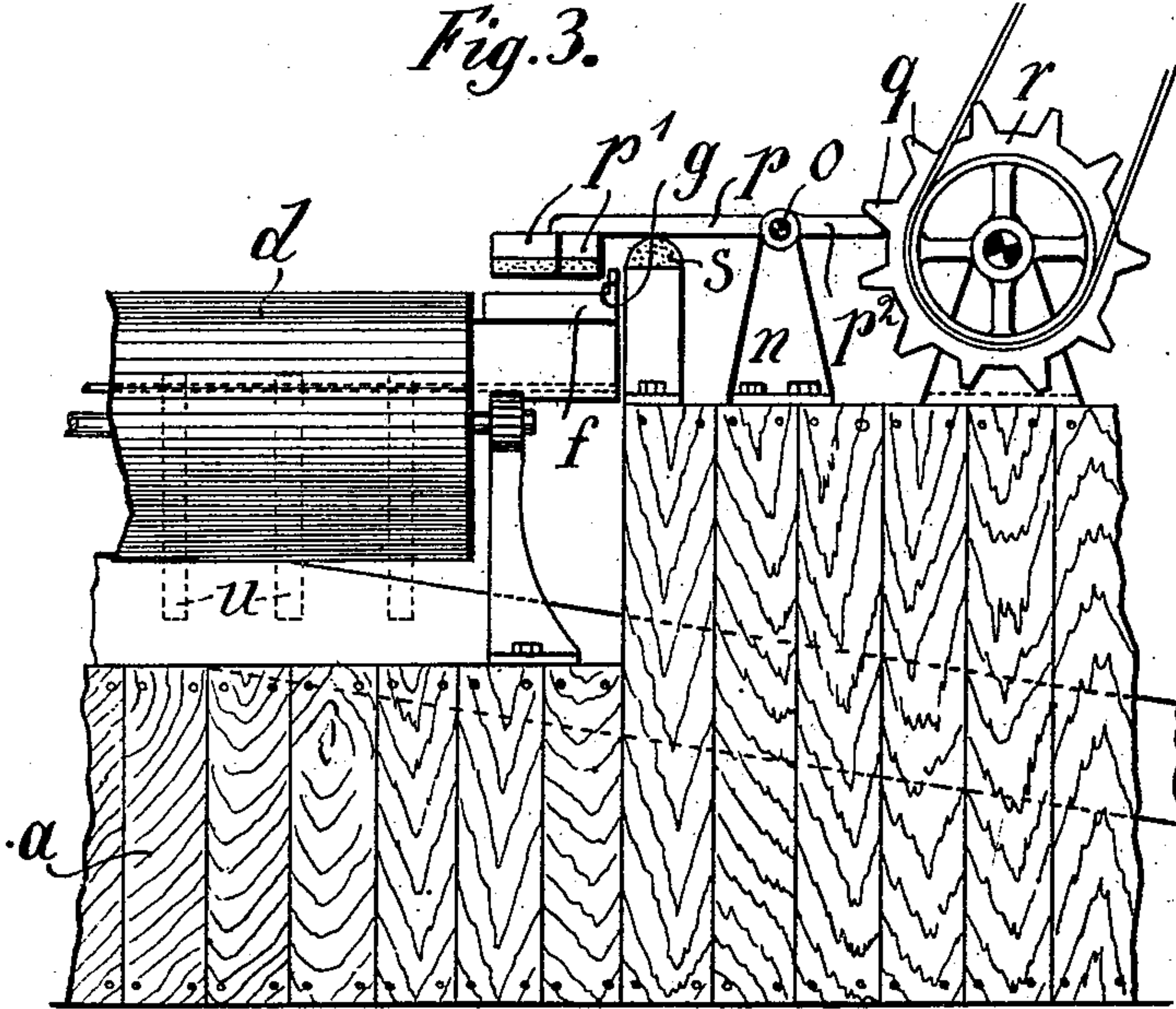
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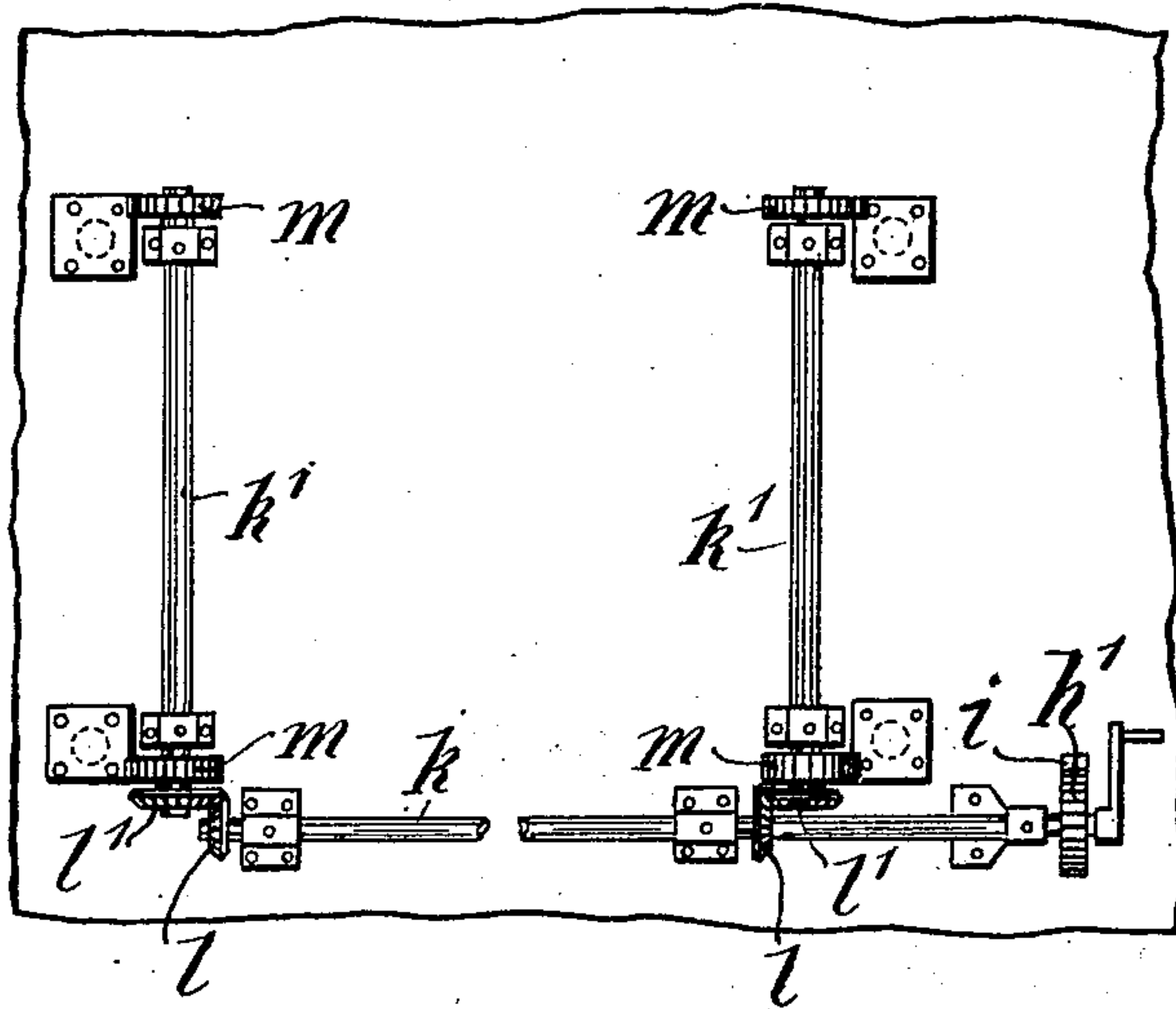
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*Fig. 3.*



*Fig. 4.*



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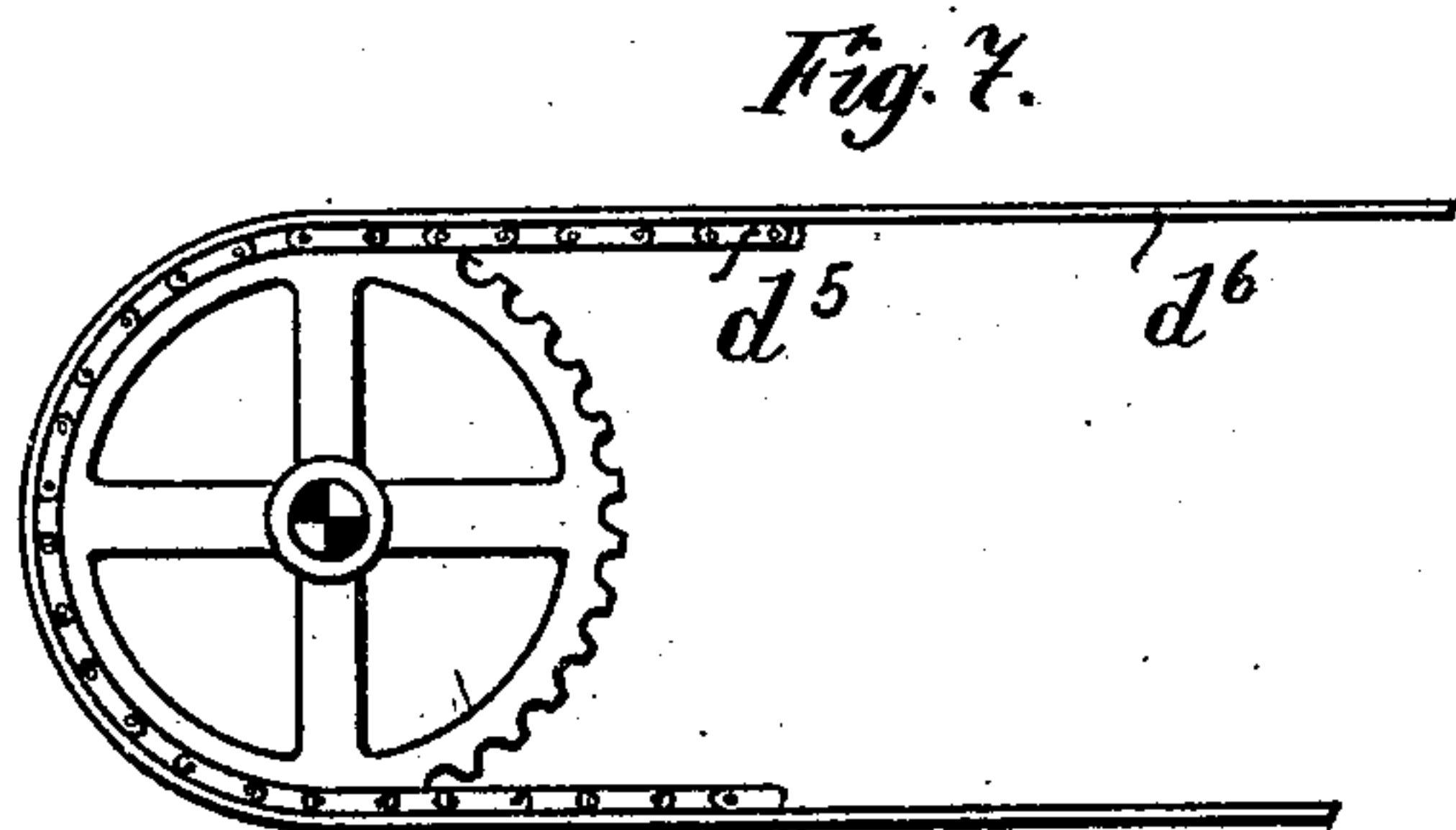
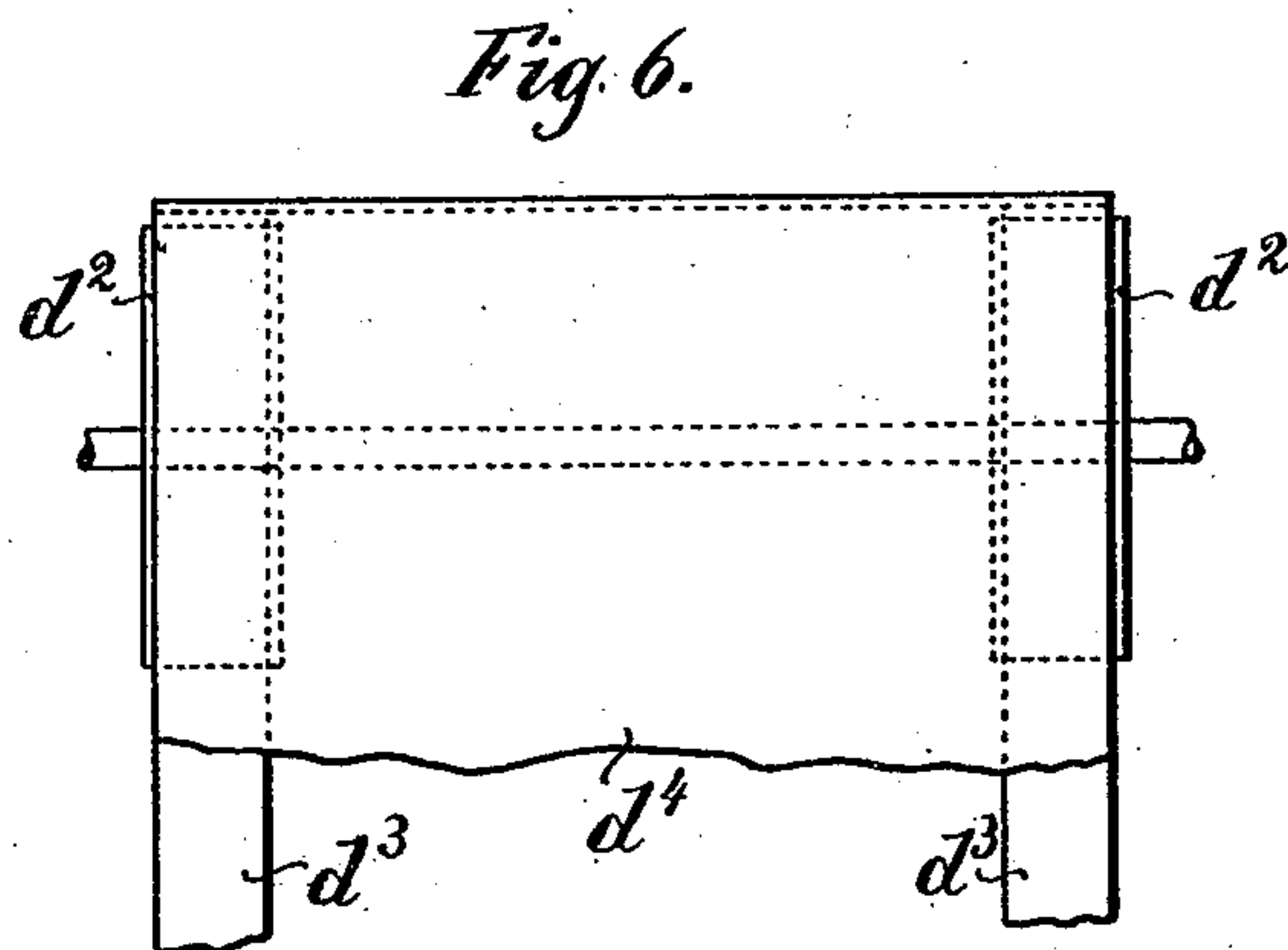
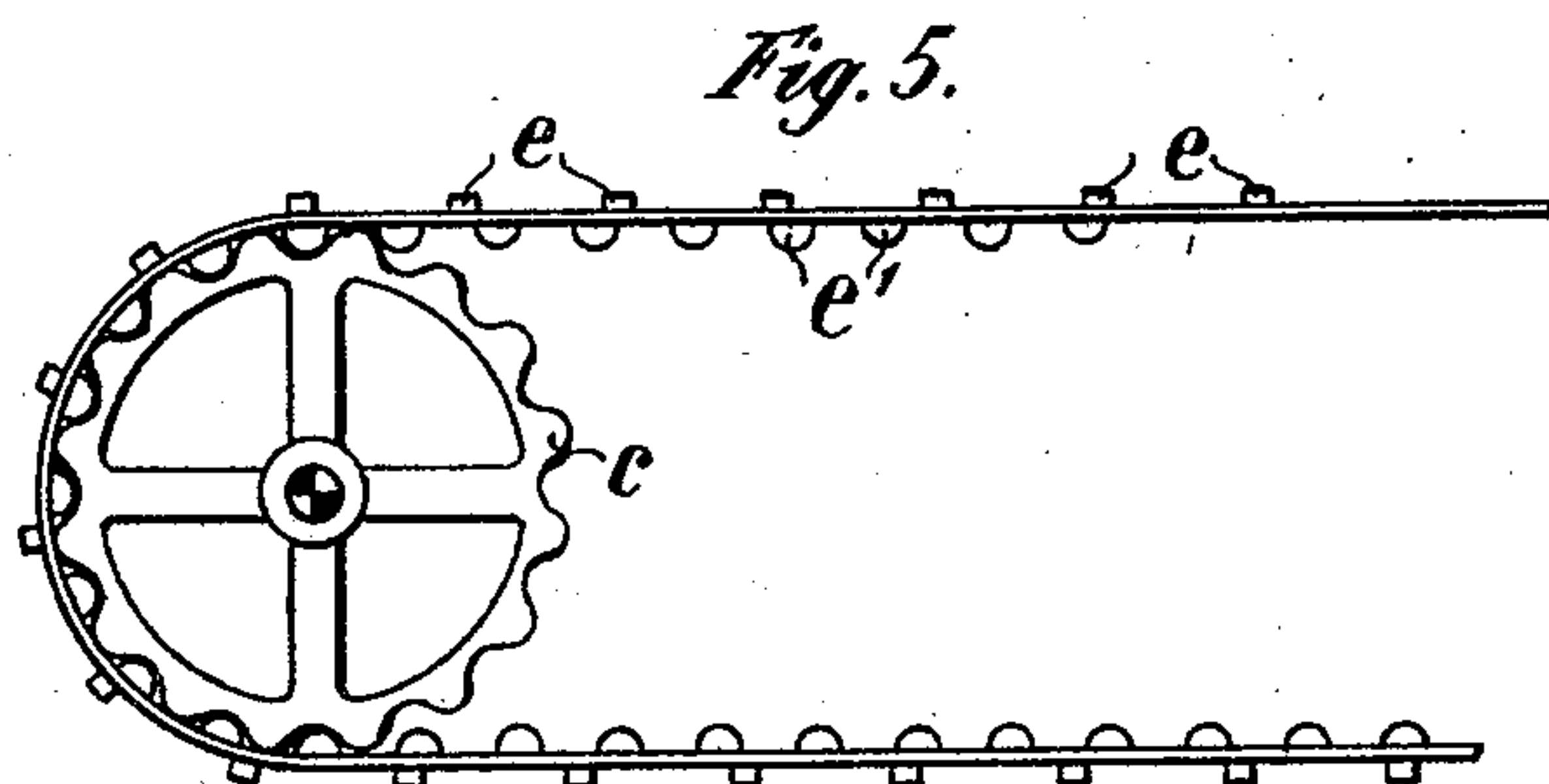
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# UNITED STATES PATENT OFFICE.

ANNA VON LOEPER, GEBOREN MÜHLENBECK, OF ROSTOCK, GERMANY.

## THRESHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 680,258, dated August 13, 1901.

Application filed January 24, 1900. Serial No. 2,638. (No model.)

*To all whom it may concern:*

Be it known that I, ANNA VON LOEPER, geboren MÜHLENBECK, a subject of the Grand Duke of Mecklenburg, residing at Rostock, in the Grand Duchy of Mecklenburg, German Empire, have invented certain new and useful Improvements in Threshing-Machines, of which the following is a specification.

This invention relates to a threshing-machine by which not only all kinds of grain but also all sorts of herbage for fodder may be threshed in such a manner that the remainder of the material threshed—for instance, straw—will be in an excellent condition and the grains will not be hurt in the least.

The improvements consists of certain combinations and arrangements of parts as are fully described hereinafter, and in order to make my invention more clear I refer to the accompanying drawings, in which similar letters denote similar parts throughout the several views, and in which—

Figure 1 is a front view of the machine seen in the direction of the threshing device proper. Fig. 2 is a plan of the machine. Fig. 3 is a side view. Fig. 4 is a side view of the device for raising and lowering the threshing-table. Figs. 5, 6, and 7 show some forms of construction of the transporting-strap for the material to be threshed.

The construction is as follows: A base structure *a* of suitable construction supports two pairs of bearings *b*, that may be adjusted in a vertical direction. Each pair of these bearings support in their turn a transporting-roller *c*. The latter are preferably provided with ribs or grooves upon and around the peripheral surface, as shown in Fig. 1, the object of this arrangement being to secure the movement of the transporting-band, which preferably consists of corrugated sheet metal, the corrugations of which correspond to the ribs and grooves of the rollers.

Some forms of construction of transporting-bands are shown in Figs. 5 to 7. The band *d'*, Fig. 5, consists of sail-cloth, linen, or the like, the upper surface of this band having wooden bars *e* of round or quadrangular section, whereas the lower surface is provided with similar bars *e'*, the section of which

corresponds to that of the grooves upon the rollers. In Fig. 6 the roller *c* is replaced by two smooth pulleys *d<sup>2</sup>*, over which run two straps *d<sup>3</sup>* of corresponding breadth, which are connected with each other by a fabric *d<sup>4</sup>* or the like. Fig. 7 shows a similar arrangement as Fig. 6, there being only the difference that the straps *d<sup>3</sup>* are replaced by chain-links *d<sup>5</sup>*, over which a band of a suitable material is placed.

Suitable means (not shown) are to be provided for rotating the rollers *c*. The band is consequently moved in the same direction. The band serves for the reception of the material to be threshed. If this is grain, the latter is so placed upon the band that it will lay crosswise to the direction of movement of the band, and the ears are next to the threshing device proper and slide over and upon a threshing-table *f*, Fig. 3, when the rollers rotate.

The threshing-table is a straight plate with a roughened surface and is firmly connected with the bearings *b*, as shown in Fig. 1. In order to be able to raise or lower the threshing-table, as is made necessary by the different kinds of material to be threshed, the machine is provided with a windlass *h*, consisting of rotary gearing *h'*, taking into a rack *i*, which in its turn gears with a lower cog-wheel *i'*, so as to turn a shaft *k*, which rotates two other shafts *k'* through the media of suitably-located cog-wheels *l l'*. The shafts *k'* carry cog-wheels *m*, Fig. 4, which take into racks *m'*, Fig. 2, of the bearings *b*. It is easily to be seen that according to the direction of movement of the wheels *h'* the bearings *b* will be raised and lowered, the same taking place also with the threshing-table, because this is fixed to the bearings.

The threshing device is constructed as follows: The brackets *n* support a shaft *o*, upon which may turn the levers *p*, that are at their longer front ends converted into a kind of hammer by being provided with layers of hard wood *p'*. The rear shorter end *p<sup>2</sup>* of the levers is actuated by projections *q* on a cylinder *r*. Below the levers is a rubber cushion *s*, Fig. 3, the object of which is to render the blow produced by the falling hammers elastic. The raising of the latter is produced by



depressing the shorter ends of the levers by the projections *q* of the rotating cylinder *r*. The latter are operated by pulleys *s*'.

The kernels threshed out of the material are transported off the threshing-table by the fresh grain fed into the machine; but auxiliary means may be provided for this purpose—for instance, a strip of linen sliding along upon the threshing-table and transporting the kernels into the collecting sieve *t*, from whence they get into the oscillating sieve for being freed from impurities. The halms of the threshed grain glide then down along upon the rails *u*, and during this time the kernels that remained in the grain fall also down into the receiver *t*. The straw passes from the rails *u* upon the elevator and is then carried away.

The hammers *p*' are located in two series, as shown in Fig. 2, one hammer of one series being located between two of the other series. There may of course be more than two series. In either case the threshing-surface of each hammer is equal to one-half, one-third, and so on, of the breadth of the threshing-table, according to whether there are two, three, or more series of hammers.

It is a matter of course that to effectively thresh herbage for fodder only a slight constructive change is requisite—viz., arranging another shaft *o*, upon which the hammers are arranged in such a manner that they are able to cover the whole surface, also of a broader threshing-table over which a band of sail-cloth or the like glides. To prevent the kernels from jumping away, an auxiliary wall may be used, comprising a wooden frame and a piece of linen covering said frame, the position of this wall being preferably in the space over and below the shaft *o*, so that the free movement of the hammers is not impeded.

The advantages derived from the aforescribed machine reside in the fact that the straw, the corns, and the fodder herbage are not crushed or injured. There is no interruption of work by the straw or the herbage winding around the drum, and finally the possibility of an accident to the workmen is very remote.

Having now described my invention, what I desire to secure by a patent of the United States is—

1. In a threshing-machine, the combination with a threshing-table, an endless carrier, and means for adjusting the table vertically, of hammers arranged to strike at one end upon the table, and a rotatable cylinder having projections adapted to successively engage and operate the opposite end of the hammers for the purpose specified.

2. In a threshing-machine, the combination with a threshing-table, an endless carrier and means for adjusting the table vertically comprising bearings supporting the table, racks on the bearings, an adjusting crank-shaft, and gearing intermediate the latter and the racks whereby the bearings will be simultaneously adjusted vertically, hammers arranged to strike upon the table, and means for operating the hammers.

3. In a threshing-machine, the combination with a threshing-table, of hammers arranged to strike upon the table, an endless carrier, rollers supporting the carrier, bearings supporting the rollers, and means for adjusting the bearings in a vertical direction.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ANNA VON LOEPER, GEB. MÜHLENBECK.

Witnesses:

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