

No. 677,540.

Patented July 2, 1901.

J. A. GROEBLI.

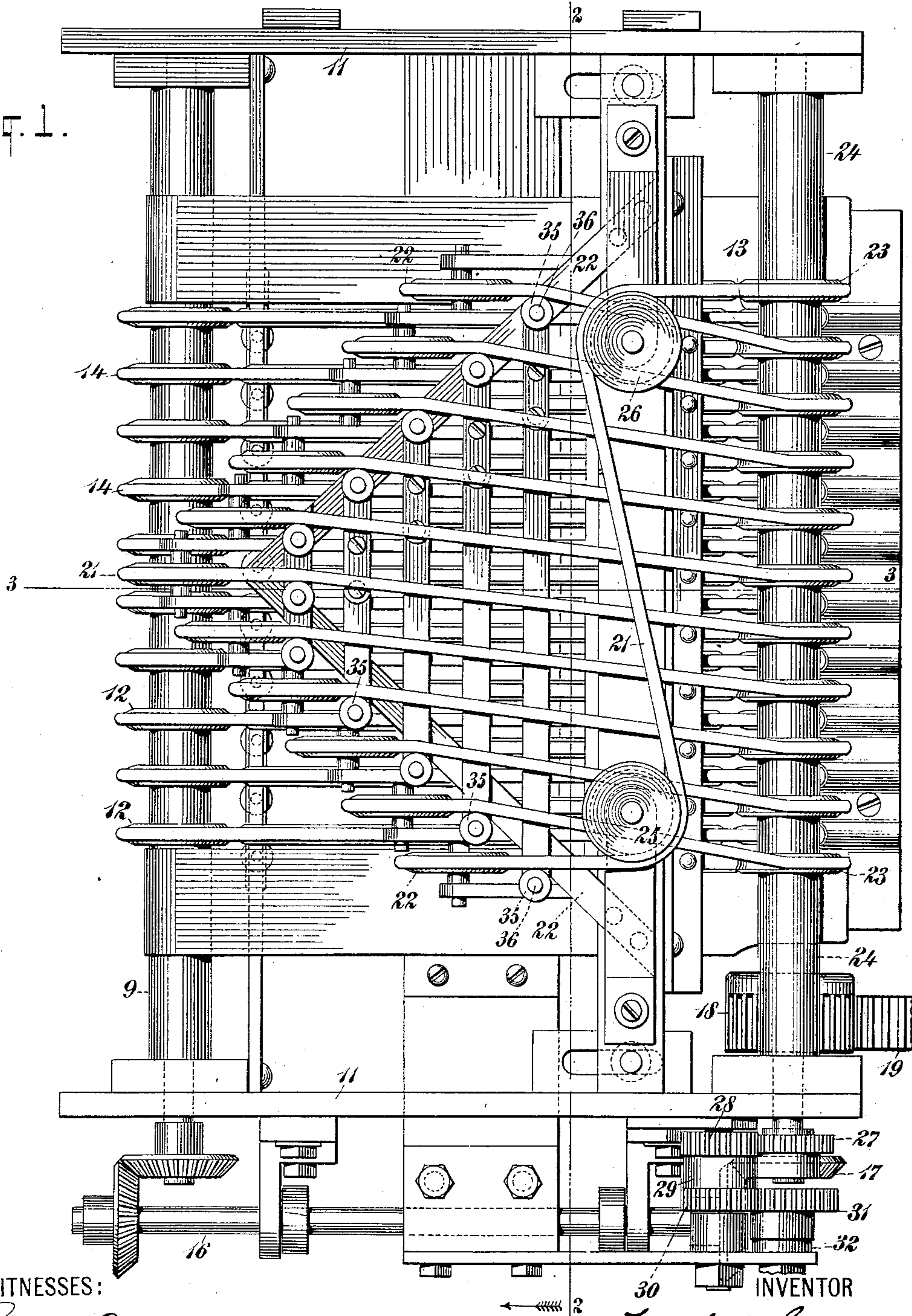
FEEDING DEVICE FOR PLAITING MACHINES.

(Application filed Mar. 15, 1900.)

(No Model.)

4 Sheets—Sheet 1.

Fig. 1.



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Fig. 2.

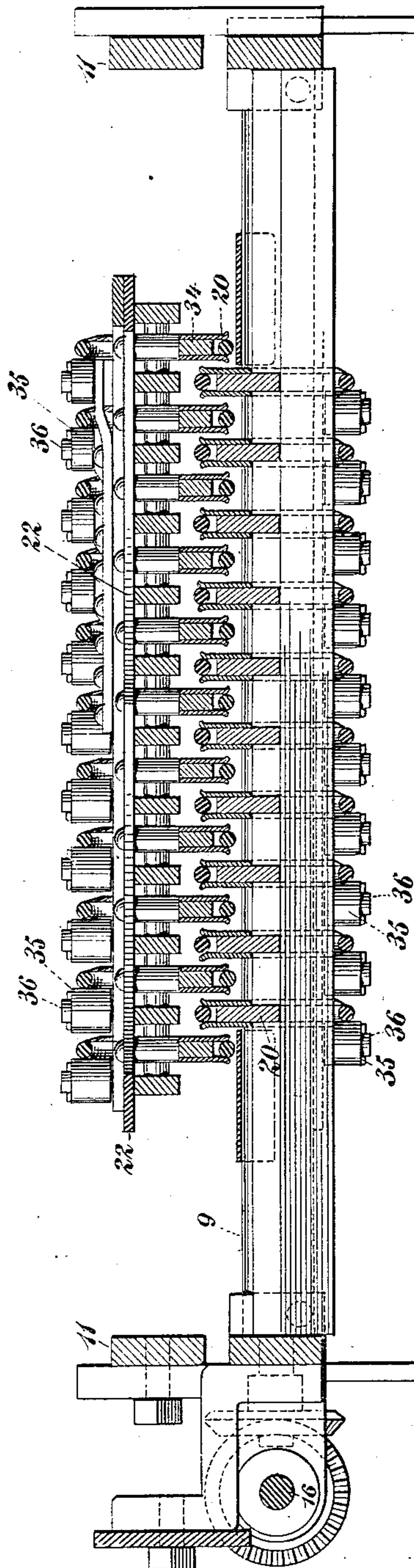
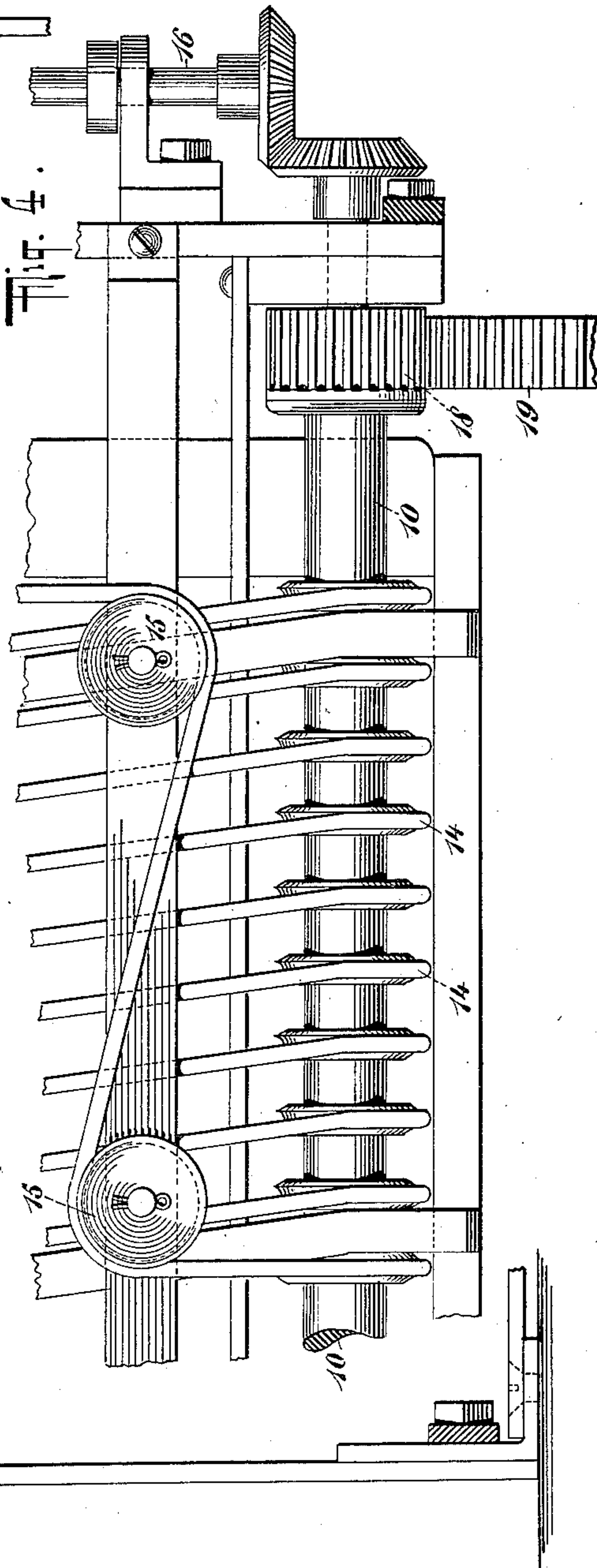


Fig. 4.



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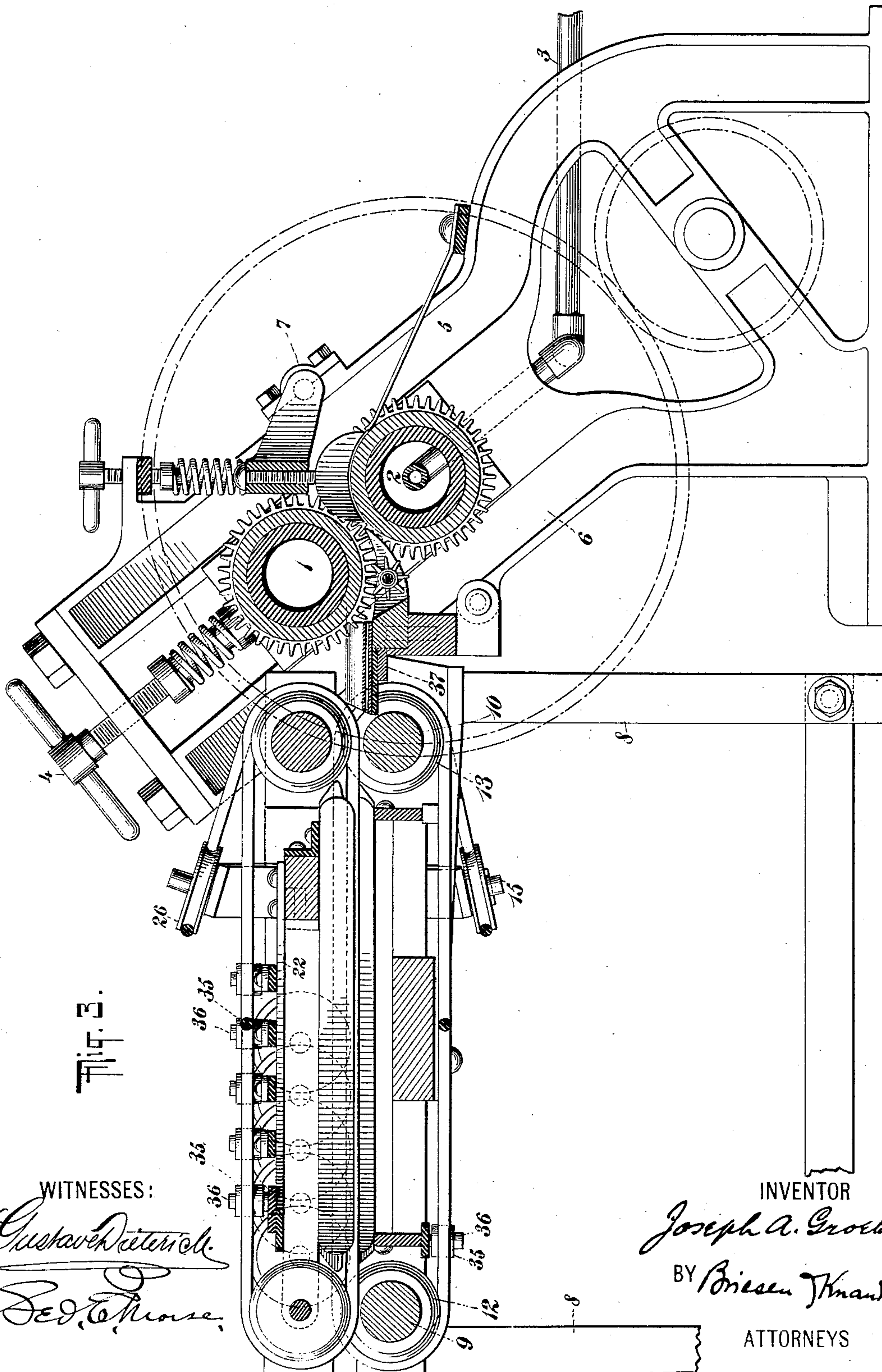


Fig. 3.

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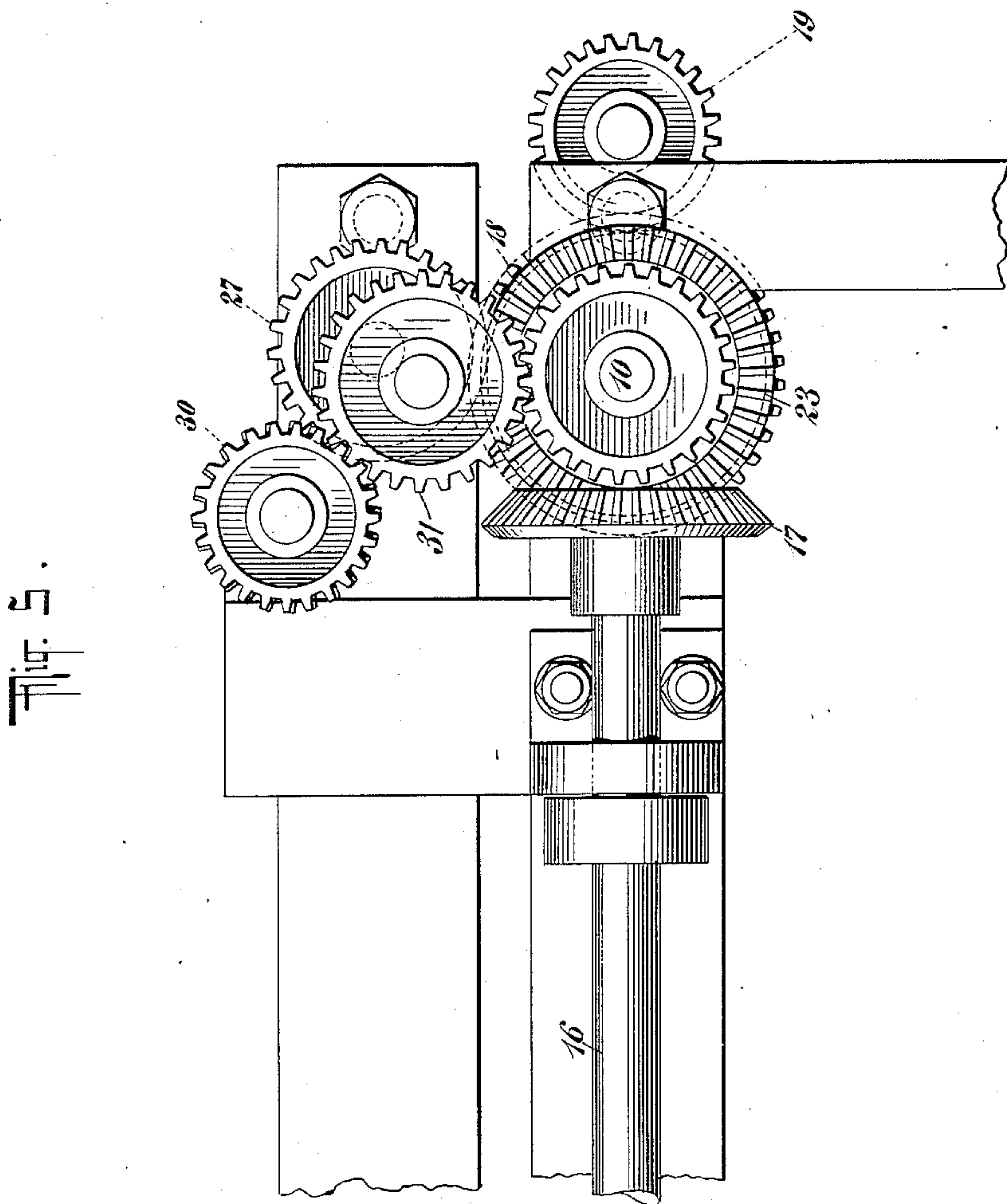
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4 Sheets—Sheet 4.



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UNITED STATES PATENT OFFICE.

JOSEPH A. GROEBLI, OF NEW YORK, N. Y., ASSIGNOR TO THE KURSHEEDT MANUFACTURING COMPANY, OF SAME PLACE.

FEEDING DEVICE FOR PLAITING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 677,540, dated July 2, 1901.

Application filed March 15, 1900. Serial No. 8,707. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. GROEBLI, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Fabric-Feeders, of which the following is a specification.

My invention relates to fabric-feeders, and to such feeders in combination with fabric-puffing machines, to which the said feeders are especially adapted.

The invention will be explained with particular reference to a fabric-puffing machine, because the feeder is especially adapted to be combined with the fabric-puffing machine. It is well known that fabric-puffing machines which are adapted to contract or plait or otherwise shorten the effective length of a fabric require a fabric-guide for bringing the fabric to them in a laterally-compacted condition—that is to say, so waved or undulated as to have its effective width lessened—it being well understood that puffing-machines are organized to compact the fabric both laterally and longitudinally into puckers or puffs, and the plaits which usually accompany them are permanentized or held in position by suitable means, as is well understood.

The object of my invention is to produce a structure which will not only perform the function of these guides, but which will positively feed the fabric to the puffing-machine elements.

In the accompanying drawings I have shown one form of organism illustrating my invention. It will be understood, however, that this form is shown for illustrative purposes merely and that my invention, the essential features of which are set forth in the claims, is of broader scope, and it is with this understanding that I desire the specification, drawings, and claims to be read.

In the drawings, Figure 1 is a plan view of the fabric guide or feeder, the said structure being organized to actively feed the fabric instead of merely passively guiding it. Fig. 2 is a transverse section of the guide or feeder on line 2 2 of Fig. 1. Fig. 3 is a longitudinal section of the feeder on line 3 3 of Fig. 1. In this figure I have shown the entire organism by showing the feeder as combined with a

puffing-machine organism of the type shown in United States Letters Patent No. 599,328, dated February 22, 1898, granted to the Kur-sheedt Manufacturing Company as my as-
signee. Fig. 4 is a broken-away underneath view of a part of the feeder, and Fig. 5 is a detail side view of the gearing.

In the drawings, 1 2 are suitable puffing-machine rolls, one or both of which may be suitably heated. In the machine shown, 3 is a gas-pipe to supply a gas-burner located in the hollow portion of the puffing-roll 2. The upper puffing-roll 1 may be suitably adjusted by the adjusting means 4, it being understood that both puffing-rolls are carried in blocks adapted to slide in the standards 5 6. The puffing-machine organism is likewise provided with the usual pressers 7 and is driven by any suitable means, and itself drives the driving mechanism of the feeder, as will be explained.

The fabric "guide" or "feeder," as I shall hereinafter designate it, is provided with suitable standards 8, by which the parts are supported. The shafts 9 10 are suitably journaled and supported by the cross-bars 11 11 of the standard. These shafts carry a series of grooved pulleys or feed-wheels 12 13. A suitable "belt" 14 (within which term I wish to include any flexible device in the nature of a belt) is passed back and forth over the pulleys 12 13 and the two ends united so as to constitute a single belt to form the lower member of the feeder, and in order that the portions of this belt, which are preferably in the same plane, shall move in the same direction it is necessary to pass the belt around two idler-pulleys 15 15, which are journaled on studs carried by the feeder-frame. (See Fig. 4.) The shaft 9 is suitably driven by bevel-gearing or otherwise from the shaft 16, which is driven by bevel-gearing 17 from the shaft 10, which shaft 10 receives motion by means of the pinion 18, carried thereon, which is driven from a gear 19 on the puffing-machine organism. The belt 14 as it comes from the pulleys is guided by suitable guides 20, mounted upon the framework of the machine. The upper member of the feeder is constituted by a similar belt 21, which is passed back and forth over pulleys or feed-

wheels 22, arranged in echelon on short shafts or studs carried on a triangular frame 22, supported by the framework of the machine, and also around pulleys or feed-wheels 23, carried upon a shaft 24. In order that the substantially parallel portions of the belt 21 may travel in the same direction, additional pulleys 25 26 are provided, around which the belt is carried. The shaft 24 is provided with a pinion 27, which meshes with a pinion 28 on a sleeve 29, which is likewise provided with a pinion 30, meshing with a pinion 31, carried upon a stud 32 on the framework of the machine, and meshing with a pinion 33, carried upon the shaft 10. It will thus be obvious that the feeder receives its motion from the puffing-machine organism and operates in harmony therewith. The belt 21 is likewise guided in guides 34, which are similar to the guides 20, which guide the lower belt. In addition to the guides, rollers carried upon suitable studs are provided to more efficiently guide the belts.

It will be observed that the wheels which propel the belt 14 intervene between the wheels which propel the belt 21 and that the belt 21, although carried by the upper set of wheels, constitutes the lower member of the feeder in that it is in a lower plane than the belt 14, so that a fabric placed between the two members will be undulated longitudinally to compact it laterally.

It will be observed that each set of belt lengths is in a sense guiding means for guiding the fabric, since they both convey and guide the fabric, and in this sense the belt lengths may be described as "fabric-guiding" means. It will also be observed that the separate portions of the belts which pass from roller to roller constitute the effective operating lengths of the belt, and as each set of belt lengths is located between the driving means of the other set of belt lengths and that set of belt lengths the two sets of belt lengths may be said to "mesh" with each other. It will be observed that for the sake of thoroughness of description I have referred to one set of belt lengths as the "upper" set and the lower set of belt lengths as the "lower" set, and have referred to the upper and under sides of the fabric. It will be understood, however, that these terms are used solely to distinguish the sets of belt lengths from each other and that in employing such terms in the claims I do not mean to thereby limit myself strictly to upper and lower sets, as the apparatus would work properly if stood up on end, in which case the upper and lower sets of belt lengths would become front and back sets of belt lengths.

The operation of the machine will be obvious to those skilled in the art. The fabric is fed in at the left in the plan view, Fig. 1, and as the belts are driven in the same direction the belts and the echelon arrangement of the upper belt will cause the fabric to be undulated or compacted laterally and at the

same time be positively fed forward to the ordinary puffing-machine fabric entering guide 37, which may be still employed to enter the fabric between the puffing-rolls.

It will be understood that by a slight variation in the location of the idlers a single belt may be employed in lieu of two, and it is with this understanding that I wish the claims read.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine for operating upon fabric, the combination in a unitary structure of the following-named instrumentalities, to wit: a puffing organism comprising in its structure means for longitudinally compacting fabric, a feeder therefor operating in harmony therewith, comprising in its structure a plurality of belt lengths, the said belt lengths being located in different planes the lines of travel of the belts intersecting each other in a plane intermediate of the planes of travel of the portions of the belt which are operative to immediately effect the feeding, and means for driving the said belt lengths, whereby the fabric may be fed and compacted laterally into corrugated form by the feeder and may be compacted longitudinally by the puffing organism.

2. In a machine for operating upon fabric, the combination in a unitary structure of the following-named instrumentalities, to wit: a puffing organism comprising in its structure means for longitudinally compacting fabric, a feeder therefor comprising two series of belt-carrying wheels, means for driving the same, belt lengths carried thereby and arranged to be driven by the said wheels in separate planes, the wheels carrying one belt length intervening between the wheels carrying the other belt length so as to feed the fabric forward in longitudinally-corrugated form.

3. In a machine for operating upon fabric, the combination in a unitary structure, of fabric-puffing organism adapted to compact or gather the fabric longitudinally and a fabric-feeder therefor adapted to bring the said fabric to the puffing organism in a corrugated or laterally-compacted condition, the said feeder comprising in its structure a series of spaced fabric-guiding means and belt lengths intervening between and located beyond the working lengths of the said guiding means whereby the guiding means and feed-belt lengths will intermesh with each other and means for driving the belt lengths.

4. In a machine for operating upon fabric, the combination of two sets of feed-wheels, sets of belt lengths passing around the said feed-wheels, the said sets of belt lengths and feed-wheels intermeshing with each other, whereby the said belt lengths will constitute a fabric-feeder adapted to laterally compact a fabric by bending the same into corrugated form, means for driving said belt lengths and

wheels, and means for longitudinally compacting the said fabric, substantially as described.

5 In an organism for puffing fabric, the combination of puffing means adapted to longitudinally compact a fabric and a feeder therefor comprising in its structure two oppositely-placed intermeshed feed-belt lengths with means for moving the same, the belt
10 lengths on the under side of the fabric meshing with the belt lengths on the upper side of the fabric so that the fabric will be laterally compacted into corrugated form.

6. In a machine for operating upon fabric, the combination of a puffing organism and a
15 plurality of belt lengths with driving means therefor, the said belt lengths being divided into two sets or groups, the operating portions of the upper group intervening between
20 the operating portions of the lower group and being located respectively below the operating portions of the lower group, whereby the fabric will be laterally compacted.

7. In a machine for operating upon fabric, the combination of a puffing organism comprising in its structure means for longitudinally compacting fabric and a feeder for laterally compacting the said fabric comprising in
25 its structure a series of spaced fabric-guiding means, a feed-belt whose operating lengths

intervene between the said longitudinally-arranged guiding means and means for driving the feed-belt.

8. In a machine for operating upon fabric, the combination in a unitary structure of the
35 following-named instrumentalities, to wit: means for longitudinally compacting a fabric and means for laterally compacting the said fabric into corrugated form, the said last-mentioned means comprising in its structure series of belt-carrying wheels, one series
40 thereof being arranged in echelon and belt lengths carried by the said wheels and arranged to be driven in separate planes, one set of belt lengths intervening between the
45 other set of belt lengths and the axes of the wheels carrying the other set of belt lengths, and means for driving the said belt lengths.

9. In a fabric-feeder, the combination of a plurality of sets of belt lengths and driving
50 means therefor, one set of belt lengths intervening between the other set of belt lengths and its driving means, whereby the said belt lengths will be effective to guide and transport a fabric in a corrugated condition.

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Witnesses:

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