

(No Model.)

C. P. HOGUE.
CARRIER.

2 Sheets—Sheet 1.

No. 528,775.

Patented Nov. 6, 1894.

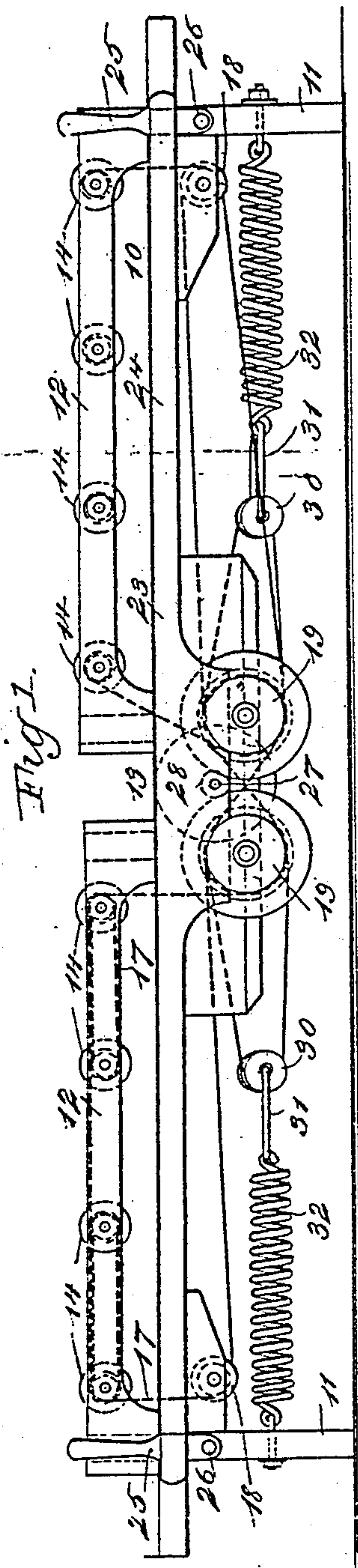


Fig. 1.

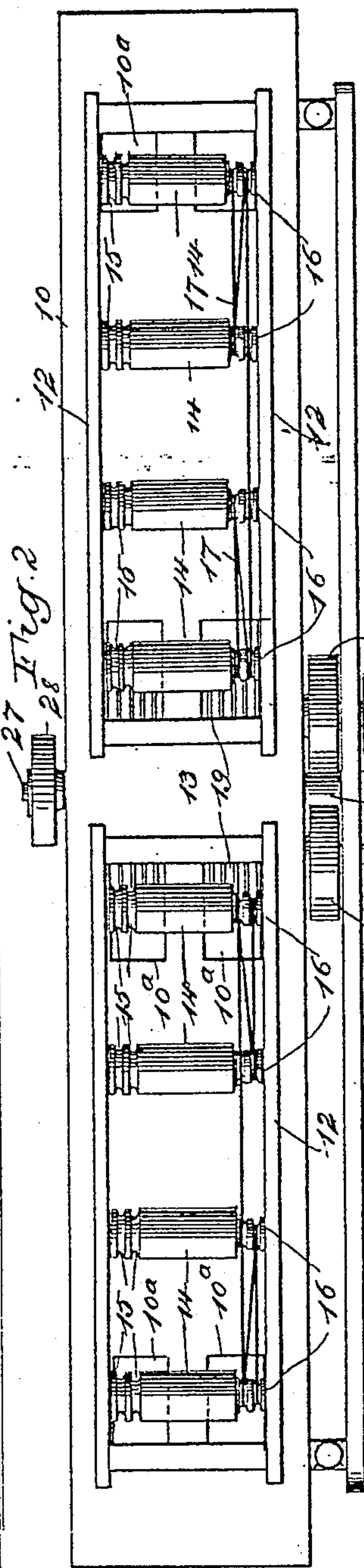


Fig. 2.

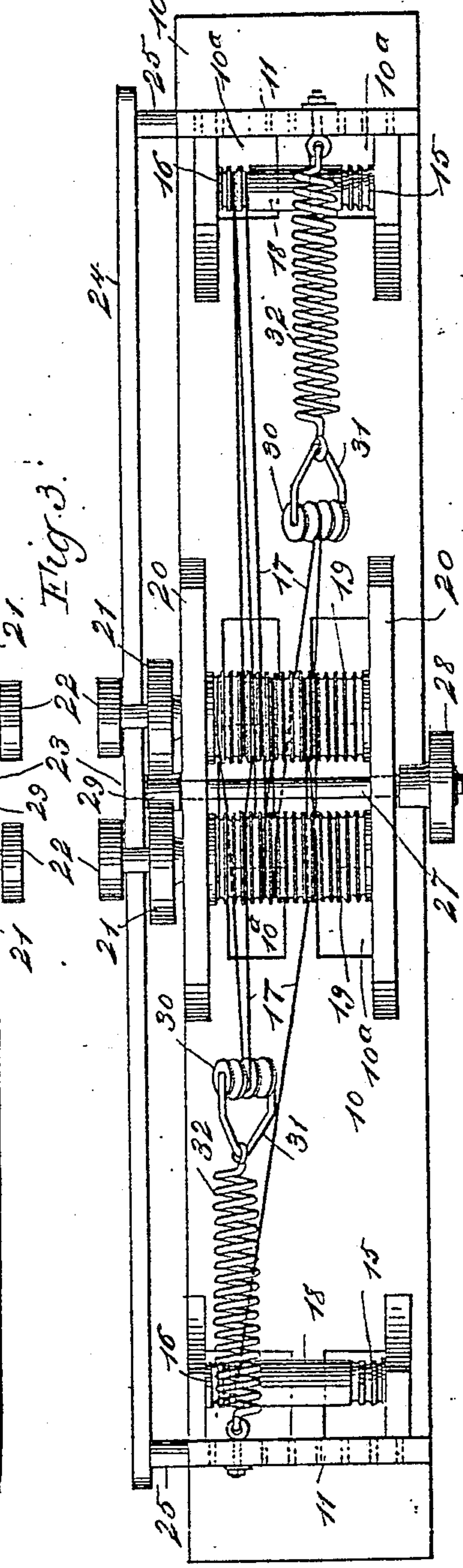


Fig. 3.

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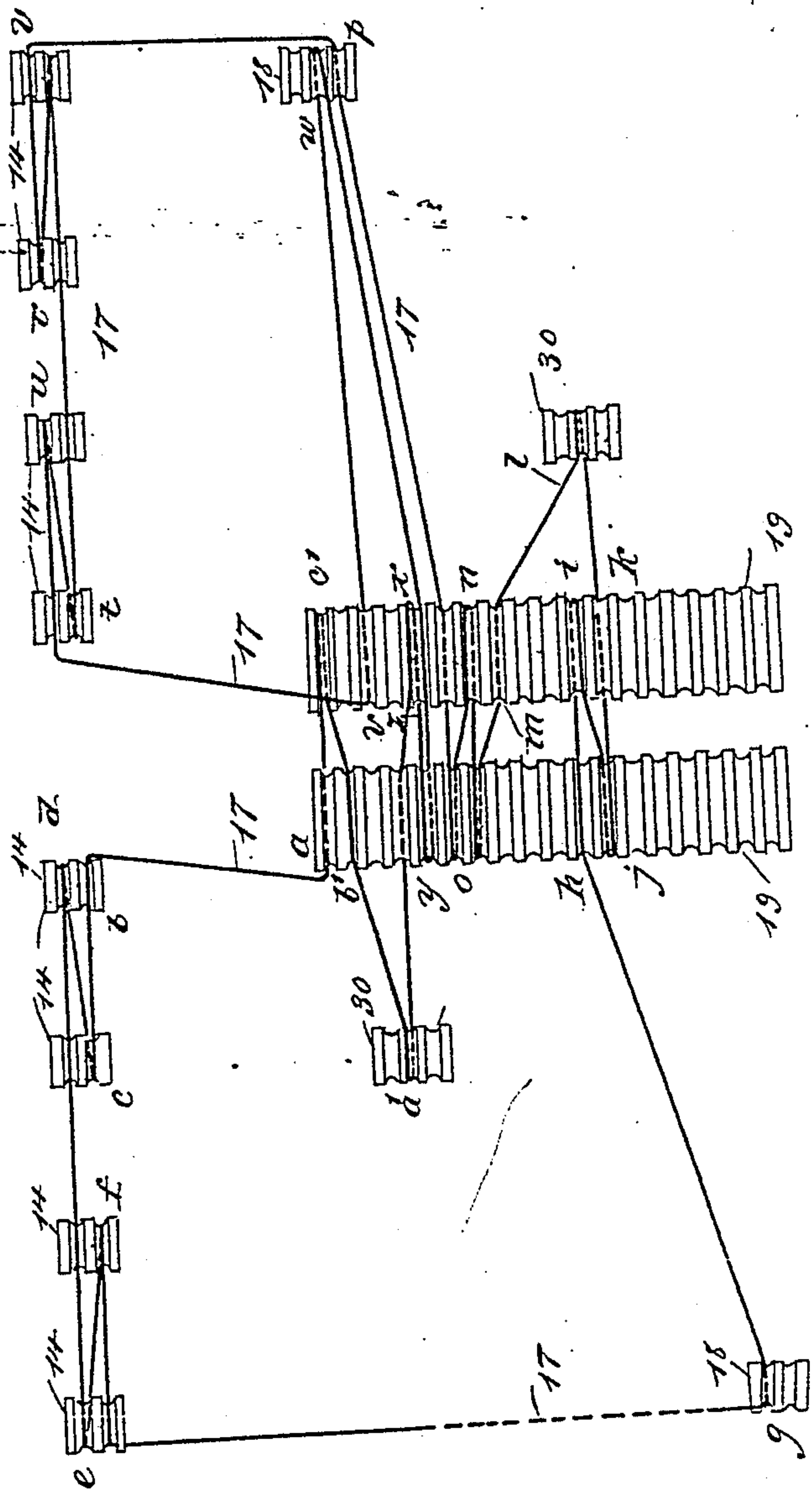
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Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES P. HOGUE, OF PORTLAND, OREGON.

CARRIER.

SPECIFICATION forming part of Letters Patent No. 528,775, dated November 6, 1894.

Application filed February 14, 1894. Serial No. 500,110. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. HOGUE, of Portland, in the county of Multnomah and State of Oregon, have invented a new and Improved Carrier, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of carriers in which a series of revolvable rolls are employed, carriers of this class being especially adapted for use in saw mills or where boards or other relatively rigid material are thrown upon the rolls to be transported by them.

The object of my invention is to produce a carrier of this kind in which a series of live rolls are used, each roll being provided with belt grooves to enable power to be directly transmitted to it, to construct and arrange the carrier so that transverse passageways may be left at any necessary points between the rolls, to arrange the belt grooves in the rolls in such a way that the rolls may be conveniently cased in and protected, to provide a pair of driving drums adapted to connect with the rolls and to be used alternately as drivers and idlers, to arrange a single belt so that it connects with both drums and directly with every roll, thus making all the rolls "live rolls."

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the carrier embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is an inverted plan view of the carrier; and Fig. 4 is a diagrammatic view illustrating the course of the driving belt.

The carrier, as illustrated, is mounted on a bed 10, which may be any support whatever, but which as shown is provided with legs 11, thus constituting a framework, and the bed has at necessary points, holes 10^a therein through which the belt may pass, as hereinafter described. On the bed are suitable supporting frames 12 which may be of any desired construction, their top surfaces being

level, and between these is a passageway 13, but if more supporting frames are used more passageways may be provided, or shorter frames and more passageways may be made.

The frames 12 support the live rolls 14 which are journaled transversely in the frame, so that their upper and carrying surfaces project slightly above the tops of the frames, and these rolls are grooved at the ends, as shown at 15 and 16 in Fig. 2, to receive the driving belt 17 which connects with them all, and the course of which and the manner of driving which will be hereinafter described. The grooves 15 are made in one end of the roll, which end is of the same size as the body of the roll, and the grooves 16 are made in a reduced end, as the drawings clearly show, this form being preferably employed so as to enable the belt portion of the roll to be more conveniently covered. It will be understood, however, that this grooved arrangement may be made of any size with relation to the roll and that the pulley thus formed may be integral with the roll or separate and fastened thereto, without affecting the principle of my invention.

Journaled in suitable supports at the ends of the carrier and beneath the end rolls 14 are guide rolls 18, which are like the rolls already described, although any suitable guide pulleys may be substituted. Beneath the central portion of the carrier are similar drums 19, which are circumferentially grooved, as best illustrated in Fig. 3, and these drums are journaled loosely in suitable supports 20 on the under side of the bed 10 and are provided with oppositely arranged friction wheels 21 and with end collars 22. Between the collars and the friction wheels is held the thickened portion 23 of the shift rail 24 which extends parallel with one side of the main frame and is fastened at its ends to levers 25 which project upward where they may be easily reached and which are pivoted at their lower ends, as shown at 26.

The shift rail 24 supports one end of a driving shaft 27, the other end of which is supported in one of the supports or hangers 20, the shaft having at one end a suitable driving pulley 28 and at the other a friction roller 29 which is adapted to be brought into contact with either of the wheels or pulleys 21,

and the shaft has sufficient freedom of movement to permit the end carrying the roller 29 to move laterally, slightly, when the shift rail 24 is moved endwise. It will be observed that when the friction roller 29 is in contact with one of the wheels 21, the drum 19 connected with the said wheel acts as a driving drum, and when the roller is connected with the opposite friction wheel the other drum acts as a driving drum.

On opposite sides of the drums 19 are arranged tension rolls or pulleys 30, which are journaled in forks 31, these being carried by springs 32 secured to the legs 11 or equivalent supports, and as the belt 17 passes over both the tension pulleys, the springs, pulling in opposite directions, serve to keep the belt taut. It will be understood that these spring tension pulleys may be arranged in any convenient manner, so long as they have the required tension on the belt.

I have referred to the driving belt 17 by the name of belt, but it will be understood that any suitable cable, chain, rope or equivalent means of driving may be employed, and by the term belt I mean to include them all. The belt is connected with both drums 19 and with the several live rolls 14 in such a manner that when one drum is a driving drum, the other is an idler, and when the direction of the rotation of the drums is changed, the motion of all the rolls is simultaneously changed.

The belt 17 may be arranged in any convenient way, so long as it is connected directly with each roll, but to understand how this may be done I have illustrated the course of the belt in the diagram (Fig. 4) and it is as follows: Beginning at the left-hand drum 19 at the point *a*, the belt 17 extends upward over the roll 14 at the inner end of one series of rolls, as shown at *b*, thence around the second roll, as shown at *c*, thence back around the first roll, as shown at *d*, thence over the second and third rolls to the fourth or end roll and around it, as shown at *e*, thence around the third roll, as shown at *f*, thence back over the fourth or end roll and down around one of the guide pulleys 18, as shown at *g*, thence over the first drum 19, as shown at *h*, thence beneath and around the second drum 19, as shown at *i*, thence around the first drum again, as shown at *j*, thence beneath the second drum, as shown at *k*, thence around one of the tension rolls or pulleys 30, as shown at *l*, thence beneath the two drums 19, as shown at *m*, thence over the first drum and beneath and over the second, as shown at *n*, thence around the first drum again, as shown at *o*, thence beneath the second drum and beneath the second guide pulley 18, as shown at *p*, thence upward over the fourth or outer end roll 14 of the second set

of live rolls, thence around the third roll, as shown at *r*, thence back around the fourth roll, thence over the third and second rolls and around the first roll, as shown at *t*, thence back around the second roll, as shown at *u*, thence back over the first and down around the second drum 19, as shown at *v*, thence around the second guide roll 18, as shown at *w*, thence back over the second drum, as shown at *x* and around the first drum, as shown at *y*, thence around the second drum and beneath the first, as shown at *z*, thence over the second tension roll or pulley 30, as shown at *a'*, thence over the first drum, as shown at *b'* and around the second, as shown at *c'*, back to the point of beginning.

It will be seen from the above description that the driving mechanism is arranged in a very compact form, that the rolls are all directly driven and turned in the same direction, and that their direction may be instantly changed by simply moving the shift rail 24.

It will also be understood that any necessary number of these rolls may be moved without departing from the principle of my invention, and if desired several driving belts may be used instead of one.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A carrier, comprising a series of rolls, a pair of oppositely-arranged drums provided with circumferential grooves and located below the plane of said rolls, a shifting gear adapted to turn either drum, and a continuous belt passing over the two drums and engaging directly with every roll, substantially as described.

2. In a carrier, the combination with the two series of circumferentially-grooved rolls, arranged horizontally, of the two circumferentially-grooved drums, arranged side by side below the rolls, a tension pulley adjacent to each of said drums, an endless rope arranged on the said pulleys, drums, and several rolls, as shown and described, friction wheels mounted on the drum shafts, the shifting bar and a friction roller carried by the latter, as specified.

3. The herein-described carrier, comprising a bed, frames arranged on the bed and separated to form transverse passages, rolls journaled transversely in the frames, driving drums, means for changing the direction of rotation of the drums, and a continuous belt connecting the drums and the several rolls to turn them all in one direction, substantially as described.

CHARLES P. HOGUE.

Witnesses:

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