

H. M. GRIFFIN.
PAPER WINDING DEVICE.
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935,494.

Patented Sept. 28, 1909.

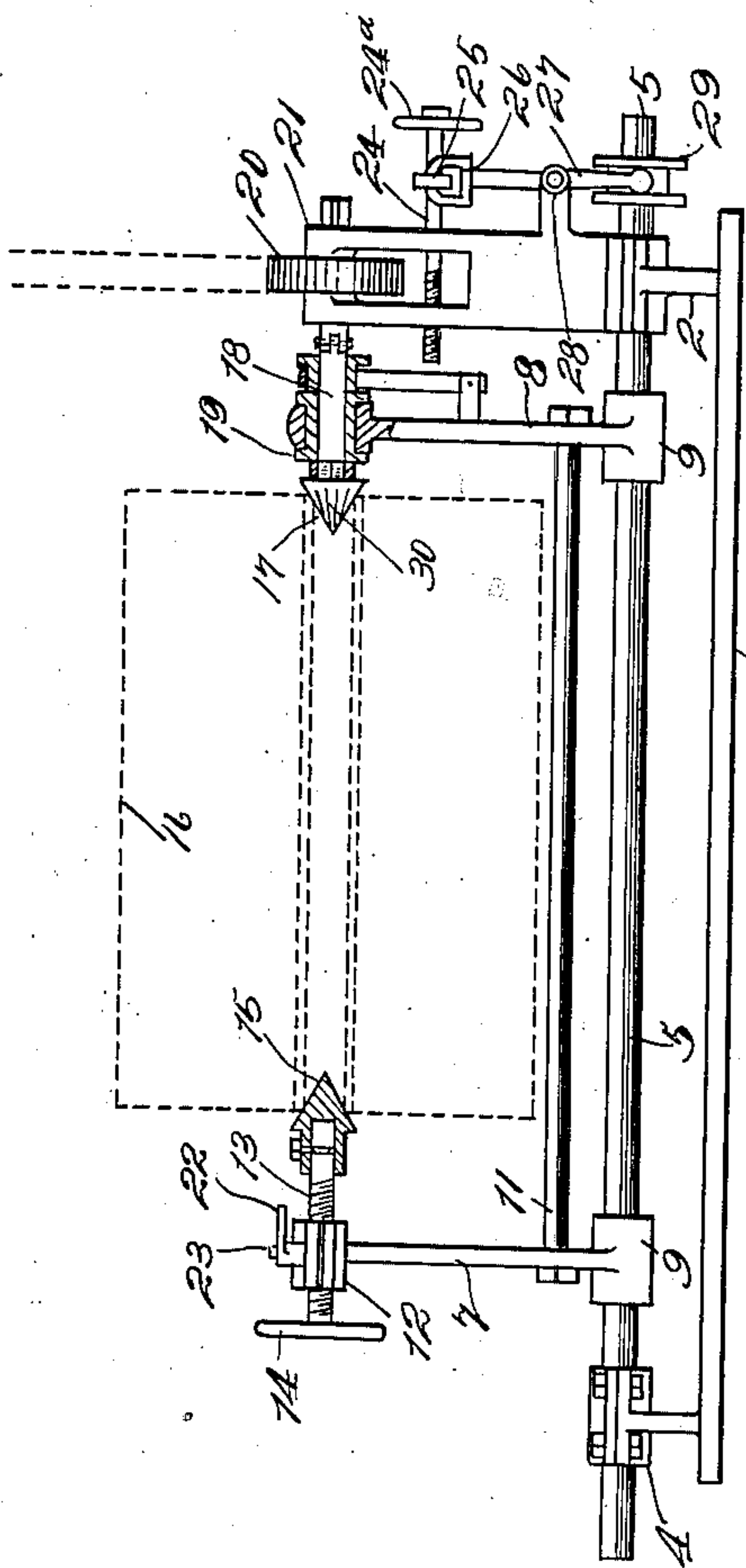


Fig. 2.

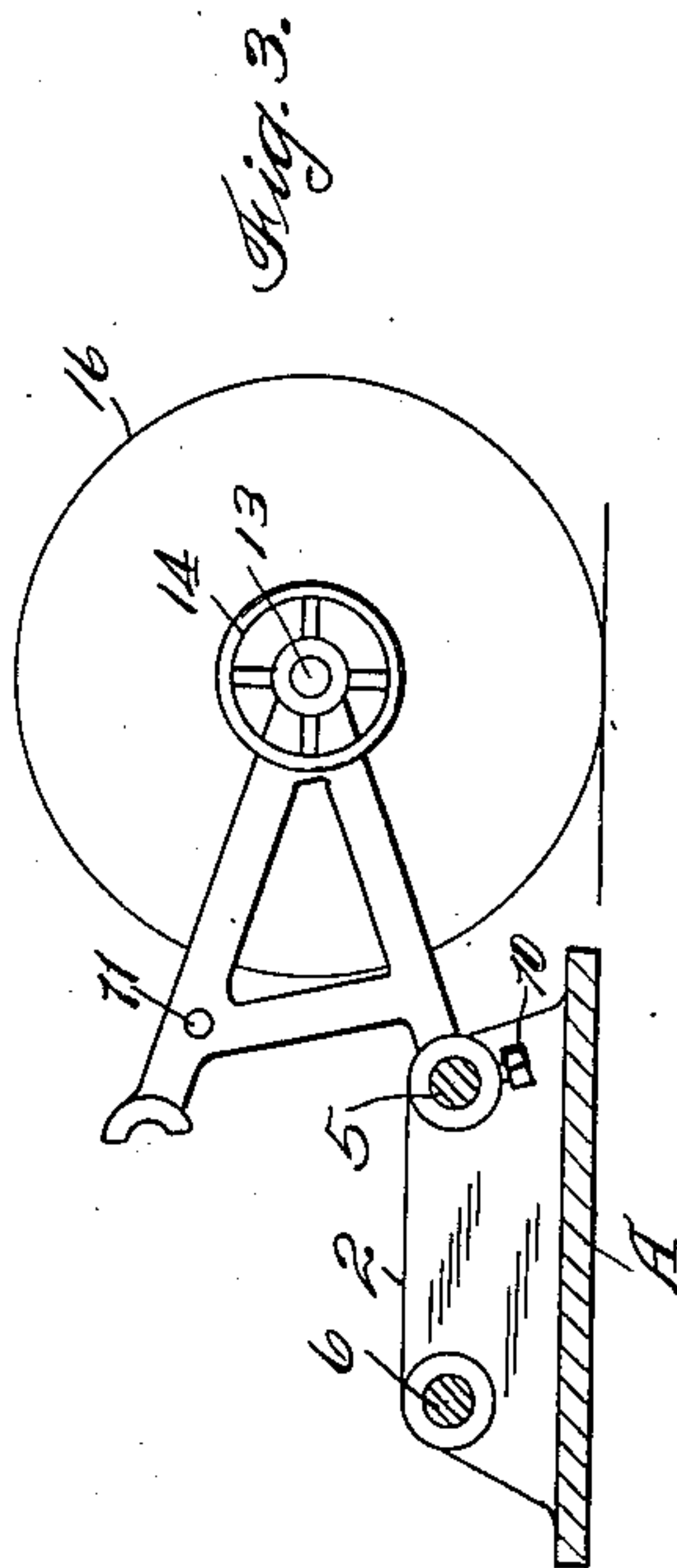


Fig. 3.

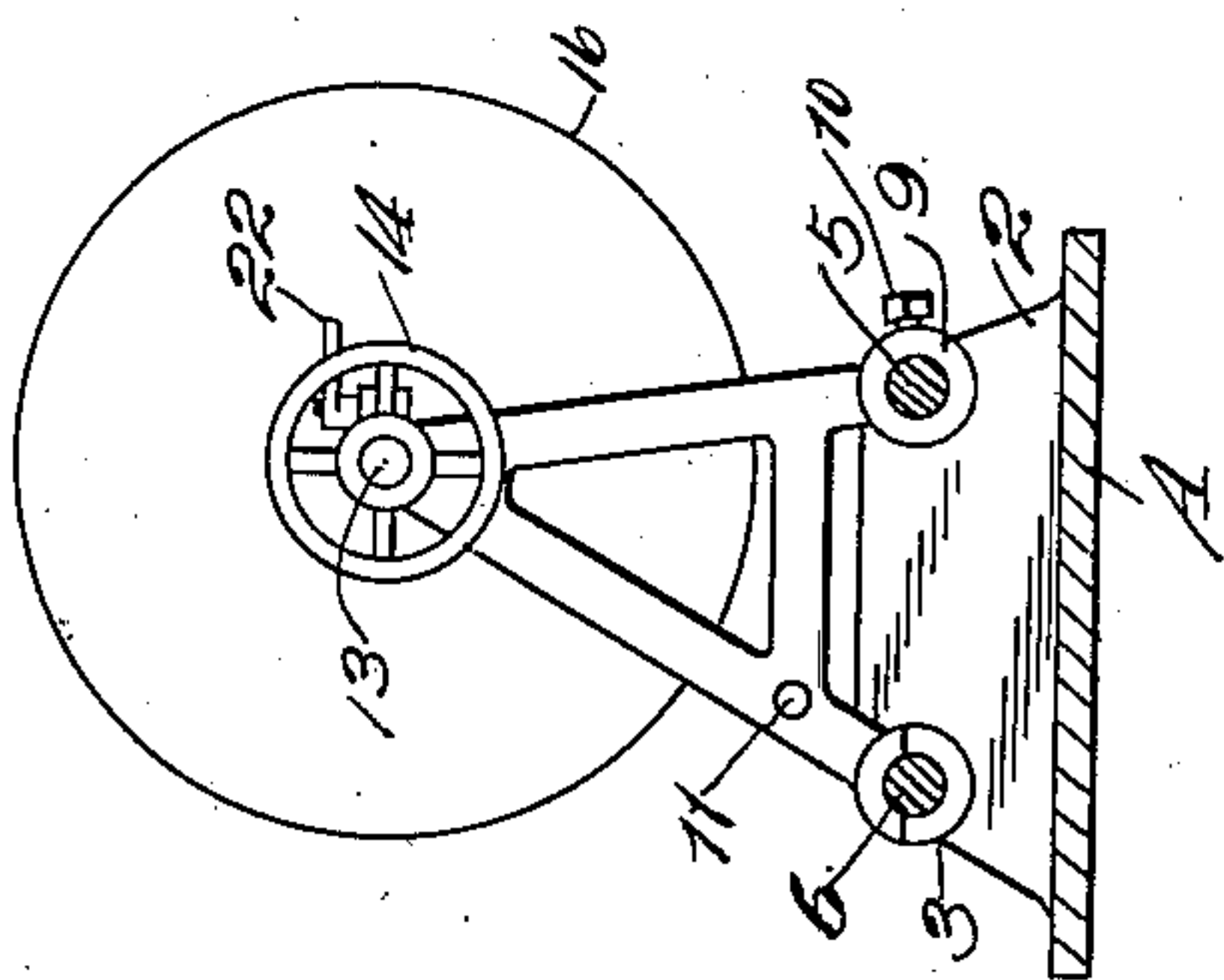


Fig. 1.

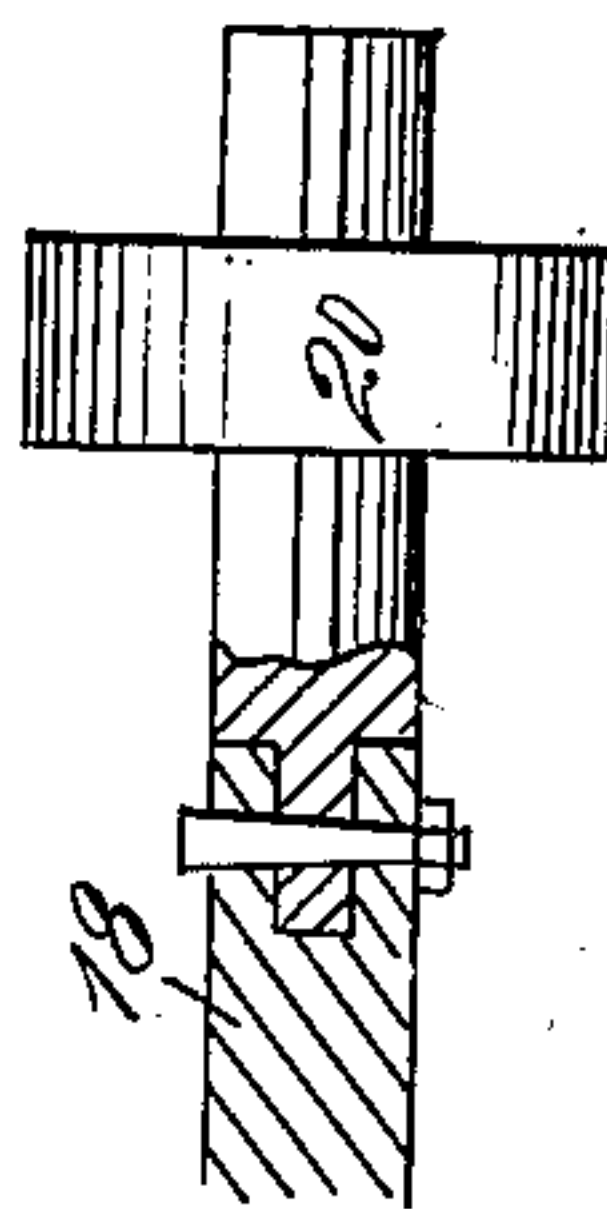


Fig. 4.

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UNITED STATES PATENT OFFICE.

HENRY M. GRIFFIN, OF SAN FRANCISCO, CALIFORNIA.

PAPER-WINDING DEVICE.

935,494.

Specification of Letters Patent. Patented Sept. 28, 1909.

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To all whom it may concern:

Be it known that I, HENRY M. GRIFFIN, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Paper-Winding Devices, of which the following is a specification.

This invention relates to paper holders and winders.

Among the several objects of my invention, one purpose is to provide a simple, strong and easily operated apparatus to support large rolls of paper so that it may be drawn or unwound with great facility. I also provide means whereby rolls of paper which have become deformed or creased may be rewound in perfect order, and provide in combination, means whereby a roll of paper may be accurately adjusted with relation to the point of delivery of the paper as it is unwound from the roll.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is an end view of the roll carriage, with the frame in section. Fig. 2 is a side elevation of the apparatus. Fig. 3 illustrates a cross section of the frame showing the paper roll and brackets in a tilted position. Fig. 4 is a detail partly in section showing a portion of the shaft 18 with its pulley 20.

In the present embodiment of my invention, I have provided a main supporting frame A having suitable upright ends 2 provided with the front and back bearings 3 and 4 for the rods 5 and 6 which extend parallel with the base of the frame. Rods 5 and 6 support a pair of brackets 7 and 8, the forwardly extending legs of which are provided with bosses 9 adjustably secured to the rod 5 by suitable devices, such as the set screws 10. The rear legs of the brackets 7 and 8 slidably rest upon the bar 6 which is firmly held in the bearings 3. A suitable truss or tie-rod 11 connects the rear legs of the brackets 7 and 8 to properly reinforce and space them and cause them to move in unison. The bracket 7 is provided at its upper end with a screw-threaded bearing 12 through which may be turned a screw 13 by means of a suitable hand-wheel 14. The inner end of the screw 13 is provided with a

loosely mounted conical center or pintle 15 adapted to be inserted into the center core of a roll of paper, such as indicated at 16, the opposite end of the roll being supported upon a center 17 which is preferably pyramidal, so as to tightly engage the opposite end of the core in the roll, though the center be a plain cone, if desired. This tapered center 17 is here shown as being securely fastened to a short shaft 18 turnable in a removable sleeve 19 mounted in the box at the top of the bracket 8. The outer end of the shaft 18 has splined upon it a suitable pulley 20 held in a guide bracket 21. Thus when a roll of paper has been mounted upon the centers 15 and 17, the center 15 having been suitably adjusted by means of the screw 13, then the roll of paper may be freely revolved, so that the paper may be unwound; the screw 13 being held from turning by means of a suitable clamp lever 22, and screw 23 which is fastened in the bearing 12.

For the purpose of shifting the roll lengthwise of the main frame A, so as to adapt it to the rewinding machine, I have provided a screw 24 mounted to turn in the bracket 21. The screw 24 has fastened upon it a collar 25 which is engaged upon each side by the yoke 26 of a lever 27 fulcrumed at 28 upon the bracket 21. The lower end of the lever 27 is engaged by a flanged collar 29 secured upon the transverse rod 5, consequently when the screw is turned by its handle 24^a, the lever 27 will be oscillated, causing the rod 5 to be reciprocated transversely through its boxes 4, and carrying the brackets 7 and 8 and the supported roll of paper 16 into the required position.

When it is desired to wind or rewind a roll of paper upon a hollow wooden core or sleeve, the driving center 17 may be provided with suitable corrugations 30 or other means which will positively engage the end of the sleeve upon which the paper is to be wound. Power is applied to the pulley 20, so that the center 17 will be driven, thereby revolving the sleeve and winding the paper thereonto. The other pintle 15 turns loose on the end of the screw shaft 13. If a roll 16 is inserted between the centers 15 and 17 and unwound, then the pulley 20 will be disconnected from its driving means.

This device is particularly valuable in paper houses where many rolls of paper, unprotected by wooden or other cores, become

flattened or mutilated so that it is impossible to pass a bar or shaft through them so they can be rewound. Heretofore such rolls were frequently a dead loss to the firm; but by my device it is a very simple matter to mount the roll, no matter how large or heavy it is, and rewind it, and therefore save the paper.

The positioning of the roll in between the brackets 7—8, and the engagement of the pintles with the ends of the roll, may be effected without having to lift the roll in the first place, by having the rear legs of the brackets 7—8 rest by gravity on the rear bar 6 and tilting the connected brackets forward in the manner shown in Fig. 3, while the pintles are being adjusted. It is much easier then, and after the pintles have been engaged with the end of the roll by suitably manipulating the hand-wheel 14, to lift the roll into operative position, and with the rear legs of the brackets 7—8 supported on the bar 6; the bar 5 being turnable in its bearings 4 to permit of this pivotal motion.

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

1. A paper winding machine comprising a frame having a pair of parallel bars, one of which is slidable lengthwise, opposed conical pintles for engaging the roll of paper, supports carrying the pintles, means for locking said supports to the slidable bars, and means for adjusting the pintles toward and from each other.

2. A paper winding machine comprising a frame having a pair of parallel bars, one of which is slidable lengthwise, a pair of brackets supported on said bars, means for locking the brackets to the slidable bar, and paper-supporting and centering means carried by said brackets.

3. A paper winding machine comprising a frame having a pair of parallel bars, one of which is slidable lengthwise, a pair of brackets supported on said bars, means for locking the brackets to the slidable bar, and paper-supporting and centering means carried by said brackets, said centering means including conical pintles, and means independent of the movement of the brackets for moving the pintles toward and from each other.

4. A paper winding machine comprising a frame having a pair of parallel bars, one of which is slidable lengthwise, a pair of brackets supported on said bars, means for locking the brackets to the slidable bar, and paper-supporting and centering means carried by said brackets, said last-named means comprising conical pintles, one of which is swivelly mounted on an adjustable screw.

5. A paper winding machine comprising a frame having a pair of parallel bars, one of which is slidable lengthwise, a pair of brackets supported on said bars, means for lock-

ing the brackets to the slidable bar, and paper-supporting and centering means carried by said brackets, said last-named means comprising conical pintles, one of which is swivelly mounted on an adjustable screw, and power connections with the other pintle.

6. A paper winding machine comprising a frame having a pair of parallel bars, one of which is slidable lengthwise, a pair of brackets supported on said bars, means for locking the brackets to the slidable bar, and paper-supporting and centering means carried by said brackets, said last-named means comprising conical pintles, one of which is swivelly mounted on an adjustable screw, power connections with the other pintle, and means for shifting the brackets and the sliding bar lengthwise of the latter.

7. A paper winding machine comprising the combination of suitably spaced brackets, a screw adjustably mounted in one of said brackets, a conical pintle swivelly mounted on the end of said screw, and a conical pintle opposing the first-named pintle and carried by the other bracket, said screw serving to increase or decrease the distance between said pintles.

8. A paper winding machine comprising the combination with a frame having a pair of parallel bars, one of which is slidable lengthwise, and a pair of brackets supported on said bars, of a pair of axially aligned conical pintles, one of said pintles swivelly mounted on a screw for increasing or decreasing the distance between the pintles and the other pintle having power connections, and means for shifting the pintles in unison sidewise.

9. A paper winding machine comprising a pair of spaced brackets, one of the legs of each bracket being secured to a sliding rod and the other leg of said brackets resting on a second rod and permitting said brackets to be turned in unison about the first-named rod as a pivot, and pintles carried by the brackets for supporting a roll.

10. A paper winding machine comprising a pair of spaced brackets, one of the legs of each bracket being secured to a sliding rod and the other leg of said brackets resting on a second rod and permitting said brackets to be turned in unison about the first-named rod as a pivot, and pintles carried by the brackets for supporting a roll, one of said brackets being adjustable toward and from the other.

11. A paper winding machine comprising a pair of spaced brackets, one of the legs of each bracket being secured to a sliding rod and the other leg of said brackets resting on a second rod and permitting said brackets to be turned in unison about the first-named rod as a pivot, pintles carried by the brackets for supporting a roll, and means for shifting said sliding rod lengthwise.

12. A paper winding machine comprising

a pair of spaced brackets, one of the legs of each bracket being secured to a sliding rod and the other leg of said brackets resting on a second rod and permitting said brackets
5 to be turned in unison about the first-named rod as a pivot, pintles carried by the brackets for supporting a roll, and means for shifting said sliding rod lengthwise, said last-named means including a clutch collar
10 on said shaft, a rocking lever having a yoke

engaging said collar, and a screw engaging the other end of the lever to rock the latter.

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

HENRY M. GRIFFIN.

Witnesses:

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N. V. COLLINS.