

No. 755,315.

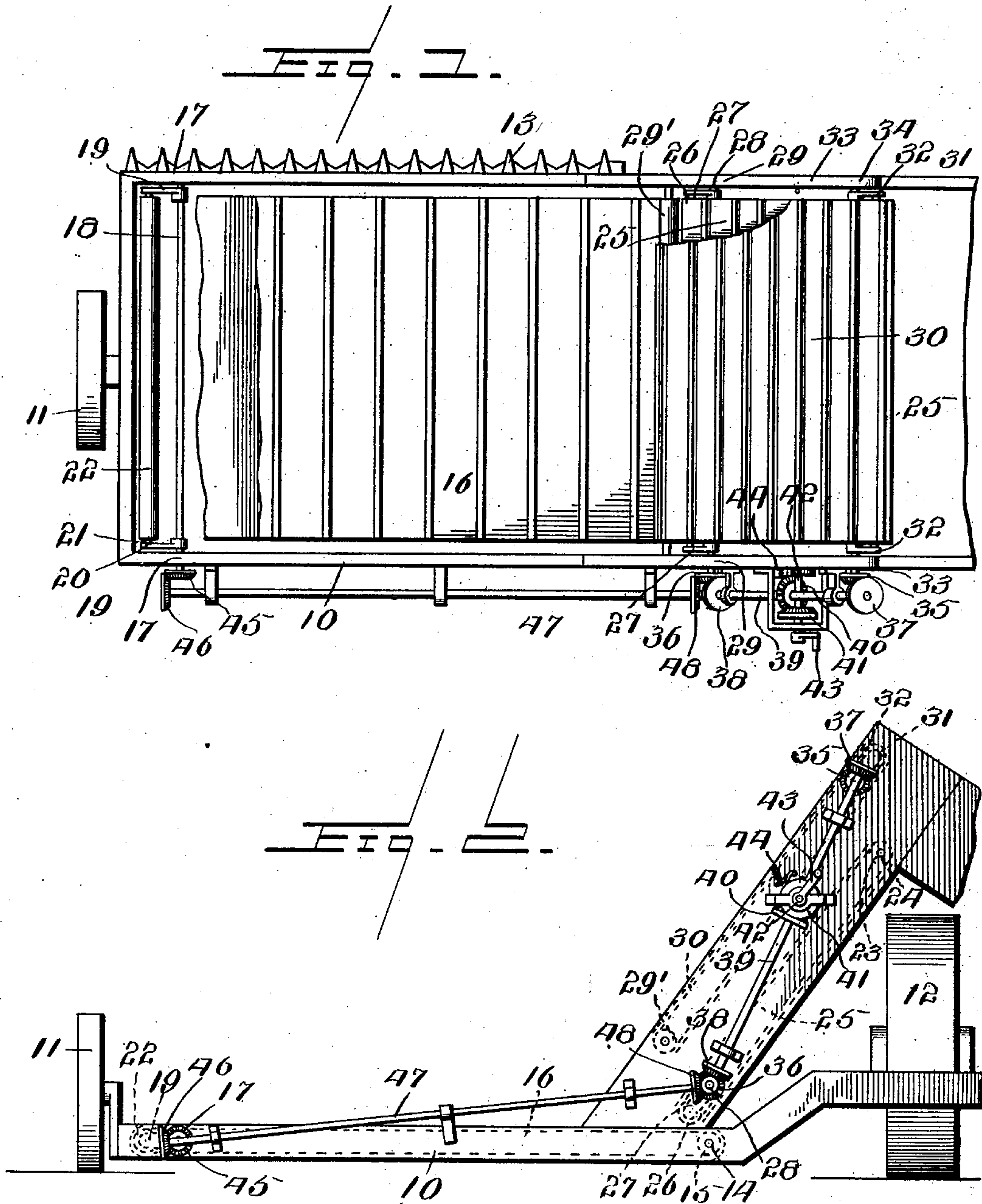
PATENTED MAR. 22, 1904.

J. O. QUALLEY.  
BELT ADJUSTER FOR HARVESTERS.

APPLICATION FILED NOV. 11, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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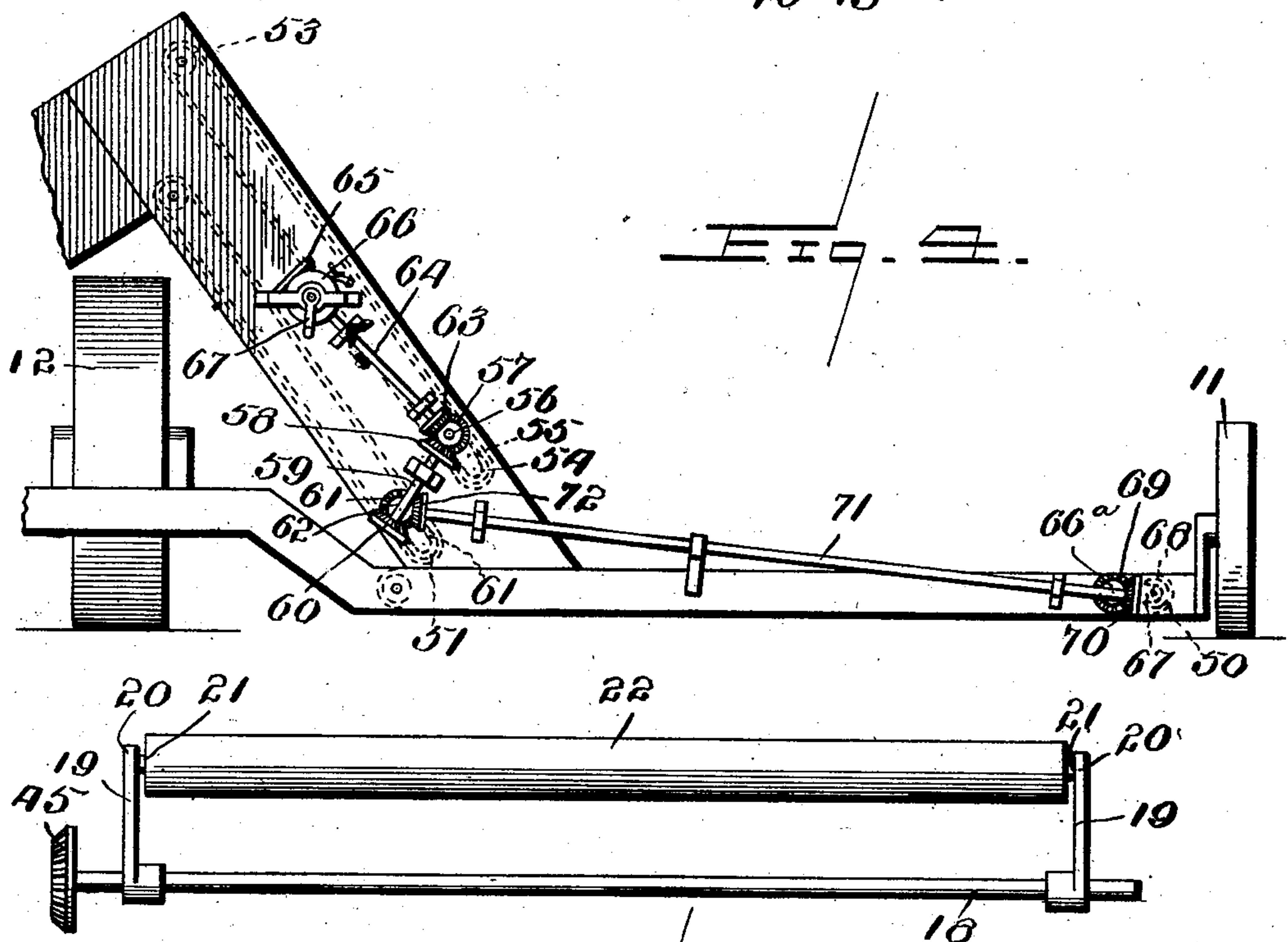
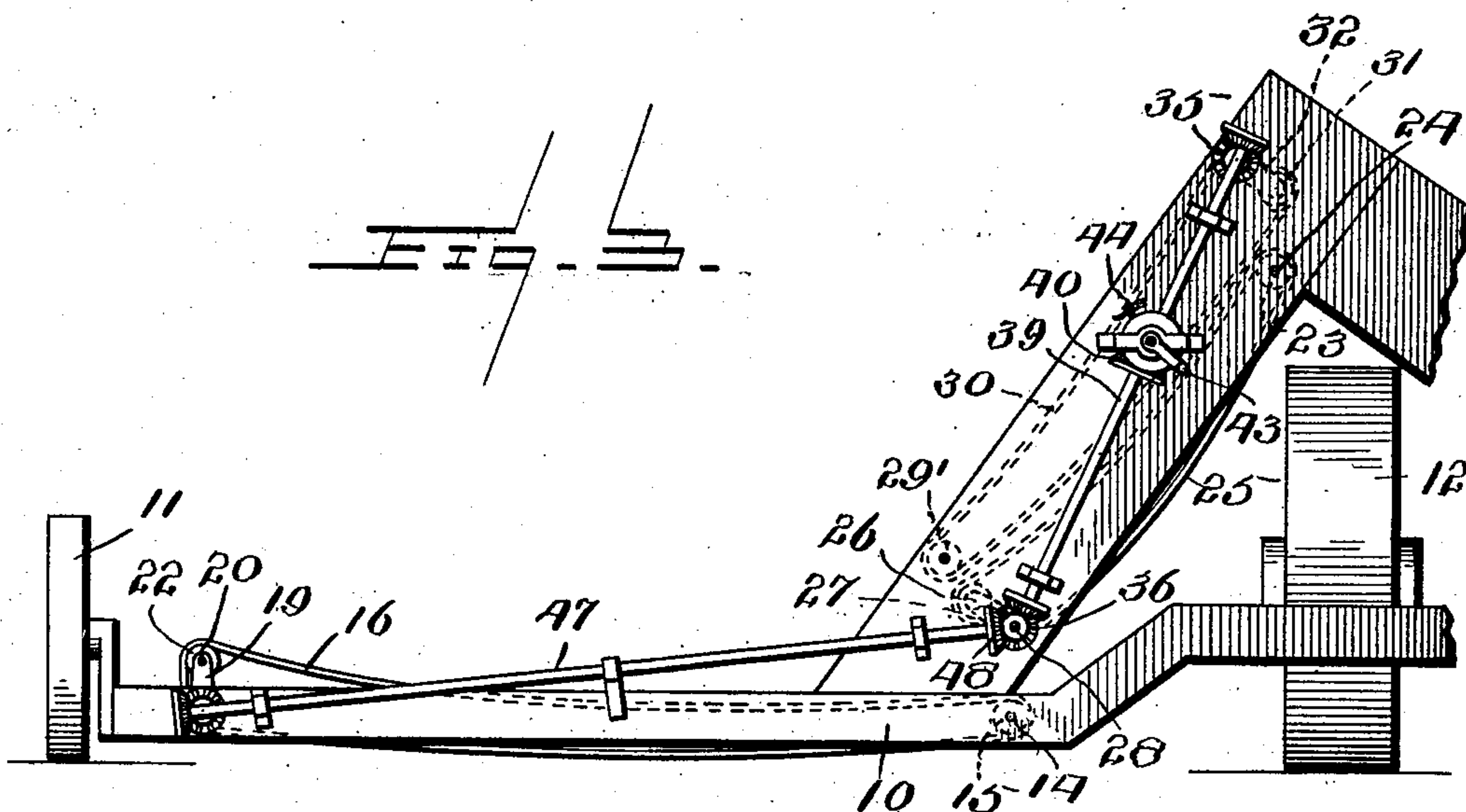
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# UNITED STATES PATENT OFFICE.

JOHN O. QUALLEY, OF ADAMS, MINNESOTA.

## BELT-ADJUSTER FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 755,315, dated March 22, 1904.

Application filed November 11, 1903. Serial No. 180,733. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN O. QUALLEY, a citizen of the United States, residing at Adams, in the county of Mower, State of Minnesota, have invented certain new and useful Improvements in Belt-Adjusters for Harvesters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to harvesters, and more particularly to the belts or aprons which receive the grain from the sickle and convey it over the bull-wheel to the binder mechanism, the object of the invention being to provide a simple and efficient mechanism for adjusting and varying the tensions of the belts or aprons simultaneously and for holding them in their adjusted positions.

In the drawings forming a portion of this specification, in which like numerals of reference indicate similar parts in the several views, Figure 1 is a top plan view of the grain-receiving platform of a harvester with the belt or apron thereon and the belt or aprons which receive from the first belt or apron and elevate the grain. Fig. 2 is a rear elevation of the construction shown in Fig. 1. Fig. 3 is a view similar to Fig. 2, showing the belts or aprons in slack positions. Fig. 4 illustrates the invention as applied to a different specific style of binder. Fig. 5 is a detail elevation of the roller at the outer end of the supplemental frame in Fig. 1 with the rock-shaft and the arms by which it is carried.

Referring now to the drawings, and more particularly to Figs. 1, 2, and 3 thereof, there is shown a portion of a harvester comprising a platform 10, having the usual supporting-wheel 11 at its outer end and connected at its inner end with other members forming the supplemental frame of the binder and which is supported by the bull-wheel 12 in the well-known manner. At the front of the platform is the usual sickle 13, having suitable means (not shown) for operating it.

At the inner end of the platform 10 are fixed bearings 14, in which are mounted the trunnions of a roller 15, which drive the horizontal belt or apron 16, which is disposed there-

on. At the outer end of the platform are bearings 17, in which is mounted a shaft 18, having crank-arms 19, which extend from the same side of the shaft and are parallel and in which crank-arms are bearings 20, that receive the trunnions 21 of a second roller 22, which supports and carries the belt or apron in conjunction with the roller 15. By rotating or oscillating the shaft 18 the roller 22 is swung toward and away from the roller 14 to vary the tension of the belt or apron.

Upon the supplemental frame above the wheel 12 is a roller 23, mounted in fixed bearings 24, which carries an apron 25, which passes over a second roller 26 at the bottom of the inclined portion of the supplemental frame adjacent to the roller 15. The roller 26 is mounted in bearings at the ends of arms 27, that radiate from the shaft 28, that is mounted in fixed bearings 29. When the shaft 28 is oscillated, the roller 26 is correspondingly moved to vary the tension of the apron or belt. Above the roller 26 is a roller 29', mounted in fixed bearings and which carries a belt or apron 30, which is carried also by a roller 31 above the roller 23. The roller 31 is mounted in bearings at the ends of arms 32, that radiate from the shaft 33, which is mounted in fixed bearings 34. The shaft 33 has a bevel-gear 35 fixed thereon, while the shaft 28 is provided with a bevel-gear 36, and meshing with these gears are the bevel-gears 37 and 38 on a shaft 39, which has a bevel-gear 40 at a point between its ends. The bevel-gear 40 meshes with a similar gear 41 on a stub-shaft 42, provided with a crank 43 for rotating it to rotate the shaft 39. A spring-pawl 44 bears against the wheel 41 and holds it against rotation, and when said gear is to be rotated the spring-pawl is drawn away from it. The shaft 18 has a bevel-gear 45, which meshes with a gear 46 on a shaft 47, having also a bevel-gear 48, that meshes with the gear 36. Thus when the crank 43 is operated both shafts 39 and 47 are correspondingly moved to swing the rock-shafts and the belt or apron supporting rollers that are carried thereby to vary the tension of all of the belts simultaneously.

In Fig. 4 of the drawings there is shown a specifically different arrangement wherein



the roller 50 at the outer end of the platform is mounted in the same manner as the roller 22, while the roller 51 at the lower end of the under elevating belt or apron is mounted in the same manner as the roller 26. The upper belt or apron has its upper roller 53 in fixed bearings, while its lower roller 54 is mounted in bearings at the ends of arms 55, that are carried by the shaft 56. The shaft 56 is provided with a bevel-gear 57, with which engages a gear 58, carried by the shaft 59, having also a gear 60, that meshes with a gear 61 on the shaft 62, that carries the arm 61, which carries the roller 51. A gear 63 on a shaft 64 meshes with the gear 57, and the shaft 64 at its upper end has a gear 65, with which meshes a gear 66, provided with a crank 67 for rotating it or oscillating it to raise and lower the rollers 54 and 51 and vary the tensions of the belts or aprons carried thereby. The shaft 66<sup>a</sup>, which carries the arms 67, by which is carried the roller 68, is provided with a bevel-gear 69, with which meshes a gear 70 on a shaft 71, having also a bevel-gear 72, that meshes with the bevel-gear on the shaft 62. Thus by operation of the crank 67 the several belts are adjusted as to tension.

It will be understood that in practice modifications of the specific constructions shown may be made and that any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

In a harvester, the combination with a plurality of belts each having a pair of supporting-rollers, of a rock-shaft for one roller of each belt having radiating arms in which said roller is journaled, a gear carried by each rock-shaft, shafts having gears engaging the gears of the rock-shafts, said gears and shafts being arranged for movement one from another, an additional gear-wheel engaged with the gear of one of the rock-shafts and provided with a shaft, means connected with the last-named shaft for rotating it, and means for holding the rotating means against operation.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN O. QUALLEY.

Witnesses:

P. H. CARR,

A. B. BASSETT.