

J. S. ELLIOTT.
BELT SHIFTER.

APPLICATION FILED SEPT. 13, 1909.

944,359.

Patented Dec. 28, 1909.

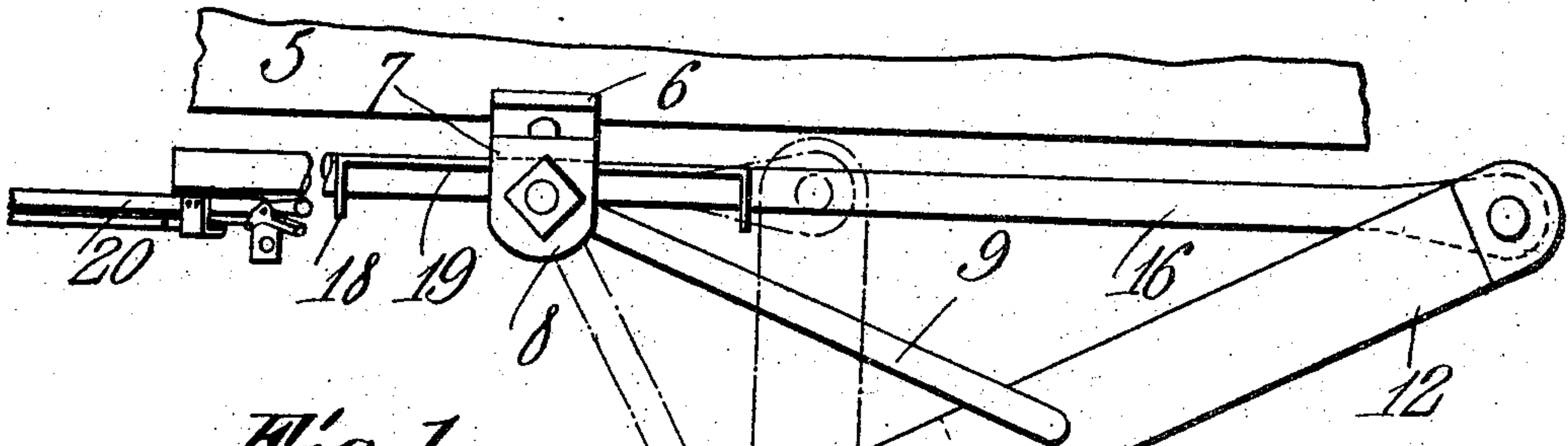


Fig. 1.

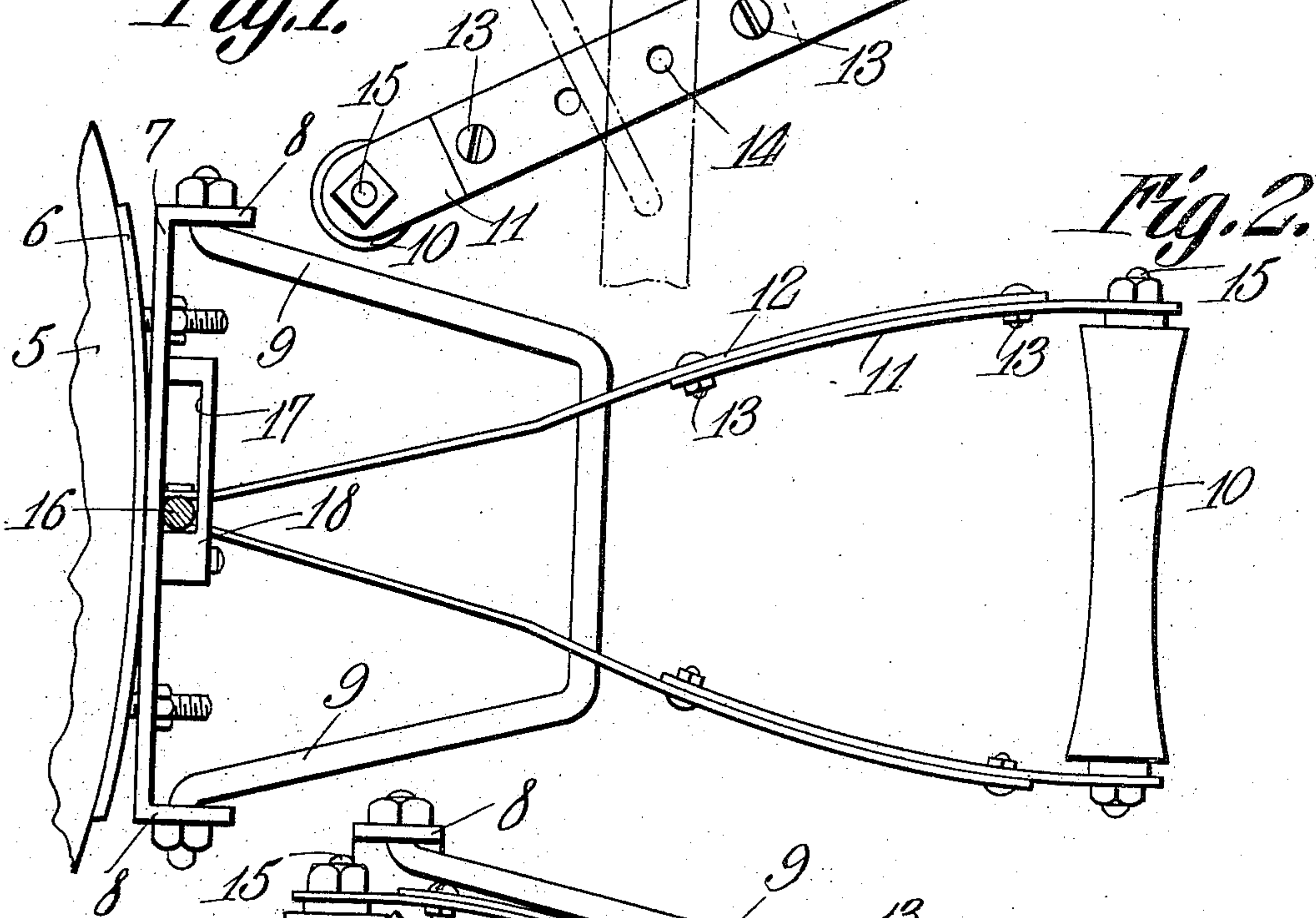


Fig. 2.

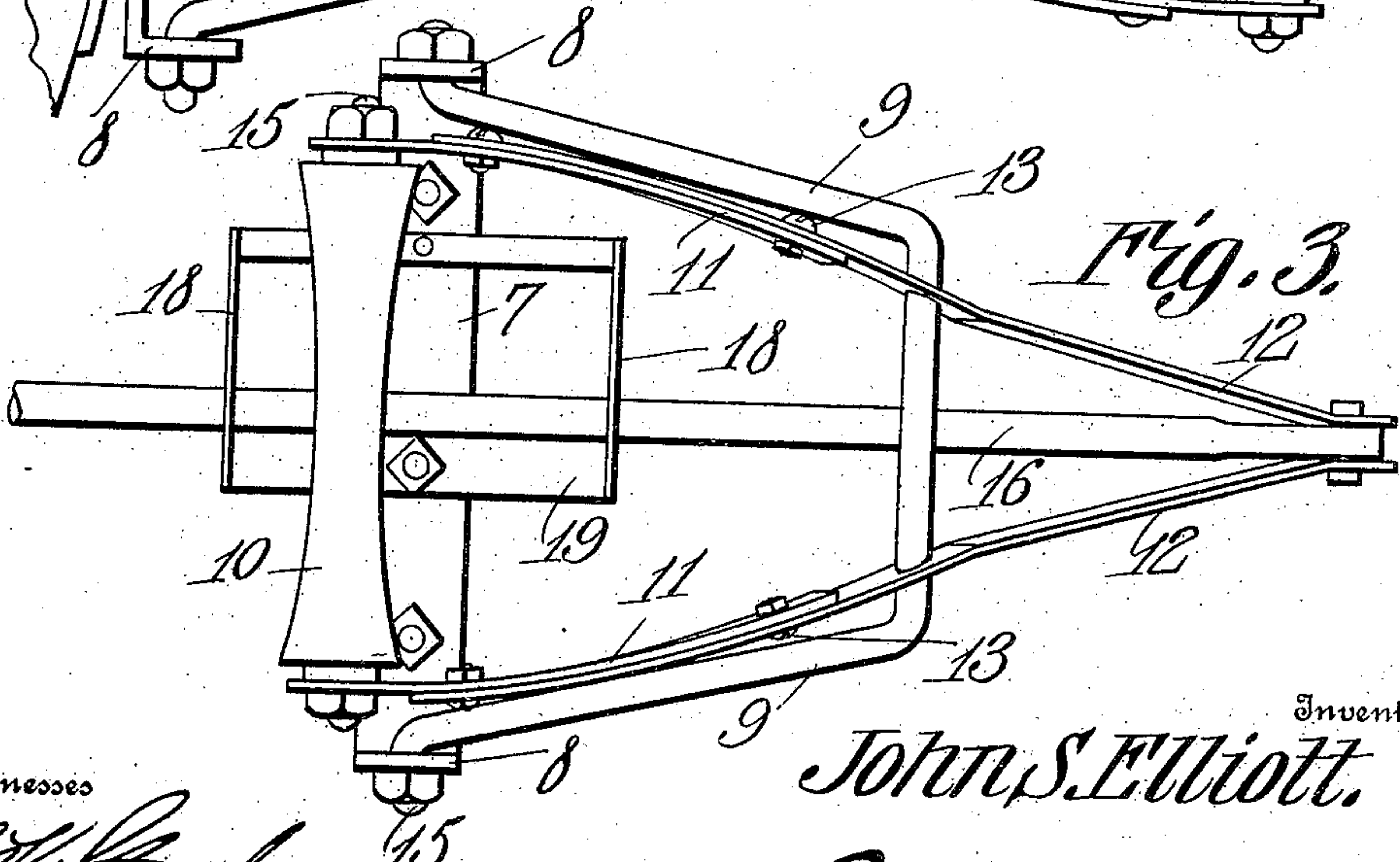


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN S. ELLIOTT, OF MOHALL, NORTH DAKOTA.

BELT-SHIFTER.

944,359.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN S. ELLIOTT, a citizen of the United States, residing at Mohall, in the county of Ward and State of North Dakota, have invented a new and useful Belt-Shifter, of which the following is a specification.

The belt shifter which is the subject of the present invention is designed more particularly for use on traction engines to throw the belt off the drive pulley when it is desired to stop the machinery driven by said engine.

It is the object of the invention to provide a belt shifter of the kind stated which is simple in structure and quick and reliable in action, and also one which can be readily applied to any ordinary traction engine without modifying the structure thereof.

With the herein stated objects in view, the invention consists in a novel construction and arrangement of parts to be hereinafter described and claimed, reference being had to the drawing hereto annexed in which;

Figure 1 is a plan view of the device; Fig. 2 is a side elevation; Fig. 3 is a front elevation.

Referring to the drawings, 5 denotes the boiler of the traction engine to which the invention is applied. On one side of the boiler is mounted a bracket consisting of two straps 6 and 7 respectively, which are rigidly secured together. The strap 6 is bolted, riveted or otherwise secured to the boiler, and shaped to conform to the curvature of its outer surface. At the upper and lower ends of the strap 7 are outstanding flanges 8 to which are pivotally connected arms 9 which converge outwardly and are connected at their outer ends to form a pivotal support for a pair of arms carrying a roller 10. These arms are in two sections indicated at 11 and 12 respectively which are adjustably connected by means of bolts 13 passing through holes 14 in the overlapping ends of the sections. A number of holes are provided in order that the sections may be adjustably connected to lengthen or shorten the arms. The sections 12 are vertically spaced at their outer ends and carry at said ends the spindle 15 on which the roller 10 is mounted. The roller is vertically disposed, and in shape it increases in diameter from its middle toward its ends.

The inner ends of the sections 12 of the roller supporting arms are brought together

and connected to a rod 16, mounted in guide openings 17 made in the outstanding flanges 18 of a plate 19 secured to the strap 7. This rod is horizontally presented and is adapted to be advanced or retracted to swing the roller supporting arms on their pivot. The rods are connected to a suitable hand lever 20 mounted on the engine within convenient reach of the engineer.

The herein described mechanism is so mounted on the boiler, that the roller 10 may come in contact with the edge of the belt. Upon advancing the rod 16 the roller supporting arms, as well as the arms 9, swing in the direction of the boiler, and when the rod is retracted, said arms swing outwardly from the boiler. The arms 9 swing in the same plane as the roller supporting arms, which is horizontal, and they serve to push said roller supporting arms outwardly when the belt is to be thrown off the pulley which gives the roller a greater range of travel and assures the throwing off of the belt. The outward movement of the roller is limited by the engagement of the sections 12 with one of the flanges 18.

When the device is not in use, the roller supporting arms, and the arms 9 may be folded to extend close to the boiler. They will usually be in this position when the engine is traveling, so as to be out of the way. When the engine is connected up to the machinery to be driven, the parts will be adjusted so that the roller 10 extends close to the edge of the belt. Upon swinging the hand lever 20 in the proper direction, the roller is thrust outwardly from the boiler and throws the belt off the pulley.

Having thus described my said invention, what I claim as new and desire to secure by United States Letters Patent is:

1. In a belt shifter, a support, arms pivotally mounted thereon, a roller, supporting arms carrying said roller, said supporting arms being pivotally connected to said first mentioned arms, and moving in the same plane, and an operating device connected to the supporting arms.

2. In a belt shifter, a support, arms pivotally mounted thereon, belt engaging means, supporting arms carrying said belt engaging means, said supporting arms being pivotally connected to the first mentioned arms, and swinging in the same plane, and an operating device connected to the supporting arms.

3. In a belt shifter, a bracket having

spaced outstanding flanges, arms pivotally
connected to said flanges, belt engaging
means, supporting arms carrying said belt
engaging means, said arms being pivotally
5 connected to the first mentioned arms, and
swinging in the same plane, a plate secured
to the bracket and having apertured out-
standing flanges, a slide rod mounted in the
apertures of the flanges, and connected to
10 the supporting arms, and means for operat-
ing the slide rod.

4. In a belt shifter, a support, arms piv-
otally mounted thereon, belt engaging means,

supporting arms carrying said belt engaging
means, said arms comprising adjustable sec- 15
tions, and being pivotally connected to the
first mentioned arms, and swinging in the
same plane, and an operating device con-
nected to the supporting arms.

In testimony that I claim the foregoing 20
as my own, I have hereto affixed my signa-
ture in the presence of two witnesses.

JOHN S. ELLIOTT.

Witnesses:

W. H. BELIDEAU,
CONRAD IVERSON.