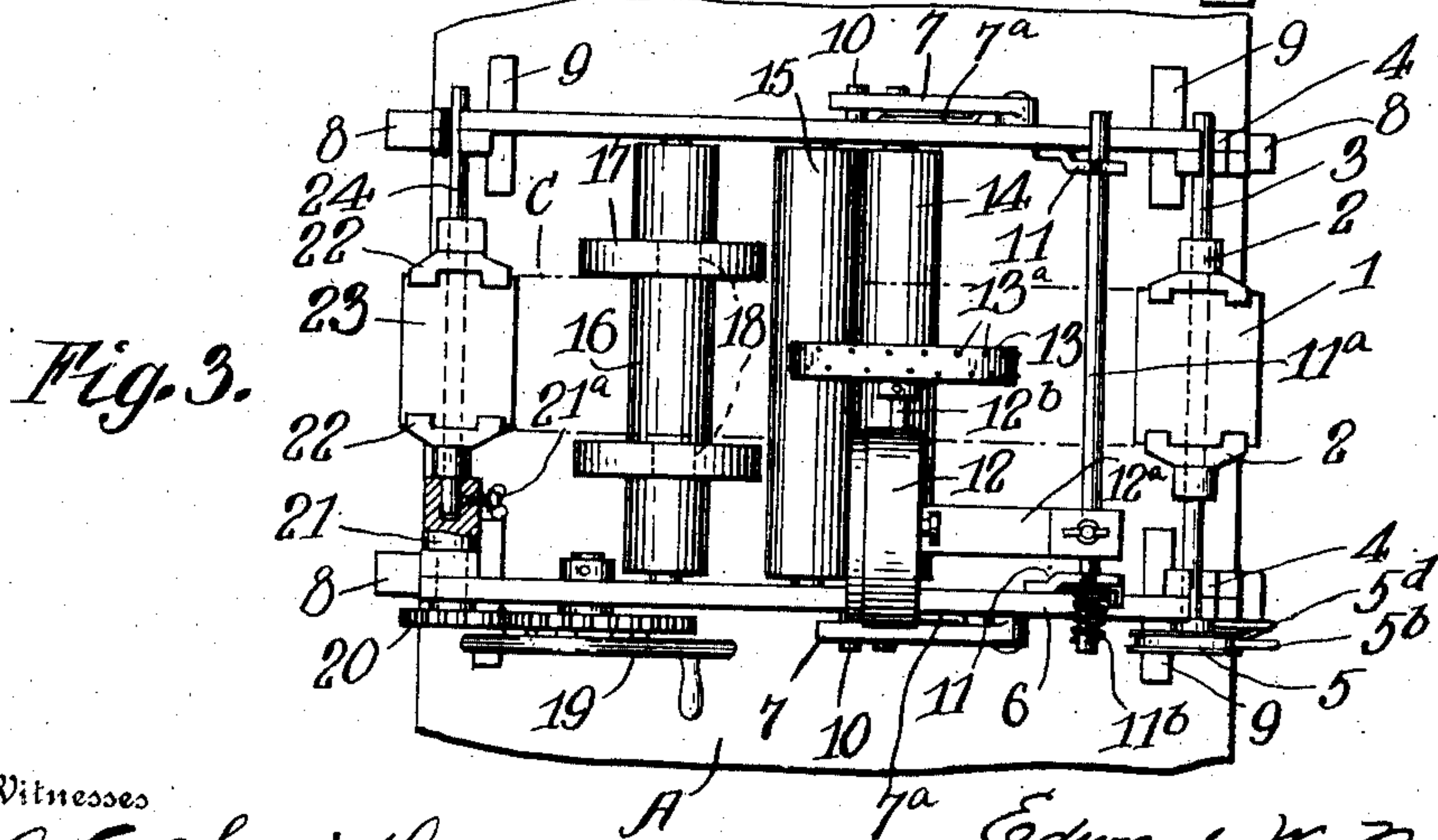
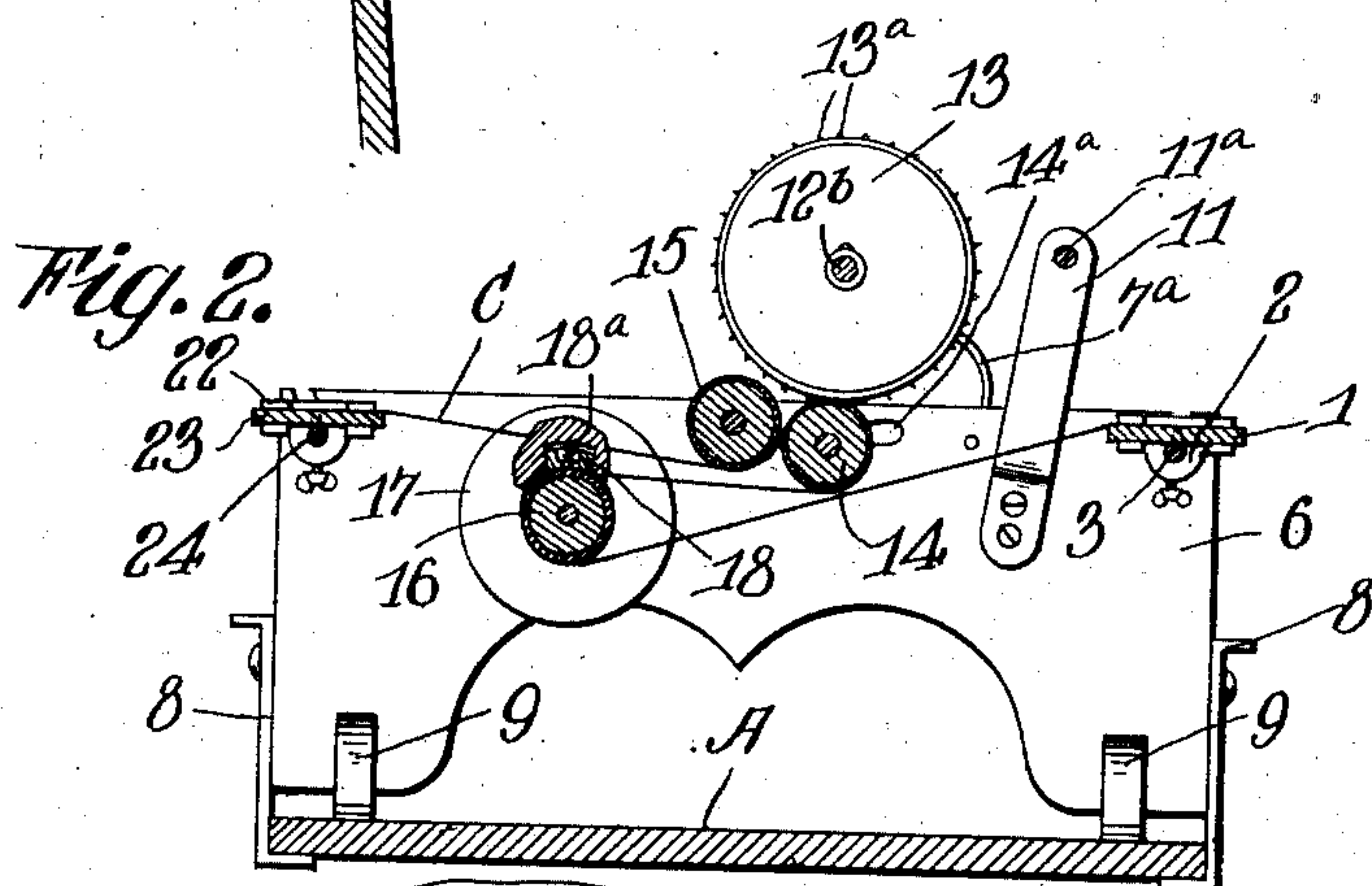
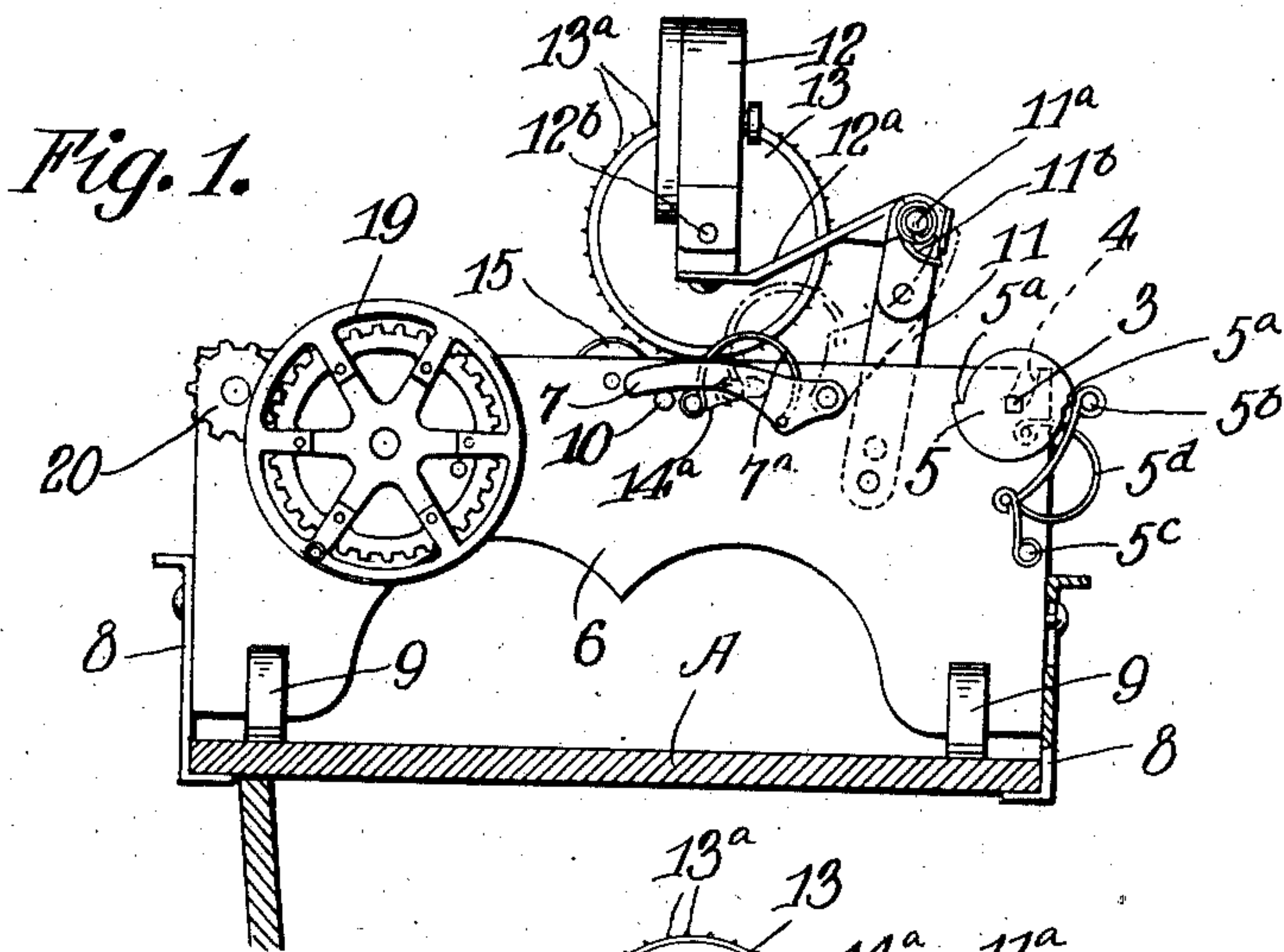


No. 883,690.

PATENTED APR. 7, 1908.

E. W. BLYTHE.
CLOTH WINDING MACHINE.
APPLICATION FILED APR. 18, 1907.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD WILLEY BLYTHE, OF DECATUR, TEXAS.

CLOTH-WINDING MACHINE.

No. 883,690.

Specification of Letters Patent.

Patented April 7, 1908.

Application filed April 18, 1907. Serial No. 368,973.

To all whom it may concern:

Be it known that I, EDWARD W. BLYTHE, a citizen of the United States, residing at Decatur, in the county of Wise and State of Texas, have invented certain new and useful Improvements in Cloth-Winding Machines, of which the following is a specification.

This invention is a machine for measuring cloth and for winding the same from one bolt to another during the measuring operation.

The object of the invention is to produce an improved device of the kind, special features of which are a novel and improved manner of supporting the measuring or registering wheel; novel means for supporting the bolts and for turning the bolt from which the cloth is unwound to avoid strain at the dead centers and to insure a free supply of cloth; and novel means for making a perfect alinement of the cloth as it is wound onto the new board.

The machine will be found effective for use with cloth of any width, and either double or single fold, and will give accurate measurement at high speed, and place the cloth in as neat and perfect a bolt as when it left the factory.

In the accompanying drawings, Figure 1 is a side elevation of the machine. Fig. 2 is a central vertical longitudinal section. Fig. 3 is a plan view.

Referring specifically to the drawings, 6 indicate the two side frames of the machine, mounted upon feet 9 and provided with clamps 8 whereby the machine may be clamped upon a counter or table as indicated at A. The board of the unwinding bolt is indicated at 1, held between the jaws of clamps 2 which are sleeved over a shaft 3 carried in open bearings 4 at one end of the machine. The cloth C is unwound from said bolt and passes thence under and around a roller 16 which is provided with guide collars 17. From the roller 16 the cloth passes back under and around a roller 14 and down between said roller and a roller 15 and thence across between the collars 17 to the winding board 23 which is held between jaws 22, similar to the jaws 2, and mounted upon a shaft 24 one end of which is supported in an open bearing at the end of the frame and the other end of which fits within a sleeve 21 which is carried in bearings in the opposite side frame 6 and has on the outside thereof a pinion 20 in mesh with a

gear on a crank wheel 19 by means of which the shaft is turned. The shaft is fixed in the sleeve by a set screw 21^a so that it can be quickly removed whenever desired, without disturbing the sleeve or the engagement of its pinion with the crank wheel. The jaws or clamps 2 and 22, for the bolt boards, are all adjustable along the shafts to accommodate boards of different lengths and are fixed in proper position by set screws.

The shaft 3 is provided at one end with a grooved friction wheel 5 the periphery of which is stepped, at diametrically opposite corners, as indicated at 5^a, said steps corresponding in position to the dead points or centers of the bolt. A lever 5^b bears against this friction wheel and insures a proper tension. Said lever is pivoted at 5^c and is pressed against the friction wheel by means of a spring 5^d connected between the lever and the frame. The lever may be thrown out of action by turning it out beyond center.

When during the turn of the wheel the lever reaches one of the steps 5^a it will in consequence of the spring pressure thereon snap down said step, giving the effect of a momentary release or advance of the bolt and allowing it to pass the center without great pull on the cloth, and at the same time the curved upper end of the lever striking the step as it snaps down assists in giving a slight forward impulse to the wheel and consequently to the bolt.

The journals of the roller 14 find bearings in slots 14^a in the side plates or pieces 6, and said slots allow the roller to be moved toward or from the roller 15 which is carried in fixed bearings in the side plate. In order to produce a spring pressure between the rollers 14 and 15 and to move the former to or from contact the said journals are connected to ends of bow springs 7^a the opposite ends of which are connected to levers 7 pivoted to the side frames. The levers and springs are so connected that when the former are swung down against the stops 10 the pressure of the springs moves and holds the roller 14 against the roller 15. But when the levers are swung back, the roller 14 is retracted or withdrawn from contact with the roller 15.

The register 12 is supported by an arm 12^a on a cross rod 11^a carried by arms 11 projecting from the side frames. The arm 12^a is adjustable along the rod 11^a and is fixed by a set screw. Mounted upon the register

shaft 12^b is a measuring wheel 13 which rests upon the roller 14, or rather upon the cloth thereon. A coiled spring 11^b, connected between the rod 11^a and the standards 11, normally turns said rod to press the measuring wheel down upon the cloth with sufficient pressure to insure its operation. Said measuring wheel, as well as the rollers 14, 15 and 16, are covered with rubber, and the measuring wheel is also provided with a number of small pin points 13^a, projecting from its periphery and through the rubber, for the purpose of engaging the cloth and causing a positive turn of the wheel as the cloth passes thereunder. These pin points are not large enough to injure the finest fabric.

The collars 17 are adjustable on the roller 16 to accommodate different widths of the cloth, and to this end each collar has a clutch block 18 contained in a recess in the collar and arranged to engage or bite against the roller 16, being pressed from behind by a spring 18^a in the bottom of the recess. By lifting or releasing the clutch the collars may be moved along to any desired position.

The collars 17 determine the alinement of the cloth as it passes through the machine and as it winds upon the receiving board, and in consequence of the way in which the cloth is looped back and forth around the rollers 16 and 14 it passes, in all, three times between the collars, once below the roller 16, once between said roller and the roller 14, and once between the roller 15 and the receiving bolt. The effect of this is to make a perfect alinement of the cloth as it is wound on the new board at 23. The rod 11^a is mounted to turn in its supports 11, so the measur-

ing wheel can be lifted or swung up from the cloth of the roller 14 whenever desired. The tension on the cloth can be slacked off at any time by throwing up the lever 7 and withdrawing the roller 14 from contact with the roller 15. In consequence of its perfect alinement and freedom from dead centers the machine may be worked very rapidly and will measure, and roll into perfect bolts, a large amount of cloth in a comparatively short time.

I claim:

1. In a cloth winding machine, a bolt-carrying shaft having a stepped friction wheel thereon, and a spring-pressed lever bearing against the wheel and adapted to release the friction and accelerate the wheel as it passes off each step.

2. In a cloth winding machine, the combination with winding and unwinding bolt-holding shafts, of a roller between said shafts, having guide collars, and means to run the cloth around the roller and in opposite directions back and forth between the collars.

3. A guide roller for a cloth winding machine, comprising a roller and adjustable collars thereon, the collars having inner recesses, clutch blocks in the recesses, and springs behind the clutch blocks, causing same to engage the roller.

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

EDWARD WILLEY BLYTHE.

Witnesses:

CLIFF CATES,
O. B. CATES.