

(No Model.)

W. P. CANNING.  
TRAVELING FLAT CARDING ENGINE.

No. 485,681.

Patented Nov. 8, 1892.

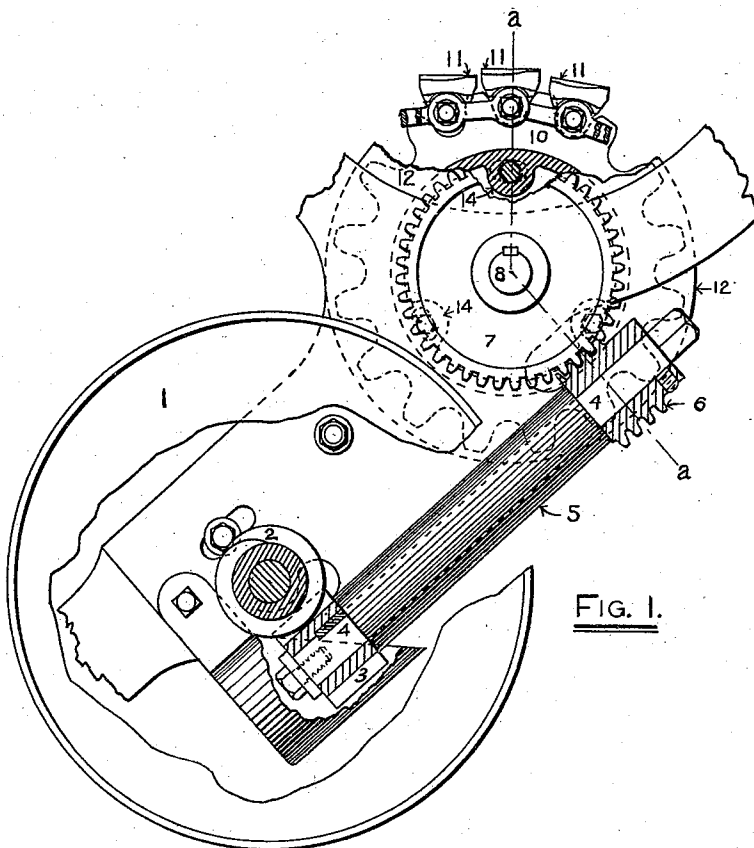


FIG. 1.

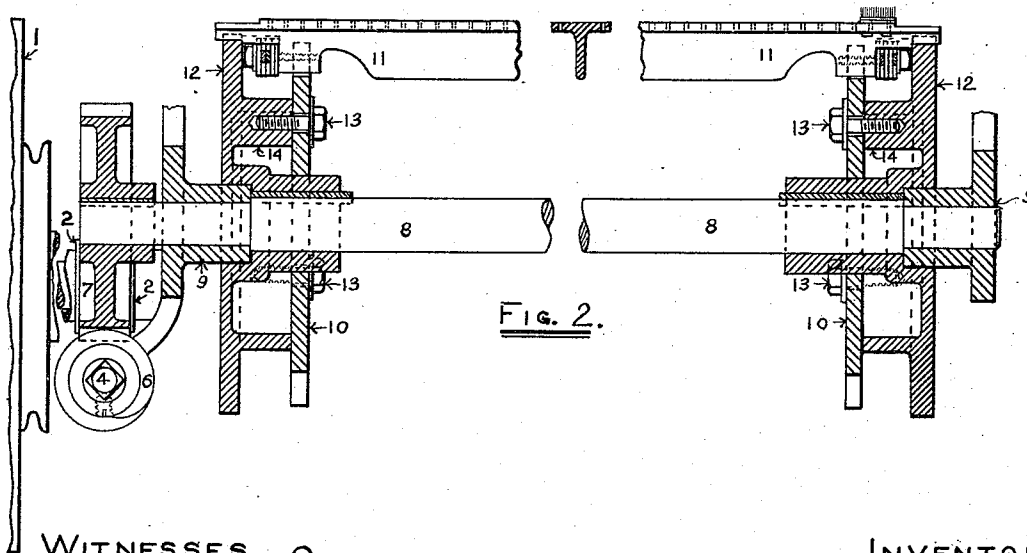


FIG. 2.

WITNESSES.

WITNESSES:  
Channing Whitaker.  
Saml. G. Stephens.

INVENTOR.

William Pitt Fanning.

# UNITED STATES PATENT OFFICE.

WILLIAM PITT CANNING, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO THE  
LOWELL MACHINE SHOP, OF SAME PLACE.

## TRAVELING-FLAT CARDING-ENGINE.

SPECIFICATION forming part of Letters Patent No. 485,681, dated November 8, 1892.

Application filed July 19, 1892. Serial No. 440,556. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM PITT CANNING, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Traveling-Flat Carding-Engines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 My invention relates to traveling-flat carding-engines, and in particular to the devices which are employed in such carding-engines for the purpose of communicating movement to the endless chain of traveling flats.

15 My invention consists in an improved construction and combination of parts forming the driving connections for the endless chain of traveling flats in a traveling-flat carding-engine, and will first be described with reference to the accompanying drawings and then be particularly pointed out and defined in the claims at the close of this specification.

In the accompanying drawings, Figure 1 is a view in side elevation, but partly in section, showing the devices for operating the chain of flats of a traveling-flat carding-engine with my improvement embodied therein, this figure showing, also, a part of the chain of flats. Fig. 2 is a view showing the main block-shaft, the parts carried thereby, one of the flats, and the sprocket-worm, the parts carried by the block-shaft being in section and a cross-section of the flat being also represented.

35 In the drawings, 1 is a band-pulley having connected therewith the main worm 2, which engages with the worm-wheel 3 at the lower end of the shaft 4, which is mounted in the carding-engine in an inclined position in the pipe-bearing 5. The upper end of the said shaft 4 carries the so-called "sprocket-worm" 6, which engages with the worm-wheel 7 on the main block-shaft 8, the said shaft 8 being mounted to turn in bearings 9. In practice the said shaft 8 is provided with sprocket-wheels 10, which engage with the backs of the traveling flats 11, and thereby serve to actuate them, the said shaft also having mounted thereon blocks or disks 12, 50 which support the flats as they pass to and around the shaft, the prime purpose of these

blocks being to maintain the working faces at the end of the flats in contact with the surfaces of the flexible bends upon which they slide until the flats in their travel have 55 reached the point at which they are to quit the flexible bends. Heretofore the sprocket-wheel and block, located side by side at each end of the main block-shaft, have been fixed together, and thus connected have been keyed 60 upon the block-shaft, so as to cause them to turn therewith. The accuracy of the alignment of the teeth of the sprocket-wheels at both ends of the shaft has depended upon the accuracy with which the keyways at the ends 65 of the shaft have been aligned with each other. Very slight errors in the relative location of the keyways in the shaft will, as will readily be apparent, be magnified quite considerably at the peripheries of the sprocket-wheels. With the parts connected together 70 in the manner which has just been described it has been found difficult or practically impossible to place the teeth of the sprocket-wheels on both sides in perfect alignment. In 75 practice, the parts having been assembled, if but slight variation has been found to exist in the positions of the two sprocket-wheels the parts are used in the carding-engine without correction or change, while if considerable variation is found to exist it is remedied 80 as far as possible by forming broader keyways located with as great accuracy as possible and employing broader keys.

By my invention I am enabled to obviate 85 practically all of the disadvantages and defects which have just been indicated. Instead of fixedly connecting each sprocket-wheel with the corresponding block in a manner which will prevent relative adjustment of one 90 thereof with respect to the other, as heretofore, I apply the sprocket-wheels in such wise as that they may each be adjusted independently of the other and concentrically around the axis of the main block-shaft. As shown, 95 I key each block to the block-shaft, as heretofore. Each sprocket-wheel is fitted loosely upon the hub of the corresponding block and is held at the side of the said block by securing devices, which while serving to retain it properly 100 in the desired position enable it to be shifted around the axis of the shaft, so as to

effect angular adjustment of the teeth thereof. Preferably I employ screws 13, passing through holes in the sprocket-wheel and into threaded holes in the block. The holes in the sprocket-wheel are shown as slots, they being thus formed in order to permit of the adjustment of the sprocket-wheel which has been referred to. The holes in the blocks for the reception of the threaded ends of the screws are shown formed in laterally-projecting lugs 14, formed on the blocks.

The construction and devices represented in the drawings enable each sprocket-wheel to be adjusted around the axis of the shaft as much as may be necessary for the purpose of bringing the teeth of the two sprocket-wheels on the shaft into correct alignment.

I claim as my invention—

1. The combination, with a series of flats of a traveling-flat carding-engine and a shaft, of sprocket-wheels mounted on the said shaft and securing means whereby the said sprocket-wheels are fixedly held upon the shaft and caused to rotate therewith with capacity for angular adjustment around the axis of the shaft, substantially as described.

2. The combination, with the series of flats, of a traveling-flat carding-engine, a block-shaft, and blocks mounted upon the said shaft to turn therewith, of sprocket-wheels and securing means whereby the said sprocket-wheels, respectively, are held in position with capacity for angular adjustment relatively to the shaft, substantially as described.

3. The combination, with a series of flats of a traveling-flat carding-engine, a block-shaft, and blocks mounted upon the said shaft to

turn therewith, of sprocket-wheels connected with the said blocks and respectively having capacity for angular adjustment relatively to the shaft and blocks, substantially as described.

4. The combination, with the series of flats of a traveling-flat carding-engine, a block-shaft, and blocks mounted upon said shaft to turn therewith, of sprocket-wheels placed beside the said blocks and securing bolts or screws passing through elongated openings and clamping the sprocket-wheels to the blocks with capacity for angular adjustment, substantially as described.

5. The combination, with the series of flats of a traveling-flat carding-engine, a block-shaft, and a block mounted on the said shaft to turn therewith, of a sprocket-wheel at the side of said block and securing means for the said wheel, holding the same in position with capacity for angular adjustment, substantially as described.

6. The combination, with the series of flats of a traveling-flat carding-engine, a block-shaft, and a block mounted on the said shaft to turn therewith, of a sprocket-wheel at the side of said block and a bolt or screw passing through an elongated opening and clamping the sprocket-wheel to the block with capacity for angular adjustment, substantially as described.

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

WILLIAM PITT CANNING.

Witnesses:

SAML. G. STEPHENS,  
EMMA F. ESTES.