

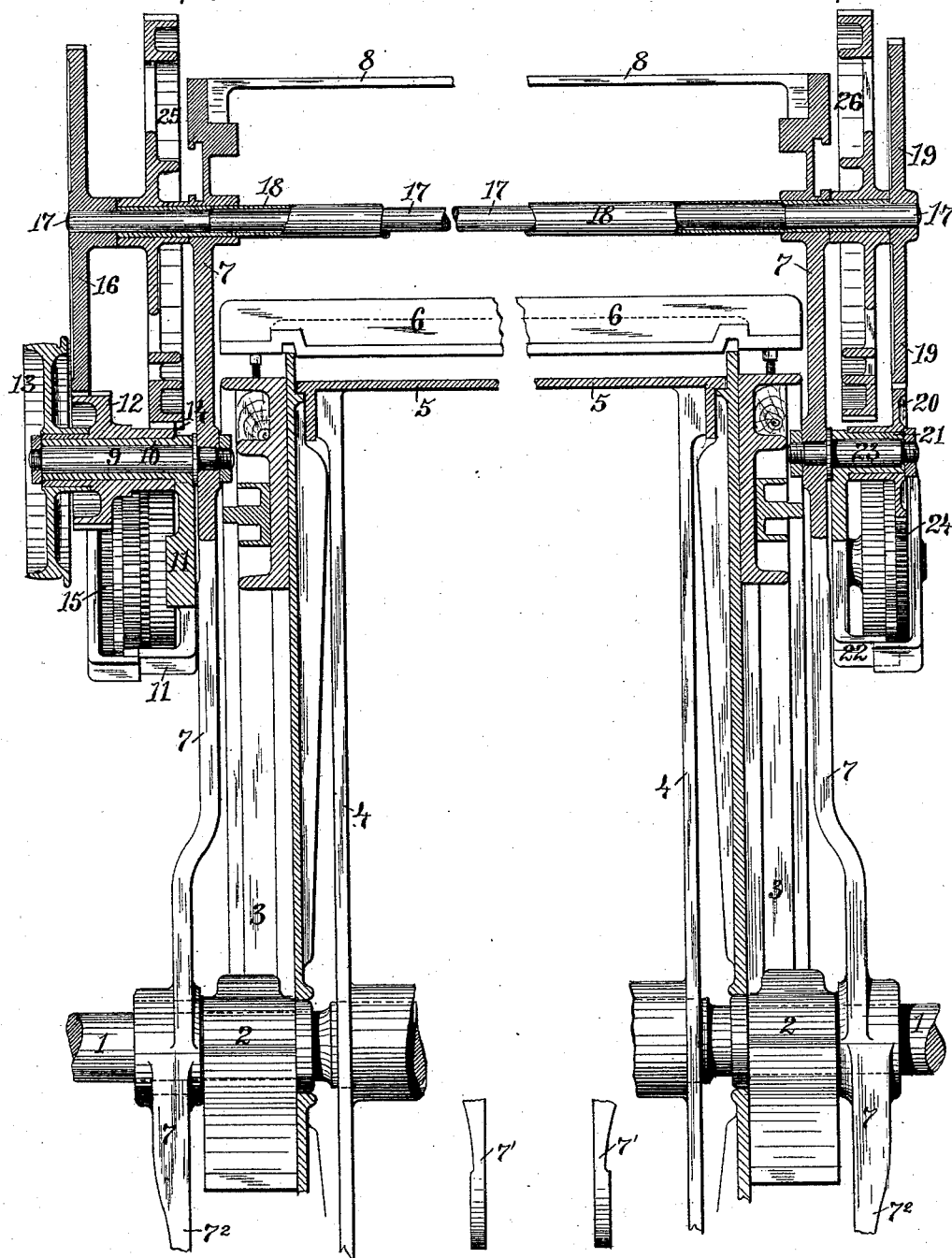
(No Model.)

H. ELLIS.

TOP FLAT STRIPPING MECHANISM FOR CARDING ENGINES.

No. 422,752.

Patented Mar. 4, 1890.



Witnesses

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HARVEY ELLIS, OF WHITINSVILLE, MASSACHUSETTS, ASSIGNOR TO THE
WHITIN MACHINE WORKS, OF SAME PLACE.

TOP-FLAT-STRIPPING MECHANISM FOR CARDING-ENGINES.

SPECIFICATION forming part of Letters Patent No. 422,752, dated March 4, 1890.

Application filed September 20, 1889. Serial No. 324,514. (No model.)

To all whom it may concern:

Be it known that I, HARVEY ELLIS, of Whitinsville, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Top-Flat-Stripping Mechanism for Carding-Engines; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification.

This invention has reference to an improvement in top-flat-stripping machinery for carding-engines; and it consists in the peculiar and novel construction of the shaft and connecting-gears by which the lifting-cams and the stripper-frame are operated by mechanism on both sides of the carding-engine through a solid shaft revolving within a tubular shaft, as will be more fully set forth hereinafter.

In top-flat-stripping mechanism it is desirable to operate both the flat-lifting cam and the mechanism for reciprocating the stripper-frame on each side of the carding-engine. This has been done heretofore by extending the driving-shaft on which the driving-pulley is secured across the carding-engine and transmitting the motion of the driving-shaft by means of gears to mechanism for raising the top-flats and operating the stripper on each side of the carding-engine, and also by transmitting the motion from the stripper mechanism on one side by means of gears and an additional shaft to the stripper mechanisms on the opposite side of the carding-engine. Simplicity, compactness, and cleanliness are very desirable characteristics in textile machinery, and particularly so in cards. The object of this invention is to secure these characteristics.

The drawing is a sectional view of the upper part of a carding-engine, showing the two sides, the central portion being broken away and the sides shown closer together than they are in a carding-engine, so as to show the co-operating parts more clearly.

In the drawing, the number 1 indicates the shaft of the carding-cylinder; 2, the journal-bearings in the side frames; 3, the side frames; 4, the ends of the carding-cylinder; 5, the pe-

riphery of the carding-cylinder, which in practice is covered with card-clothing; 6, one of the top-flats; 7 7, the two radial arms journaled on the shaft 1 and connected together by the bridge 8. The two pieces 7' are the lower ends of the radial arms 7 and form the continuations below 7² on the arms 7.

As the mechanism by which the reciprocating stripper-frame is operated and the top-flat-raising mechanism form of themselves no part of this present invention, I will only refer to such parts of the same as are directly connected with the double shaft and will clearly illustrate the nature of my invention.

The mechanism used and partly shown in connection with my invention is shown and described in the patent to John F. Foss, dated May 7, 1872, No. 126,387, and the patent to Gustavus E. Taft, dated April 9, 1872, No. 125,501, card-stripping machinery, to which reference is made.

Referring to the left-hand side of the drawing, the pin 9 is shown secured to the arm 7. The said pin 9 is surrounded by a sleeve 10, which forms part of the case 11, in which the stripper-operating mechanism is secured. The case 11 being thus pivoted on the pin 9, the sleeve 10 forms the shaft-bearing for the sleeve-gear 12 and the band-wheel 13, which latter is connected by means of a band with a band-wheel on the shaft 1 of the carding-cylinder, motion being thus transmitted from the shaft 1 to the gear 12 and to the pinion 14 on the inner end of the sleeve of the gear 12. The gear 12 meshes with and transmits motion to the gear 15, and through the same to the stripper-frame-operating mechanism. The gear 12 also meshes with the gear-wheel 16, secured to one end of the shaft 17, which, extending across the carding-engine, is journaled in the tube 18. The bearings on the shaft 17 near the ends are made of larger diameter than the central portion of the shaft, and the tube 18 is bushed at the bearings, so as to be of slightly less diameter at the bearings than at the central portion, to permit of the running of the shaft with the least possible friction. To the right-hand end of the shaft 17 the gear-wheel 19 is secured, which engages with the sleeve-gear 20, turning on the

sleeve 21, which sleeve is part of the case 22, pivoted on the pin 23, secured to and projecting from the radial arm 7 on the right hand of the drawing. The sleeve-gear 20 gears 5 into the gear 24, through which motion is imparted to the stripper-frame-operating mechanism.

The tubular shaft 18 is journaled in bearings formed near the outer ends of the radial 10 arms 7. To the opposite ends of the tubular shaft 18, between the radial arms 7 and the gear-wheels 16 and 19 on the shaft 17, the cam-wheels 25 and 26 are secured, the cam-wheel 25 being provided on its periphery with 15 gear-teeth which mesh with the pinion 14 on the inner end of the sleeve on the gear 12, and thus motion is imparted to the cam-wheel 25 and the cam-wheel 26 on opposite sides of the carding-engine, the flat-raising devices being 20 operated by the cam-wheels 25 and 26.

The construction is very compact, the motion is transmitted positively, and all parts are readily accessible.

Having thus described my invention, I

claim as new and desire to secure by Letters 25 Patent—

1. The combination, in a top-flat-stripper mechanism for carding-engines, with the radial arms 7, the driving band-wheel 13, the sleeve-gear 12, and pinion 14, of the gears 16 30 and 19, the shaft 17, the tubular shaft 18, and the cam-wheels 25 and 26, the whole constructed to impart motion to the top-flat raising and stripping devices, as described.

2. The combination, with the top-flat raising and stripping mechanism on opposite 35 sides of a carding-engine, of a tubular shaft mounted in bearings on the radial arms and carrying the cam-wheels for operating the lifting devices, and a shaft located in the 40 tubular shaft and provided with gear-wheels at opposite ends, constructed to connect the stripper-operating mechanisms on opposite sides, as described.

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