

No. 672,578.

Patented Apr. 23, 1901.

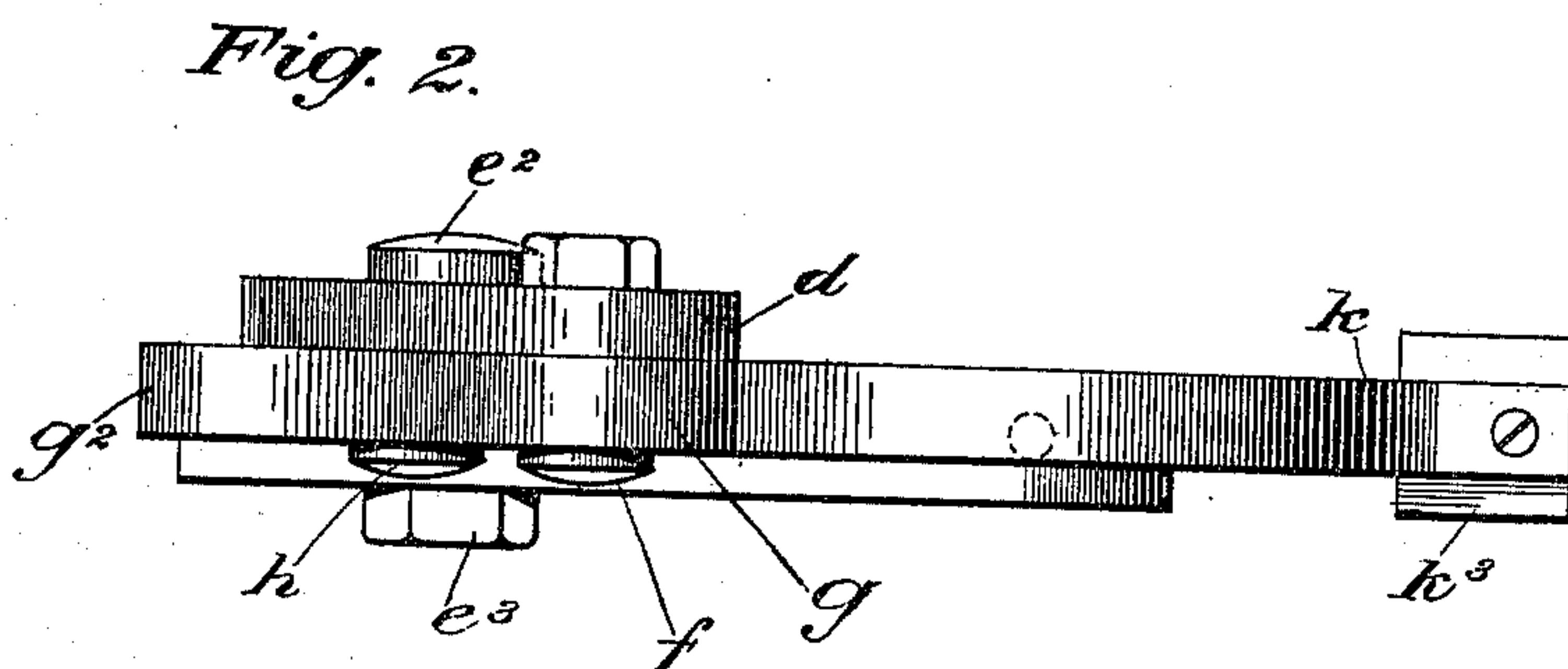
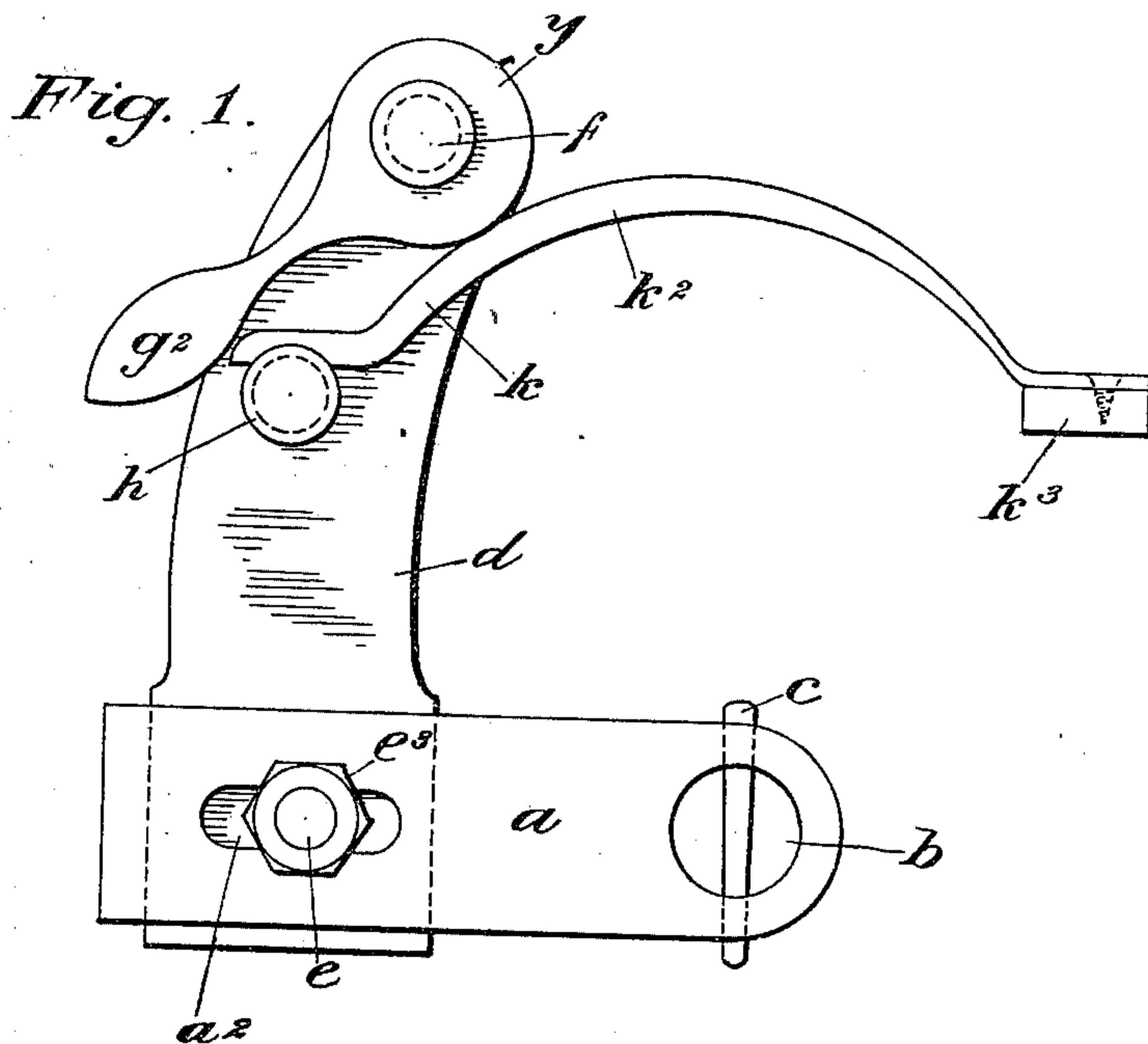
H. TUNSTALL.

ATTACHMENT FOR COTTON COMBING MACHINES.

(Application filed Sept. 21, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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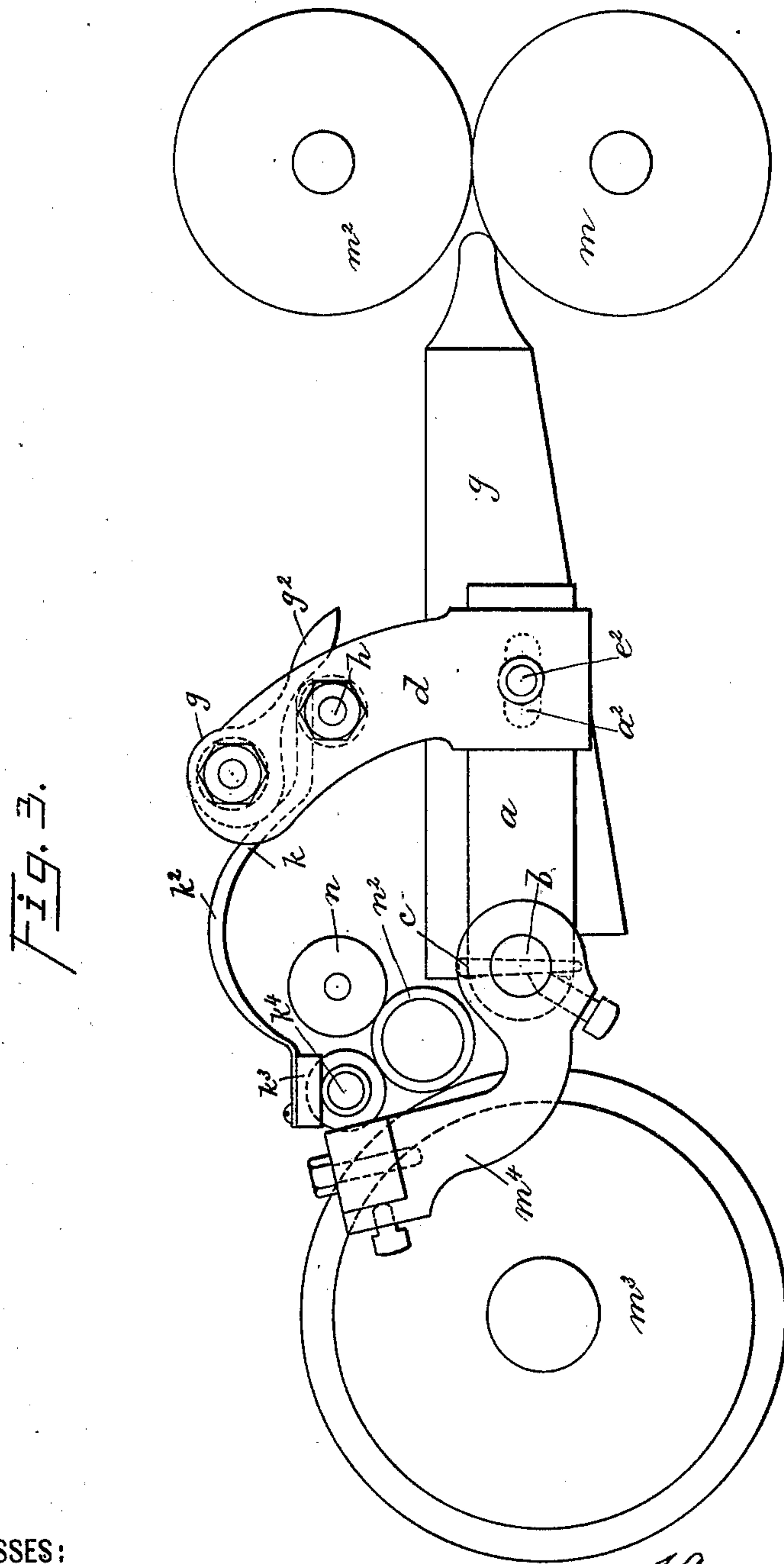
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# UNITED STATES PATENT OFFICE.

HARRY TUNSTALL, OF WESTERLY, RHODE ISLAND.

## ATTACHMENT FOR COTTON-COMBING MACHINES.

SPECIFICATION forming part of Letters Patent No. 672,578, dated April 23, 1901.

Application filed September 21, 1900. Serial No. 30,859. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY TUNSTALL, a citizen of England, residing at Westerly, in the county of Washington and State of Rhode Island, have invented certain new and useful Improvements in Attachments for Cotton-Combining Machines, of which the following is a full and complete specification, such as will enable those skilled in the art to which it ap-  
10 pertains to make and use the same.

This invention relates to cotton-combing machines; and the object thereof is to provide a spring weighting attachment for the leather-covered detaching-roller in machines of this  
15 class. The motion of the leather-covered roller in cotton-combing machines is in four different directions, said roller moving forward, backward, upward, and downward with every motion of the machine, and this roller  
20 is usually weighted with dead-weights supported by means of hooks and chains. These weights are usually quite heavy, weighing about thirty-two pounds, and when the roller has been taken out for any purpose, which  
25 frequently occurs in the operation of the machine, the operator of the machine, usually a female, has to lift these weights off and replace them, which is a very difficult and distressing operation; and it is one of the ob-  
30 jects of this invention to dispense with these weights, and the consequent necessity of attaching and detaching them during the operation of the machine.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by the same reference characters in each of the views, and in which—

40 Figure 1 is a side elevation of my improved attachment for cotton-combing machines and showing the part of the machine with which it is connected; Fig. 2, a plan view thereof; and Fig. 3, a side elevation of parts of a cotton-  
45 combing machine and showing my improvement connected therewith, the attachment constituting the improvement being shown in a position the reverse of that shown in Fig. 1.

50 In the practice of my invention I provide a bracket or lever  $a$ , which is fastened to the rocking or lifter shaft  $b$  of the machine by means of a pin  $c$  or in any desired manner,

and said bracket or lever  $a$  is provided with a longitudinal slot  $a^2$ , and connected therewith is an upwardly-directed support  $d$ , and  
55 said support is connected with the bracket or lever  $a$  by means of a bolt  $e$ , which is passed therethrough and through the slot  $a^2$ , and said bolt is provided at one end with a head  $e^2$  and at the opposite end with a nut  $e^3$ . 60

Pivotaly connected with the upper end of the support  $d$  by means of a pivot pin or bolt  $f$  is a cam  $g$ , having a downwardly and outwardly directed arm  $g^2$ , and at a predetermined distance below the pivotal support of  
65 the cam  $g$  and rearwardly thereof is a stud  $h$ , on which rests the dead end of a spring-arm  $k$ , which is preferably curved upwardly at the middle thereof, as shown at  $k^2$ , and said spring-arm is provided at its opposite end with a  
70 bearing  $k^3$ , which in practice rests on the tube  $k^4$  of the machine, in which the leather-covered roller revolves. The dead end of the spring-arm  $k$  rests on the stud  $h$ , and the cam  $g$  is  
75 operated in practice so as to apply pressure to the spring-arm  $k$ , and this operation is performed by means of the arm  $g^2$  of said cam.

The bearing  $k^3$  at the end of the spring-arm  $k$  may be made of any desired material and is preferably made of material which will not  
80 wear the tube on which it bears, and my improved spring attachment makes the machine run lighter and smoother and also facilitates the operation of the nippers with which machines of this class are provided. 85

In Fig. 3 of the drawings I have shown some of the main parts of the machine in connection with which my improvement operates, and in this view  $g$  represents the sliver-box, through which the slivers of wool pass, and  
90 at  $m$  and  $m^2$ , respectively, I have shown the bottom and top rollers through which slivers of wool pass after leaving the sliver-box. The main cylinder of the comber is also shown at  $m^3$ , and mounted on the lifter-shaft  $b$  is the  
95 lever  $m^4$ , which operates to raise and lower the leather-covered detaching-roller  $k^4$ , and at  $n$  and  $n^2$  are shown the top and bottom detaching-rollers employed in machines of this class. 100

It will be understood that the attachment which is connected with the rocking or lifter shaft of the machine, which, in machines of this class as usually constructed, also oper-



ates the roller and weights hereinbefore referred to, and rocks with the shaft thus giving it a motion to correspond with the motion of the roller, thus making it more positive in its action.

Another advantage of my improvement consists in the fact that when the weight is put on the roller by my spring attachment and cam it is equal to a dead-weight and does not vary except in one place, and that is when the leather roller is down on the segment of the cylinder of the comber. As the leather roller strikes the segment to bring the cotton through the levers that lift the roller and weights, as these machines are usually constructed, fall a trifle lower and the shaft travels a little farther than the roller, the roller having stopped, and the shaft rocking a little farther takes the spring attachment with it, and the bearing  $k^3$  at the end of the spring-arm  $k$  being held by the roller expands the spring-arm a little more, thus putting on a little extra weight, which makes the roller pick up the fibers of cotton better and bring them through the front of the machine, thus making a great saving in waste. My improved spring-weighting attachment also does away with the usual cast-iron detaching hooks, chains, links, weights, chain-pulleys, and chain-pulley shaft and makes it easier to keep the machine in working order.

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A spring weighting attachment for cotton-combing machines, provided with the usual detaching-rollers and rocking or lifting shafts, comprising a support or lever adapted to be secured to a rocking or lifting shaft, an upwardly-directed arm or bracket connected with said support or lever, a cam connected with said arm or bracket, a spring-arm one

end of which has a bearing below said cam and the opposite end of which is adapted to bear on a detaching-roller of the machine, substantially as shown and described.

2. A spring weighting attachment for cotton-combing machines, provided with the usual detaching-rollers and rocking or lifting shafts, comprising a support or lever adapted to be secured to the rocking or lifting shaft, an upwardly-directed bracket or support connected with said support or lever, a cam connected with said bracket or support, and a spring-arm provided with a bearing beneath said cam, said spring-arm being curved upwardly so as to be operated by said cam, and being also provided at the end thereof opposite said cam with a bearing, which is adapted to rest on the tube of a detaching-roller of the machine, substantially as shown and described.

3. The combination with a cotton-combing machine provided with the usual rocking or lifting shaft, and the usual detaching-roller of a spring weighting attachment comprising a support or lever secured to the rocking or lifting shaft, an upwardly-directed arm or bracket connected with said support or lever, a cam connected with said support or bracket, and a spring-arm, one end of which has a bearing below said cam, and the opposite end of which is adapted to bear on the detaching-roller of the machine, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 18th day of September, 1900.

HARRY TUNSTALL.

Witnesses:

HENRY HOLLAND,  
WILLIAM HARGREAVES.