

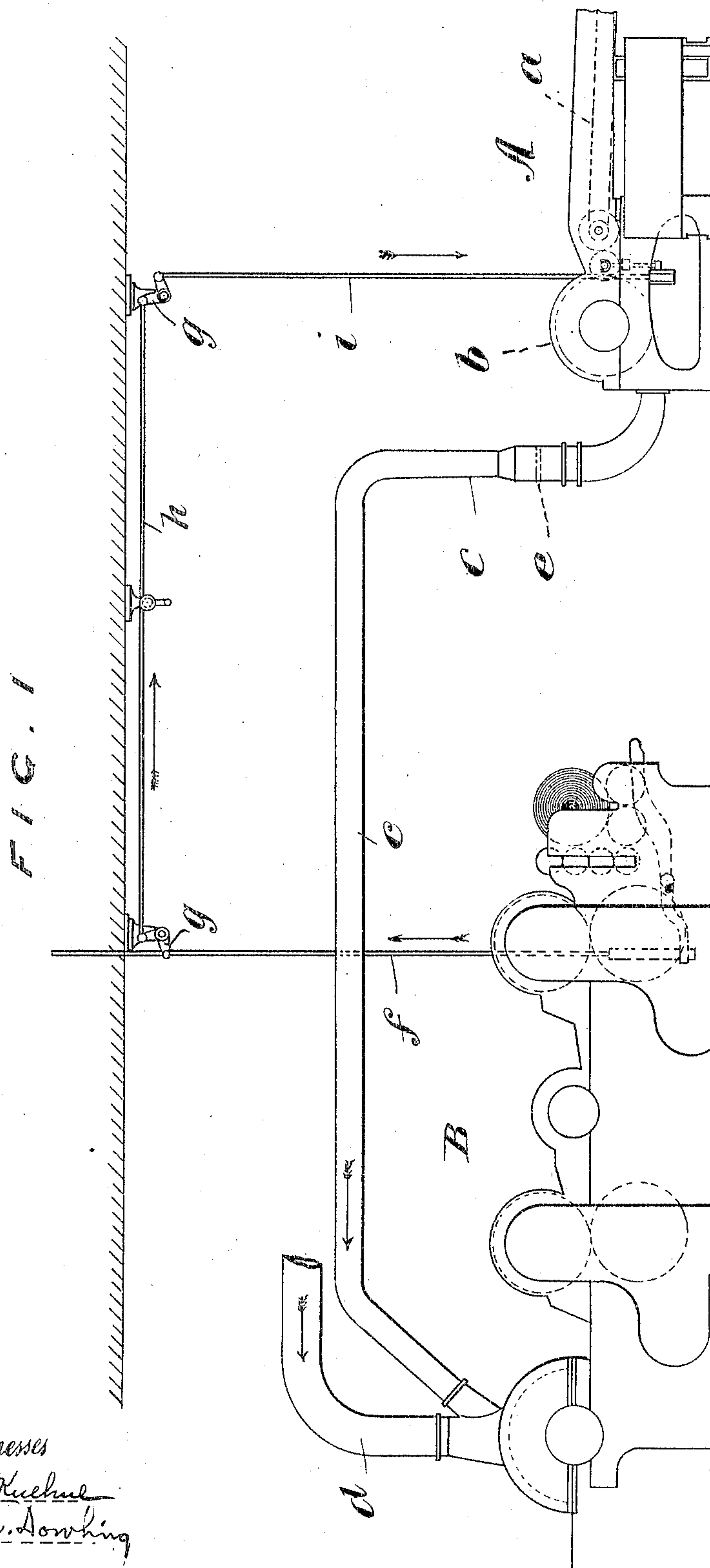
No. 789,373.

PATENTED MAY 9, 1905.

T. R. MARSDEN.
APPARATUS FOR FEEDING COTTON OPENERS.

APPLICATION FILED NOV. 29. 1902.

3 SHEETS—SHEET 1.



Witnesses
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J. M. Downing

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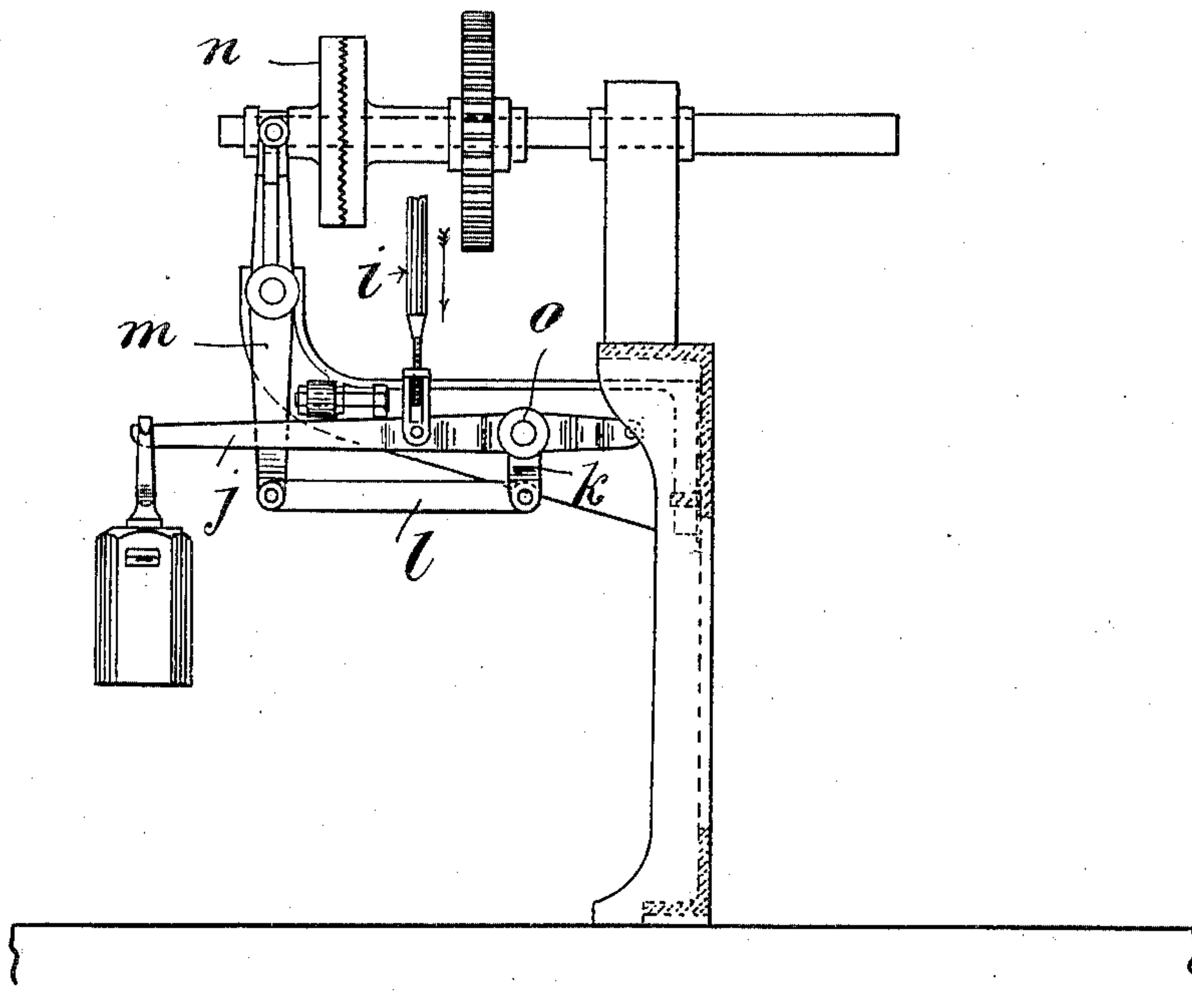
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3 SHEETS—SHEET 2.

FIG. 2.



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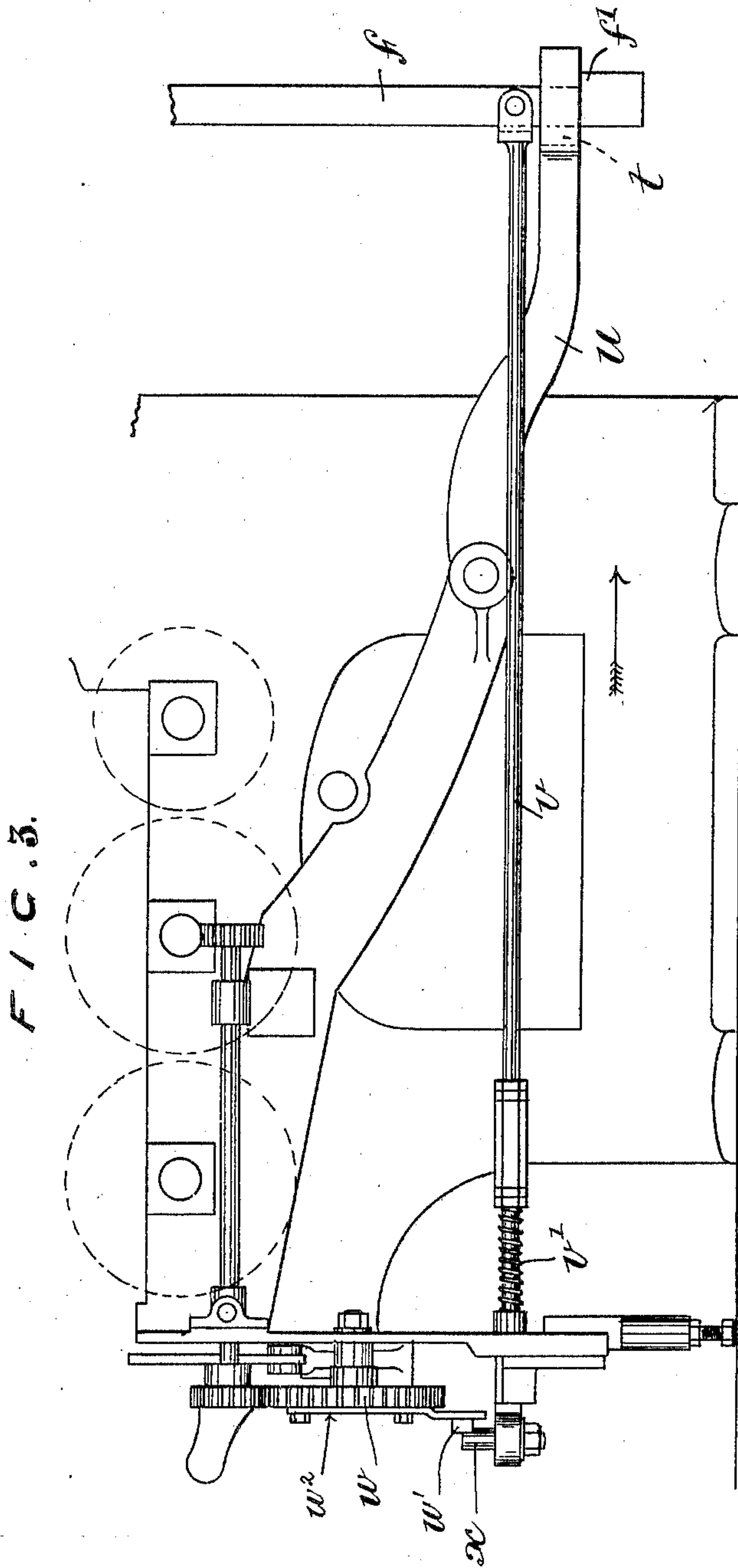
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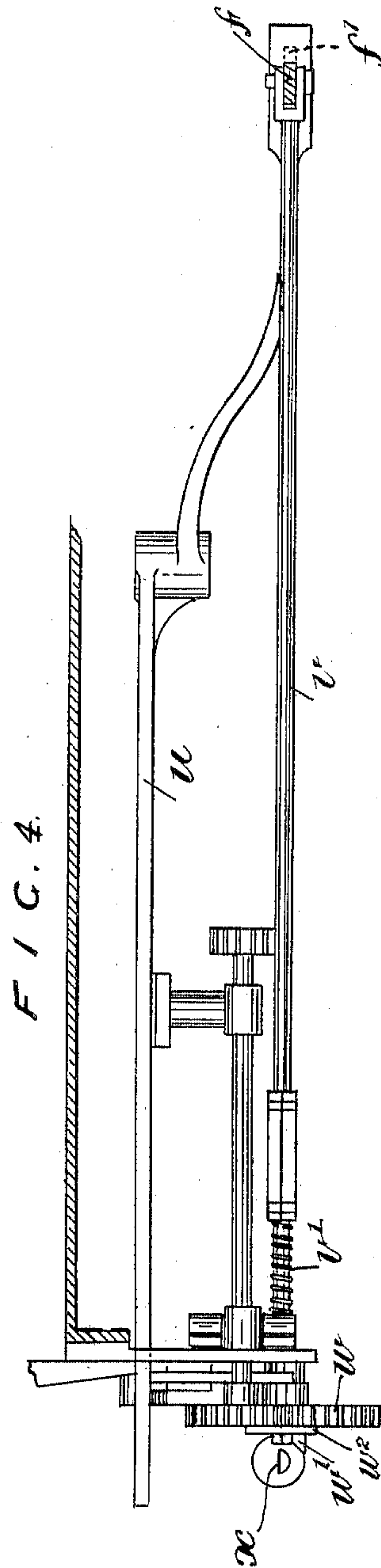
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

THOMAS RODGERSON MARSDEN, OF OLDHAM, ENGLAND.

APPARATUS FOR FEEDING COTTON-OPENERS.

SPECIFICATION forming part of Letters Patent No. 789,373, dated May 9, 1905.

Application filed November 29, 1902. Serial No. 133,205.

To all whom it may concern:

Be it known that I, THOMAS RODGERSON MARSDEN, a subject of the King of Great Britain and Ireland, manager in the employ of
 5 Messieurs Platt Bros. and Company, Limited, machinists, of Oldham, in the county of Lancaster, England, and a resident of Bank View, Derker, Oldham, aforesaid, have invented certain new and useful Improvements in Ap-
 10 paratus for Feeding Cotton-Openers, (for which I have made application for patent in Great Britain, No. 16,364, dated July 24, 1902,) of which the following is a specification.

15 This invention relates to improvements in apparatus for incorporating or mixing cotton-waste and other fibrous material with the mass of fiber passing to or through "opening" or other preparatory machinery.

20 Considerable difficulty has always been experienced in the "mixing" and "blowing" rooms of cotton-mills in obtaining a thorough mixing or incorporation of the worked-up waste from the carding-engines and the like.

25 This difficulty has become accentuated since the introduction and use of the hopper bale-breakers and hopper-feeder, and especially in cases where the use of the mixing system has been abandoned.

30 In present practice two methods are generally used to mix the cotton-waste. In one case, where the system of mixing is employed, the waste is made up into a lap on a scutcher, and the lap of waste is put on the mixings,
 35 broken up, and thrown into the hopper-feeder along with the cotton. Where there are no mixings, the waste fiber is put through the hopper bale-breaker by the attendant and there mixed with the mass of cotton under
 40 treatment. In this case the feeding of the waste fiber to the hopper bale-breaker is left entirely to the discretion of the operator, and it frequently happens that he will feed at one time considerably too much bulk of fiber to
 45 compensate for previous neglect.

In both the above cases the great drawback to success lies in the fact that the waste fiber is introduced more or less in the mass. It is found that this mass of waste fiber instead of
 50 being broken up and intimately incorporated

with the main body of fiber remains isolated and unmixed and retains this condition throughout all the process of preparing and spinning and causes defective and weak places in the yarn.

55 In carrying out my invention in connection with waste I treat the waste fiber so as to reduce it to an open and fleecy condition and incorporate it with the main body of fiber while in such a favorable condition for being
 60 intimately mixed therewith.

The method of carrying my invention into effect is shown in the accompanying drawings, in which—

Figure 1 is an elevation, and Fig. 2 an en- 65
 larged detail view. Figs. 3 and 4 are detail views of another part of the apparatus.

As shown in the drawings, I employ as a feeding-machine a roving waste-opener A and feed the waste thereto on a creeper-lattice *a*.
 70 The cylinder *b* of the roving waste-opener reduces the waste to a very open and fleecy condition. In conjunction with the roving waste-opener I employ a trunk or tube *c*, connected with the exhaust-tube *d* of an exhaust-opener
 75 lap-machine B. The waste when reduced to an open and fleecy condition is drawn into the exhaust-opener B and there intimately mixed and incorporated with the main mass of fiber passing through the machine. The
 80 tube *c* is provided with a stop-valve *e* of any desired form.

The machine A for feeding the waste fiber is preferably provided with a suitable stop-
 85 ping and starting arrangement, which is shown in Fig. 2, and is connected with the opener B and lattice-feeder, so as to start and stop simultaneously therewith. This is effected as follows: In Figs. 1, 3, and 4, *f* is the rod
 90 which is actuated on the completion of a lap to stop the feeding arrangements of the exhaust-opener lap B. I arrange that this rod, through the medium of the bell-crank levers
 95 *g g* and connecting-rod *h*, shall lower a pendant rod *i*. Turning now to Fig. 2, this rod *i* is connected to the pivoted weighted lever *j*. When the lever *j* is turned on its fulcrum *o*, the finger *k* by means of a link vibrates the lever *m* and disengages the clutch half *n*,
 100 by means of which the feed-rollers of the

roving waste-opener is driven. On the rod f is formed a ledge f' , which is slipped through a slot t in the lever u . To the rod f is connected a rod v , a spring v' on which
 5 thrusts the rod v and rod f in the direction of the arrow, so as to thrust the ledge away from the slot t to form an abutment to prevent the withdrawal of the rod f from the slot. As before stated, the rod f is connect-
 10 ed by bell-cranks and a rod h to the rod i , the rod i to a loaded lever j , and when this lever falls the clutch mechanism is put out of gear; but so long as the lap is in course of formation this loaded lever j cannot fall. A spur-
 15 wheel w is rotated one revolution for each formation of lap, and on the completion of the lap an angular tooth w' on a bracket w^2 , secured to the spur-wheel, comes into contact with a pin x , carried on the end of the rod v ,
 20 and withdraws the rod v against the action of the spring v' . The movement of the rod v slides the rod f sufficiently to remove the abutment or ledge f' , and the rod i by reason of the load on the lever j pulls the rod f up-
 25 ward and causes the stoppage of the roving waste-opener. The movement of the rod f , which passes through the ceiling to the feeding arrangements for the exhaust-opener lap-machine, is also utilized to stop and start such
 30 feed arrangements.

The feed-pipe c of the roving waste-opener may be connected to the exhaust-pipe d of the

lap-opener at any part of the circuit. Any suitable form of opener or machine—such as, for instance, a Crighton opener lap-machine— 35 may be employed in lieu of the “exhaust-opener.”

The actual mechanism employed does not form an essential part of my invention and may be varied by the use of various types of 40 waste and exhaust openers.

Although I have particularly referred in my description to the treatment of cotton-waste, I do not confine myself to that alone, as my invention is applicable for mixing cot- 45 ton or other fibers of different classes or for mixing fibers of different colors. My invention is also applicable for mixing “spots” or colored fibers with the main mass of cotton or other fiber under treatment intended for the 50 production of spotted or variegated yarns.

I declare that what I claim is—

In combination for the indicated purposes, a roving waste-opener A, an opener lap-machine, a trunk connecting the waste-opener 55 with the lap-machine and a stopping and starting connection between the said waste-opener and opener lap-machine.

In witness whereof I have hereunto set my hand in presence of two witnesses.

THOMAS RODGERSON MARSDEN.

Witnesses:

JOSHUA ENTWISLE,
 ALFRED YATES.