

(No Model.)

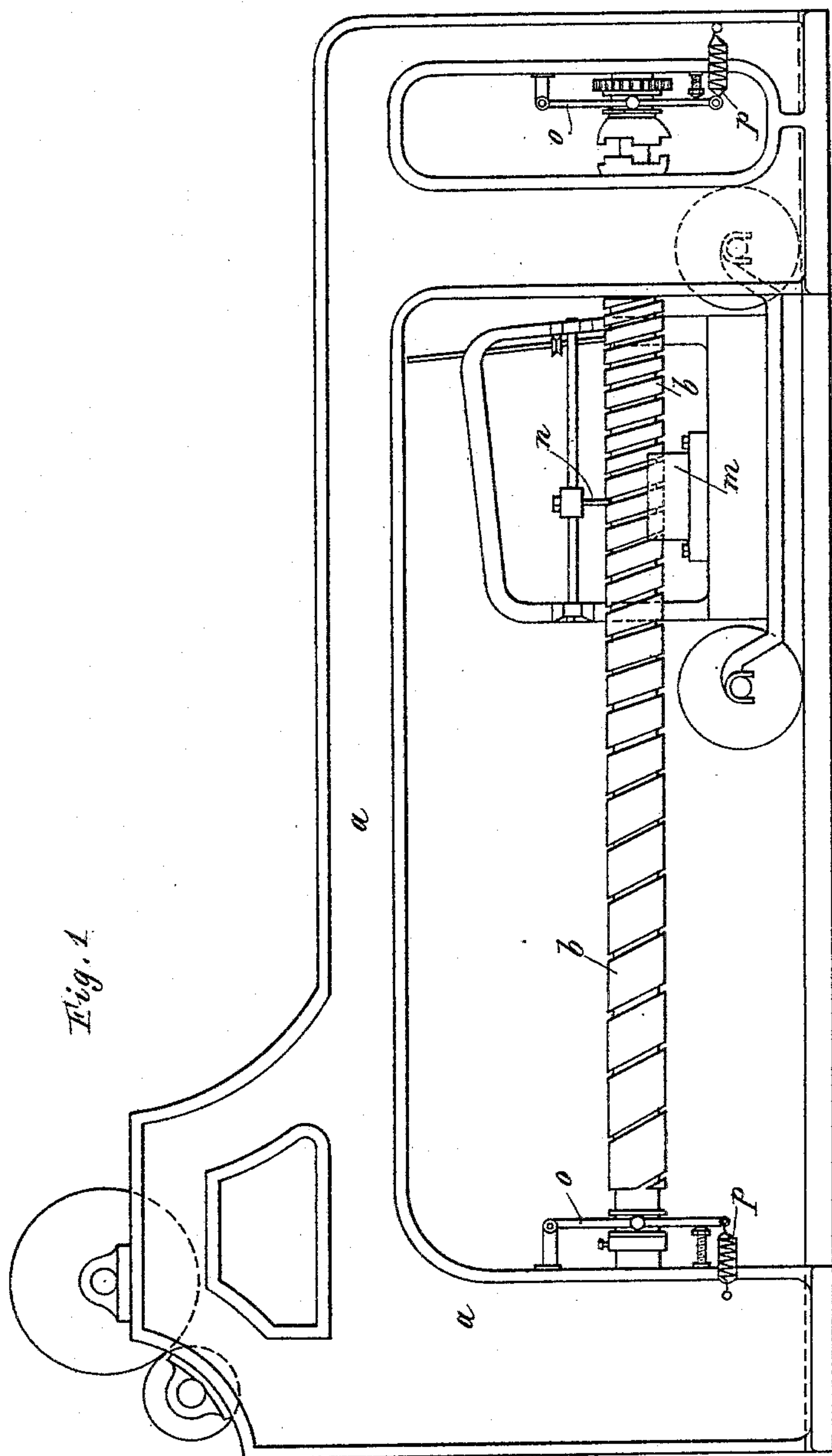
3 Sheets—Sheet 1.

J. A. AUBRY.

DRIVING MECHANISM FOR SPINNING MULES.

No. 597,234.

Patented Jan. 11, 1898.



Witnesses
Dr. V. Bidgood
J. Green

Inventor
Joseph Alexander Aubry
By *John A. [Signature]*
Attys.

(No Model.)

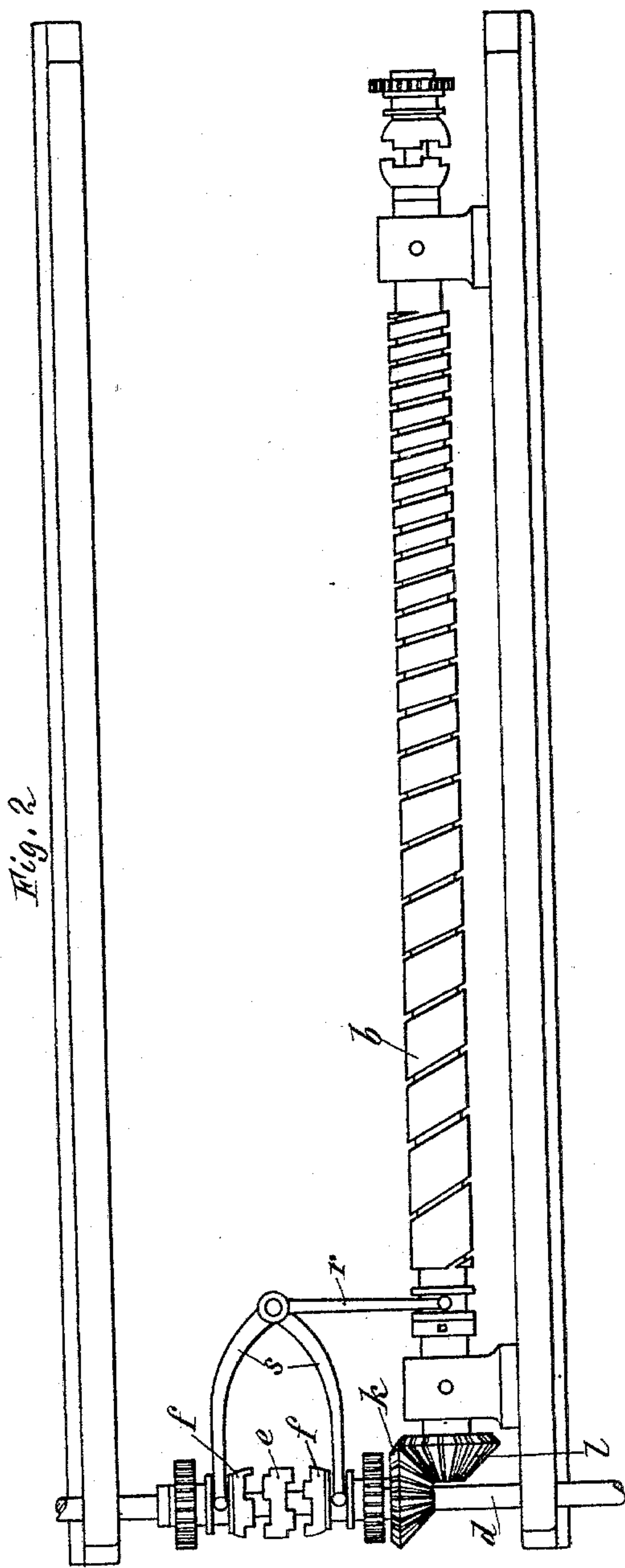
3 Sheets—Sheet 2.

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No. 597,234.

Patented Jan. 11, 1898.



Witnesses
M. V. Bidgood
J. Green

Inventor
Joseph Alexander Aubry
By Frederick A. Bidgood Attys

(No Model.)

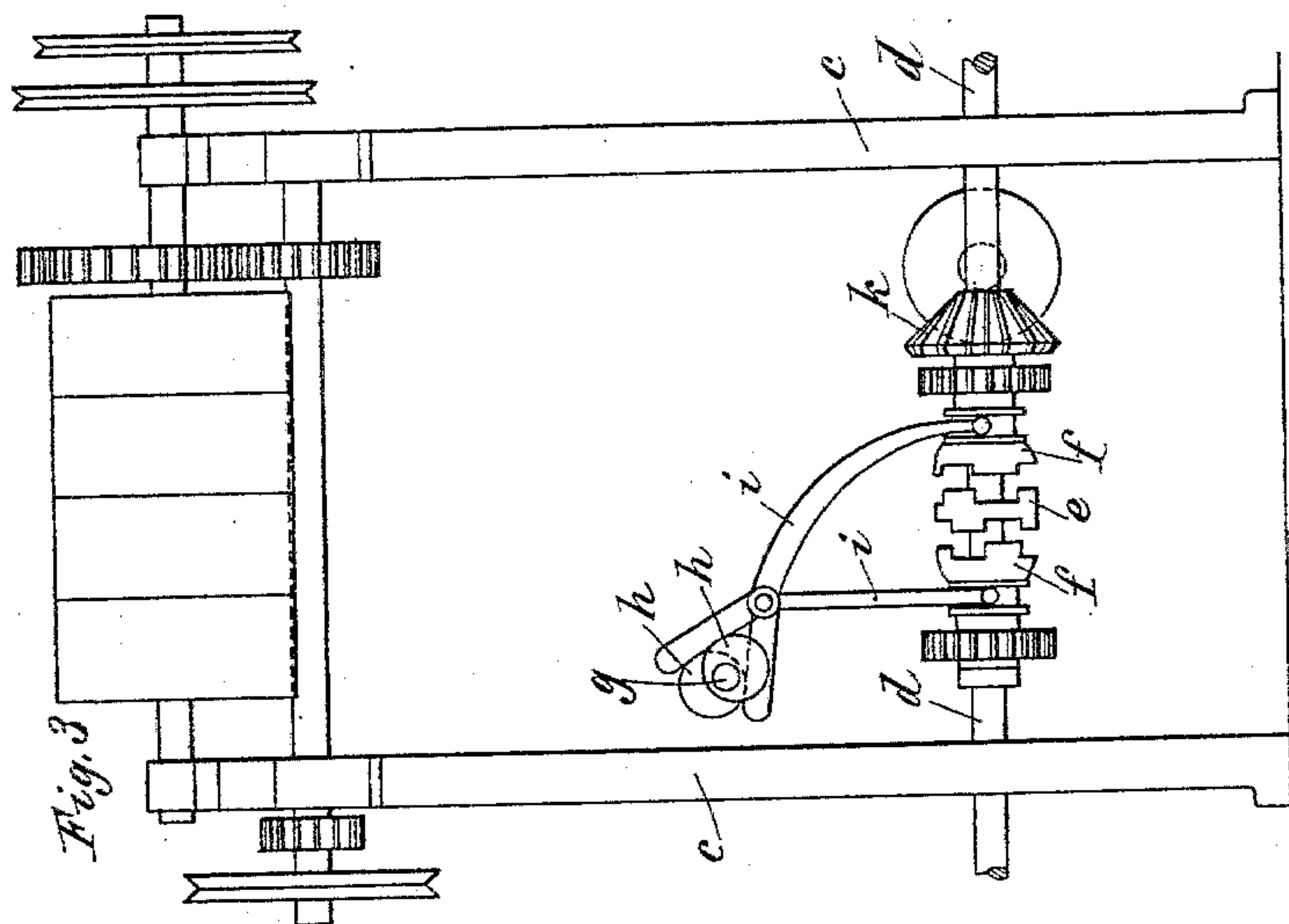
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J. A. AUBRY.

DRIVING MECHANISM FOR SPINNING MULES.

No. 597,234.

Patented Jan. 11, 1898.



Witnesses:
Mr. V. Bidgood
J. Gruen

Inventor.
Joseph Alexander Aubry
By *Wm. H. B. B. B.*
Attys.

UNITED STATES PATENT OFFICE.

JOSEPH ALEXANDER AUBRY, OF BATTENBERG, GERMANY.

DRIVING MECHANISM FOR SPINNING-MULES.

SPECIFICATION forming part of Letters Patent No. 597,234, dated January 11, 1898.

Application filed October 3, 1896. Serial No. 607,725. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ALEXANDER AUBRY, a subject of the German Emperor, residing at Battenberg, in the German Empire, have invented new and useful Improvements in Driving Mechanism for Spinning-Mules, of which the following is a specification, reference being had therein to the accompanying drawings.

Heretofore the carriages of self-acting spinning-mules have been actuated by means of cotton cords or ropes, and by reason of the yielding of the latter the working or speed of the machine has been rendered extremely unsteady. This unsteadiness of working was necessarily the more injurious because with the driving mechanism of the spinning-carriages there is a continuous variation of the speed. The result was many breakages of threads, entailing a badly-spun thread, and, further, the yarn produced was not uniform, but was to a very large extent disfigured by projecting portions and loops or knots.

Now, with the object of obviating the aforesaid and also other disadvantages produced by the use of the mechanism heretofore employed for actuating the carriages of self-acting spinning-mules, a self-acting spinning-mule carriage is driven according to the present invention without the intervention of a rope or cord by means of a spindle which is suitably screw-threaded to correspond with the driving velocity required.

The accompanying drawings illustrate the subject of the present invention.

Figure 1 is a longitudinal elevation of part of a self-acting spinning-mule, Fig. 2 being a plan thereof, and Fig. 3 an end elevation of the machine.

In the framing *a* of the self-acting spinning-mule there is mounted in bearings a spindle *b*, which is formed with a screw-thread corresponding to the movement of the carriage of the machine. In the side frames *c* there is further mounted a shaft *d*, which is arranged at right angles to the spindle *b*, and which is provided with a fixed clutch *e*. There is also mounted on the shaft *d* two laterally-movable clutches *f*, which are actuated each independently of the other by the shaft *g*. This is effected by the eccentrics *h* by

means of the levers *i*. By this means the shaft *d* revolves at certain intervals in one or the other direction, and this rotation is transmitted to the spindle *b* by means of the bevel-wheels *k* *l*, of which *l* revolves with but can be shifted along the spindle. The spindle *d* is supported by a bearing *m* on the carriage, and in its screw-thread there engages a tappet *n*, secured to the carriage of the self-acting spinning-mule. It is now clear that when the spindle *b* rotates in one or the other direction the carriage of the self-acting spinning-mule is caused by the action of the screw-threads to move forward or backward with a greater or less velocity. Thus by making the screw-thread in spindle *b* of varying or decreasing pitch from its inner to its outer end a motion is imparted to the carriage comparatively rapid at first, but gradually slowing up, so as to increase the twist in a well-known manner.

For the purpose of preventing breakages of the mechanism in the case of any obstacle the spindle *b* is suspended so as to be longitudinally movable by means of levers *o* and springs *p*. If any obstacle should intervene or be met with, the shaft will move or be pushed in the opposite direction to that of the movement of the carriage, and thereby, by means of the levers *r* and *s*, throw the respective clutch out of gear, and thus the spindle will be stopped.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. Mechanism for driving the carriage of a self-acting spinning-mule comprising one or more screw-spindles *b* which are cut with screw-threads with varying pitch to correspond with the different speeds of the carriage and which are caused by a clutch *e*, *f*, that is shifted or reversed at regular intervals, to rotate alternately in the one and in the other direction and thus to move the carriage directly and correspondingly to and fro, substantially as described.

2. A form of construction of the driving mechanism for the carriage of self-acting spinning-mules in which the adjustably-arranged screw-spindle *b* is capable of yielding in the direction of its length, so as to throw the driving-clutch *e* *f* that happens to be op-

erative at the time, out of gear for the purpose of obviating breakages of the mechanism, and accidents, substantially as described.

3. In a self-acting spinning-mule, the combination with the driving mechanism and the carriage, of a carriage-actuating spindle, capable of but yieldingly restrained against longitudinal movement, a clutch for connecting said spindle with the driving mechanism, and
10 a device engaging with said spindle and clutch for disengaging the clutch on endwise movement of the spindle.

4. In a self-acting spinning-mule, the combination with the driving mechanism and

carriage, of a longitudinally-movable screw- 15 spindle engaging with said carriage, a spring device pressing endwise on said spindle, a clutch connecting said spindle and driving mechanism, and a lever engaging with the spindle and clutch, substantially as and for 20 the purpose set forth.

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

JOSEPH ALEXANDER AUBRY.

Witnesses:

ADOLF ALTMANN,
DEAN B. MASON.