

F. WATZLAWIK.
SPINNING MACHINE.
APPLICATION FILED SEPT. 6, 1911.

1,048,920.

Patented Dec. 31, 1912.

2 SHEETS-SHEET 1.

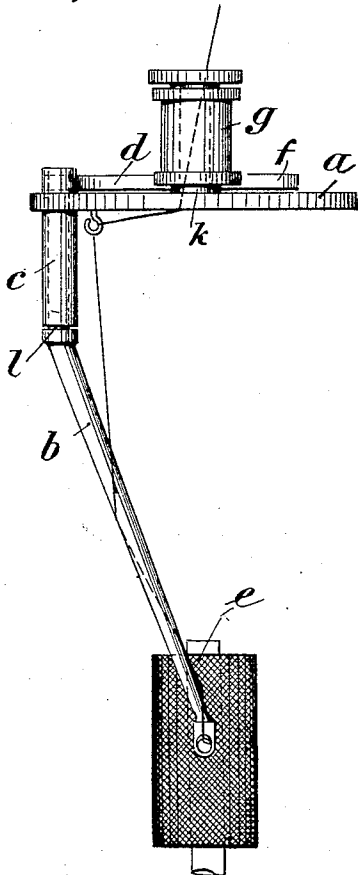


Fig. 1.

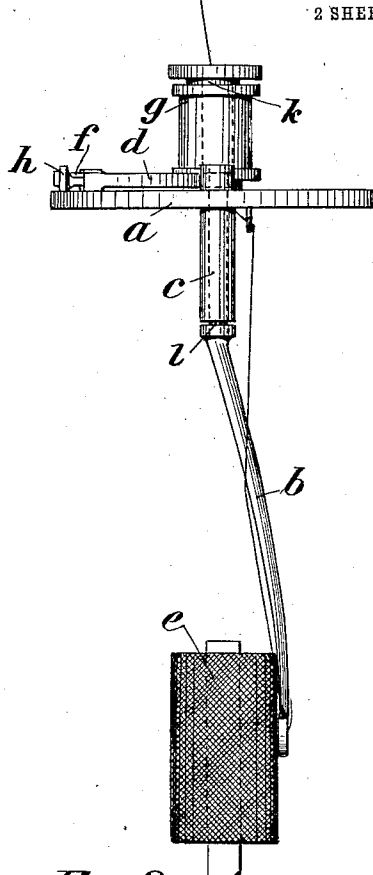


Fig. 2.

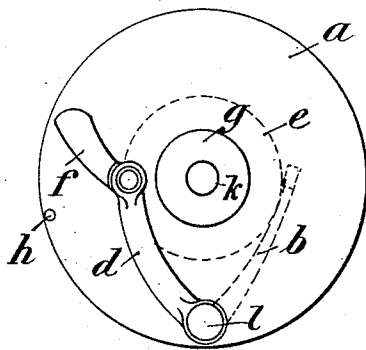


Fig. 4.

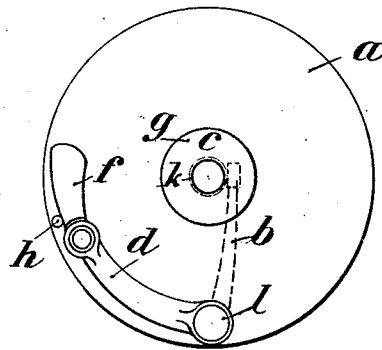


Fig. 3.

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Fig. 5.

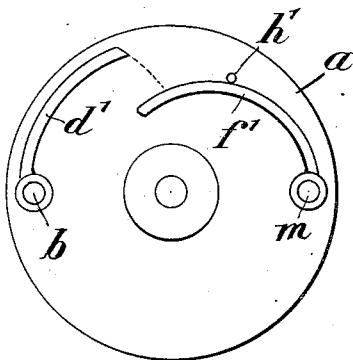
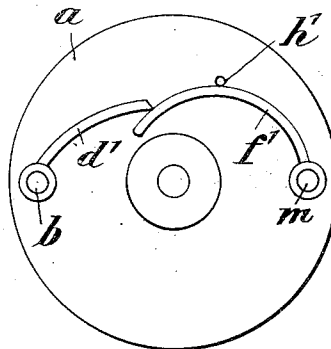


Fig. 6.



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UNITED STATES PATENT OFFICE.

FRITZ WATZLAWIK, OF SCHÖNEBERG, NEAR BERLIN, GERMANY.

SPINNING-MACHINE.

1,048,920.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Application filed September 6, 1911. Serial No. 647,904.

To all whom it may concern:

Be it known that I, FRITZ WATZLAWIK, engineer, a subject of the Austro-Hungarian Emperor, residing at Helmstrasse, Schöneberg, near Berlin, Germany, have invented new and useful Improvements in Spinning-Machines, of which the following is a specification.

This invention relates to fliers for spinning machines and particularly to the presser fingers mounted thereon for laying the roving on the bobbin. To this end the invention comprises a presser finger swinging outwardly about the vertical axis and so subjected to the influence of a weight rotating in common with the presser finger about the bobbin spindle that the centrifugal force developed by the weight on one side of its axis and the centrifugal force of the presser finger on the other side of the same axis work in opposition to each other.

In the present invention as the cop gradually increases in size, the presser finger lying in contact therewith is moved away from the spindle axis, which movement brings the weight nearer to said axis. In order to provide the necessary equalization or compensation for this movement of the presser finger, a supplemental weight is provided which is brought into operation with increasing effectiveness as the cop grows in size. Two ways of carrying out this invention are shown and described, in one of which the supplemental or auxiliary weight is pivotally connected to the principal weight and as the cop augments in size is made increasingly effective. The other type shows the supplemental weight mounted on a pivot fixed on the flier, and at a proper time it is moved into operation by the principal weight engaging therewith and swinging it on its pivot.

In the accompanying drawing forming a part of this specification and in which similar letters refer to corresponding parts throughout the several views, Figure 1 is a side elevation of one embodiment of the invention. Fig. 2 is a front elevation of the same. Figs. 3 and 4 are plan views showing the presser finger and its counterbalance weights in two different positions. Figs. 5 and 6 are plan views of a modified form of the invention, the parts being represented in different positions.

Instead of providing, as usual, a flier with two diametrically opposite downwardly

depending arms, a disk *a* or other equivalent means may be employed as a support for the presser finger *b*. The disk *a* is here shown as centrally mounted on one end of a hollow stud *k* rotatably carried in a bearing *g*, from the opposite side of which disk near its periphery there projects a tubular bearing *c*, parallel to the stud *k*, in which bearing turns freely a shaft *l* having affixed on its lower end the presser finger *b*. The shaft *l* projects above the disk *a* and rigidly attached to the projecting end thereof is a counterweight *d* preferably made in the form of a bar, which weight under the influence of centrifugal force acting upon it when the disk *a* rotates, tends to move the presser finger *b* toward the spindle *e*.

Pivoted on the outer end of the weight *d* is a supplemental or auxiliary weight *f* which when the presser finger *b* is moved away from the spindle axis through the gradual increase in size of the cop, and subsequently bringing the principal weight *d* nearer the axis as in Fig. 4, swings outwardly under the influence of centrifugal force and acts upon the presser finger to cause it to bear with greater pressure against the side of the cop. In this way it is possible to move the presser finger *b* toward the cop with any desired force by using a more or less heavy supplemental weight *f*.

When beginning the formation of the cop, the weights *d* and *f* are in the positions shown in Fig. 3. The supplemental weight *f* abuts against the stop *h* of the disk *a*, and lies in such position as to form to a certain extent a continuation of the principal weight *d*, but as the cop increases in size the supplemental weight *f* is moved away from the stop *h* and assumes an angular position relative to the principal weight *d* as in Fig. 4.

In the modified type of the invention represented in Figs. 5 and 6, the principal weight *d'* is shown in the form of a curved bar as is also the supplementary or auxiliary weight *f'* which is mounted on a pivot *m* fixed in the disk *a* diametrically opposite the shaft *l* of the presser finger. The supplemental weight projects from its pivot toward and beyond the axis of the disk *a* and is limited in its outward movement by a pin *h*. When starting a cop as in Fig. 5, the weight *d'* lies near the periphery of the disk *a*, its free end spaced over the supplemental weight *f'*, but as the cop aug-

ments in size the principal weight d' is moved nearer the center of the disk a , as in the preferred form of the invention, and at the proper time its free end contacts with the supplemental weight f' and swings the latter on its pivot away from its stop h , bringing said weight f' into operation to perform the same function as the supplemental weight f in the preferred type. The supplemental weight f' being pivotally mounted on the flier independently of the principal weight can be given a greater length than when attached to said weight, and in this respect it will work more efficiently.

What I claim is,—

1. In a spinning machine flier, a presser finger mounted to turn thereon on an axis parallel to the axis of rotation of the flier, a weight carried by said finger acting through centrifugal force to hold the presser finger against the bobbin, and a supplemental weight coöperating with the main weight as the latter is moved toward the axis of rotation of the flier.

2. In a spinning machine flier, a presser finger mounted to turn thereon on an axis parallel to the axis of rotation of the flier, a weight carried by said finger acting through centrifugal force to hold the presser finger against the bobbin, a supplemental weight adapted to coöperate with the main weight as the latter is moved toward the axis of rotation of the flier, and a stop for limiting the movement of the supplemental weight away from said flier axis.

3. In a spinning machine flier, a presser finger mounted to turn thereon on an axis parallel to the axis of rotation of the flier,

a weight carried by said finger acting through centrifugal force to hold the presser finger against the bobbin, and a supplemental weight pivotally connected to the main weight to coöperate therewith as it is moved by the filling bobbin toward the axis of rotation of the flier.

4. In a spinning machine flier, a presser finger mounted to turn thereon on an axis parallel to the axis of rotation of the flier, a weight carried by said finger acting through centrifugal force to hold the presser finger against the bobbin, a supplemental weight pivotally connected to the main weight to coöperate therewith as it is moved by the filling bobbin toward the axis of rotation of the flier, and a stop for limiting the movement of the supplemental weight away from said axis.

5. In a spinning machine flier, a presser finger mounted to turn thereon on an axis parallel to the axis of rotation of the flier, an elongated weight connected at one end to said finger and acting through centrifugal force to hold the presser finger against the bobbin, and a supplemental weight adapted to coöperate with the main weight as the latter is moved by the filling bobbin acting on the presser finger toward the axis of rotation of the flier.

In witness whereof I have hereunto signed my name this twenty-fifth day of August 1911 in the presence of two subscribing witnesses.

FRITZ WATZLAWIK.

Witnesses:

HENRY HASPER,
ARTHUR SCHROEDER.