

No. 709,582.

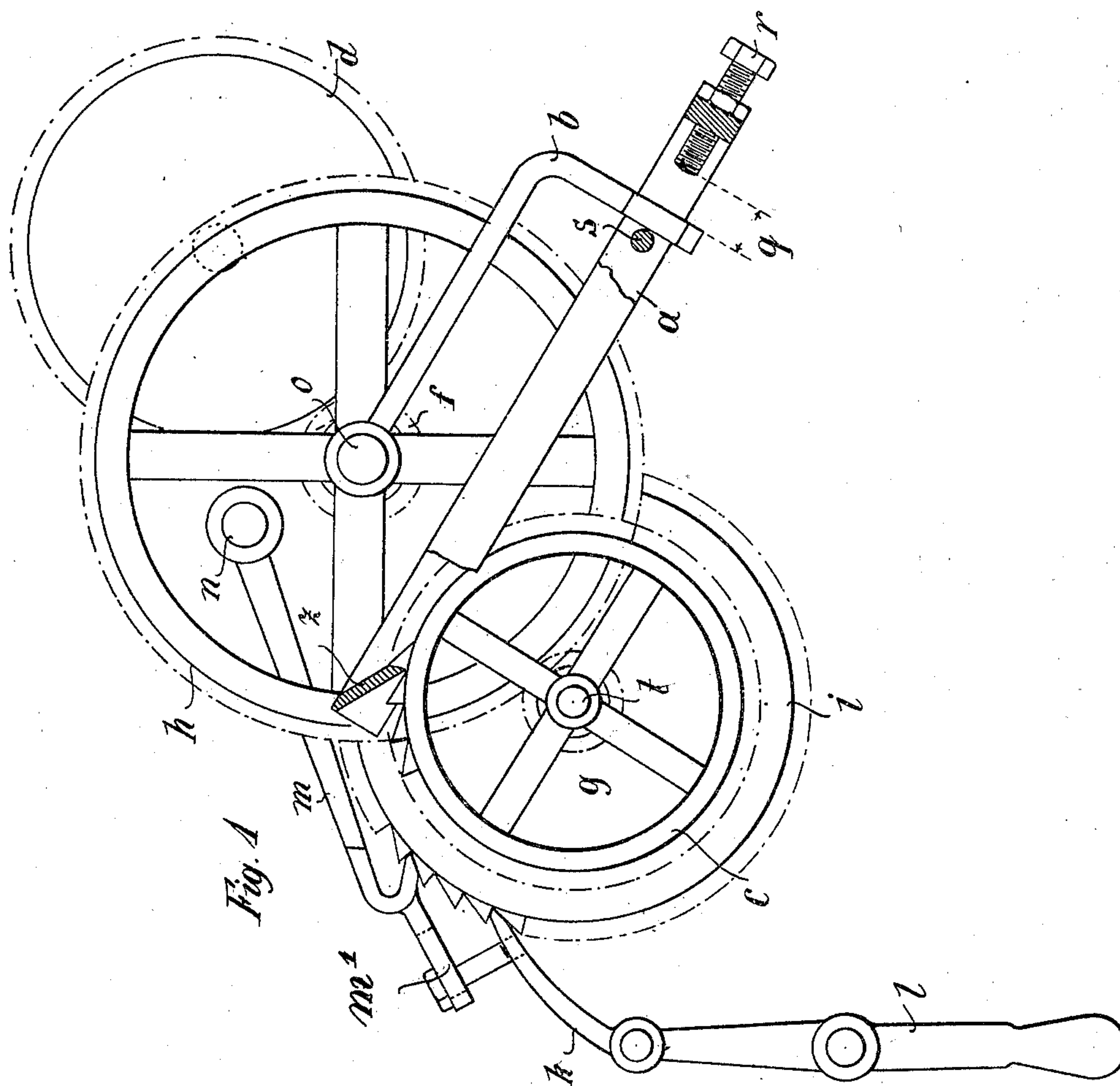
Patented Sept. 23, 1902.

G. SCHMIDT, SR,
TAKE-UP MECHANISM FOR LOOMS.

(Application filed Feb. 28, 1901.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses :

Kellmeyer
Kopie Weiskung

Inventor:

Eustav Schmidt sr

by Eustace W. Hopkins
att'y.

No. 709,582.

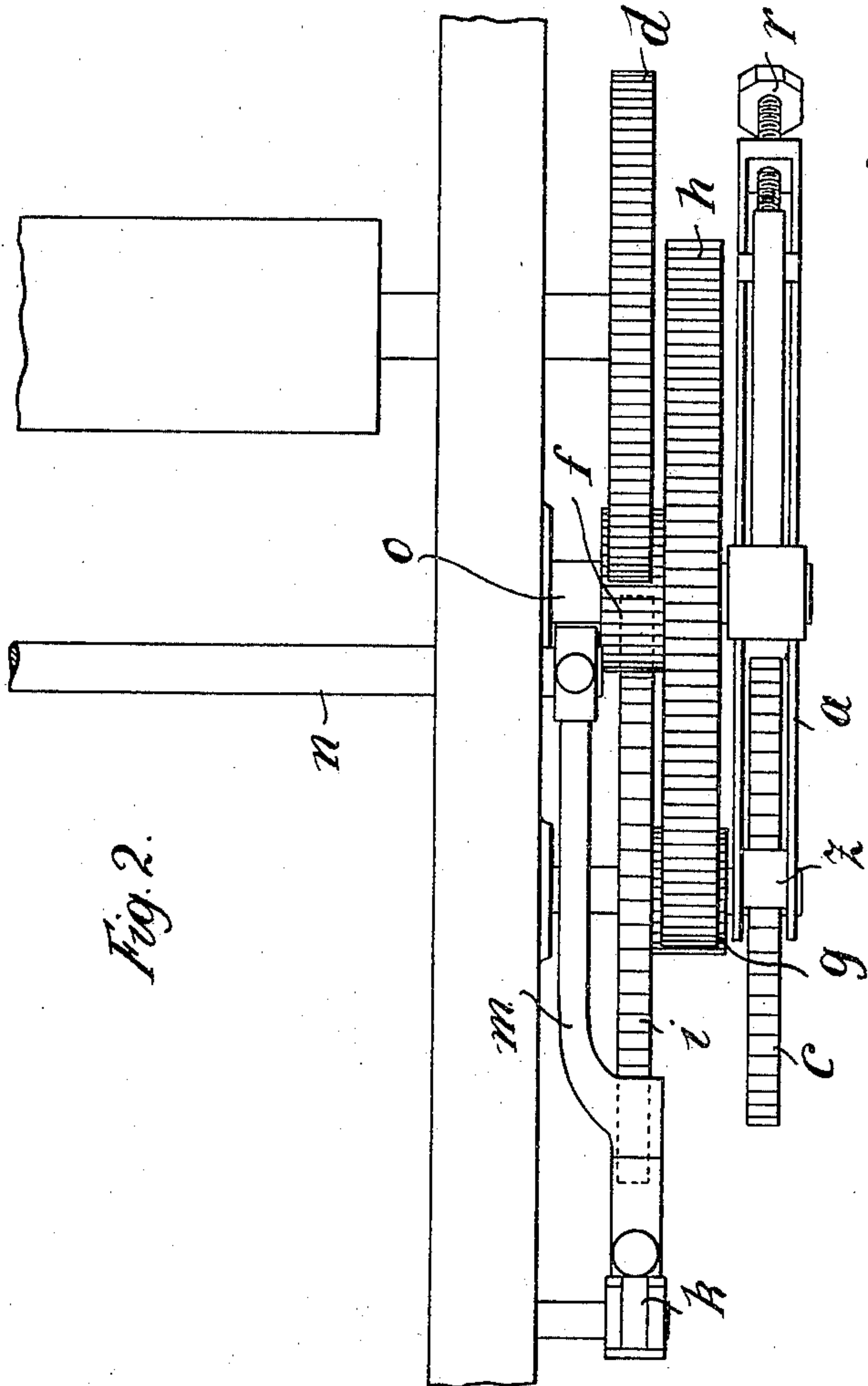
Patented Sept. 23, 1902.

G. SCHMIDT, SR.
TAKE-UP MECHANISM FOR LOOMS.

(Application filed Feb. 28, 1901.)

(No Model.)

3 Sheets—Sheet 2.



Witnesses:

K. Munk

Wm. M. Munk

Inventor:

Gustav Schmidt, Sr.

by Eustace W. Hopkins
att'y.

No. 709,582.

Patented Sept. 23, 1902.

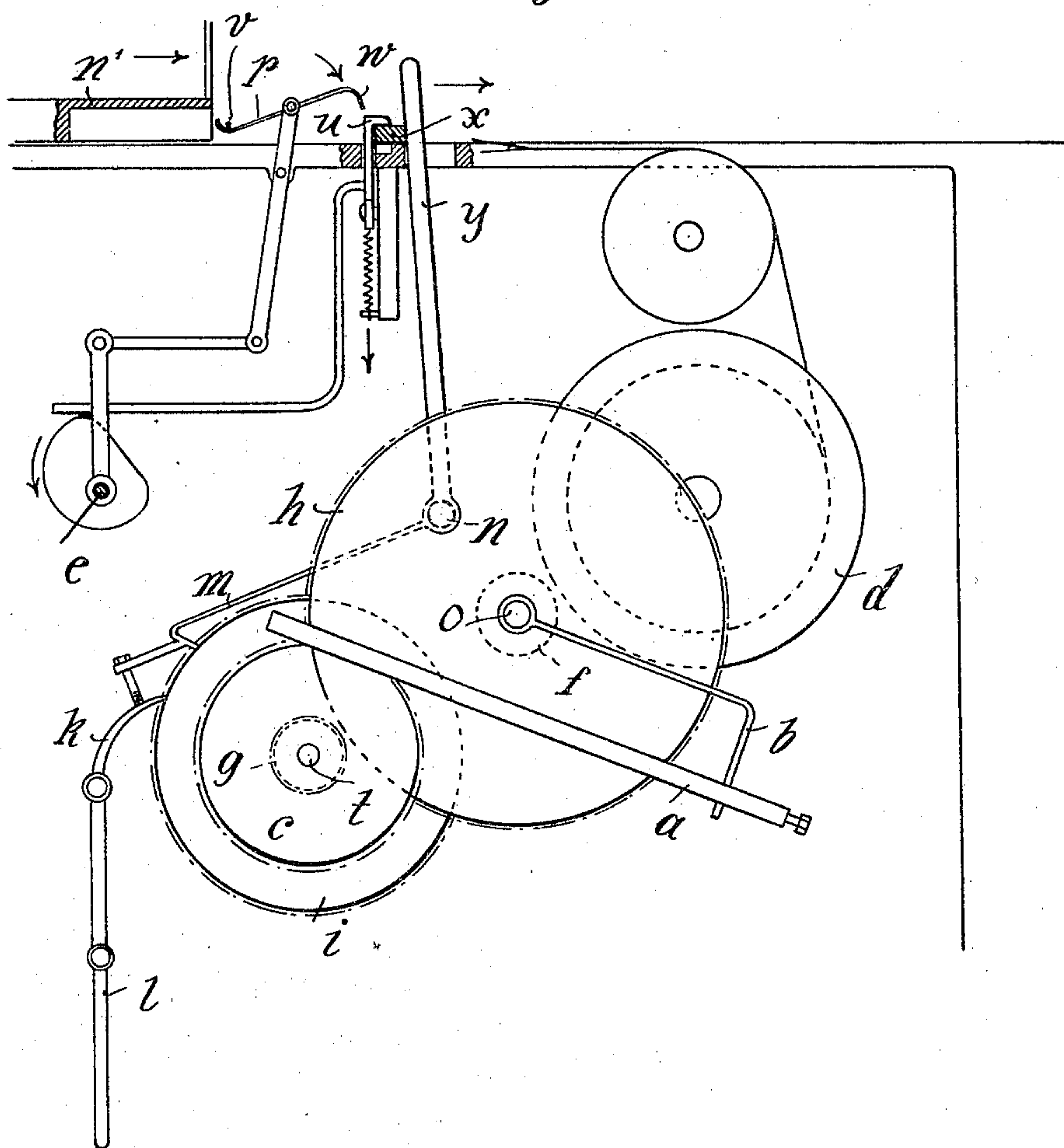
G. SCHMIDT, SR.
TAKE-UP MECHANISM FOR LOOMS.

(Application filed Feb. 28, 1901.)

(No Model.)

3 Sheets—Sheet 3.

Fig. 3.



Witnesses :-

Wm. W. E. E. E.
K. E. E. E.

Inventor:-

Gustav Schmidt sr.

by Eustace W. Hopper
att'y.

UNITED STATES PATENT OFFICE.

GUSTAV SCHMIDT, SR., OF COLMAR, GERMANY.

TAKE-UP MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 709,582, dated September 23, 1902.

Application filed February 28, 1901. Serial No. 49,317. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV SCHMIDT, Sr., a subject of the Emperor of Germany, residing at Colmar, Alsace, Germany, have invented
5 Improvements in Take-Up Mechanisms for Looms, of which the following is a full, clear, and exact description.

The present invention relates to improvements in take-up mechanisms of looms; and
10 it consists of the details of construction hereinafter set forth, and particularly pointed out in the claim.

In order to render the present specification easily intelligible, reference is had to the accompanying drawings, in which similar letters of reference denote similar parts throughout the several views.

Figure 1 is a side elevation of one form of embodying the invention. Fig. 2 is a plan
20 view of the same; and Fig. 3 is an elevation, partly in section, showing such parts of the loom as are necessary for explaining the operation of the invention.

As is well known in connection with looms,
25 the weft-fork operates to throw the loom out of action when one or more of the weft-threads is broken or entangled. The weft-fork mechanism when operating turns a shaft a certain part of a revolution and throws the machine out of gear. After this has taken place
30 the attendant has to release the take-up mechanism by hand, so as to allow the warps to be turned back a certain distance in order to bring the breakage into a position which may be handled from the exterior. In doing this
35 the attendant often soiled the fabric being worked by reason of his hands being oily or unclean; and the object of the present invention is to effect this turning-back movement
40 of the warp automatically to a distance corresponding with the tension of the warp-beam and with the operation of the shuttle.

The shaft *n* is turned to a certain extent when the weft-fork comes into operation to
45 stop the loom. This shaft carries a pawl *m*, which engages in a ratchet-wheel *i*, mounted on a stub-shaft *t*, and is connected, by means of a screw or other connection *m'*, to the detent-pawl *k*, attached to the hand-lever *l*.
50 Rigidly connected to the ratchet-wheel *i* is a second ratchet-wheel *c*, on which rests by gravity the tooth *z*, mounted in the forward

end of a frame *a*, supported in an arm *b*, in which it may slide longitudinally, always resting with its tooth or pawl *z* on the said
55 ratchet-wheel *c*. The arm *b* is supported on the stub-shaft *o*, to which other gears are fixed, as hereinafter set forth. The frame *a* has a cross-pin *s* riveted therein in front of the arm *b* and at the rear thereof is provided
60 with a set-screw *r*, which may be screwed in and out of the cross-piece at the end of the frame, and thus vary the length of the stroke which the said frame is capable of performing in the guide-hole at the end of the arm *b*.
65 The stroke, which may be varied according to circumstances, is indicated by *q*. A pinion *g* is rigidly connected to the ratchet-wheels *i* and *c* on the stub-shaft *t*, the said pinion meshing with a gear *h* of the stub-
70 shaft *o*. A pinion *f* is rigidly connected to the gear *h* and meshes with the gear *d*, mounted on the shaft on which the feed or cloth beam is mounted.

The operation of the device is as follows:
75 Referring to Fig. 3, when a thread *v* breaks the pivotally-supported lever *p* tips on its pivot, the end *w* of the same being heavier than the end underlying the thread, and thus the tail of the said lever *p* is tilted up into
80 the path of movement of the reed *n'*, which as it comes forward contacts with the said tail, shifting the lever-operating mechanism for the cam of the shaft *e* and thereafter pushing the bar *x* from under the nose of the
85 lever *u*, which is normally spring-pressed downward. This lever consequently falls into the depression below the said bar and stops the loom. The shaft *n* is provided with an
90 upwardly-extending arm *y*, fast to the said shaft, and the upper end of the said arm extends into the path of movement of the said bar *x*, so that this bar pushes the arm *y* in the direction of the arrow in Fig. 3 and turns the
95 shaft *n*, and thus the pawls *m* and *k* will be thrown out of engagement with the ratchet-wheel *i*, and at the same time, owing to the pull of the cloth-beam, the tooth *z* will be pulled by the backward turn of the ratchet-wheel *c*, rigidly connected to *i*, until the stroke
100 *q* has been performed, when the end of the set-screw *r* will strike against the arm *b* and retain the ratchet-wheels *c* and *i* at a certain point in the backward movement of the parts,

as may be determined by the adjustment of the set-screw r and the consequent length of the stroke q .

It will be understood by those skilled in the art that the ratchet-wheels c and i rotate in the direction of the hands of a clock and that the pull of the feed or cloth beam is in the opposite direction.

I am aware that the arrangement of the pawls m and k is known, and the present invention is restricted, therefore, to the means for determining the back movement of the parts.

I claim as my invention—

In a loom having a weft-fork mechanism, a ratchet-gearing comprising an actuating-pawl, means for controlling the backward movement of the cloth-beam and means for throw-

ing the said ratchet-gearing out of action when the weft-fork mechanism is operated, the combination of a sliding pawl z mounted between bars a and adapted to rest loosely on one of the ratchet-wheels, a holder-arm b in which the bars of the pawl may slide, a stop s between the said bars at one side of the guide or holder-arm and an adjustable screw r also mounted between the said bars at the opposite side of the holder-arm in the manner and for the purpose substantially as described.

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

GUSTAV SCHMIDT, SENIOR.

Witnesses:

CHRISTIAN WEILBRENNER,
BENJAMIN F. LIEFELD.