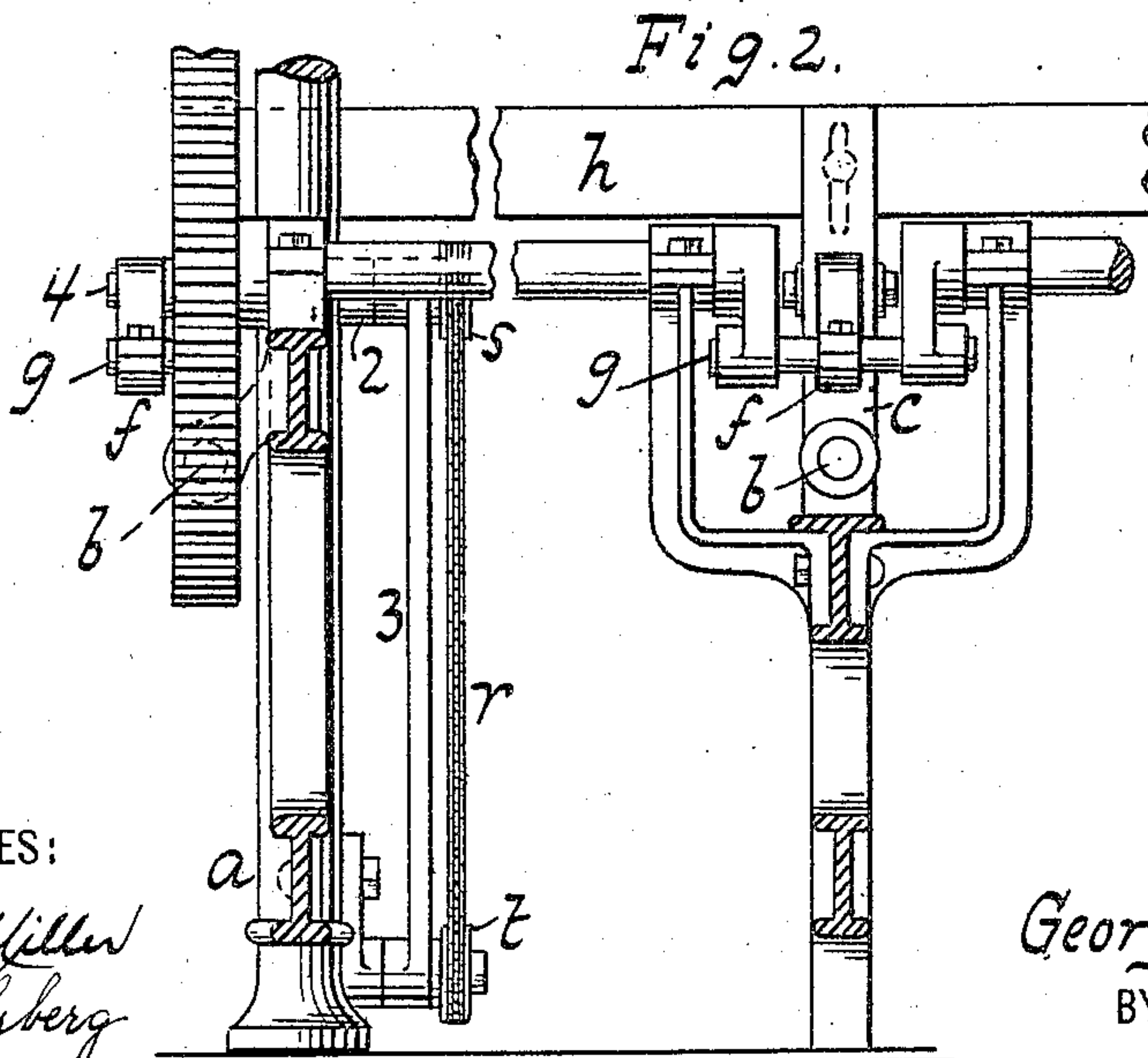
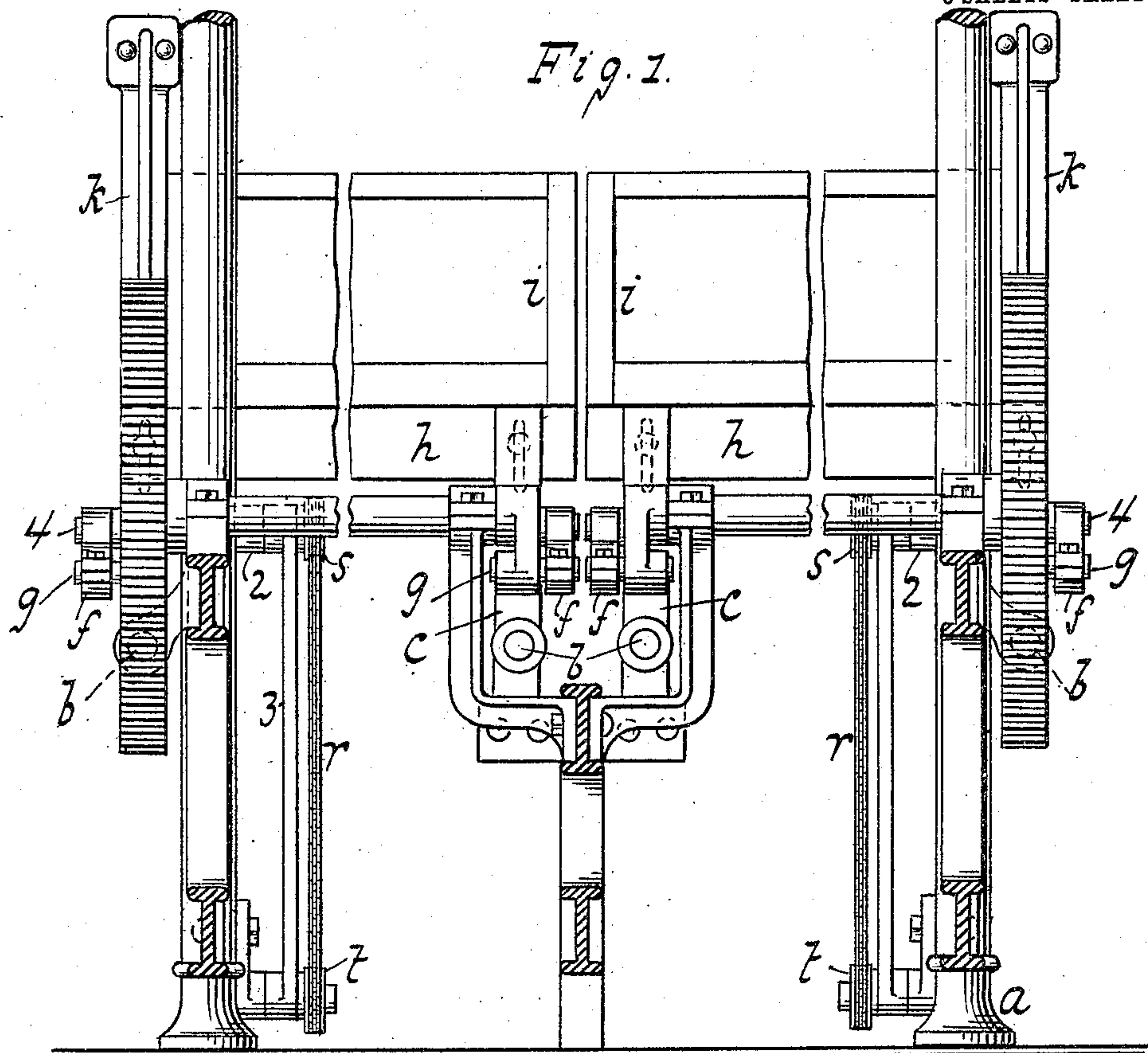


No. 790,903.

PATENTED MAY 30, 1905.

G. W. KUENNETH.
SHUTTLE BOX MOTION.
APPLICATION FILED MAR. 25, 1904.

3 SHEETS—SHEET 1.



WITNESSES:

William Miller
George Hulsberg

INVENTOR

George W. Kuenneth

BY

W. C. Hauff
ATTORNEY

No. 790,903.

PATENTED MAY 30, 1905.

G. W. KUENNETH.
SHUTTLE BOX MOTION.
APPLICATION FILED MAR. 25, 1904.

3 SHEETS—SHEET 2.

Fig. 3.

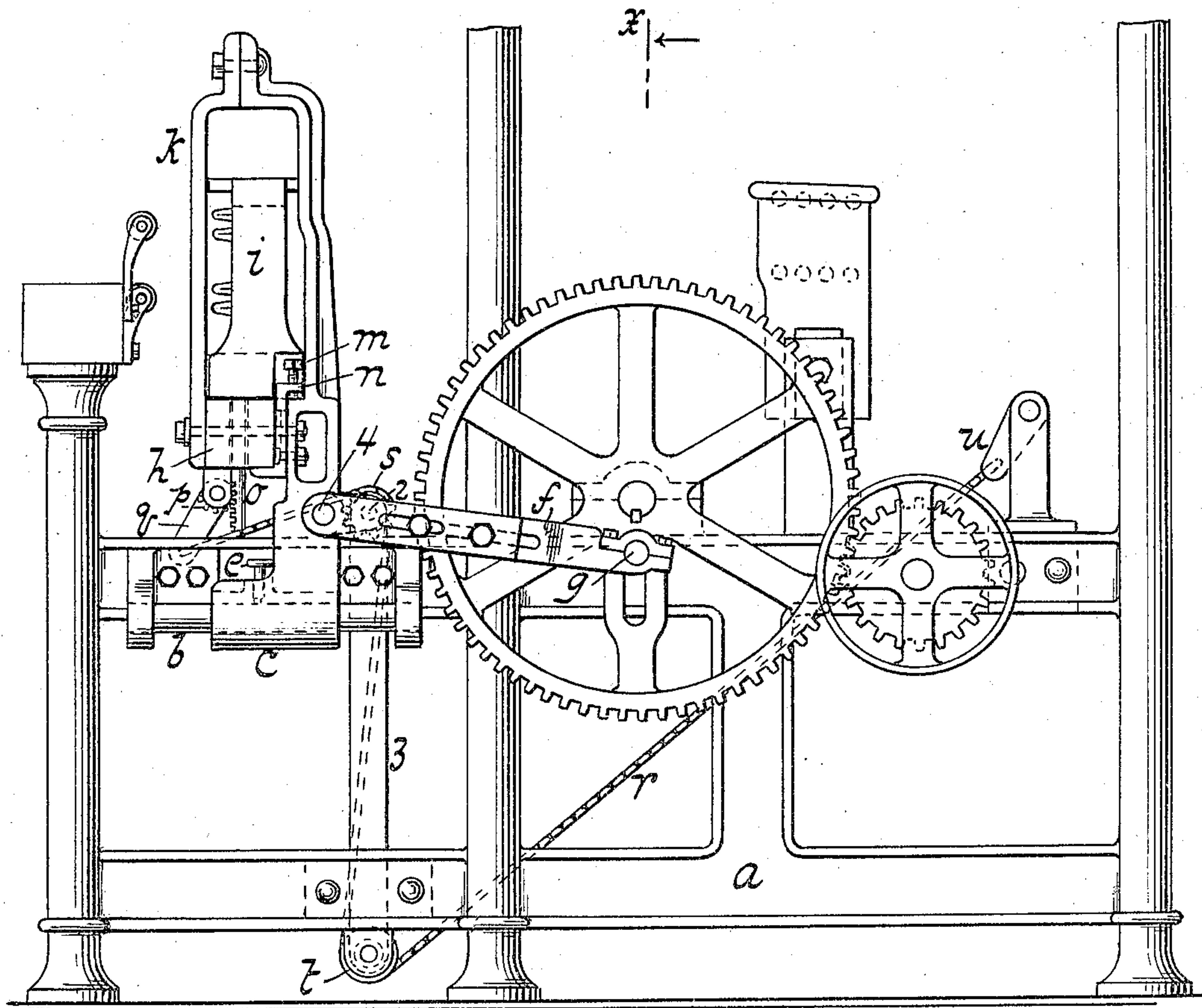
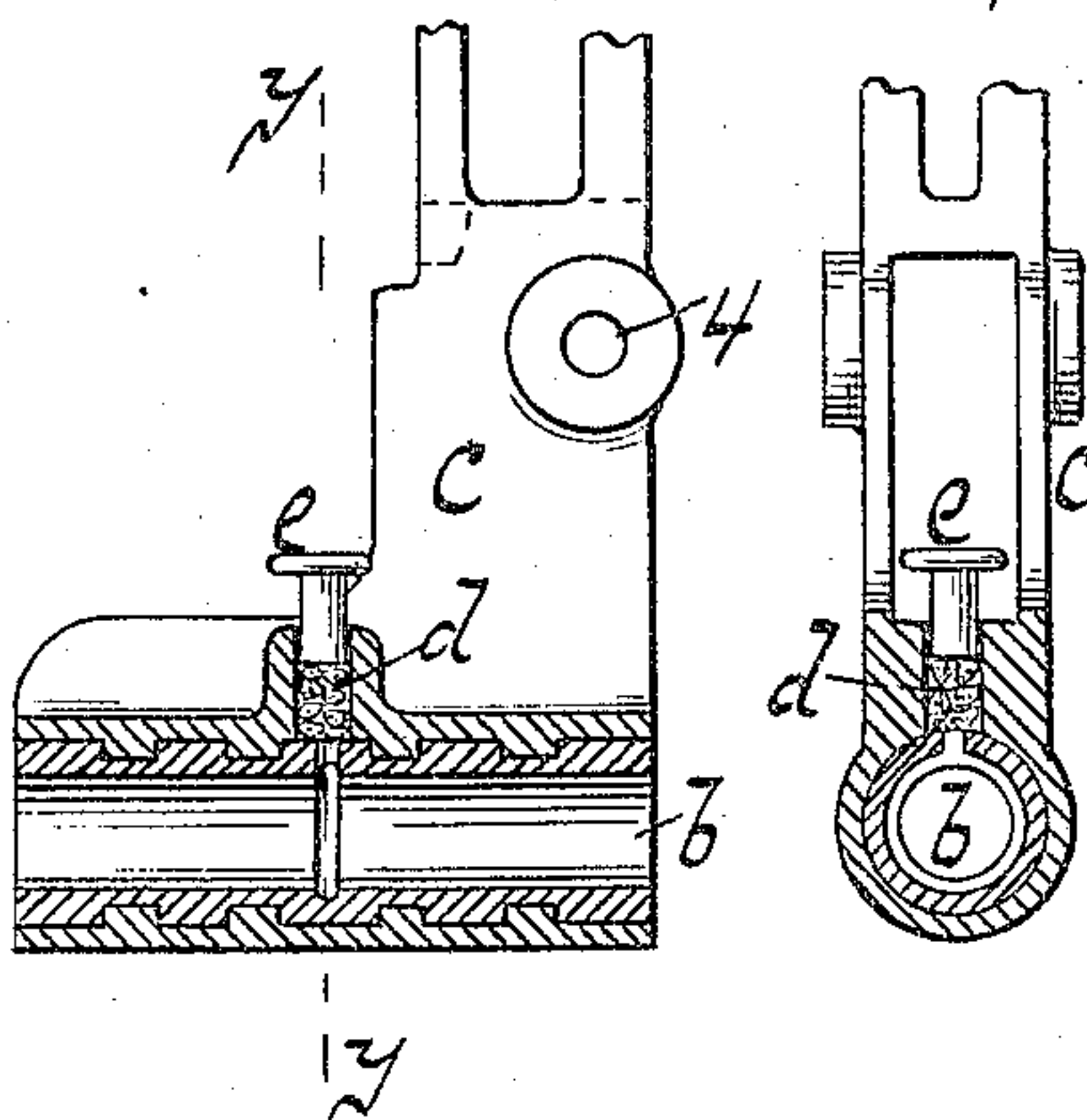


Fig. 4. Fig. 5.



WITNESSES:

William Miller
George Hulsberg

INVENTOR

George W. Kuenneth

BY

W. C. Hauff
ATTORNEY

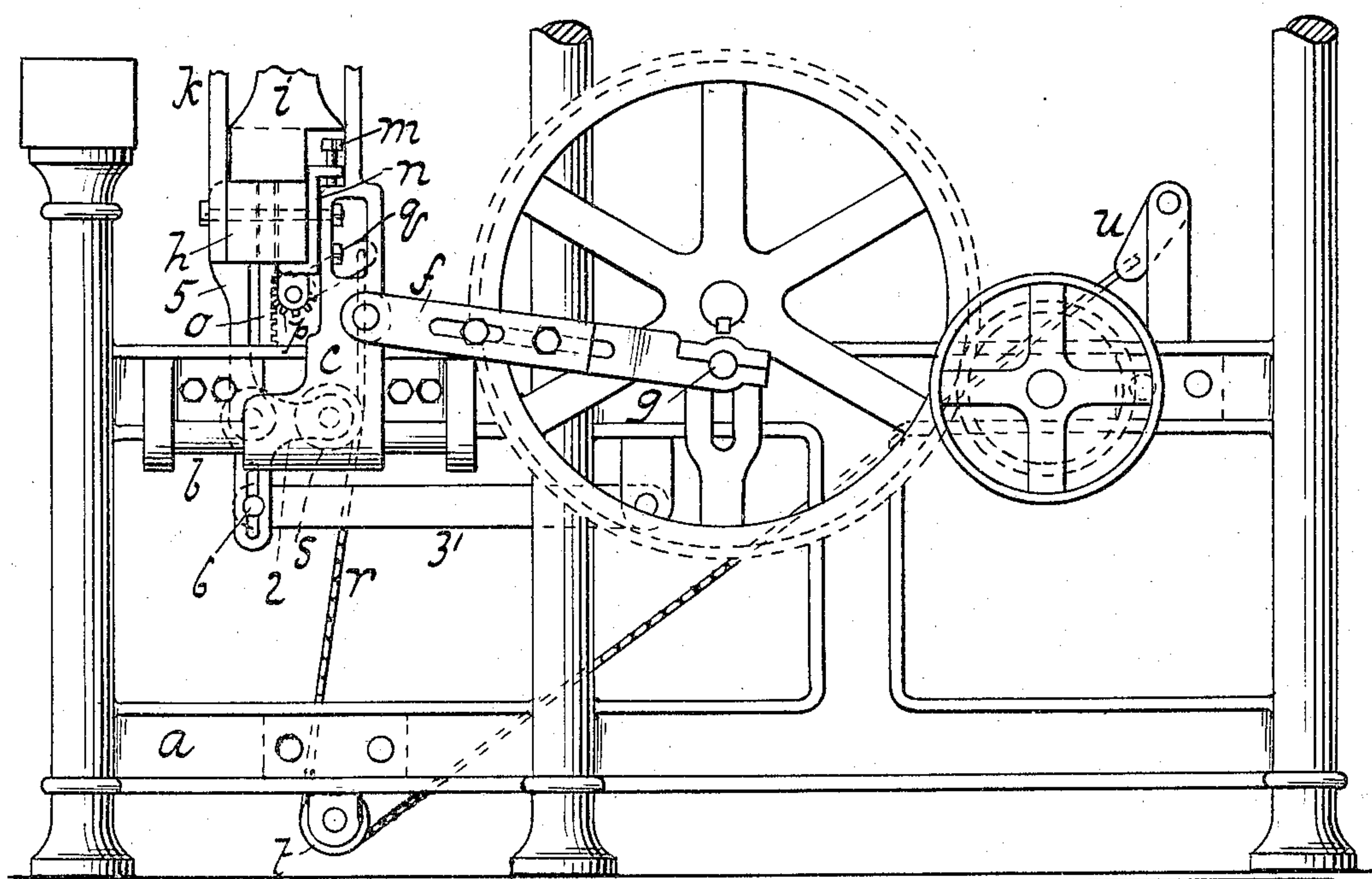
No. 790,903.

PATENTED MAY 30, 1905.

G. W. KUENNETH.
SHUTTLE BOX MOTION.
APPLICATION FILED MAR. 25, 1904.

3 SHEETS—SHEET 3.

Fig. 6.



WITNESSES:

William Miller
George Hulsberg

INVENTOR

George W. Kuenneth

BY

W. C. Hauff

ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE W. KUENNETH, OF NEW YORK, N. Y.

SHUTTLE-BOX MOTION.

SPECIFICATION forming part of Letters Patent No. 790,903, dated May 30, 1905.

Application filed March 25, 1904. Serial No. 199,992.

To all whom it may concern:

Be it known that I, GEORGE W. KUENNETH, a citizen of the United States, residing at New York city, Bronx borough, in the county and State of New York, have invented new and useful Improvements in Shuttle-Box Motions, of which the following is a specification.

This invention relates to a parallel or shuttle-box motion for a loom; and it consists in certain novel features of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a section along xx , Fig. 3, showing parts of a loom embodying this invention. Fig. 2 is a view like Fig. 1 of a modification. Fig. 3 is a side elevation of Fig. 1. Fig. 4 shows a carriage, partly in section. Fig. 5 is a section along yy , Fig. 4. Fig. 6 shows a modification.

In the drawings is shown a frame or support a for parts of a loom. Tracks or rods b are mounted or fixed on the support. The number of tracks or rails can be varied. A carriage c moves on the track. The carriage is shown as clasping or surrounding the track. Provision for the lubrication or easy reciprocation on the track can be made. The carriage is shown with a groove portion adapted to contain lubricant or fat. An inlet d leads to the groove, and a plug e can be inserted into the inlet and suitably weighted or heavy to press or cause the lubricant to pass about in the groove and to the track. As the fat is exhausted the weight-plug gradually sinks into the inlet to keep feeding or pressing onto the lubricant. A pitman f , suitably jointed or connected to the carriage and to an eccentric pin or wheel g , moves the carriage, as also the lathe or batten beam h , carried thereby or connected thereto. The batten is shown or indicated at i and can have one or more banks of shuttles—that is single, double, or other deck. In the drawing Fig. 3 are shown two banks of shuttles as double deck. As the carriage or slide moves back and forth the beam and batten are moved in parallel motion or rectilinearly.

The carriage is shown with a brace k for protecting and steadying or preventing vi-

bration of the upper batten parts. A guide or steadying cap at the upper part of the batten can contact with the brace to steady the batten.

The beam h can be adjusted to required position. Set-screws m , Fig. 3, can be applied to adjust or level the beam or its carrying-bracket n .

The screw m serves to adjust and carry the bracket or the beam to the required adjustment or level, as may be called for.

The invention shown has been practically operated in a loom weaving ribbons or narrow piece goods; but of course it is not confined to any specific loom nor specific goods.

In case of two or more sets of shuttles a so-called "change-box" or arrangement for raising or lowering shuttles is applied; but as such change and its operation are known in the art no detailed description thereof is necessary here. The raising and lowering are effected by a rack o with pinion p , whose arm or lever q is moved by a chain or connection r , running about guides, such as sprockets or pulleys s and t , to a lever or arm u , suitably actuated as required.

An antivibration device or links are applied to prevent the chain moving the batten by reason of the travel of the carriage. These links in Fig. 3 are shown at 2 and 3, respectively, and are jointed to one another at or rather by the axle or gudgeon of the pulley s . The link 2 is conveniently jointed to the carriage at the pivot 4, connecting the carriage and pitman f . The link 3 can be jointed at a suitable point—as, for example, the pivot-point of pulley t —and this joint of link 3 to frame a can be adjustable, but is to be fixed after the adjustment is made. As the carriage moves link 2 with point s back and forth this point s moves in an arc about point t as a center; but the distance between points s and t remains the same, so that the chain is not slackened or tightened by such swing. The link 3 suitably supports the pulley s on the free end of link 2, as such link 3 is suitably mounted on the frame at the point t . This antivibration device can be modified. The link 2 need not be jointed directly to the carriage, but can be jointed at another point—

for example, to the batten-beam or a hanger or bracket 5, Fig. 6, adjusted or applied to the batten-beam. The link 3' instead of being jointed to the link 2 at point *s* could be jointed at another point—as, for example, point 6. By this arrangement the chain as the carriage travels back and forth has its slack taken in or let out to again maintain the shuttles at the desired level. In Fig. 6 the link 3' is shown in other than vertical position.

Regarding the guide *k*, it may be noted that the same is not needed for single-deck looms: but where decks or banks of shuttles are employed a guide *k* at one or both end portions of the batten has been found useful.

The batten-beams shown in Fig. 1 can be operated independently of one another, so as to constitute virtually two looms alongside one another instead of a single loom, as shown in Fig. 2.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A batten and a carriage therefor combined with a batten actuating or lifting chain, and antivibratory links for the chain.

2. A batten and a carriage therefor, combined with a batten-chain, a link moving with the carriage and a supporting-link for the first-named link, said chain being made to engage one of the links to be steadied or compensated as the carriage travels.

3. A batten-carriage combined with a link jointed to or moving with the carriage, a vibrating link jointed to the first-named link, and a batten-chain guided about the joint uniting the two links to be compensated or kept under uniform tension as the carriage travels.

4. A batten carriage and chain combined with a link jointed to or moving with the car-

riage, a guide-wheel for the chain mounted on said link, and a vibrating link jointed to the first-named link, said chain being compensated by the swing of the links as the carriage travels.

5. A batten-carriage combined with a batten-actuating rack and pinion, a chain for the pinion, a link jointed to the carriage, a second link jointed to the first-named link and a sprocket or guide pulley for the chain at the joint connecting the two links.

6. A batten-carriage and a pitman jointed thereto, a link jointed at such pitman and carriage-joint, a second link jointed to the first-named link, a pulley or chain wheel at the joint of the links, and a chain for actuating the batten and guided about the pulley.

7. A batten carriage and chain, combined with a link jointed to the carriage and a second link jointed to the first-named link and to a supporting-point, said chain being guided about the supporting-point and the joint connecting the links to one another.

8. A loom frame or support having a track and a carriage, means for moving the carriage back and forth along the track, a batten moved by the carriage, a chain for the batten, and antivibration-links for the chain jointed to one another, one of the links being jointed to or moving with the carriage, and the frame having a stationary adjustable joint or support portion for the other link.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE W. KUENNETH.

Witnesses:

CHAS. E. POENSGEN,
GEORGE HULSBERG.