

(No Model.)

I. JACKSON.
WEFT FORK FOR LOOMS.

No. 387,788.

Patented Aug. 14, 1888.

Fig. 1.

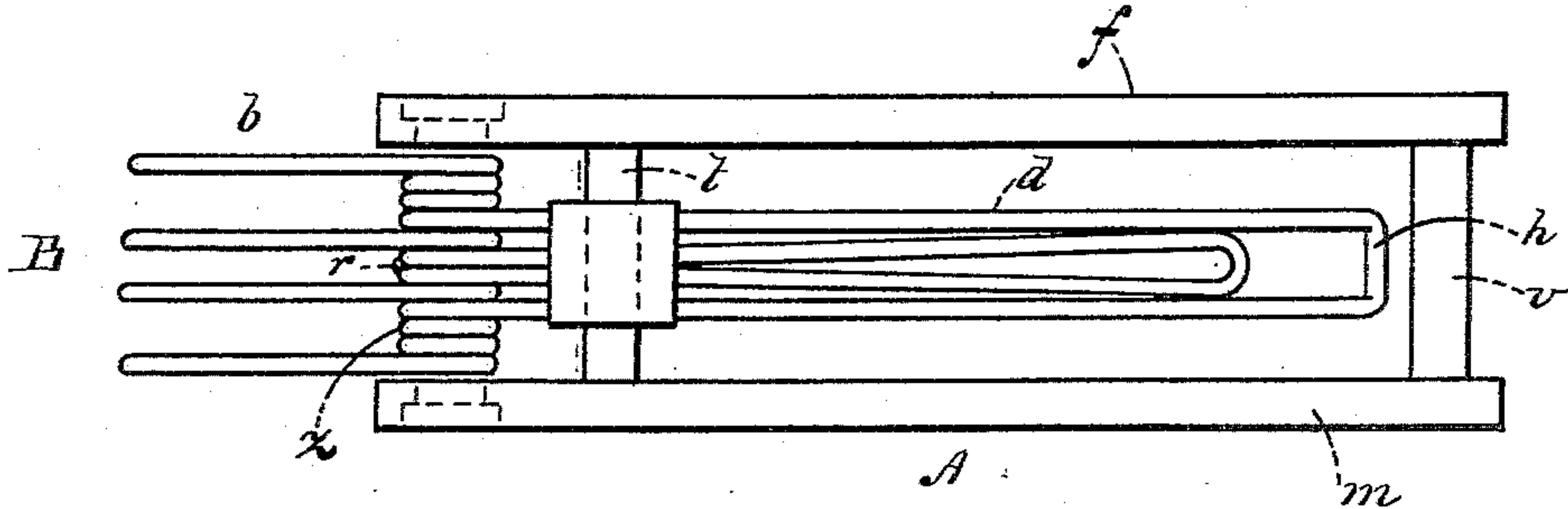


Fig. 2.

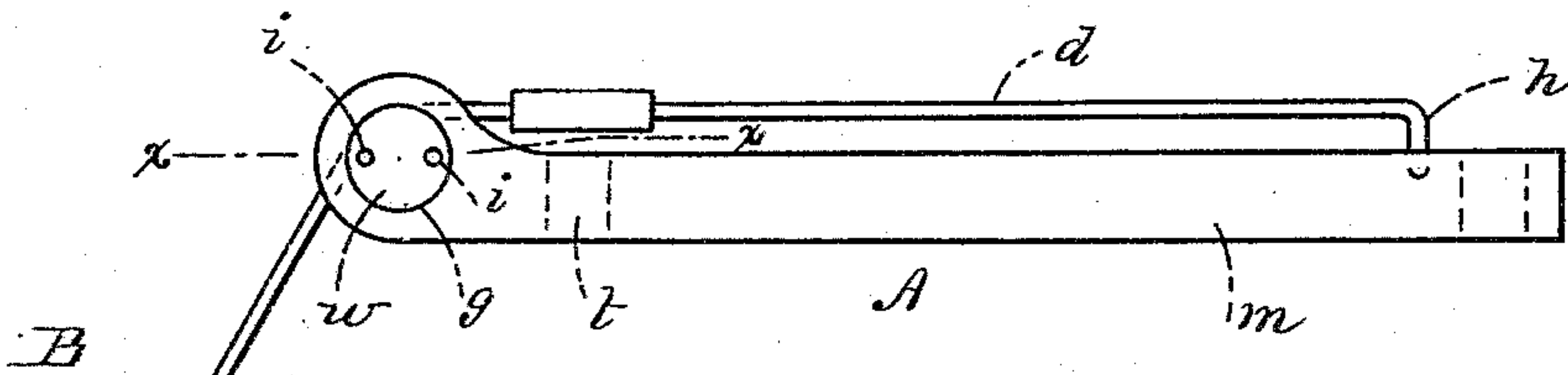


Fig. 3.

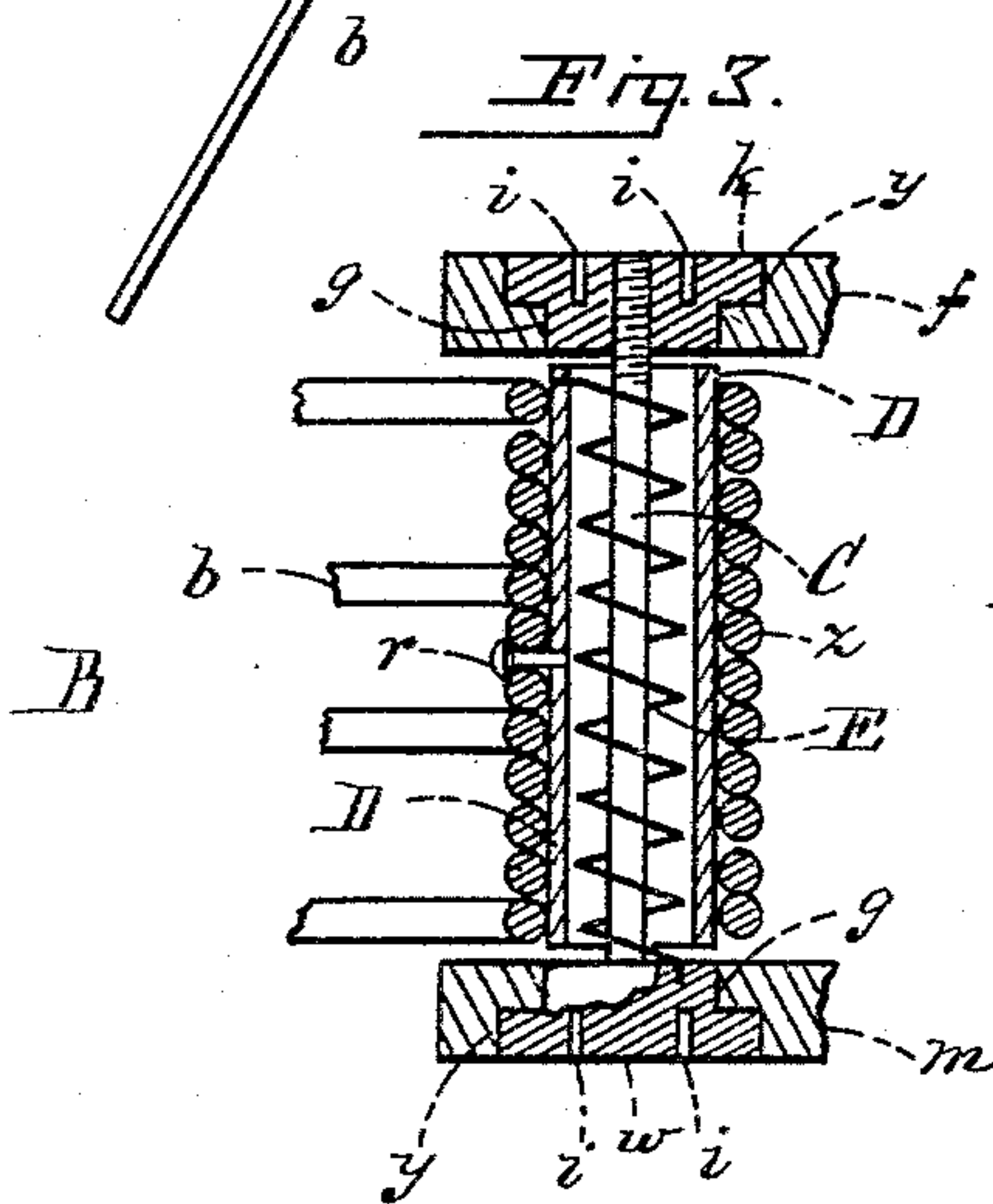


Fig. 4.

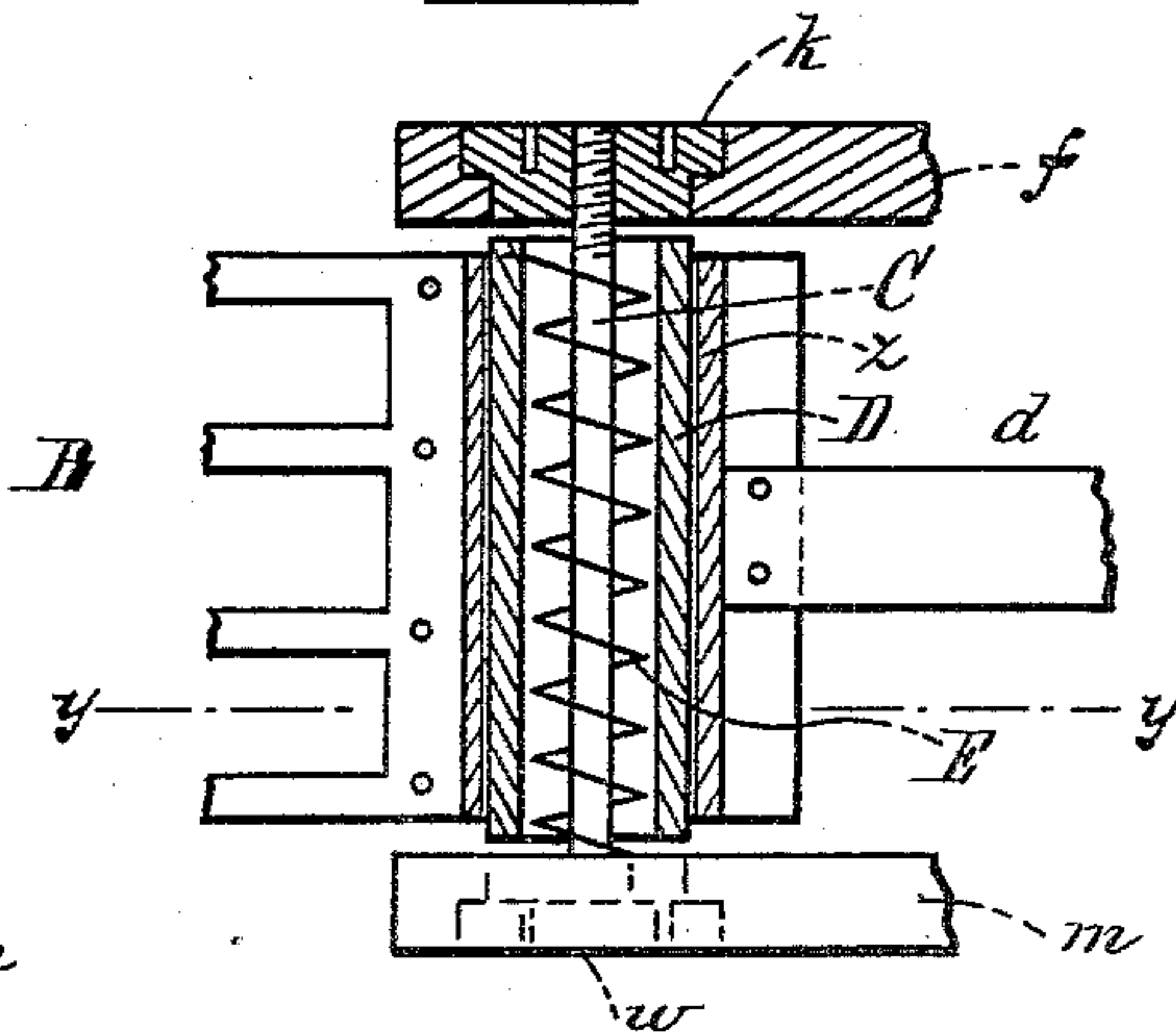
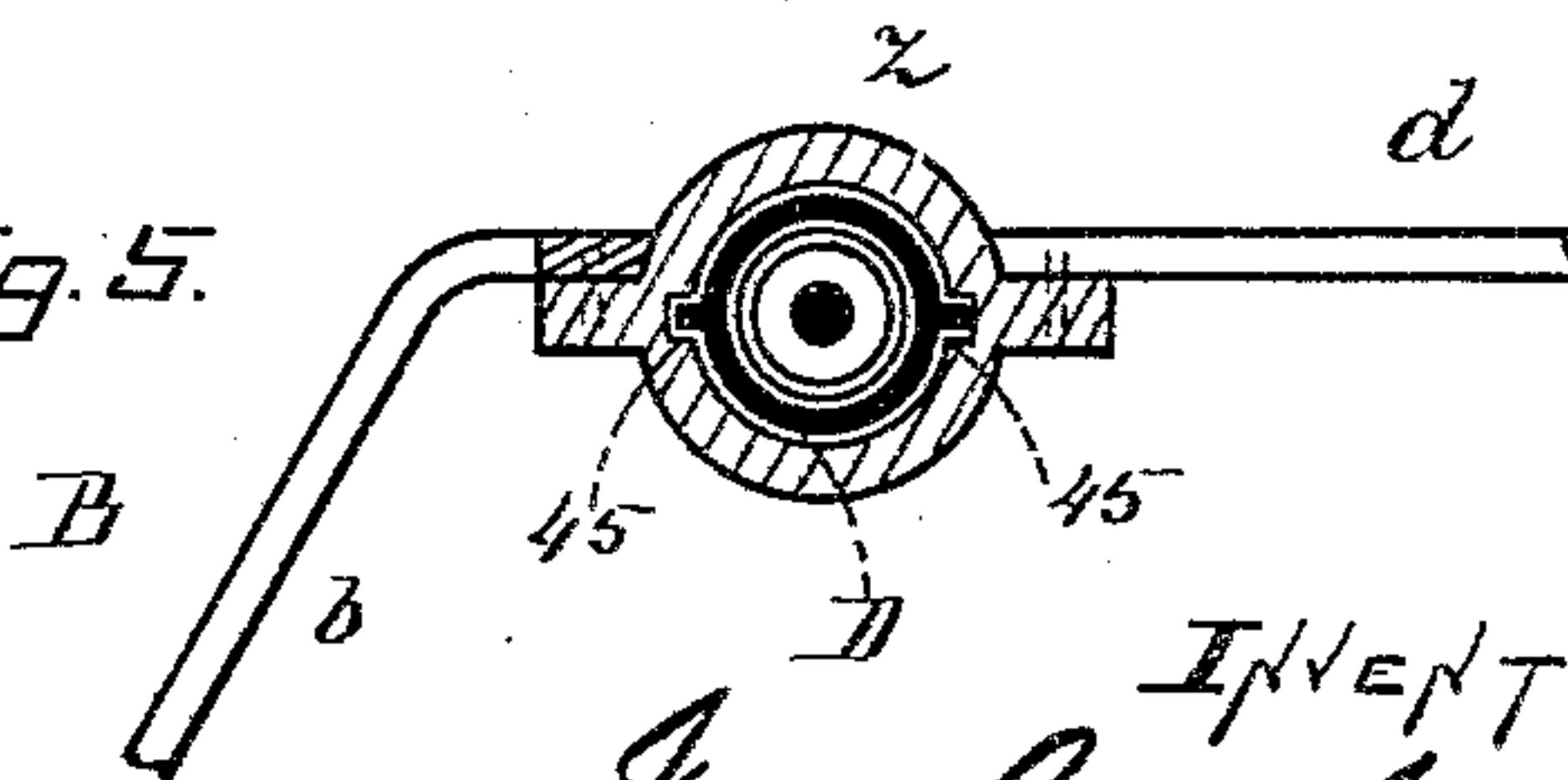


Fig. 5.



WITNESSES:
C. M. Shumey,
J. W. Hubbard

INVENTOR:
Ira Jackson,
PER C. A. Shawtles,
ATTY.

UNITED STATES PATENT OFFICE.

IRA JACKSON, OF LAWRENCE, MASSACHUSETTS.

WEFT-FORK FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 387,788, dated August 14, 1888.

Application filed April 6, 1888. Serial No. 269,861. (No model.)

To all whom it may concern:

Be it known that I, IRA JACKSON, of Lawrence, in the county of Essex, State of Massachusetts, have invented a certain new and useful Improvement in Weft-Forks for Looms, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of my improved filling-fork detached; Fig. 2, a side elevation of the same; Fig. 3, an enlarged horizontal section taken on line $x x$ in Fig. 2, certain parts being shown in top plan view; Fig. 4, a like view showing certain modifications of construction, and Fig. 5 an enlarged vertical section taken on line $y y$ in Fig. 4.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates especially to the filling-forks of that class of stop-motions which are designed to stop the loom on the breakage of the filling or weft thread; and it consists in certain novel features, as hereinafter fully set forth and claimed, the object being to produce a more effective and otherwise desirable device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the body of the fork, and B the fork proper. The body consists, essentially, of the side rails, $m f$, and cross-bars $t v$, the bar t serving as a stop for the tail-piece d of the fork.

The fork proper is composed of a series of stout wires, which are coiled to form the tube z , and folded to form a tail-piece, d , the free ends of the wires being bent or inclined downward and constituting teeth b . The rails $m f$ are provided with oppositely-arranged and corresponding holes, g , near their ends, said holes being counterbored, as shown at y . A screw-threaded rod, C, is inserted in the holes g , said rod being provided at one end with a

flanged head, w , which fits said hole and its counterbore y in the rail m , and at its opposite end with a flanged nut, k , which fits the hole g and its counterbore y in the rail f . (See Fig. 3.) Holes i are formed in the head w , for the reception of an implement to prevent the rod from turning as the nut is screwed onto it, and also in the nut k , for the reception of an implement to turn said nut onto the rod; but any other suitable means may be employed for these purposes instead of said holes.

Disposed on the rod C, within the coil z of the fork B, there is a sleeve or tube, D, which is firmly secured to said coil by a screw, r , and disposed on said rod, within the sleeve D, there is a coiled-wire spring, E, one end of which is firmly secured to the head w of the rod and the other to said sleeve, said spring acting torsionally to keep the tail-piece d of the fork proper on the stop t . The diameter of the hole g is slightly greater than the diameter of the sleeve D, thereby enabling said sleeve to be withdrawn from the tube z through one of said holes by first removing the screw r and nut k .

The object of the counterbores at the ends of the holes g is to produce frictional bearings for the flanges on the head w and nut k , which will prevent said head and nut from turning in their seats under the action of the spring E, thereby enabling any desired strain to be placed on said spring.

The tail-piece d of the fork is provided with the usual downwardly-projecting dog, h , at its outer or free end.

I sometimes construct the fork proper, B, of sheet metal, as shown in Figs. 4 and 5, the fork being provided with a tube, z , which is grooved longitudinally on its inner side to receive a spline or splines, 45, on the sleeve D, and thereby prevent said sleeve from turning in said tube, while permitting it to be readily withdrawn therefrom. If preferred, however, the tube z , as shown in Figs. 4 and 5, may be secured to the sleeve D by a screw passing laterally through the tube, or in any other suitable manner.

In the use of my improvement the fork, considered as a whole, is mounted on the loom and connected with the shipping mechanism in the usual manner, being so arranged that

the weft or filling thread will press against the teeth *b* of the fork proper and keep the tail-piece *d* elevated while there is a strain on said thread. When the thread breaks, the
 5 spring acts instantly to depress said tail-piece, thereby causing the dog *h* to be brought into engagement with the pull or portion of the shipping mechanism designed to engage it, the
 10 belt to be shipped and the loom stopped in a manner that will be readily understood by all conversant with such matters without a more explicit description.

It will be obvious that the sleeve *D*, spring *E*, rod *C*, head *w*, and nut *k* enable the fork
 15 proper to be readily and very delicately adjusted to correspond with the character of the work being performed by the loom; also, that the parts may be readily disconnected for repairs or to substitute new ones.

20 I do not confine myself to securing the tube *z* to the sleeve *D* by means of the screw *r*, as it may be secured in any other suitable manner. Neither do I confine myself to the use of any special number of teeth *b* in the fork
 25 proper, as one or more may be employed; nor to using the bar *t* as a stop for the tail-piece *d*, as any suitable stop may be used that will perform the same functions.

Having thus explained my invention, what
 30 I claim is—

1. The combination of the following instru-

mentalities, to wit: a body, a fork proper provided with a centrally-disposed transversely-arranged tube, a sleeve disposed within said tube and secured thereto, a rod mounted in
 35 said body and having a fixed head at one end and a nut at the other, said rod extending longitudinally through said sleeve, a spring disposed around said rod within said sleeve
 40 and having one of its ends secured to said rod and the other to said sleeve, and a stop for said fork proper, substantially as set forth.

2. The fork proper, *B*, having the teeth *b*, tube *z*, and tail-piece *d*, provided with the dog *h*, the sleeve *D*, disposed in the tube *z*
 45 and secured thereto by the screw *r*, the body *A*, provided with the stop *t*, and rails *m f*, having the counterbored holes *g*, the screw-threaded rod *C*, provided with the flanged head *w* and flanged nut *k*, said rod being in-
 50 serted in said sleeve with its head resting in one of said holes and the nut in the opposite hole, and the coiled tension-spring *E*, disposed around said rod and having one of its ends secured thereto and the other secured to said
 55 sleeve, all being constructed, combined, and arranged to operate substantially as described.

IRA JACKSON.

Witnesses:

O. M. SHAW,
 E. M. SPINNEY.