

(No Model.)

2 Sheets—Sheet 1.

H. WATKEYS.
SAFETY SPRING HANGER.

No. 597,868

Patented Jan. 25, 1898.

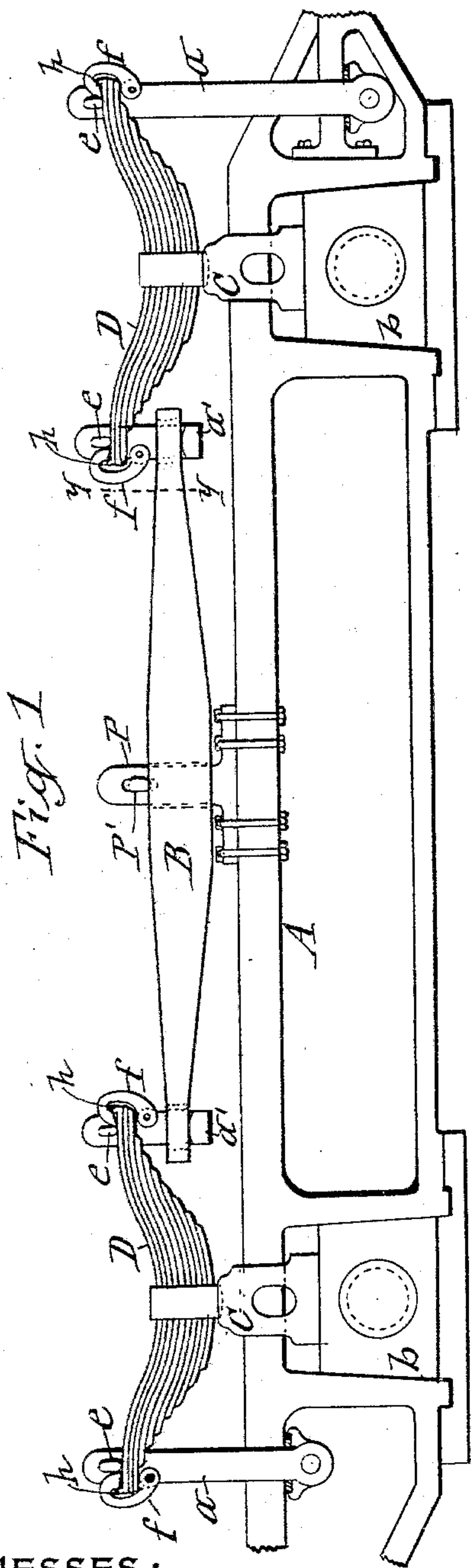


Fig. 1

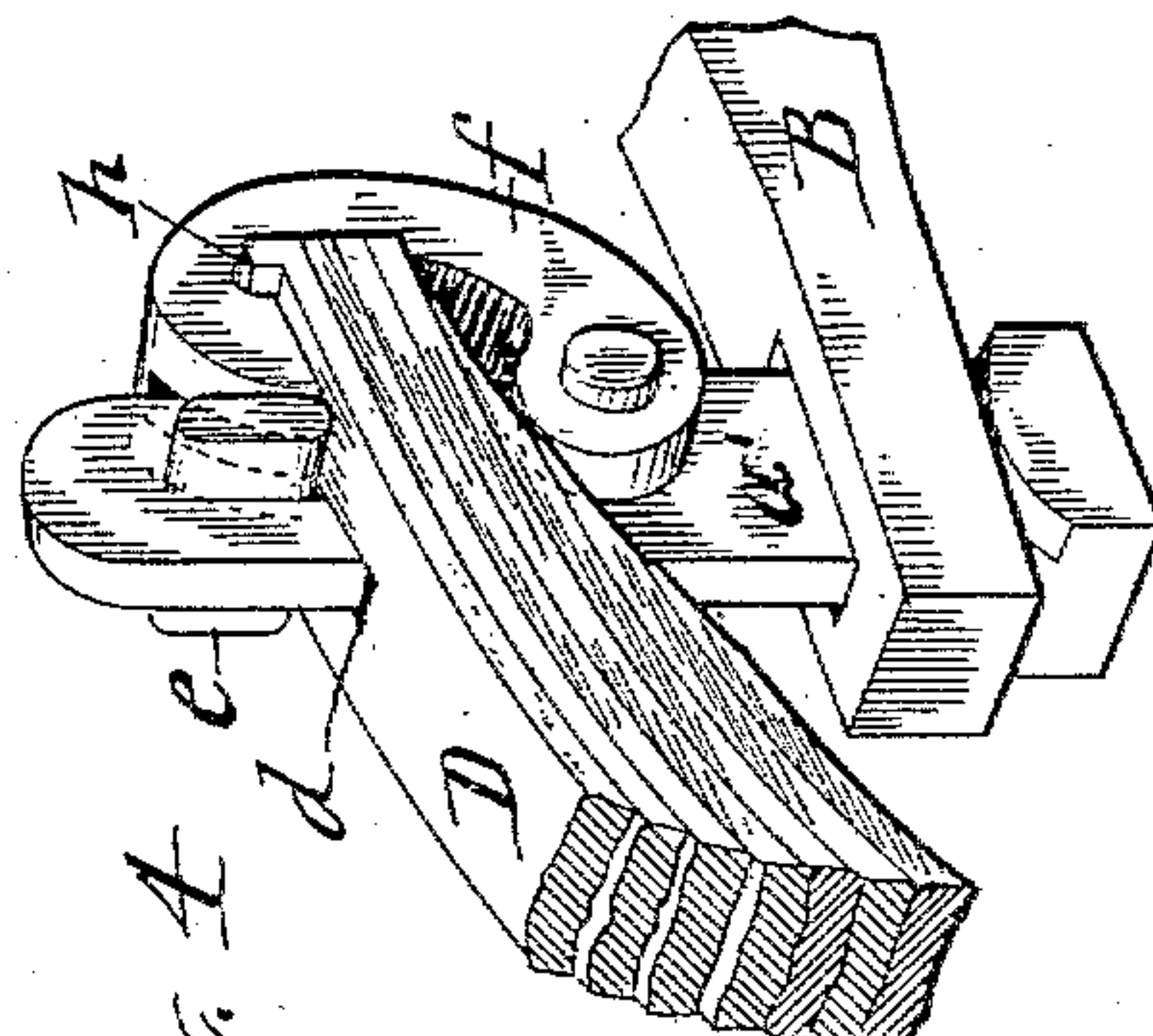


Fig. 4

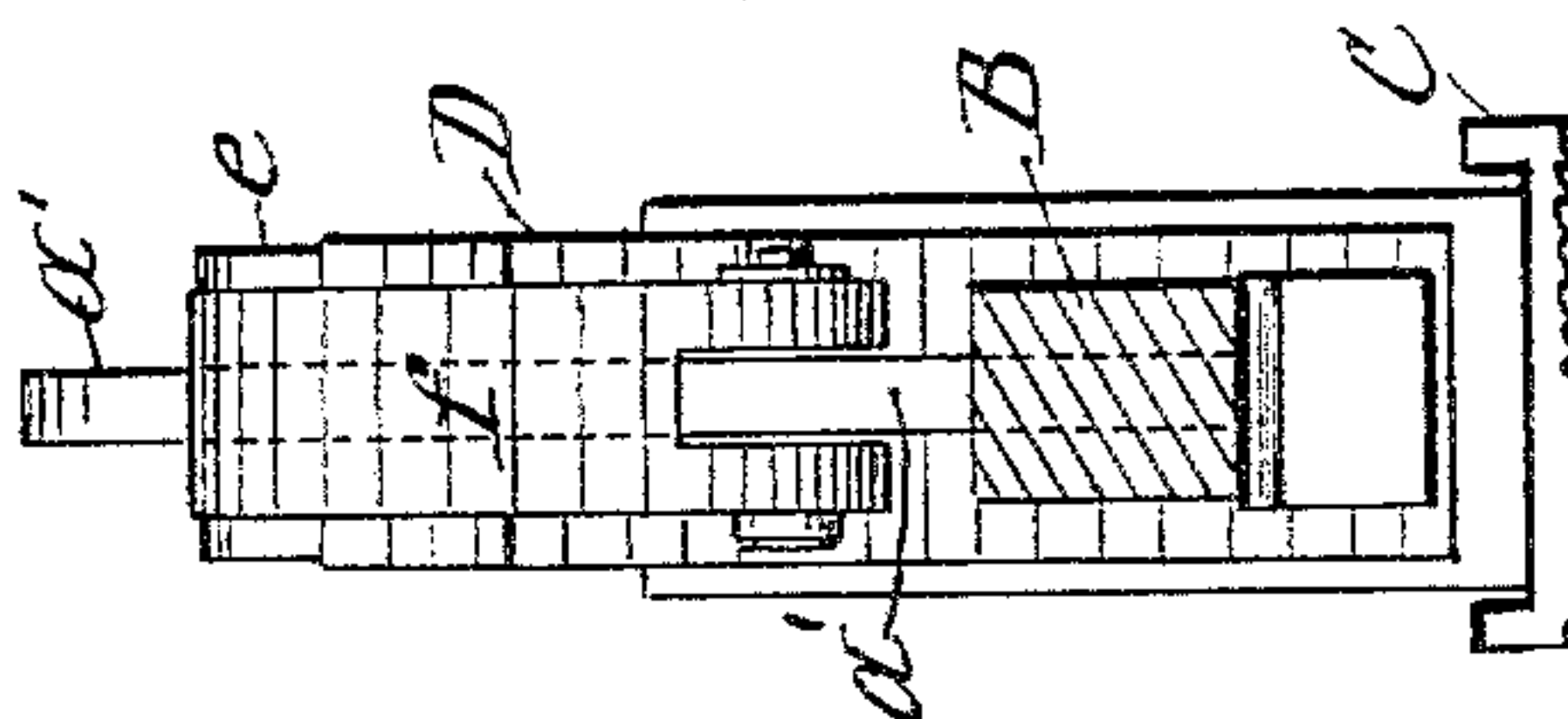


Fig. 3

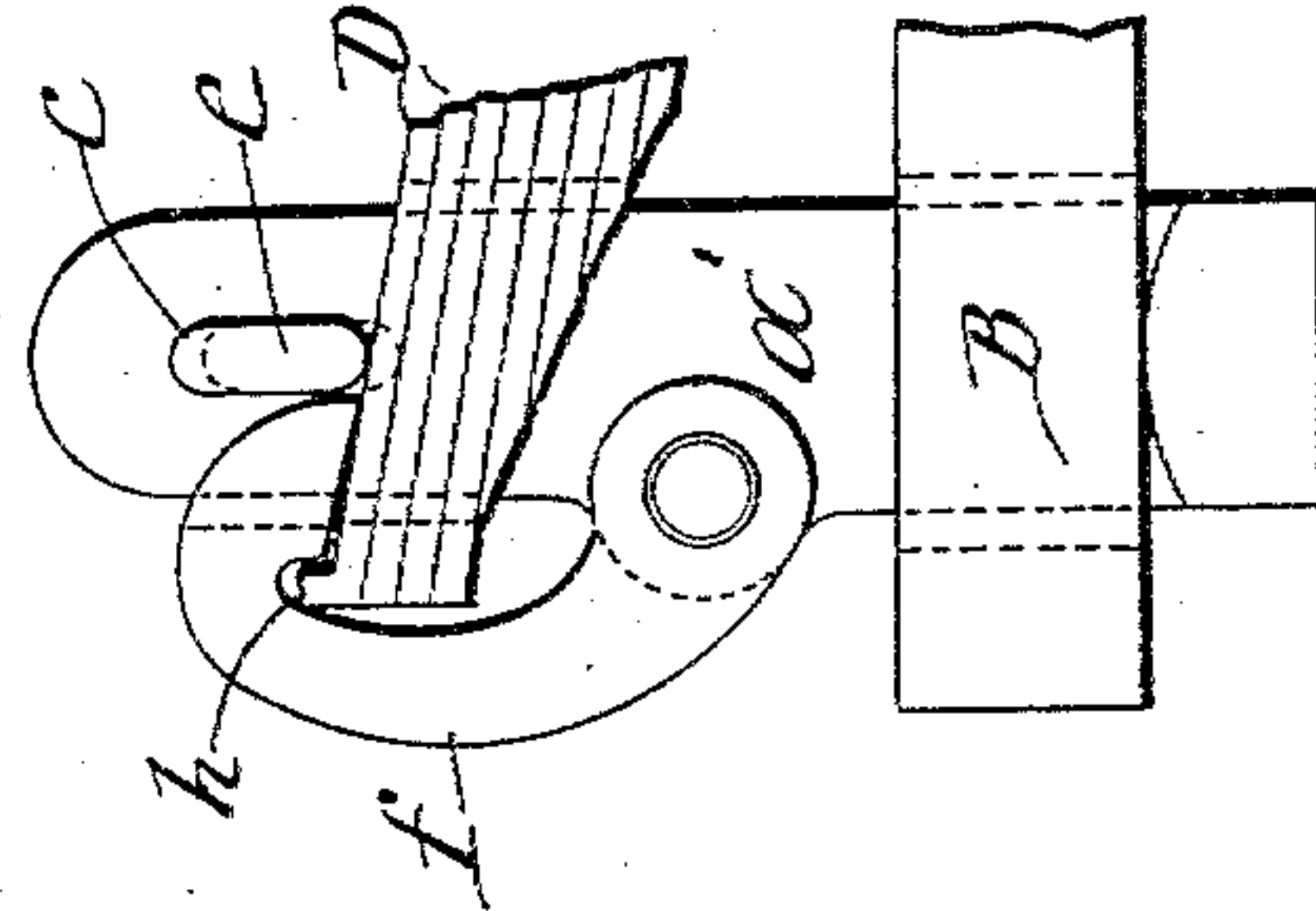


Fig. 2

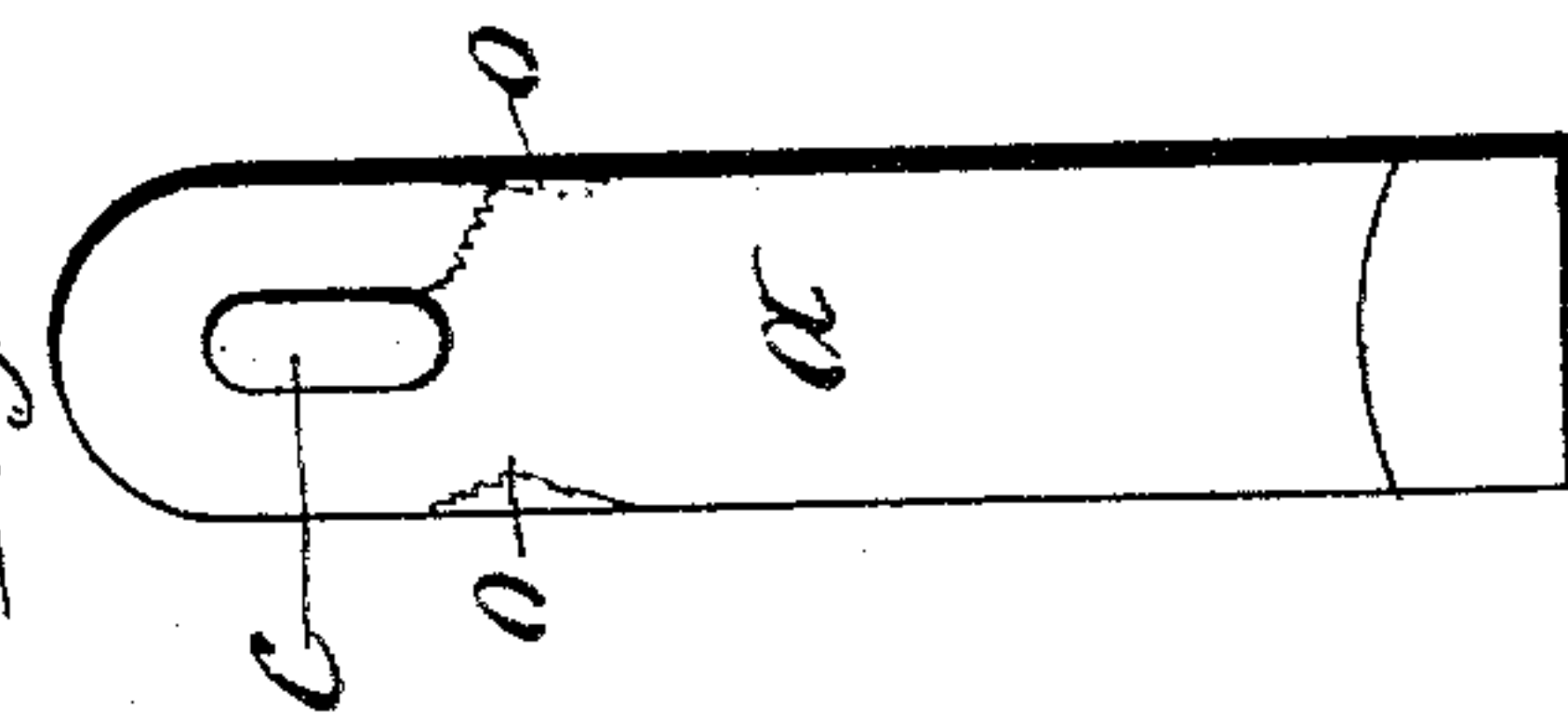


Fig. 11

WITNESSES:

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M. A. Leyden.

INVENTOR

Henry Watkeys
By E. Laass
his ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

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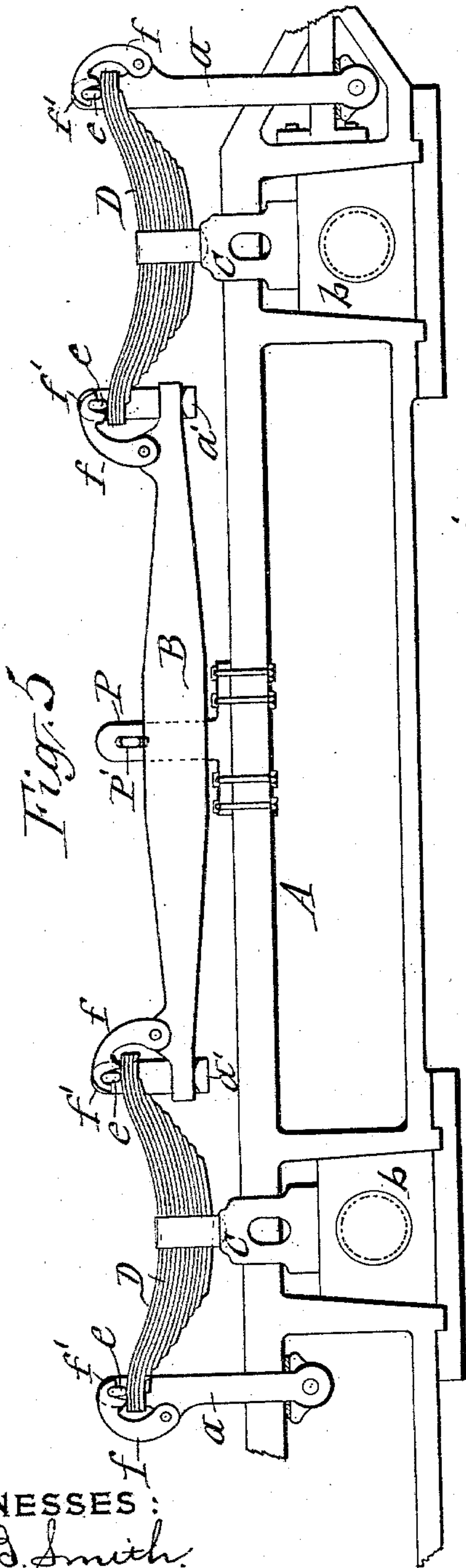


Fig. 5

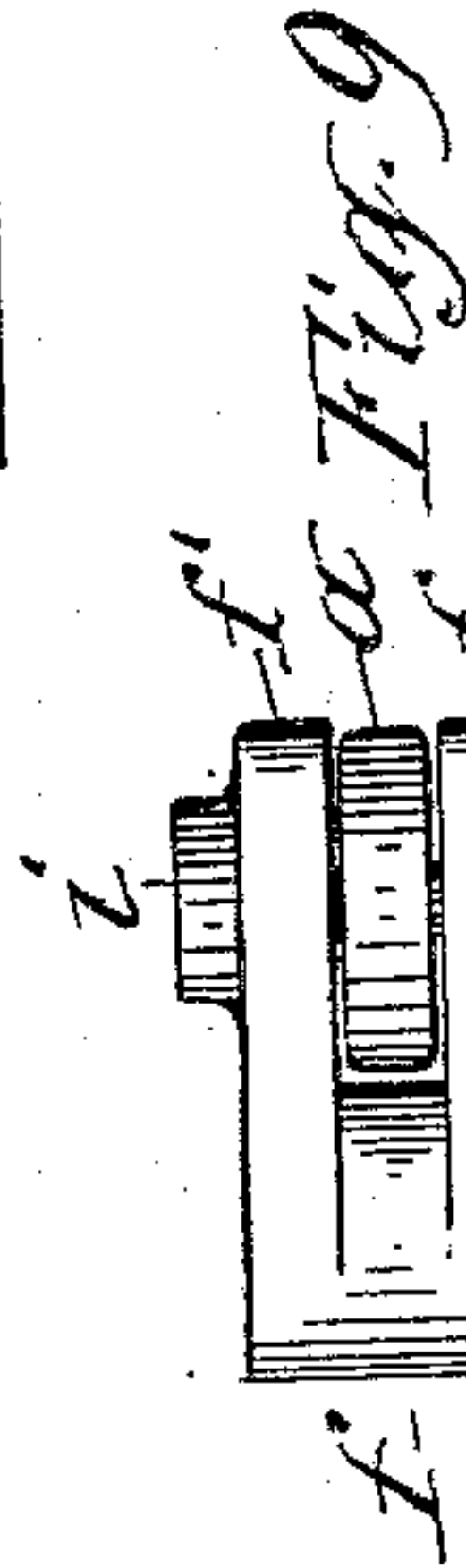


Fig. 9

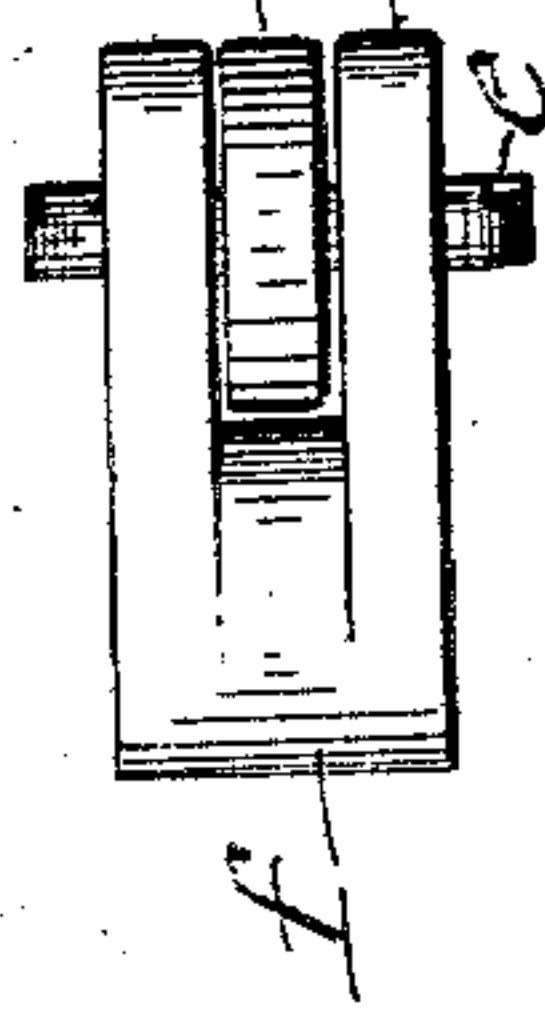


Fig. 8

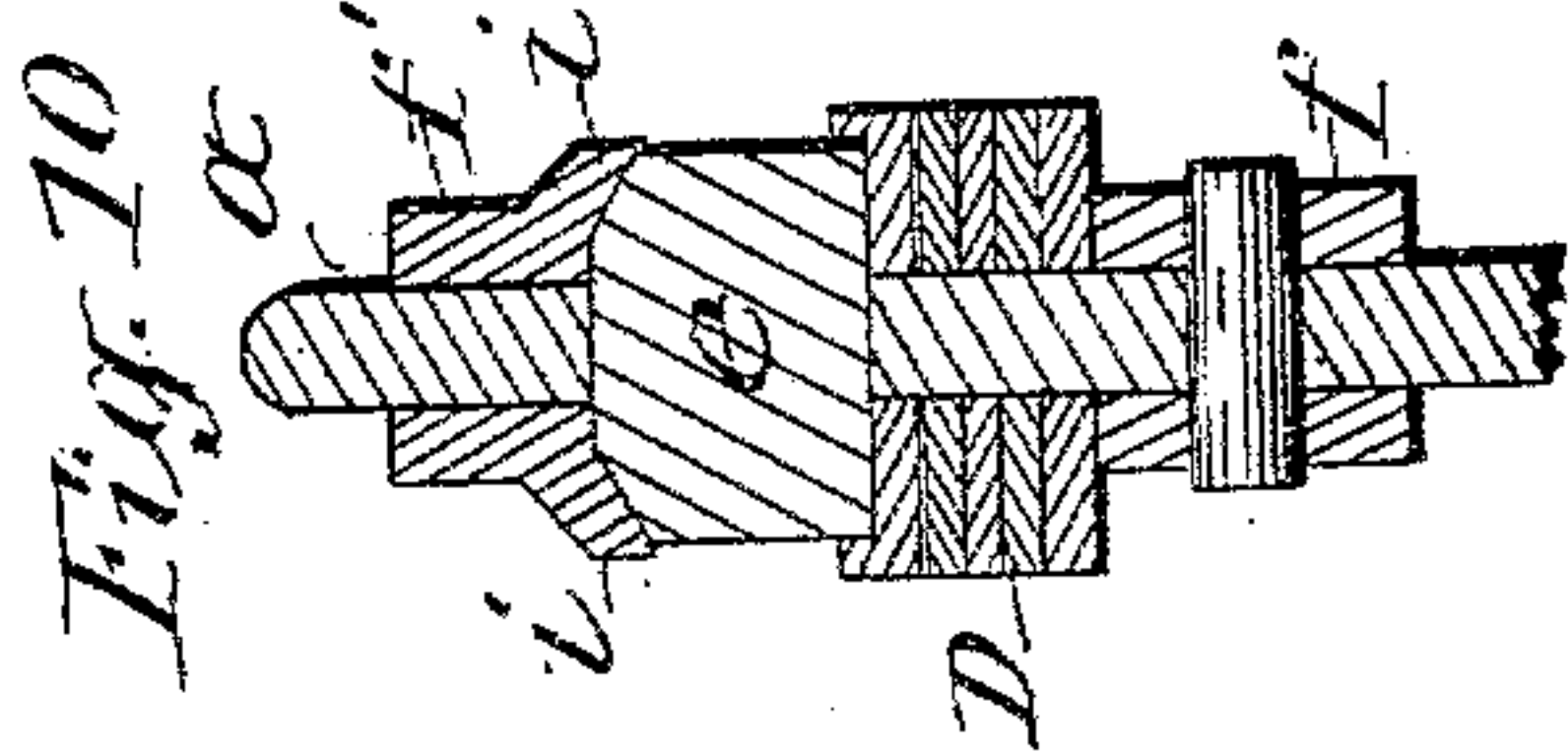


Fig. 10

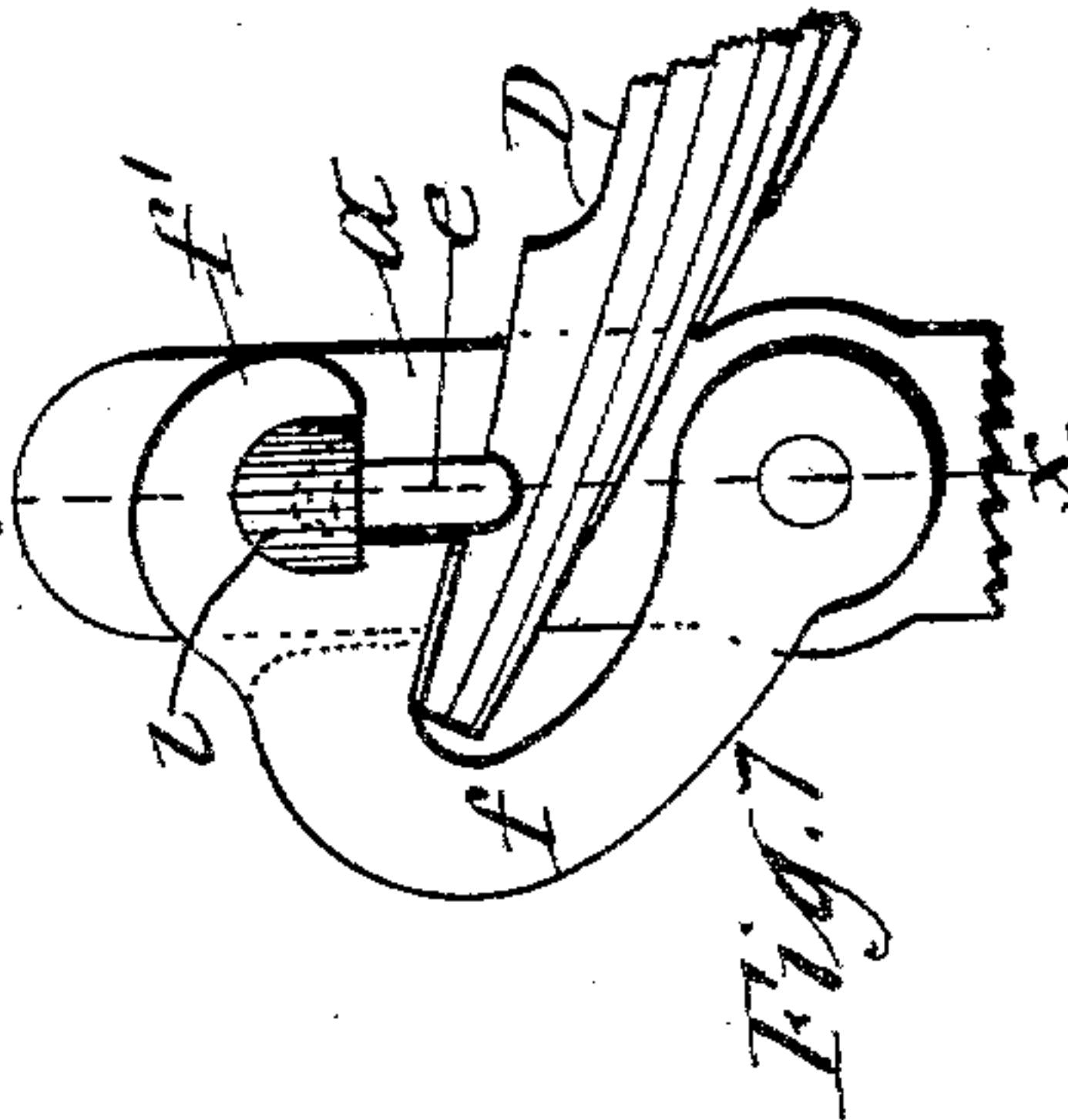


Fig. 7

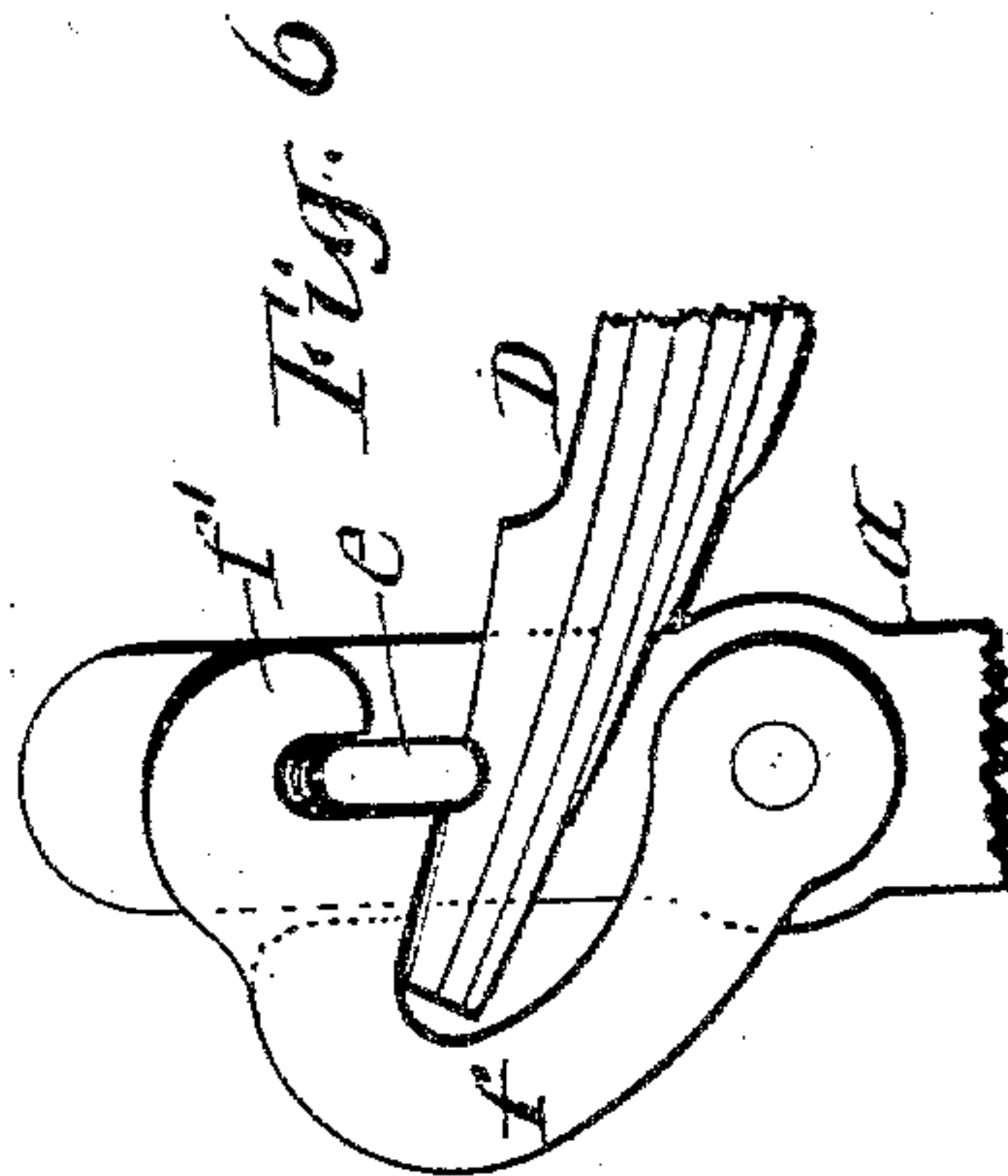


Fig. 6

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UNITED STATES PATENT OFFICE.

HENRY WATKEYS, OF LAFAYETTE, INDIANA.

SAFETY SPRING-HANGER.

SPECIFICATION forming part of Letters Patent No. 597,868, dated January 25, 1898.

Application filed June 1, 1897. Serial No. 638,881. (No model.)

To all whom it may concern:

Be it known that I, HENRY WATKEYS, of Lafayette, in the county of Tippecanoe, in the State of Indiana, have invented new and useful Improvements in Safety Spring-Hangers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the connections of the supporting-springs to the equalizing-beam and frame of a locomotive. Said connections are subjected to severe strains and wear and tear, and in consequence thereof they are liable to be broken, especially when the locomotive is in service, and such breakage is an element of danger and always causes delays to traffic.

The object of the invention is to obviate such danger and delays; and to that end the invention consists, essentially, in the combination, with the supporting-spring and hangers connecting the frame and equalizing-beam to said spring, of a safety-coupling connecting said parts independent of the attachment of said hangers, as hereinafter more fully described, and set forth in the claims.

In the annexed drawings, Figure 1 is a side view of the main portion of a locomotive-frame with the equalizing-beam and their connections with the supporting-springs embodying my invention. Fig. 2 is an enlarged side view of said parts. Fig. 3 is an enlarged transverse section on line Y Y in Fig. 1. Fig. 4 is a perspective view of the same. Fig. 5 is a side view of a modification of my invention. Figs. 6 and 7 are enlarged side views of the safety-coupling in its preferred detail construction. Figs. 8 and 9 are respectively top views of said detail construction. Fig. 10 is a vertical transverse section on line X X in Fig. 7; and Fig. 11 is a detached side view of the spring-hanger, illustrating the part which is most subjected to wear and breakage.

Similar letters of reference indicate corresponding parts.

A denotes the main portion of a locomotive-frame, which is provided with the usual bearings *b b* for the axles of the driving-wheels. C C are the pedestals, which ride on the boxes *b b* and have mounted upon them the semi-elliptic springs D D. Said frame is supported on the outer ends of the springs by the hangers

a a and on the inner ends of said springs by means of the equalizing-beam B, upon the center of which the frame rides by means of a post P, fastened to the frame and passing through the equalizing-beam and provided with a key or rocker bearing P' upon said beam. The ends of the equalizing-beam are connected to the inner ends of the springs D D by the hangers *a' a'* in the usual manner. The upper ends of the aforesaid hangers pass through slots *d d* in the springs and are provided in the protruding ends with slots *c c*, through which pass the keys *e e*, riding on top of the springs.

When the locomotive is running, the springs D D are subjected to more or less vibration, and this causes the front and rear edges of the hangers *a* and *a'* to be severely pinched by the edges of the slots *d d* of the springs and to be cut, as shown at *o* in Fig. 11 of the drawings, and thus weakened to such an extent as to cause said hangers to be broken by the weight and strain they are subjected to.

The object of my present invention is to guard against such accidents, and for this purpose I employ my safety-hanger or safety-coupling, consisting, essentially, of a hook or analogous supplemental coupling connecting the frame and equalizing-beam to the springs independent of the main coupling of said parts, as hereinbefore stated. This supplemental coupling I prefer to form of the hook *f*, which is pivoted at one end either to the hanger *a* or *a'*, as shown in all the figures of the drawings excepting Fig. 5, or to the equalizing-beam B, as shown in the latter figure. The free end of this hook passes over the end of the spring and is bifurcated or slotted to straddle the adjacent end of the hanger *a* or *a'* and bear on the top of the spring, which latter is provided with an upward-projecting rib *h*, between which and the key *e* the end of the hook is held in its bearing on the spring. This rib, however, may be dispensed with by forming the said supplemental coupling with an additional hook *f'*, which engages the top of the key *e*, as shown in Figs. 5, 6, and 7 of the drawings. Said additional hook also renders the coupling doubly secure.

By forming the additional hook *f'* with lateral projections *i i*, extending over the top and down on the ends of the key *e*, as shown

in Figs. 7, 9, and 10 of the drawings, said hook receives a greater bearing on said key and the latter is prevented from slipping longitudinally.

5 What I claim as my invention is—

1. The combination with the supporting-spring and hangers connecting the frame and equalizing-beam to said spring, of a safety-coupling connecting said parts independent
10 of the attachment of said hangers, as set forth.

2. The combination with the supporting-spring and hangers connecting the frame and equalizing-beam to said spring, of hooks con-
15 necting said parts independent of the attachment of said hangers, as set forth and shown.

3. The combination with the spring and hanger suspended therefrom, of a hook connected to said hanger and bearing with its
20 free end on the top of said spring and means for confining the hook in said bearing, as set forth.

4. The combination with the spring and hanger passing through said spring and sus-

25 pended therefrom by a key passing through the hanger above the spring, of a hook pivoted to the hanger and engaging the top of the key, as set forth.

5. The combination with the spring and hanger passing through said spring and con-
30 nected thereto by a key passing through the hanger above the spring, of a hook pivoted to the hanger and bearing on top of the spring and provided with an additional hook engag-
35 ing the top of the key, as set forth.

6. The combination with the spring and hanger passing through said spring and sus-
pended therefrom by a key passing through
40 the hanger above the spring, of a hook pivoted to the hanger and engaging with its free end the top and ends of the key, as set forth.

In testimony whereof I have hereunto signed my name this 10th day of May, 1897.

HENRY WATKEYS. [L. S.]

Witnesses:

HARRY HERRMAN,

CLARENCE F. JAMISON.