

H. H. & I. A. HEBBARD.
Apple Parer.

No. 229,251.

Patented June 29, 1880.

Fig. 2

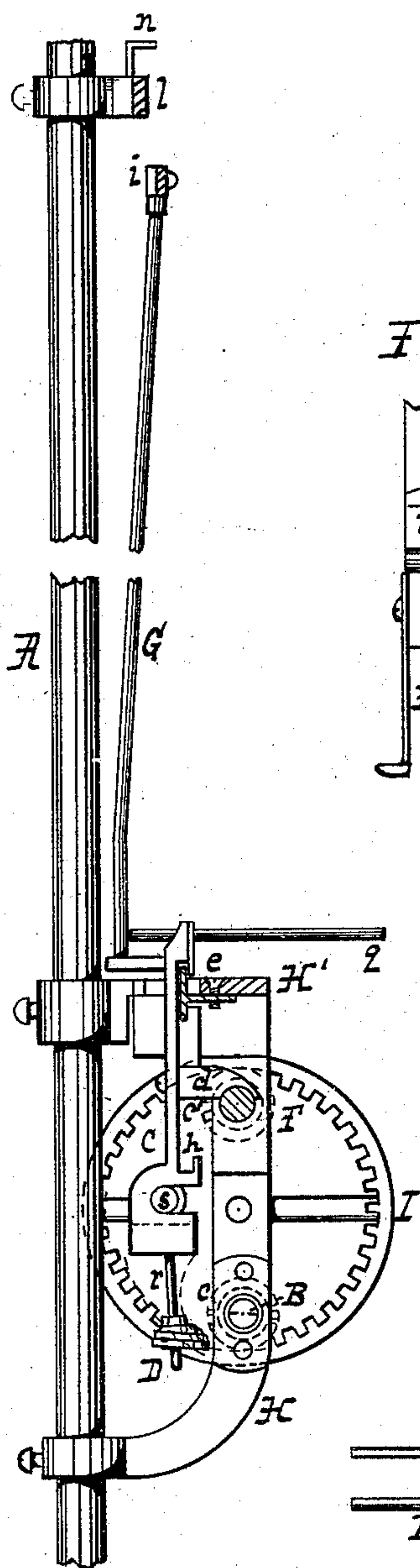


Fig. 1

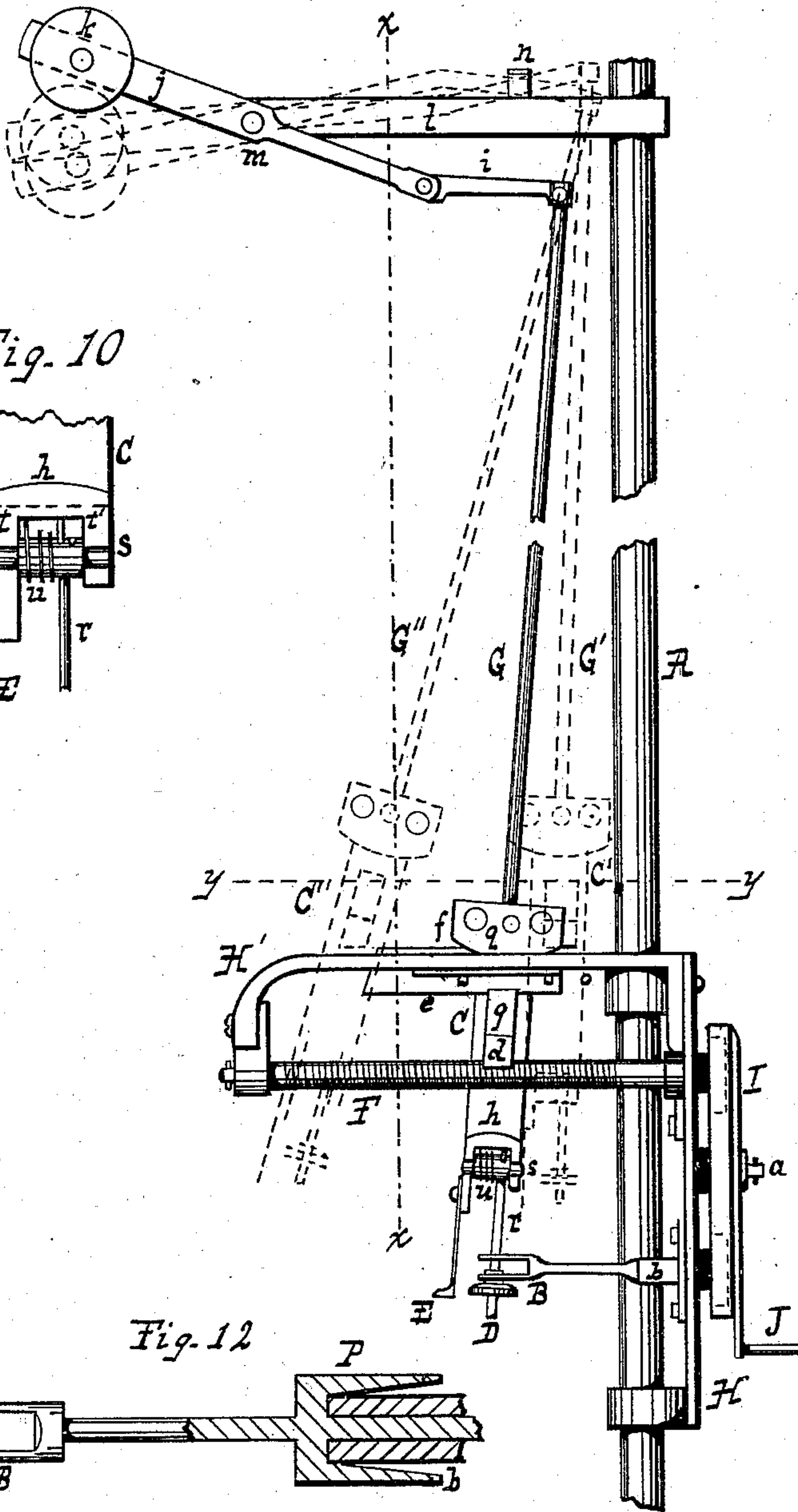


Fig. 10

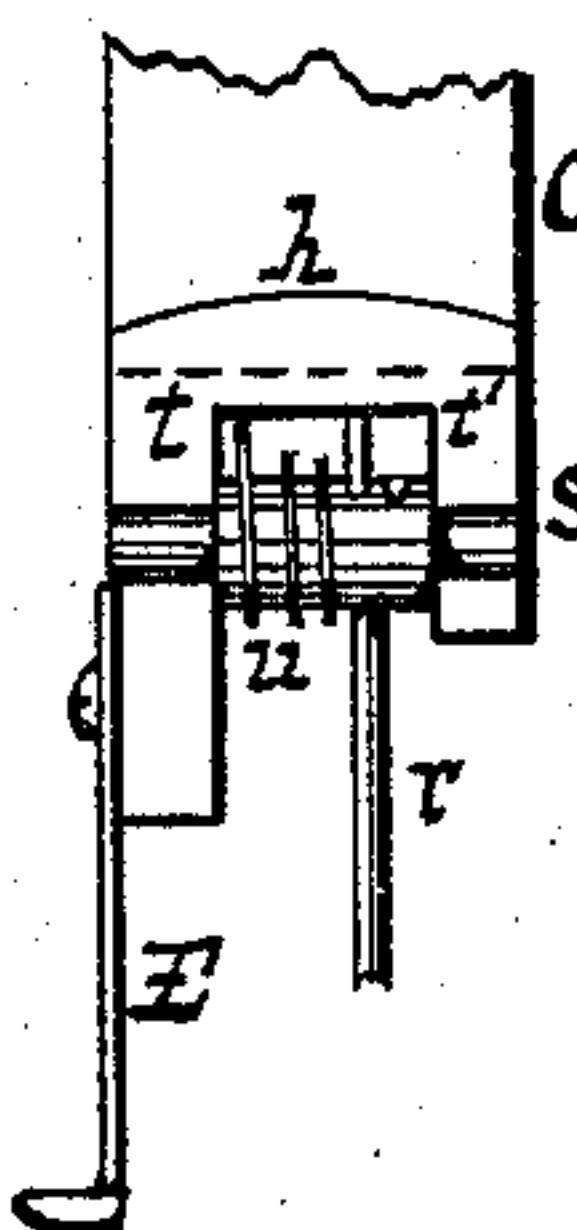
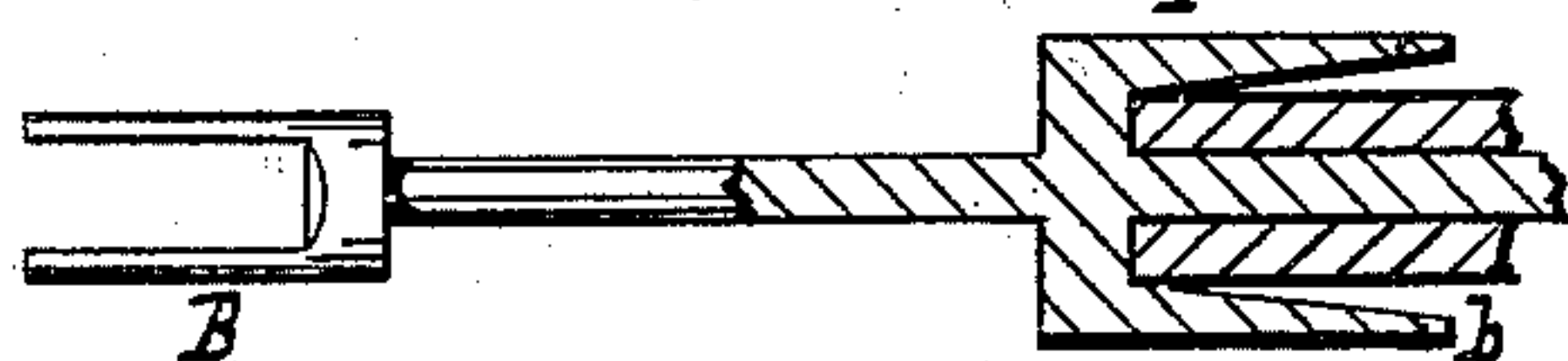


Fig. 12



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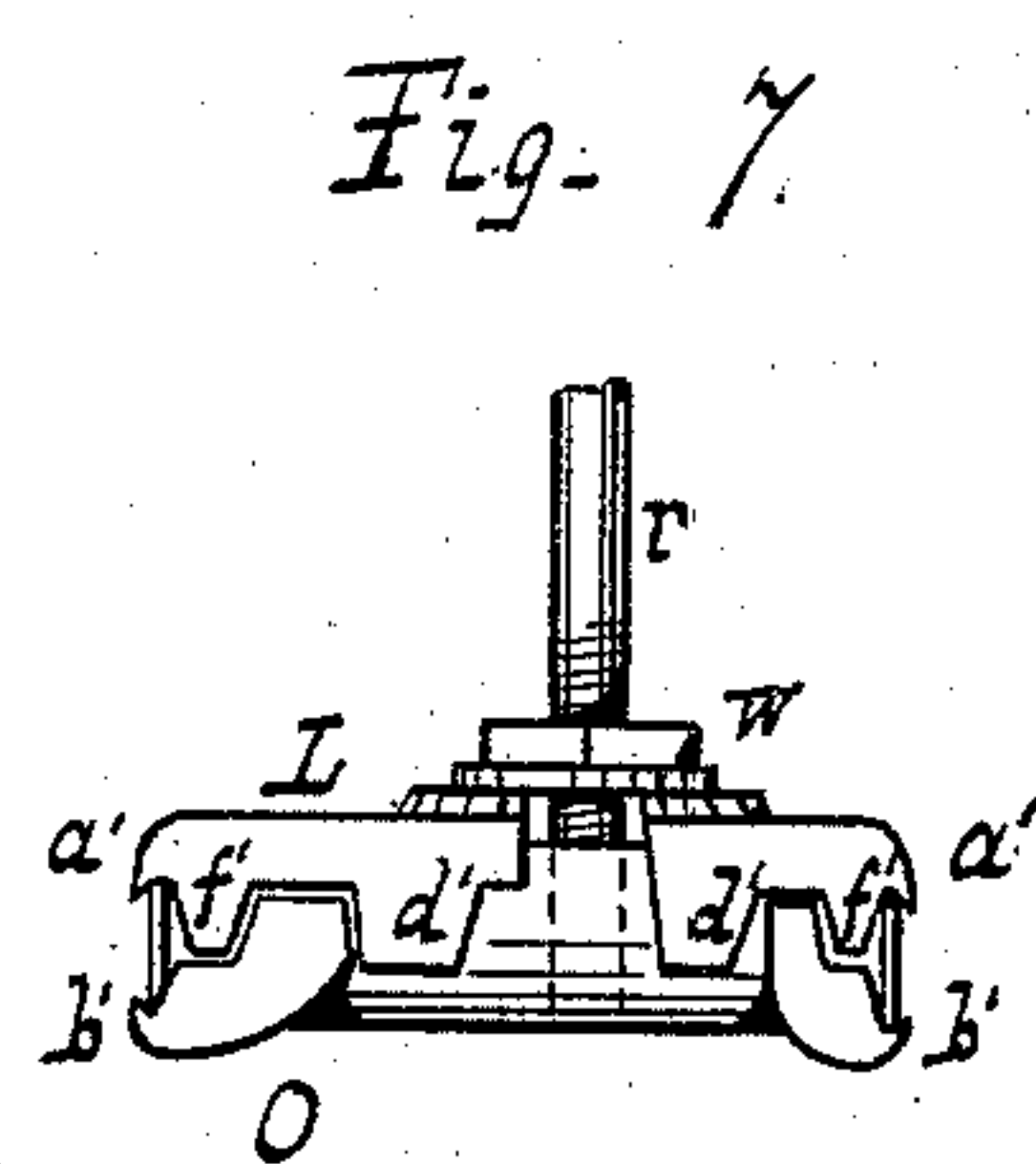
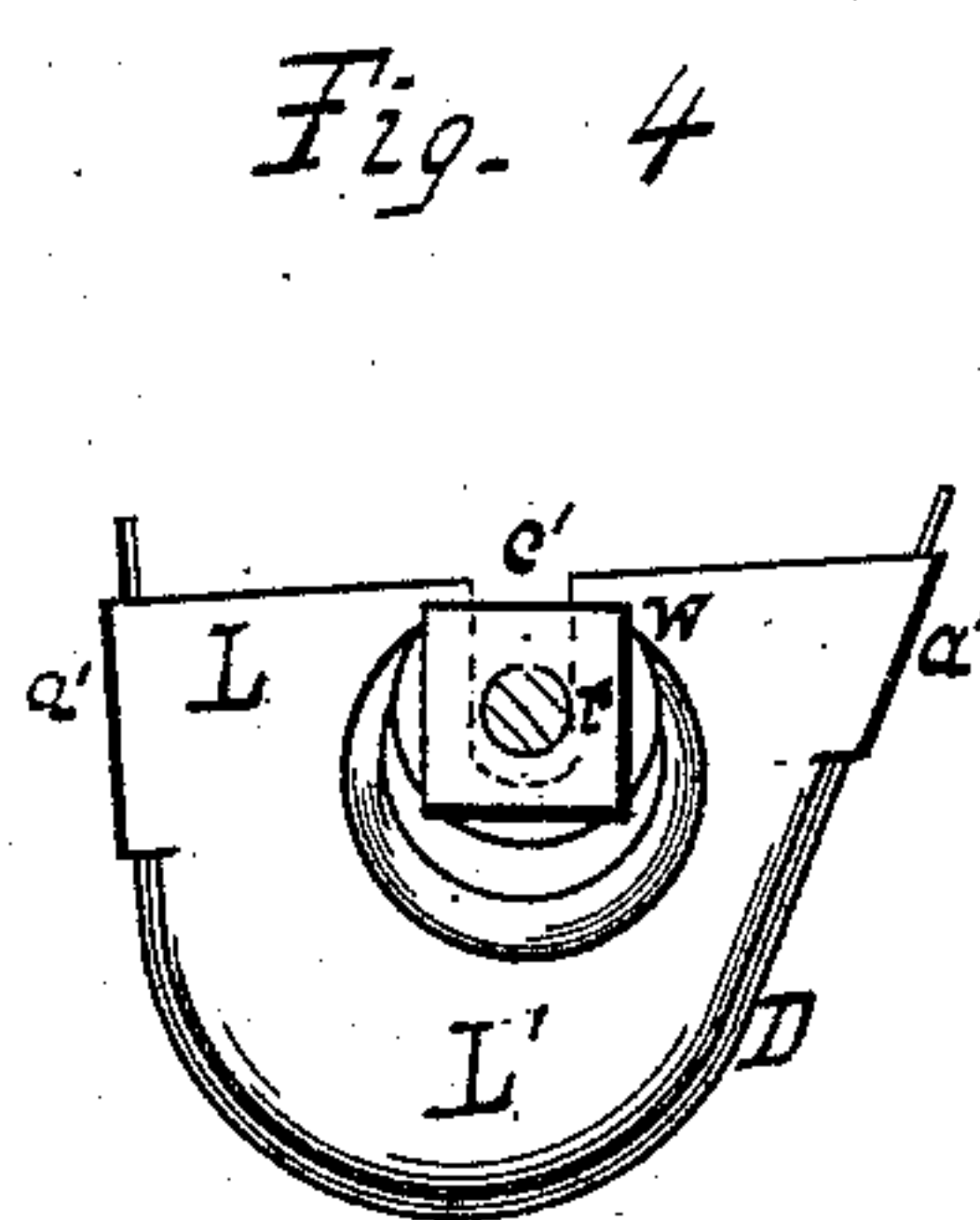
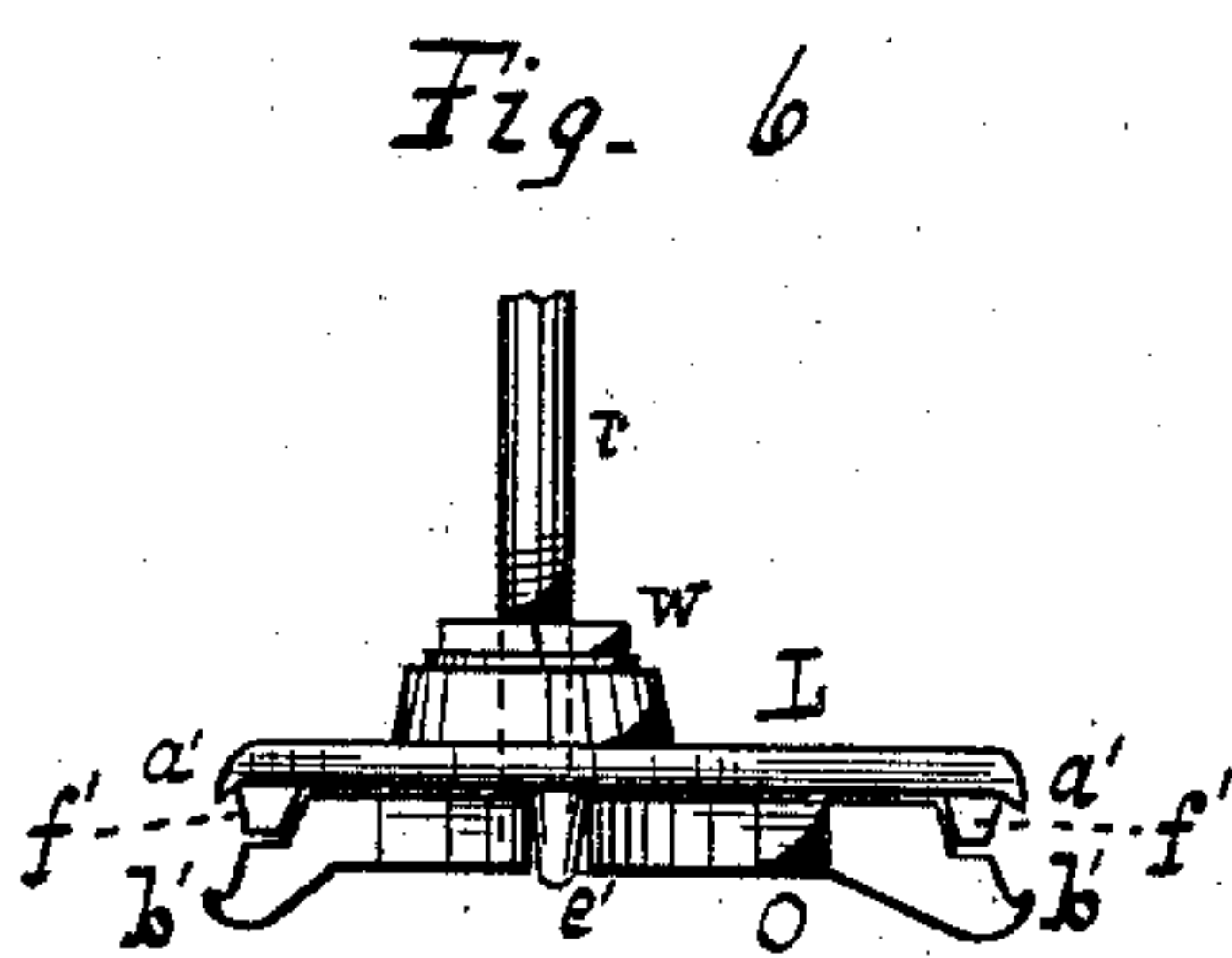
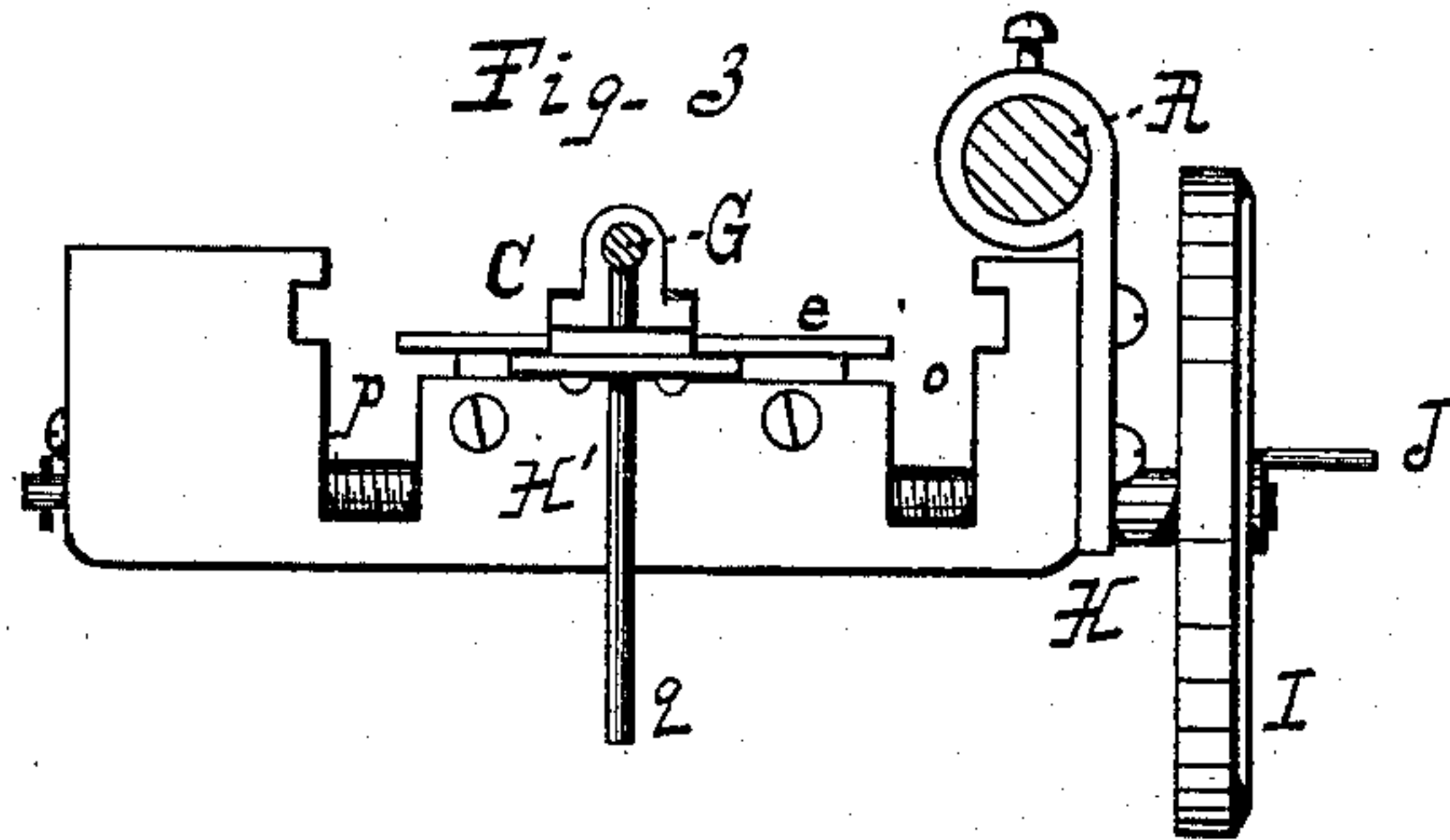
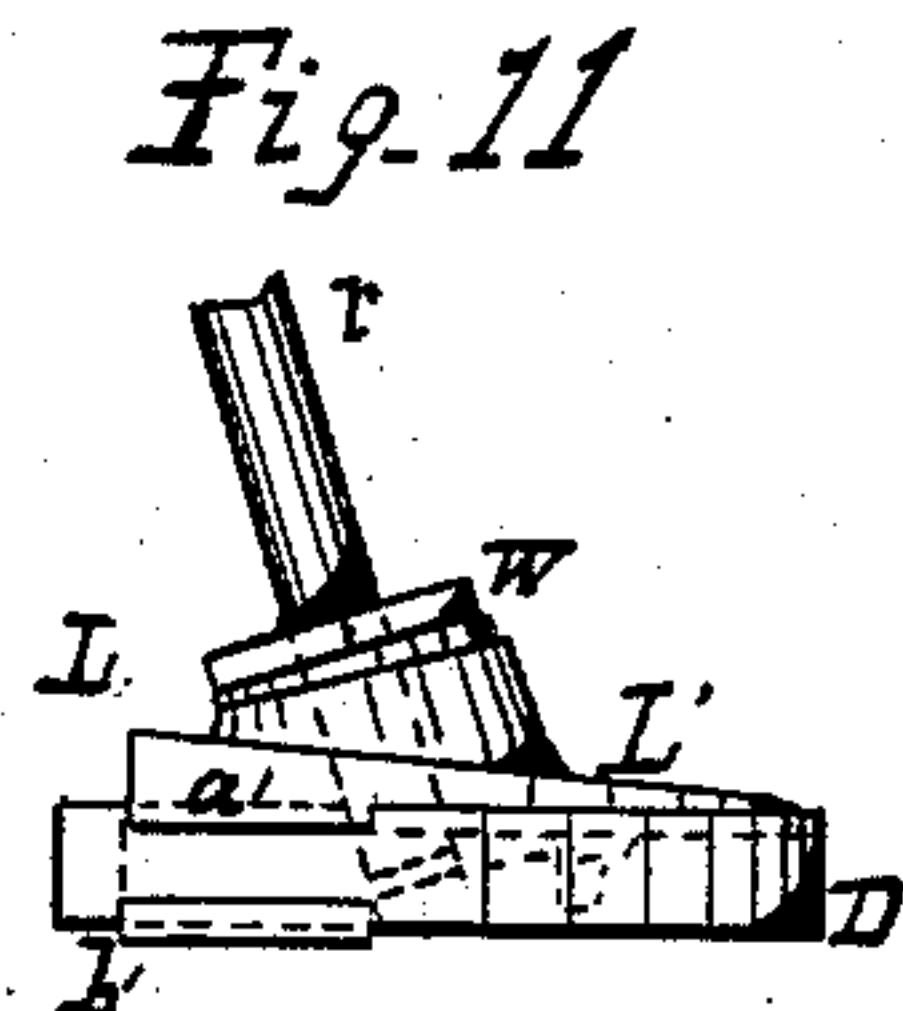
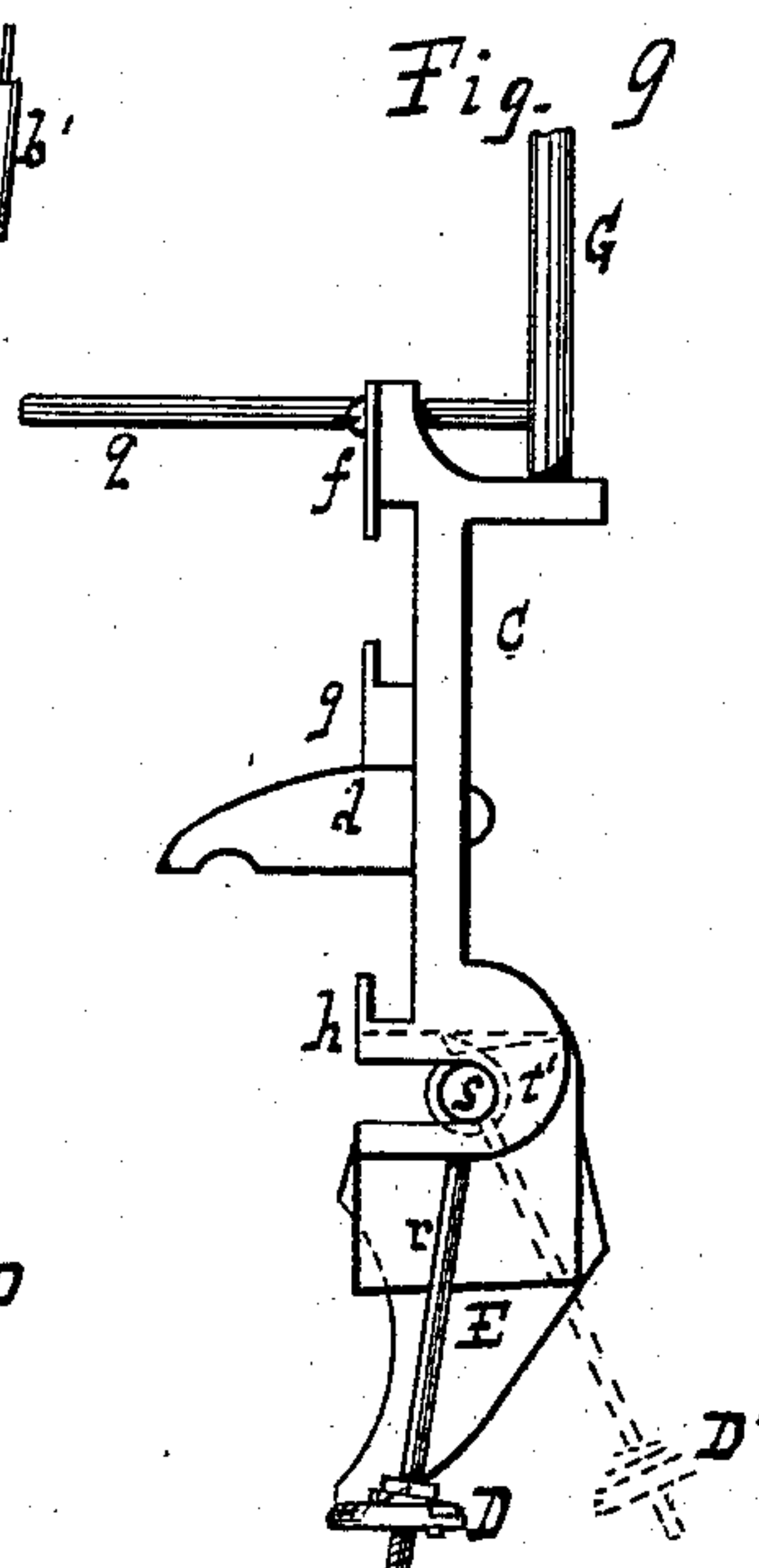
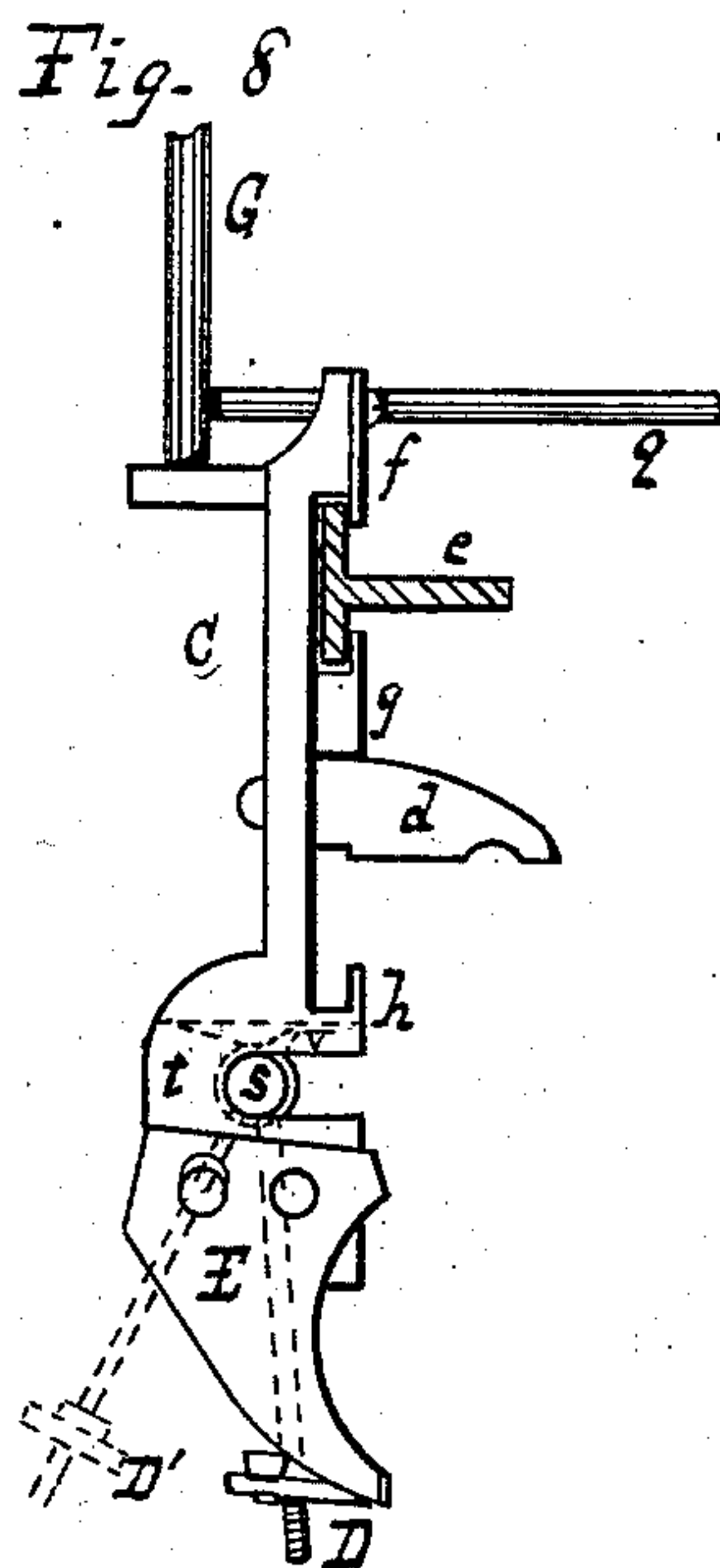
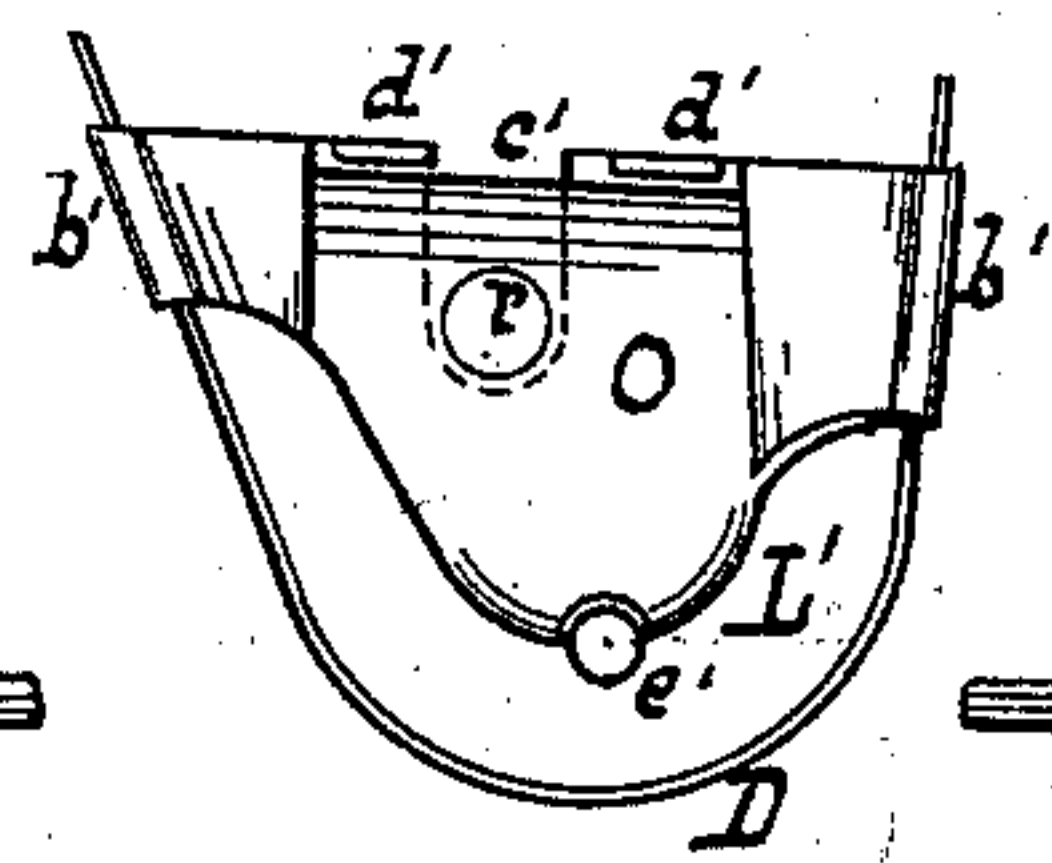


Fig. 5



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UNITED STATES PATENT OFFICE

HENRY H. HEBBARD, OF CLIFTON, AND IRA A. HEBBARD, OF ROCHESTER, N. Y.; SAID IRA A. HEBBARD ASSIGNOR TO SAID HENRY H. HEBBARD.

APPLE-PARER.

SPECIFICATION forming part of Letters Patent No. 229,251, dated June 29, 1880.

Application filed December 11, 1879.

To all whom it may concern :

Be it known that we, HENRY H. HEBBARD, of Clifton, Monroe county, New York, and IRA A. HEBBARD, of Rochester, Monroe county, New York, have jointly invented certain Improvements in Apple-Parers, of which the following is a specification, reference being had to the annexed drawings, in which—

Figure 1 is a side view of our improved apple-parer. Fig. 2 is a sectional view on the line *x x*, Fig. 1, showing the parts to the right of that line. Fig. 3 is a sectional view on the line *y y*, Fig. 1, showing the parts below that line. Fig. 4 is a plan view of our improved paring-knife. Fig. 5 shows the under side of the same. Fig. 6 is a front view of the same, the knife being omitted. Fig. 7 is a rear view of the same. Figs. 8 and 9 are side elevations of the knife-head as seen from opposite directions. Fig. 10 shows the lower end of the knife-head. Fig. 11 is a side elevation of the paring-knife. Fig. 12 is a sectional view, showing the flange-collar for protecting the bearing of the fork.

Our invention is designed to increase the durability of machines for paring apples by an improved construction, and to facilitate the practical operation of such machines by making the knife-head automatic in its action; and our invention consists in placing the feed-screw, knife-head, and other operative parts of the machine above the fork which supports the apples to be pared, so as to prevent their becoming covered with the acid juices which exude from the fruit, and which rapidly corrode and destroy any metallic parts with which they come in contact.

Our invention also consists in supporting the knife-head by a vertical rod pivoted at its upper end to permit the free motion of the knife-head, and in the arrangement of the levers and a weight by which the automatic return motion of the knife-head is secured.

Our invention also consists in improved clamps for holding the paring-knife, and in the various mechanical details of construction, as hereinafter more fully set forth.

Our improved machine for paring apples is shown in the accompanying drawings, in which A, Fig. 1, is the supporting-post of the

machine; B, the fork for rotating the apples; C, the knife-head, carrying the paring-knife D and the slicing-knife E. F is the feed-screw, and G the rod on which the knife-head is hung. H is a supporting-frame, attached in any convenient manner to the upright post A, and carrying at its upper end a horizontal arm, H', which supports the outer end of the feed-screw F and forms a guide for the knife-head.

The driving-gear I, which is provided with a hand-crank, J, rotates on a stud, *a*, fastened to the frame H. The gear I gives motion to the fork B and the feed-screw F by means of the pinions *c c'*, Fig. 2.

The fork B is attached to the frame H by means of the removable journal *b*, Fig. 1. The feed-screw F is journaled at a suitable distance above the fork in the supporting-frame H and in the outer end of the horizontal arm H'. A half-nut, *d*, attached to the knife-head C, engages with the feed-screw F, and causes the knife-head to traverse from left to right, thereby bringing the knives D and E into operation on an apple placed on the fork B. A guide, *e*, is attached to the horizontal arm H'.

At its upper end the knife-head C is provided with clips *f g*, Fig. 8, which fit over the T-shaped guide *e*.

The knife-head is caused to travel in a straight line during the operation of paring and slicing the apple by means of the guide *e*.

The return motion of the knife-head is obtained automatically in the following manner: The knife-head is supported on a hanging rod, G, which may be of any desired length, which is determined by the length of the post A or the height of the room in which the machine is set up. At its upper end the rod G is provided with an arm, *i*, Fig. 1, rigidly connected to it at right angles thereto. The outer end of the arm *i* is pivoted to the end of the lever *j*, which is free to swing vertically about the pin *m* on the arm *l*, connected with the post A, or supported in any other convenient manner—as, for instance, by being fastened to a bracket depending from the ceiling of the room in which the machine is used. At its outer end the lever *j* is provided with a weight, *k*. A stationary stud or stop, *n*, attached to the arm *l*,

or to any other convenient support, is located a short distance above the arm *i* and about the middle of its length.

When the knife-head arrives at the extremity of its motion toward the right, the weight *k*, operating through the lever *j*, raises the knife-head upward, the clip *g* and nut *d* passing through the opening *o* in the horizontal arm *H'*. As the knife-head rises the arm *i* comes in contact with the stop *n*, by which the upward motion is arrested. This position of the knife-head and supporting-rod is represented in dotted lines at *C' G'*, Fig. 1. The weight now acting on the outer end of the arm *i*, causes it to move upward, turning about the stop *n* as a pivot, and causing the rod and knife-head to swing into the position indicated by dotted lines *C'' G''*. In this position the knife-head will remain at rest, the side of the head bearing against the outer part of the horizontal arm *H'*, until it is depressed by the operator by the handle *q*, the nut *d* passing through the opening *p* to engage with the screw *F*.

The projection or lip *h*, Fig. 8, prevents the knife-head from rising too far.

The lower edge of the clip *f*, which rests on the guide *e*, is curved, as shown in the drawings.

To the lower end of the knife-head are attached the slicing-knife *E* and the paring-knife *D*. The slicing-knife is attached to the side of the knife-head by screws, (see Fig. 8,) which pass through slotted holes for the purpose of making the knife adjustable. The paring-knife is attached to the lower end of the knife-head by the rod *r*, the upper end of which is inserted in a cross-piece, *s*, the ends of which are turned down so that it can rotate in the slots cut transversely in the jaws *t t'* of the knife-head.

A spring is coiled about the cross-piece *s*, as shown at *u*, Fig. 10, one end of the same being attached to the cross-piece or wound around the rod *r*, while the other end bears against the knife-head.

The spring *u* allows the paring-knife to yield back over the apples as the knife-head traverses along the guide *e*, while at the same time it serves to hold the cross-piece *s* in the slots in the jaws of the knife-head. The cross-piece is held in the slots by the spring bearing against or bent around some portion of the knife-head, the object being to arrange the paring-knife so that it can be readily removed from the knife-head, if it becomes necessary to do so. Thus the operator, by simply bending the spring *u*, can remove the knife and make any necessary change in it.

The position of the knife when operating on the apples is indicated approximately in the position shown in dotted lines at *D'*, Figs. 8 and 9.

A stop, *v*, Figs. 8 and 10, attached to the cross-piece *s*, bears against the knife-head, and prevents the knife *D* from swinging far enough toward the fork *B* to come in contact with it.

The paring-knife *D* consists of a strip of steel

bent into a suitable curved form and sharpened on its upper edge, Fig. 11. The knife *D* is secured to the rod *r* so that it may be readily disconnected therefrom by the clamps *L* and *O*, Figs. 4, 5, 6, 7, and 11, which are held together by a nut, *w*, on the rod *r*. The rod *r* is screwed into the lower clamp, *O*, so that the position of the latter longitudinally on the rod may be adjusted. At the rear ends of the knife the clamps *L* and *O* are provided with hooked jaws *a' a' b' b'*, between which the knife is securely held when the two clamps are fastened together by the nut *w*. The upper clamp, *L*, is provided with a slot, *c'*, Figs. 4 and 5, through which the rod *r* passes, and which slot extends to the rear edge of the clamp, so that when the nut *w* is loosened the clamp may be removed from the rod. The upper clamp, *L*, is provided with lugs or projections *d' d' e' f' f'*, which fit into corresponding recesses in the clamp *O*, so as to prevent one of the clamps from changing its position with regard to the other.

The clamp *L* projects forward and forms a lip, *L'*, made of a form to correspond with the inside of the knife *D*. The upper edge of the clamp is slightly rounded, and it is thus made to act as a gage to determine the thickness of the paring taken from the apple, the knife *D* being adjusted at any desired distance from the edge of the clamp by shifting its position in the jaws *a' a' b' b'*.

As it is preferable to have the rod *r* somewhat inclined to the clamps and knife, a boss is formed on the upper surface of the clamp *L*, so as to afford a bearing-surface for the nut *w* at right angles with the rod *r*. A washer should be interposed between the nut and the boss to cover the slot *c'*.

One of the advantages secured by connecting the paring-knife to the rod *r* by means of the clamps is that as the projecting lip *L'* is worn back by the use of the machine, the knife may be readily adjusted at the proper distance from the edge of the lip.

In order to prevent the juices from the apples from getting into the journal *b*, by which it would be rapidly destroyed, a flange-collar, *P*, is attached to the fork *B*, which projects over the journal *b*, as shown in Fig. 1, and excludes the juices from it.

The arm *i* may, if preferred, be inclined downward from a right angle with the rod *G*. The weight may be connected to the outer end of the arm *i* by a pulley and cord, thereby dispensing with the lever *j*. In this case the upper end of the supporting-rod *G* should slide between suitable vertical guides.

From the preceding description the operation of our improved apple-paring machine will be readily understood.

The operator, located before the machine, places an apple on the fork *B*, depresses the knife-head by means of the handle *q*, bringing the nut *d* in contact with the screw *F*; after which the apple is pared and sliced by turning the crank *J*, and upon the completion of

this operation the knife-head is automatically returned to its original position, ready for another operation, by means of the weight and levers.

5 We are aware that apple-paring machines have been heretofore made in which the feed-screw and other operating parts were located at one side of, and at or nearly in the same horizontal plane with, the fork, and such construction we do not claim, as in such machines it is impossible to prevent the working parts from becoming covered with the acid juices from the fruit. We do not claim anything shown in Patent No. 140,315.

15 We claim—

1. The combination of the knife-head C, supporting-rod G, arm *i*, stop *n*, and weight *k*, whereby an automatic return motion is given to the knife, substantially as described.

20 2. The combination of the fork B, feed-screw F, knife-head C, provided with nut *d*, and paring-knife D, and supported by the swinging rod G, substantially as described.

25 3. The combination of the fork B, feed-screw F, knife-head C, nut *d*, paring-knife D, swinging rod G, and horizontal arm H', provided

with openings *o* and *p*, substantially as described.

4. In combination with the knife-head C, having slotted jaws *t t'*, the paring-knife D, 30 rod *r*, cross-piece *s*, and spring *u*, substantially as described.

5. The combination of the paring-knife D and clamps O and L, provided with suitable knife-holding jaws *a' a' b' b'*, and projecting 35 lip L', substantially as described.

6. The combination of the paring-knife D, rod *r*, nut *w*, clamps O and L, the latter having slot *e'*, substantially as described.

7. In combination with the fork B, the flange-collar P, projecting over the journal *b*, sub- 40 stantially as described.

8. In combination with a paring-machine having the working parts located above the fork, the fork B, provided with the flange-col- 45 lar P, substantially as described.

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