

C. COLEMAN.

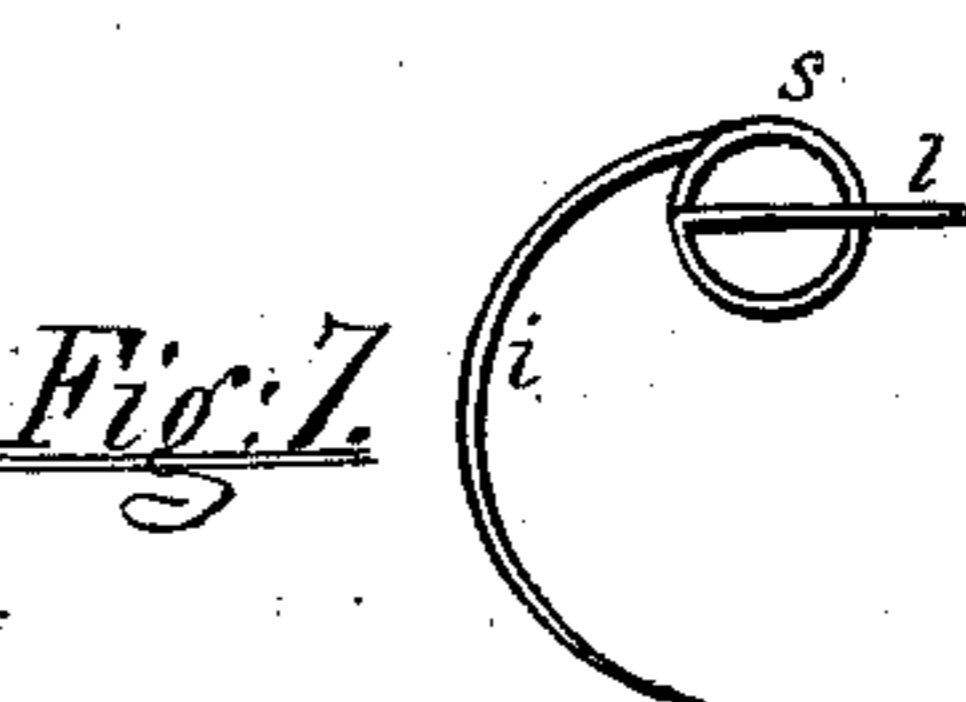
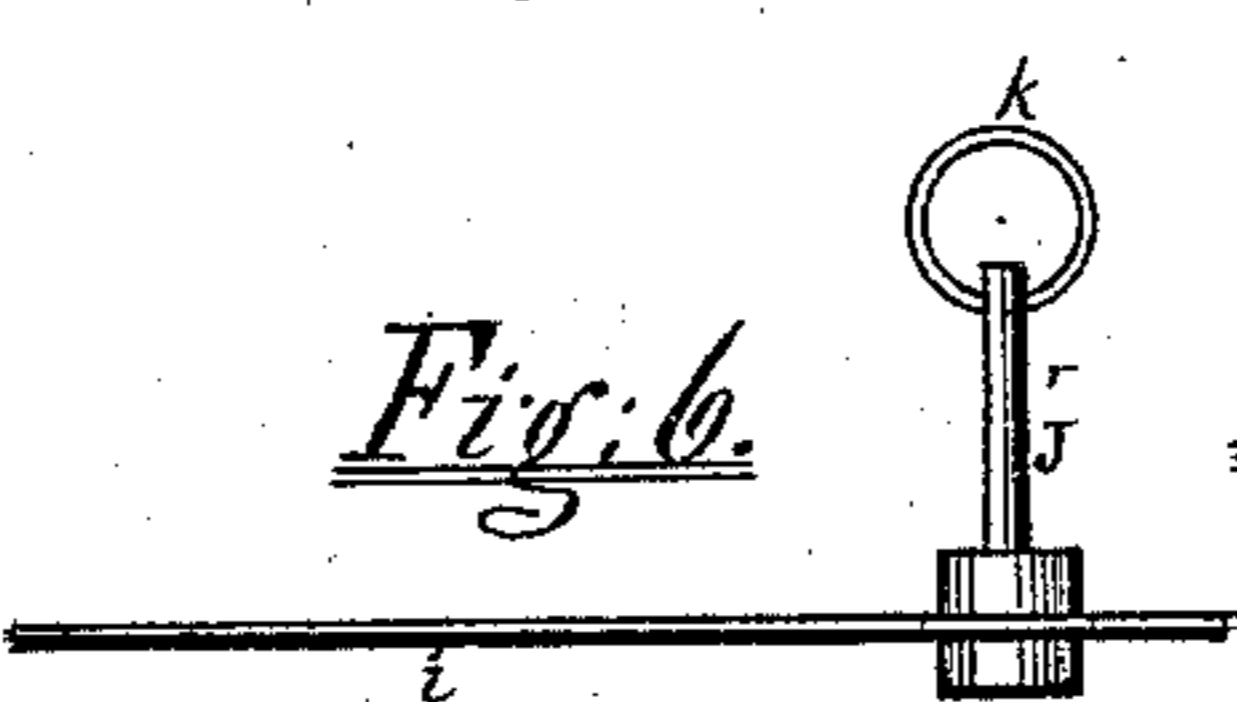
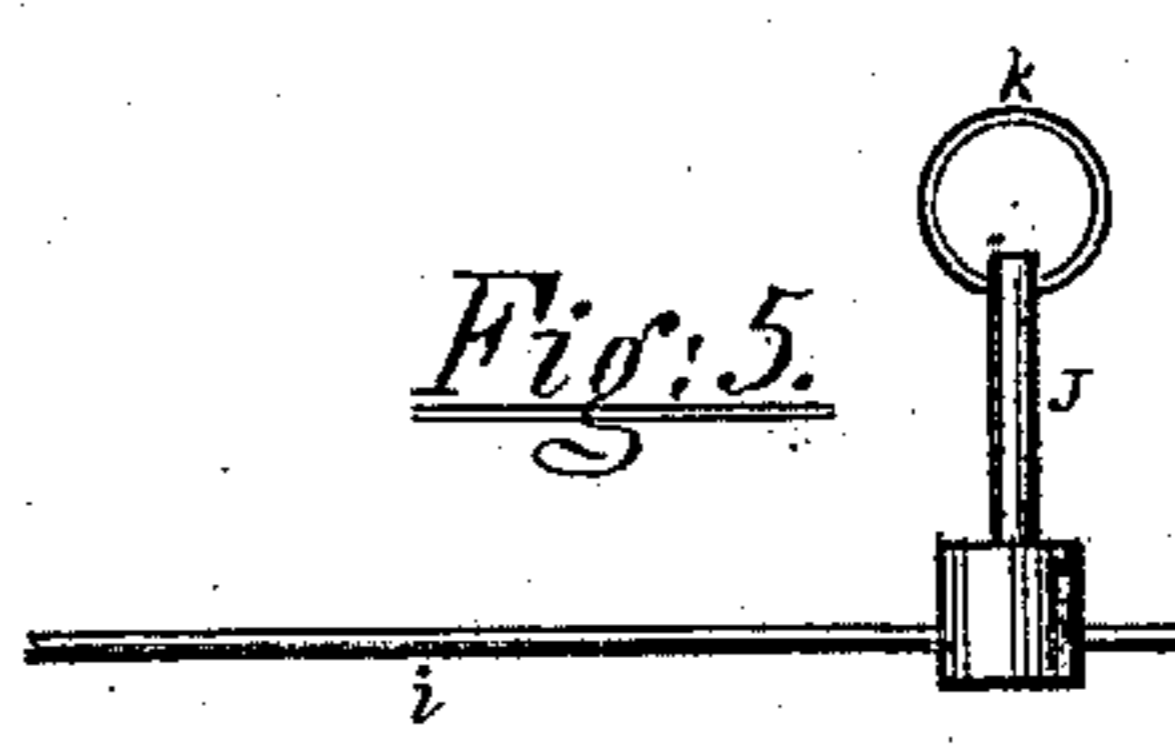
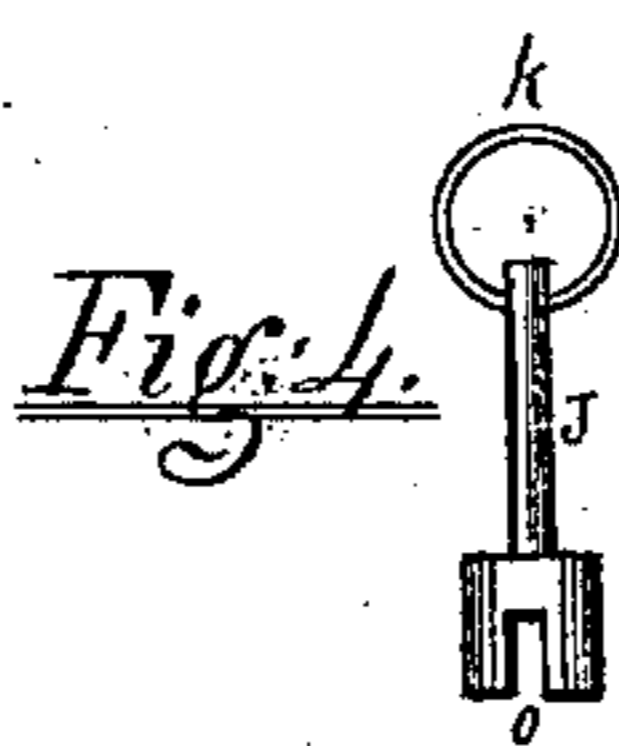
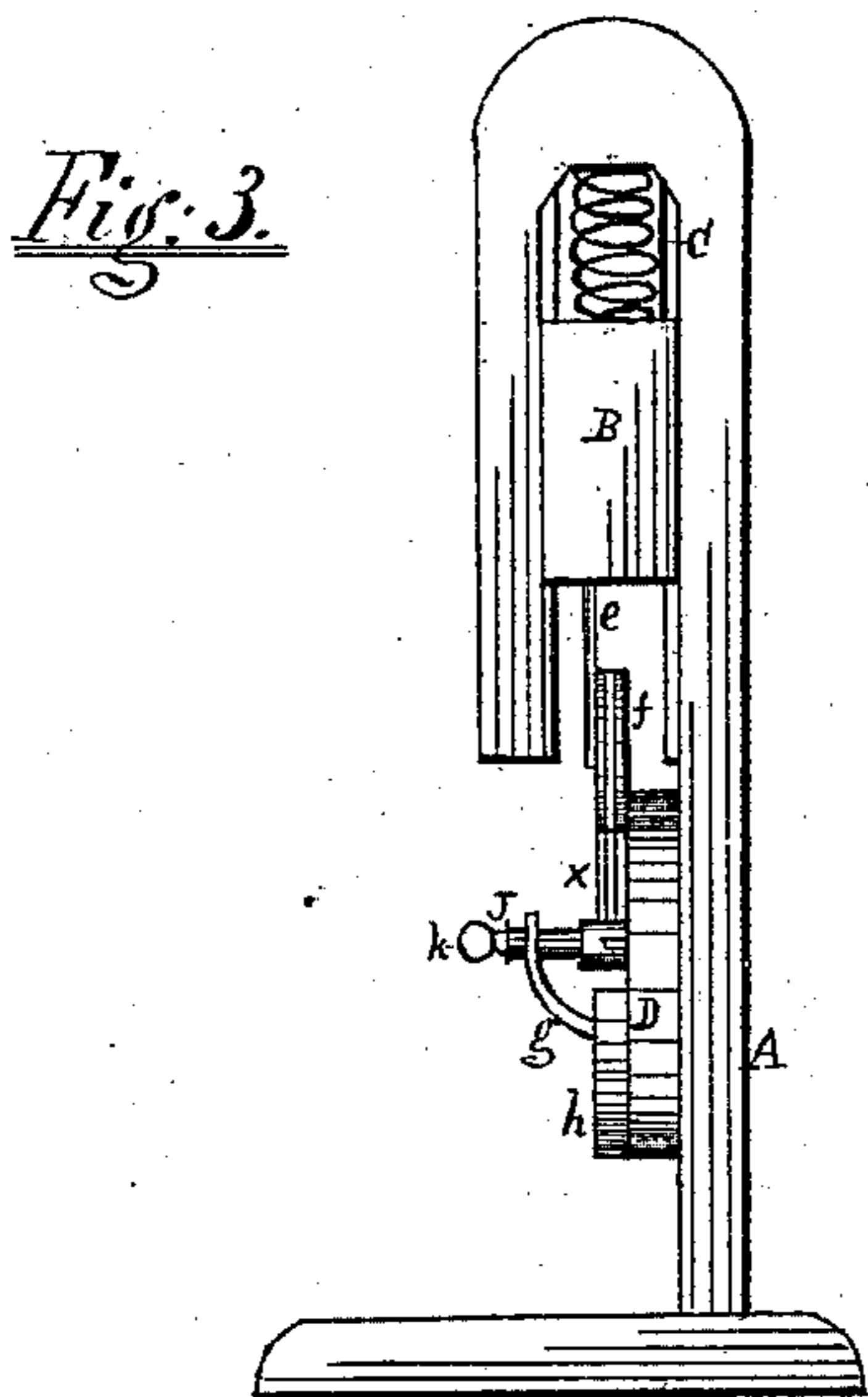
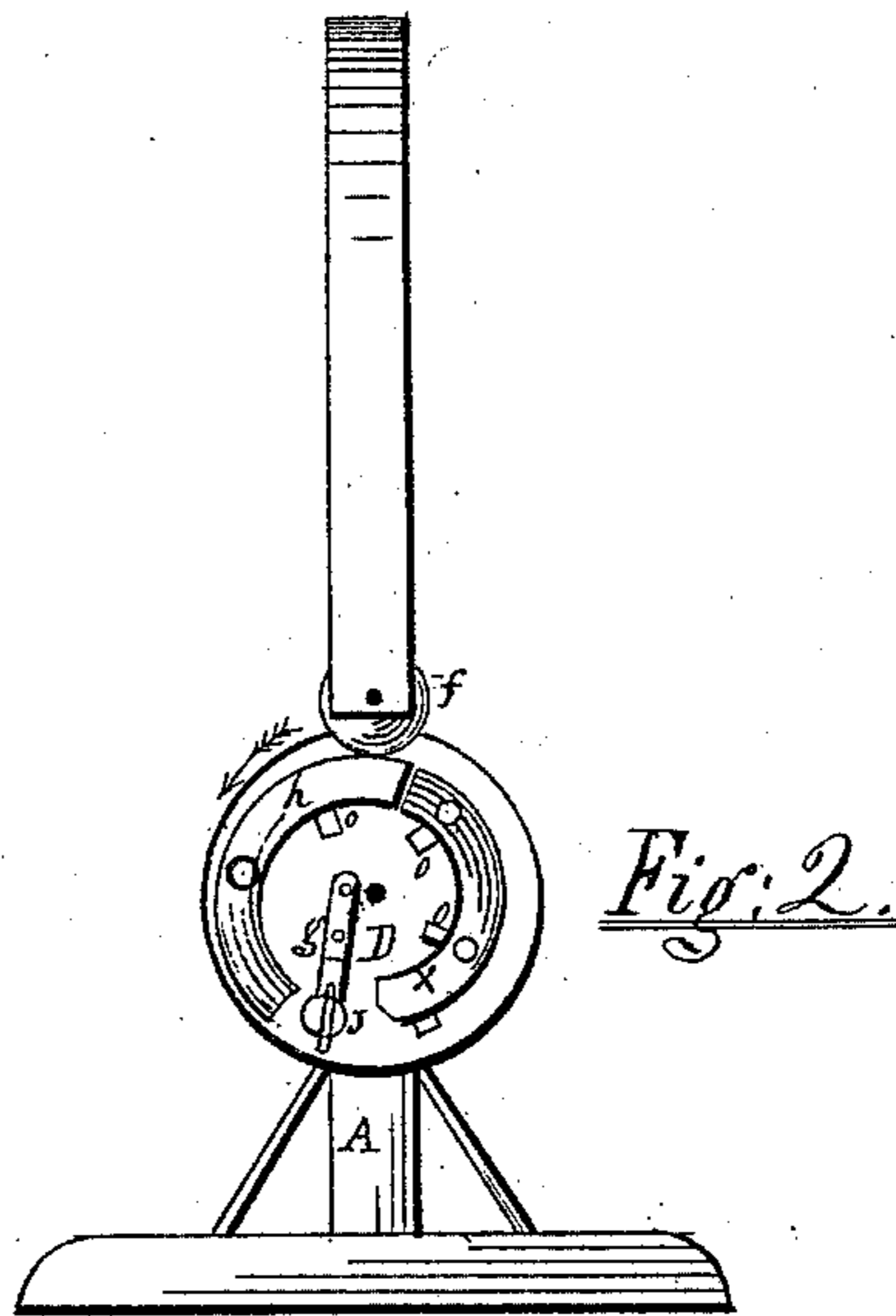
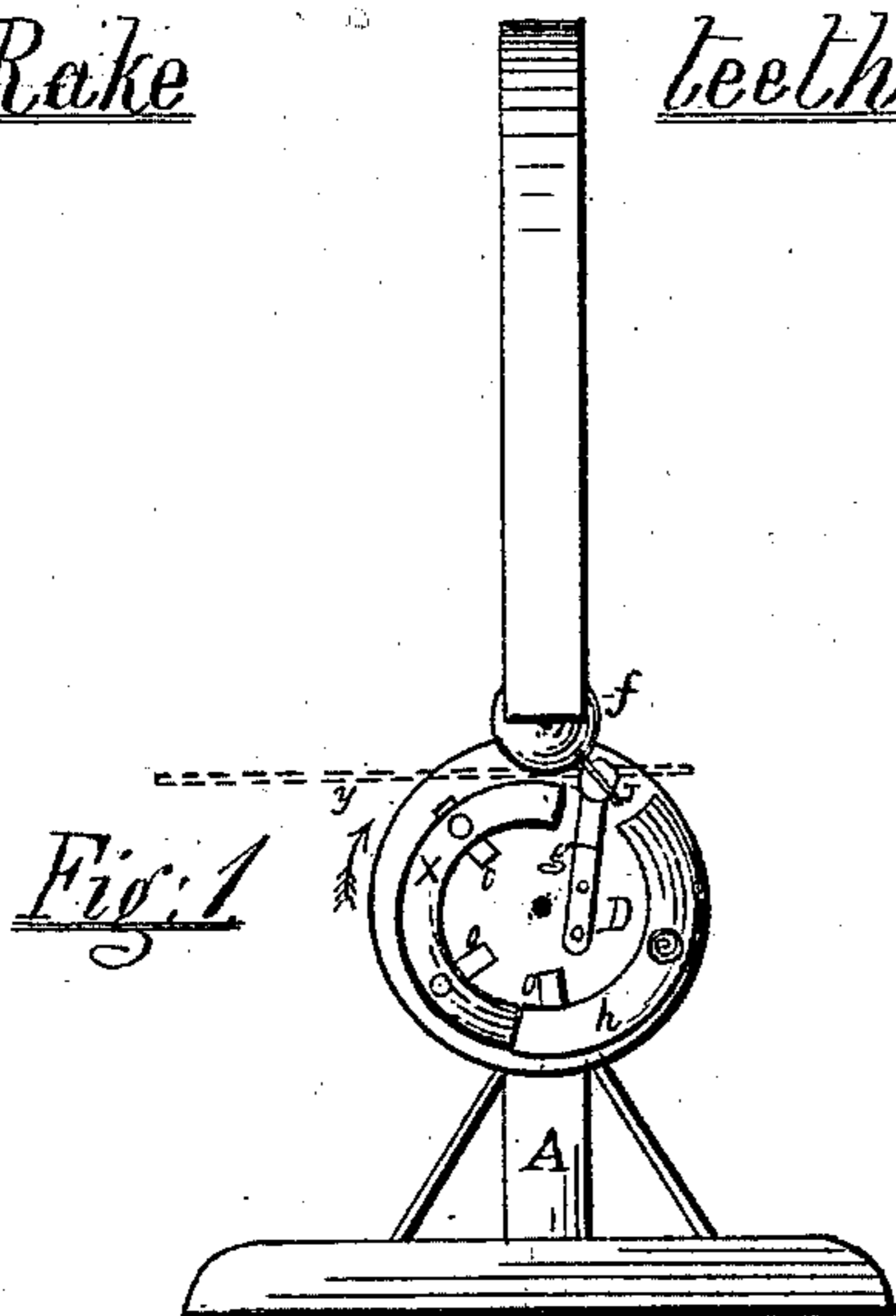
MACHINE FOR BENDING RAKE TEETH.

No. 99,638.

Patented Feb. 8, 1870.

Rake

teeth.



Witnesses
Al Johnston
James G. Thompson

Inventor
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By his attorney A. Johnston

United States Patent Office.

COLUMBUS COLEMAN, OF ALLEGHENY CITY, PENNSYLVANIA.

Letters Patent No. 99,638, dated February 8, 1870.

IMPROVED MACHINE FOR BENDING RAKE-TEETH.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, COLUMBUS COLEMAN, of the city and county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Machines for Bending Rake-Teeth; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the construction, combination, and arrangement of the parts hereinafter described, said parts operating, with relation to each other, in the manner and for the purpose set forth.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of this specification—

Figures 1 and 2 are front elevations of my improved machine for bending rake-teeth, representing the several parts in different positions.

Figure 3 is a side elevation of the same.

Figures 4, 5, and 6, are side views of the heading-lever, showing it in different positions during the operation of forming the spring on the rake-tooth.

Figure 7 is a side view of the rake-tooth formed on my improved bending-machine.

In the accompanying drawings—

A represents the frame of the machine, which is constructed of iron.

In the frame A is placed a sliding-head, B, to the arm *e* of which is pivoted a grooved roller, *f*.

Above the sliding-head B is placed a spring, C, which, pressing down on it, presses the grooved roller *f* down on the edge of the detachable form *x*, which is secured to the disk D by means of bolts.

The disk D is pivoted to the frame A, and is provided with slots or openings *o*, for the bolts used for holding the form *x* and guide *h* to the face of the disk.

To the disk is secured a yoke, *g*, for holding the heading-lever in position. The inner end of the lever is fitted to an opening in the disk.

The inner end of the heading-lever is provided with a slot, *o'*, as shown in fig. 4.

As the construction and arrangement of the several parts of the machine will be readily understood from the foregoing description and by reference to the drawings, I will therefore proceed to describe the operation.

The rods of iron or steel for forming the rake-teeth are heated, by means of a suitable furnace, to the required degree for bending.

The operator then places the heated rod for forming the tooth in between the grooved roller *f* and form *x*, passing it through the slot *o'* in the heading-lever J, so that it will project past or through the lever, as indicated by the dotted lines *y*, in fig. 1, or as shown in fig. 5.

He then turns the lever so as to form one or more coils of the spring. He then turns the disk, as indicated by the arrow in fig. 1, and the roller *f*, pressing down the rod, will bend it to the form *x*, giving to the tooth a curvature, as shown at *i* in fig. 7.

Soon as the rod *y* has passed from under the roller *f*, he draws back or out the heading-lever J, so that the tang *l* will be out of the slot *o'*. The tooth will then drop from the machine, leaving disk D, and the several parts attached thereto, in the position represented in fig. 2.

The disk is then turned back, as indicated by the arrow in fig. 2, until the disk, and the parts attached to it, are in the position shown in fig. 1.

The guide *h* is used for preventing the grooved roller *f* from dropping down past the end of the form *x*. The position of the guide may be changed to correspond to any change of the form, or of its position on the disk.

Teeth of any desired curvature may be formed by simply changing the form *x* on the disk D, and all the different forms of the coil-spring *s*, on rake-teeth, may be formed by the use of the lever J.

The form of the coil-spring *s*, with the tang *l*, for fastening the tooth to the rake-head, being the most difficult of all the known forms to construct, may, with ease and facility, be formed on the machine hereinbefore described.

Having thus described my improvement in machines for bending rake-teeth,

What I claim as of my invention, is—

The combination and arrangement of the disk D, movable form *x*, guide *h*, grooved roller *f*, sliding-head B, spring C, and lever J, constructed, arranged, and operating with relation to each other, substantially as herein described, and for the purpose set forth.

COLUMBUS COLEMAN.

Witnesses:

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