

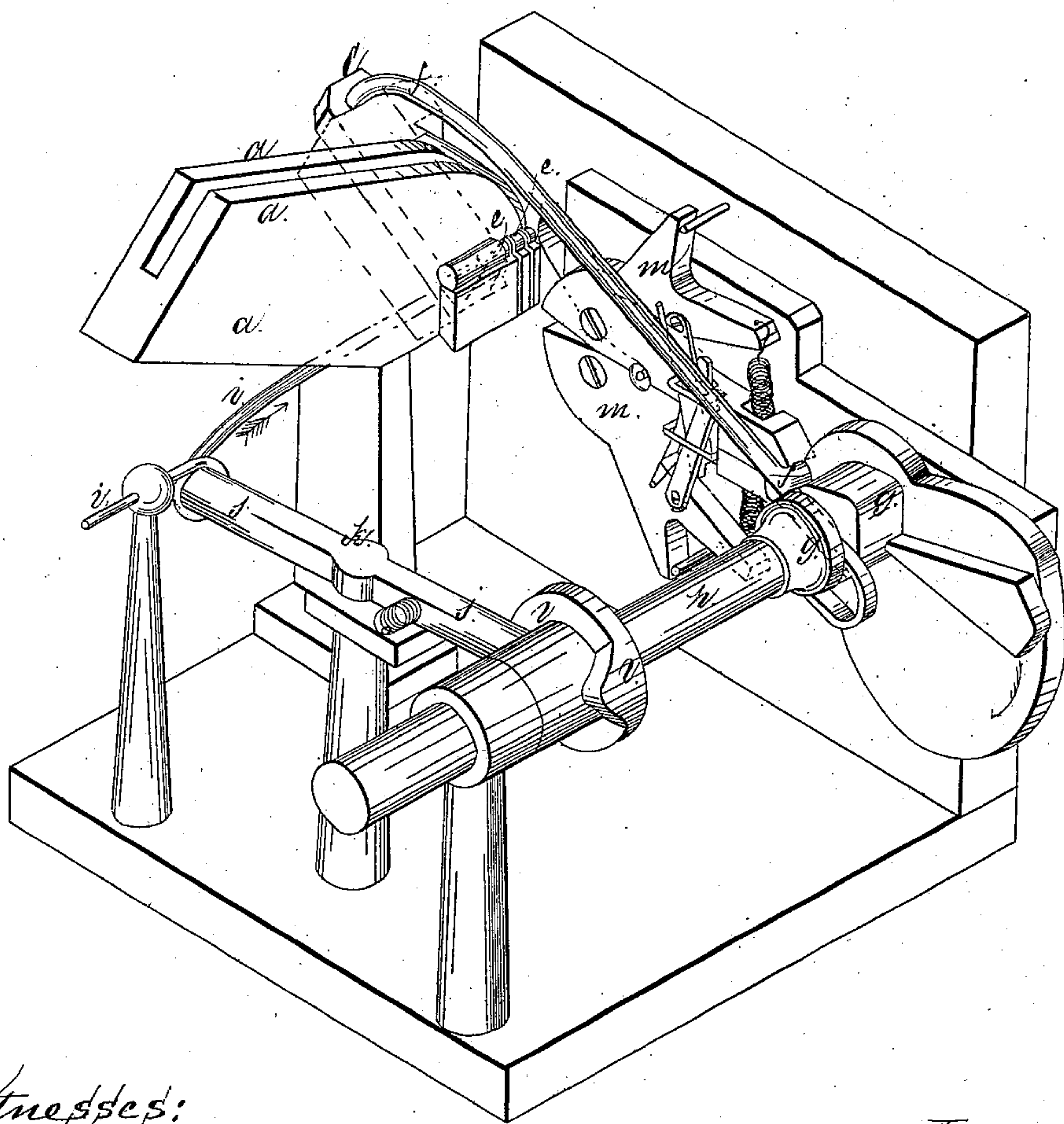
2 Sheets. Sheet 1.  
*E. S. Pierce,*

*Screw-Blank Feeder.*

*N<sup>o</sup> 95,603.*

*Patented Oct. 5, 1869.*

*Fig: I.*



*Witnesses:*

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*William Shipman*

*Inventor:*

*E. S. Pierce*

*by Ellis H. Limous*  
*Atty.*

E. S. Pierce,

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Fig. 2.

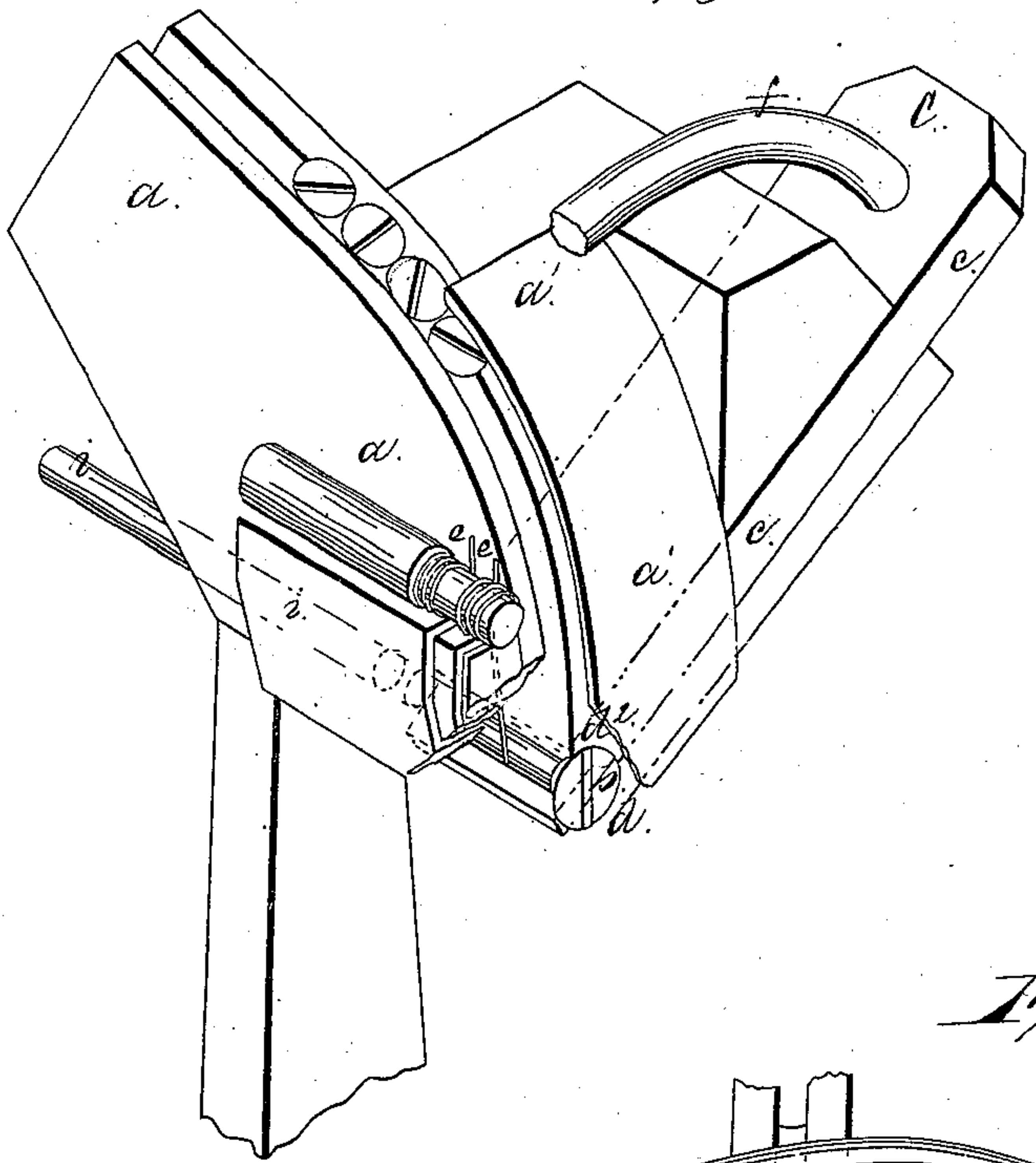
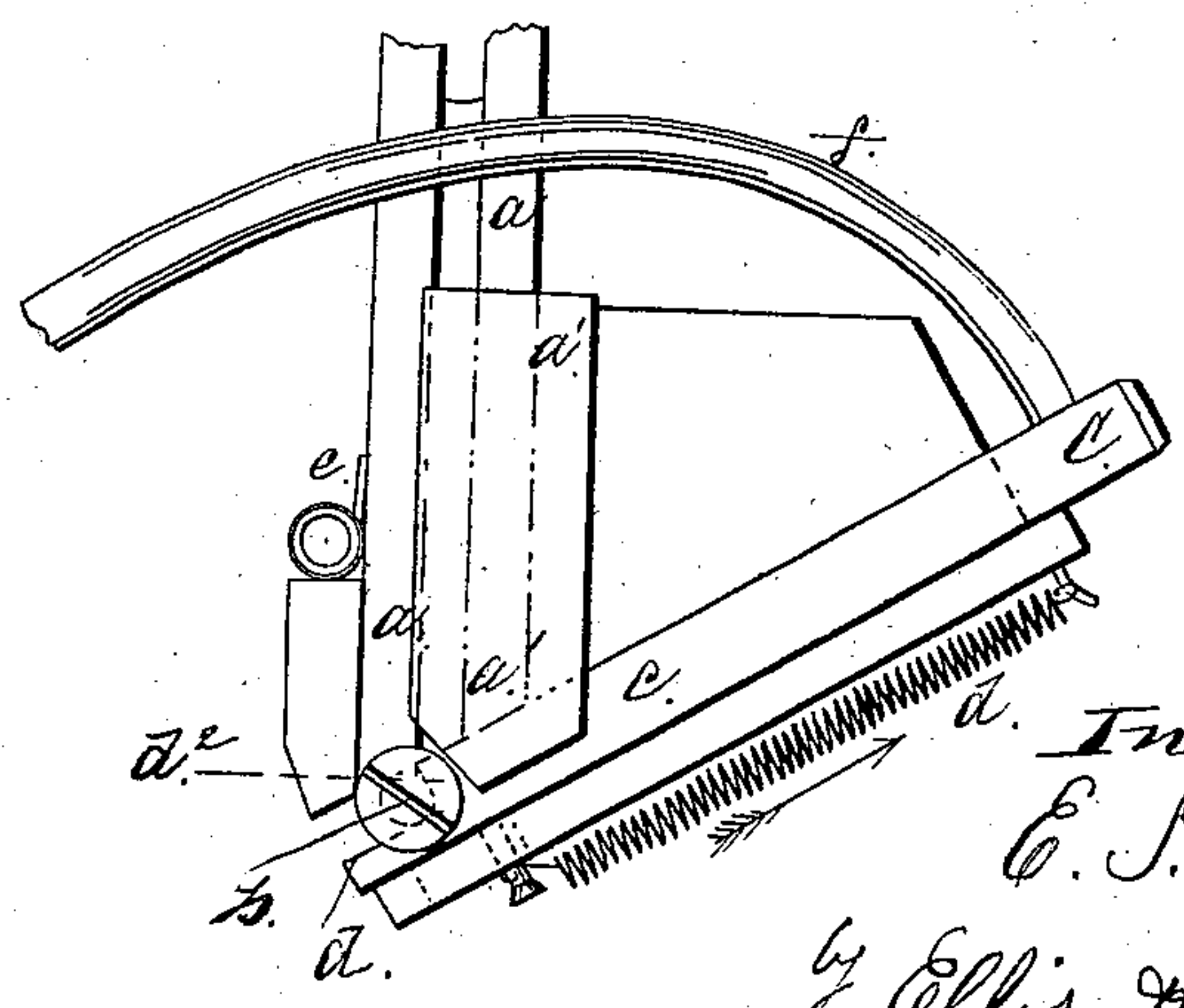


Fig. 3.



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Inventor:  
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# United States Patent Office.

ELIJAH S. PIERCE, OF HARTFORD, CONNECTICUT.\*

Letters Patent No. 95,603, dated October 5, 1869.

## IMPROVED SCREW-FEEDING APPARATUS.

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, ELIJAH S. PIERCE, of Hartford, in the county of Hartford, and State of Connecticut, have invented a new and useful Improvement in Apparatus for Conveying Screw-Blanks; and I declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference thereon, forming a part of this specification.

Figure 1 is a perspective view of my improvement, showing also a grasping-device, which is necessary to show the working of my invention.

Figure 2 is a perspective view of my improvement, separated from the additional device shown in fig. 1.

Figure 3 is an end elevation of my improvement.

Like letters indicate like parts in all the figures.

My improvement consists of a new device for presenting wood-screw blanks to a chuck, or other grasping-device, to be held by such chuck or grasping-device until being pointed or otherwise operated upon.

The chuck forms no part of my invention as claimed herein; but a chuck is shown in fig. 1, and described herein, for the purpose of showing the full operation of my device.

The letter *a* designates a metal conductor, in which the screw-blanks are placed by some proper device.

From its shape, the tendency of these blanks is to slide, one after another, down toward the position of the blank *b*, shown in figs. 2 and 3.

The blanks are kept from falling out of the conductor, while sliding down, by the metal shield *a'*.

The letter *c* designates a sliding bar, whose lower end is cut out squarely, as best seen in fig. 3.

The spring *d* tends to pull it in the direction shown by the arrow, so that when it is not affected by any other influence, the cut-away portion of the sliding bar will form a bottom or stop for the blanks as they slide down the conductor.

At such time the lowest blank in the conductor will rest upon the part *d'* of the sliding bar, and the shoulder *d''* will be against the blank, upon one side of it.

The wire springs *e e* hold the blank from escaping upon the opposite side from *d''*.

Now, a blank being down in the position just described, just at the proper moment the sliding bar is pulled down by the bar *f*, operated by the cam *g*, upon the shaft *h*, and the cut-away portion moves one blank down into the position shown in fig. 3, the next blank in the conductor resting meanwhile upon the top of the shoulder *d''*.

At this point a small plunger, *i*, moved by the arm *j*, pivoted at *k*, and operated by the cam *l*, upon the shaft *h*, moves forward in the direction shown by the arrow, and pushes the head of the blank out beyond the shield *a'*, so that the chuck *m*, operated by suitable devices, grasps the head of the blank firmly.

The chuck, having grasped the blank firmly, carries it downward in an oblique direction, pressing it out by the ends of the springs *e e*, when the operation of feeding a single blank is finished.

When the chuck, still holding the blank, arrives at the position shown in fig. 1, the blank is ready for pointing, or for any other operation.

But all this forms no part of the invention claimed herein, and is only described and shown for convenience' sake, in showing the operation of my improvement.

The part claimed as new herein is exclusive of the chuck or grasping-device. But some grasping-device is necessary to be used in connection with my invention, for the purpose of grasping the blank and carrying it downward and out from the embrace of the springs *e e*.

I have so far described only how one blank is fed. It will be readily understood that all the others are fed in precisely the same manner.

After the sliding bar *c* has carried one blank down, it is carried back to its place by the spring *d*, ready for another operation, as is also the plunger *i*, and with each revolution of the shaft *h*, a blank is fed into the chuck and disposed of by the same.

I claim as my invention—

1. The arrangement of the springs *e e*, sliding bar *c*, and conductor *a*, constructed and operated as described, for the purposes set forth.

2. The combination of the conductor *a*, shield *a'*, sliding bar *c*, with its springs *d*, and the springs *e e*, the whole constructed, arranged, and operating as described, for the purposes described.

3. The plunger *i*, moved as described, in combination with the conductor *a*, both parts being constructed as described, for the purpose described.

4. The combination of all the parts mentioned in the preceding claims, the whole being constructed and operating as described, for the purpose described.

Dated June 18, 1869.

ELIJAH S. PIERCE.

Witnesses:

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W. ED. SIMONDS.

\*Assignor to the National Screw Company of same place.