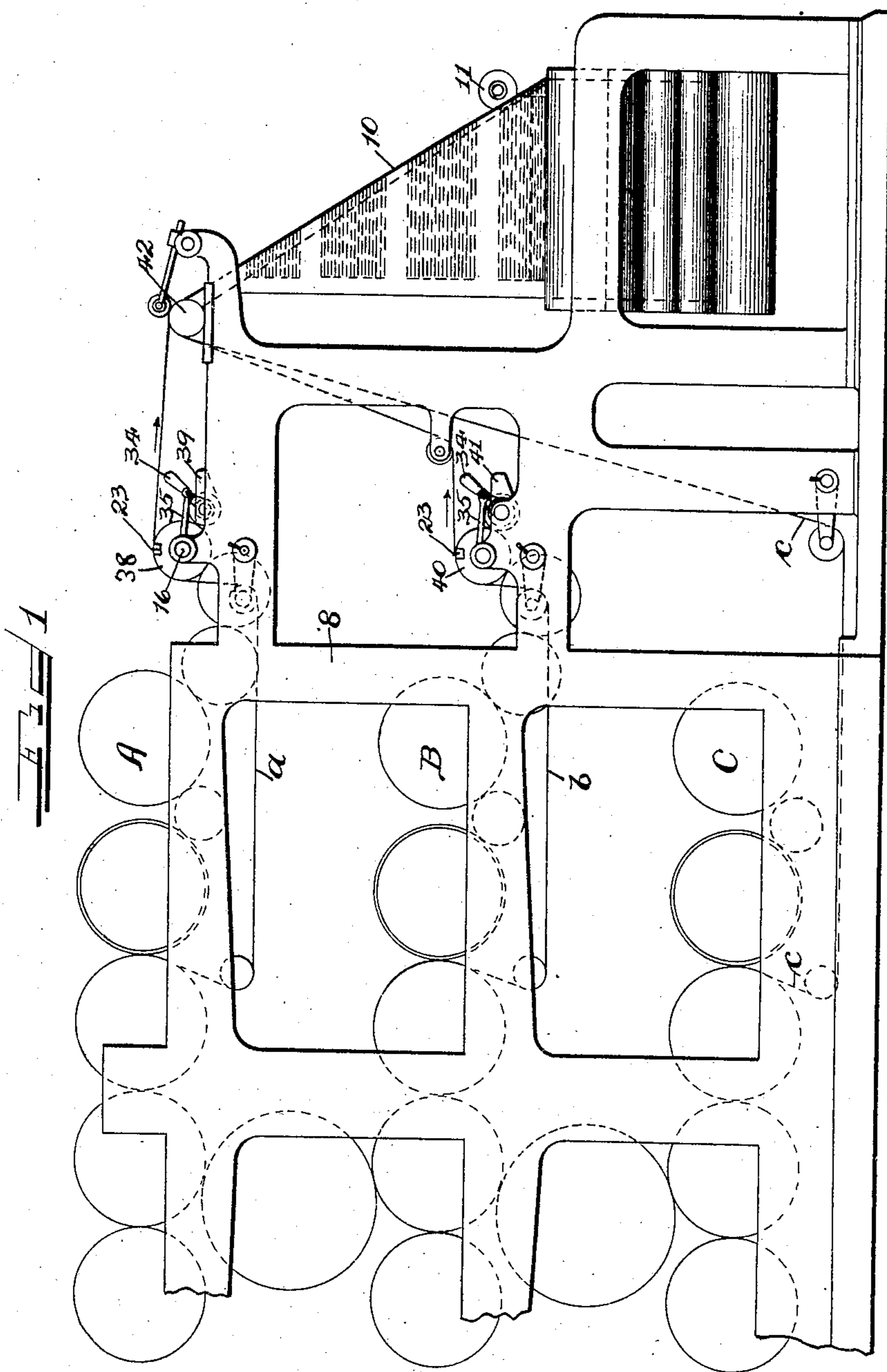


No. 786,283.

PATENTED APR. 4, 1905.

S. G. GOSS.  
PRINTING PRESS.  
APPLICATION FILED OCT. 12, 1901.

3 SHEETS—SHEET 1.



Witnesses

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3 SHEETS—SHEET 2.

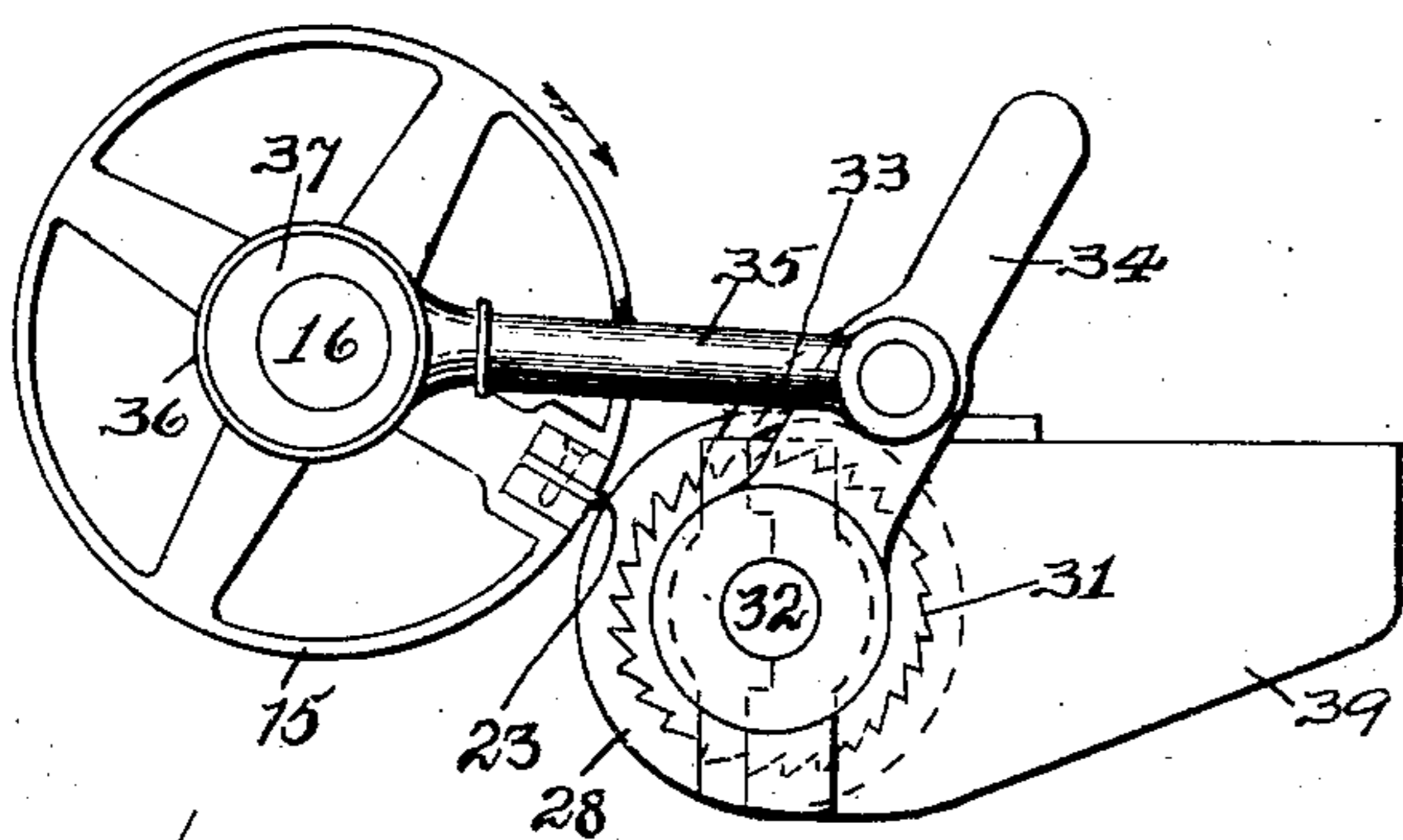
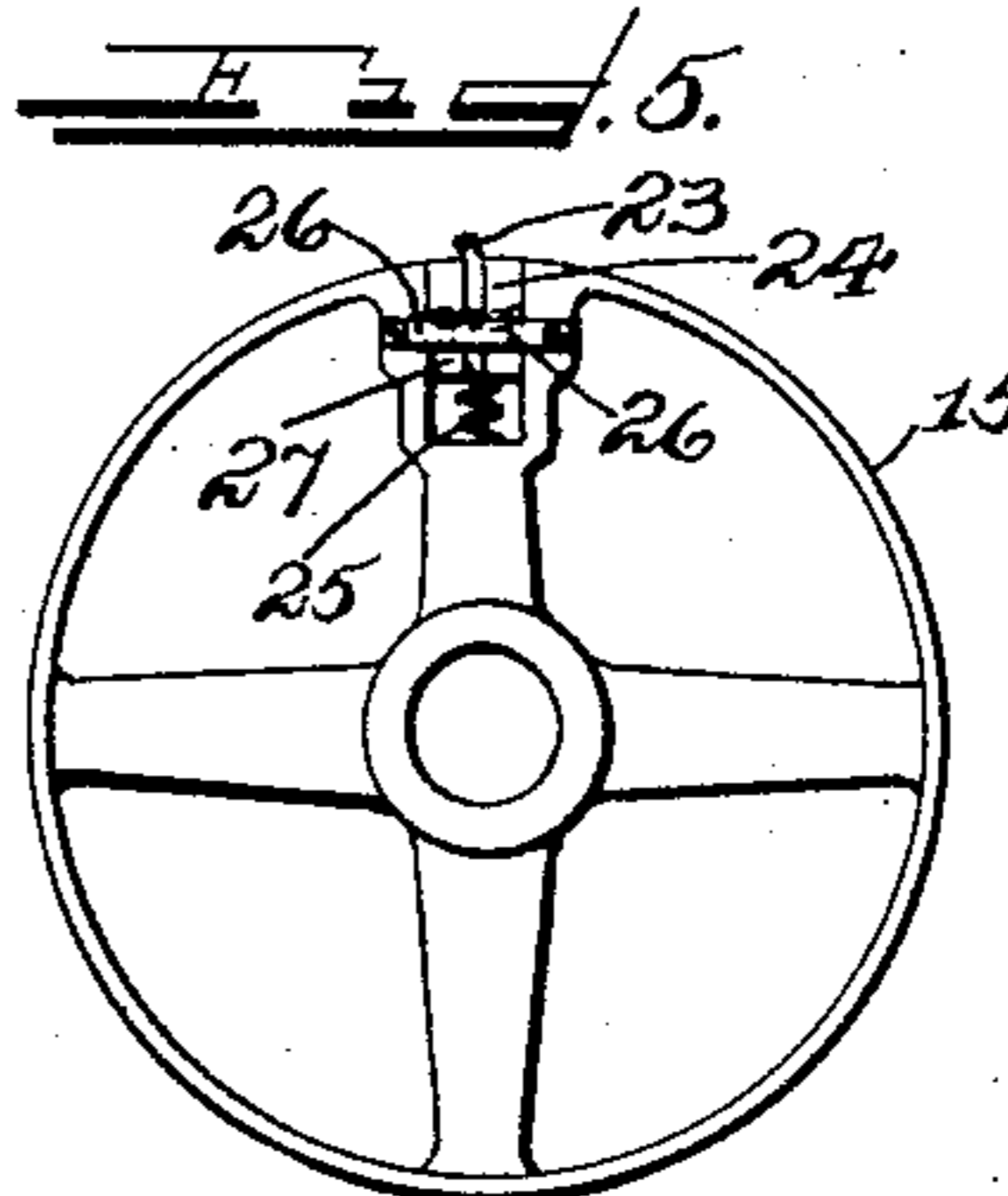
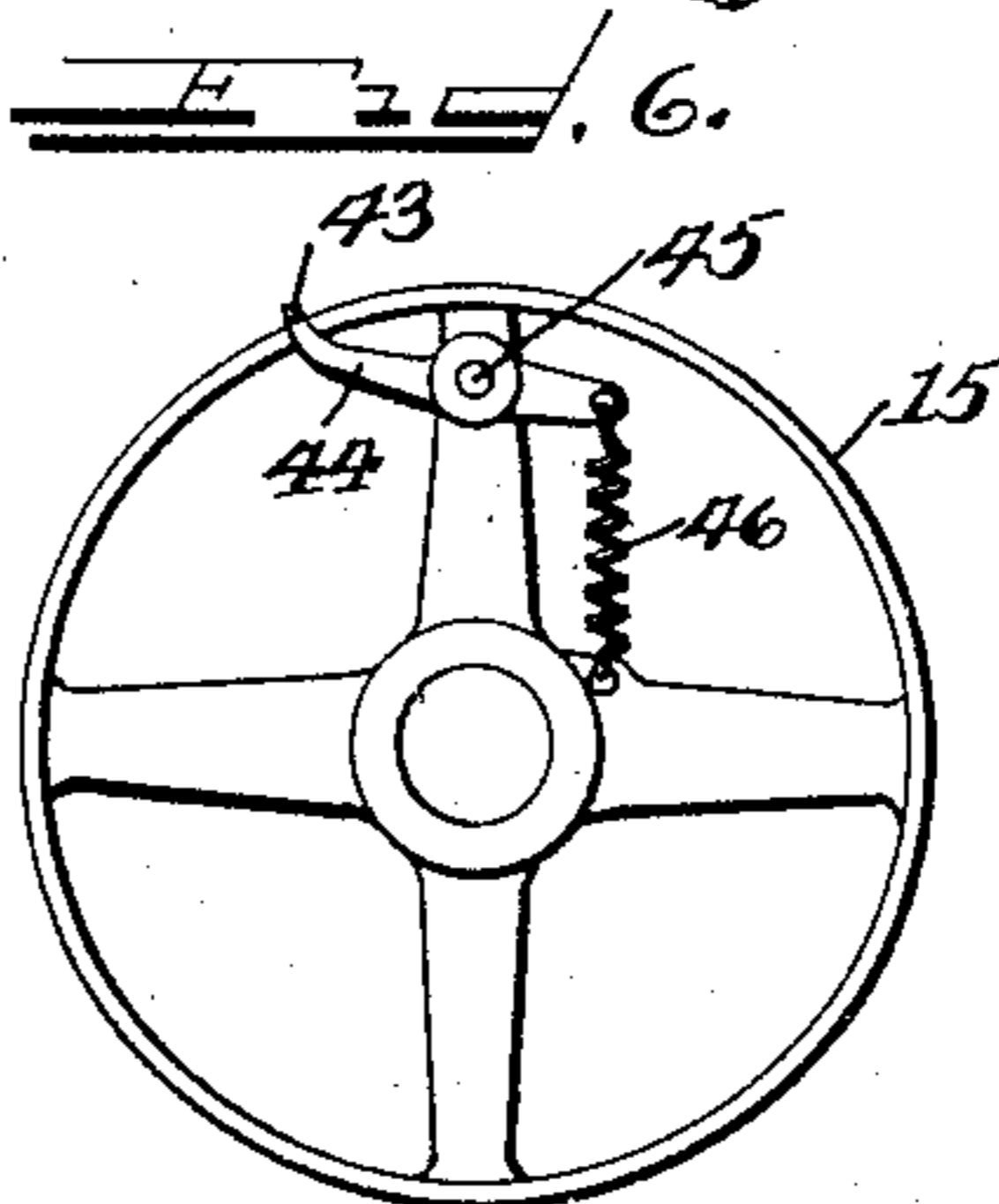
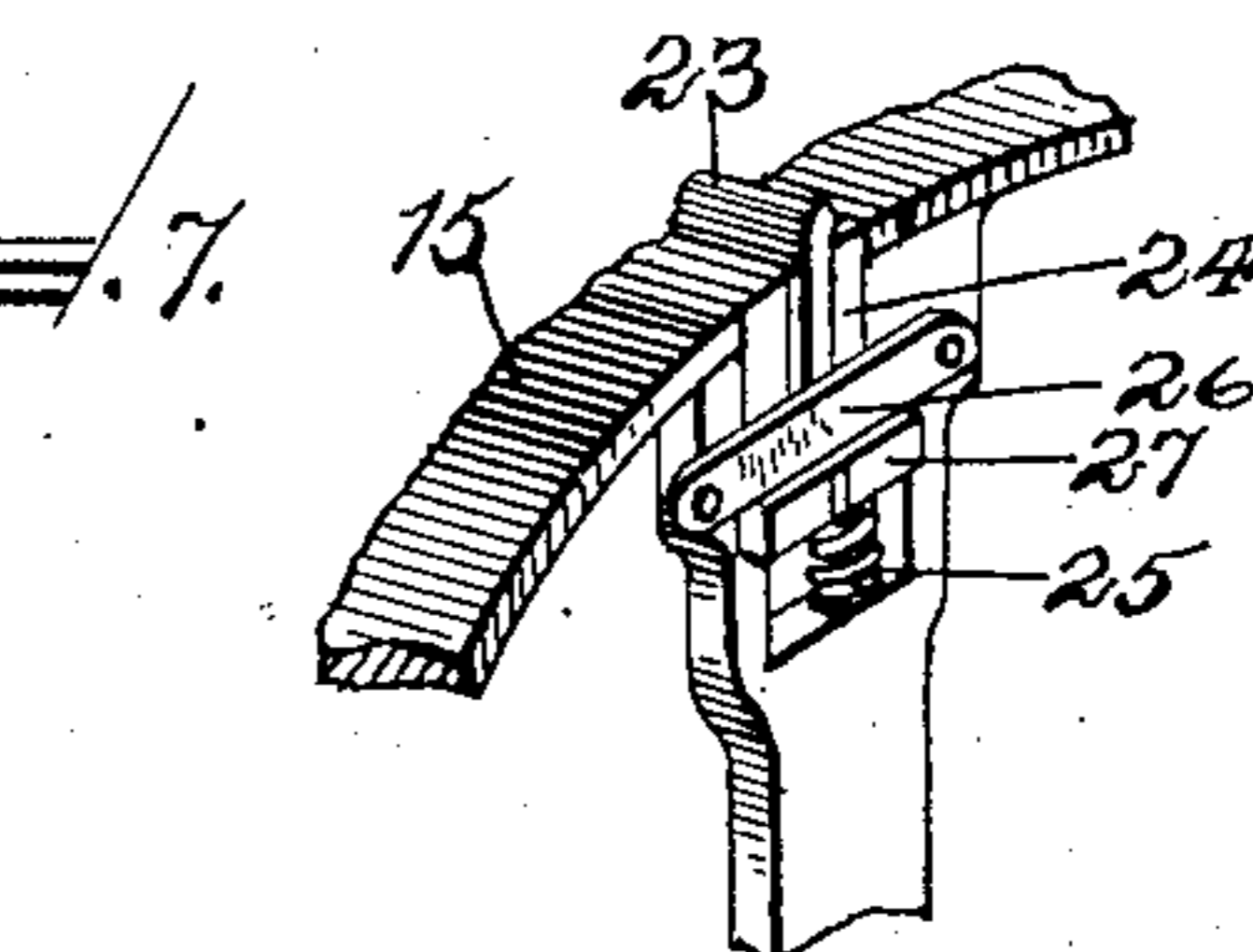
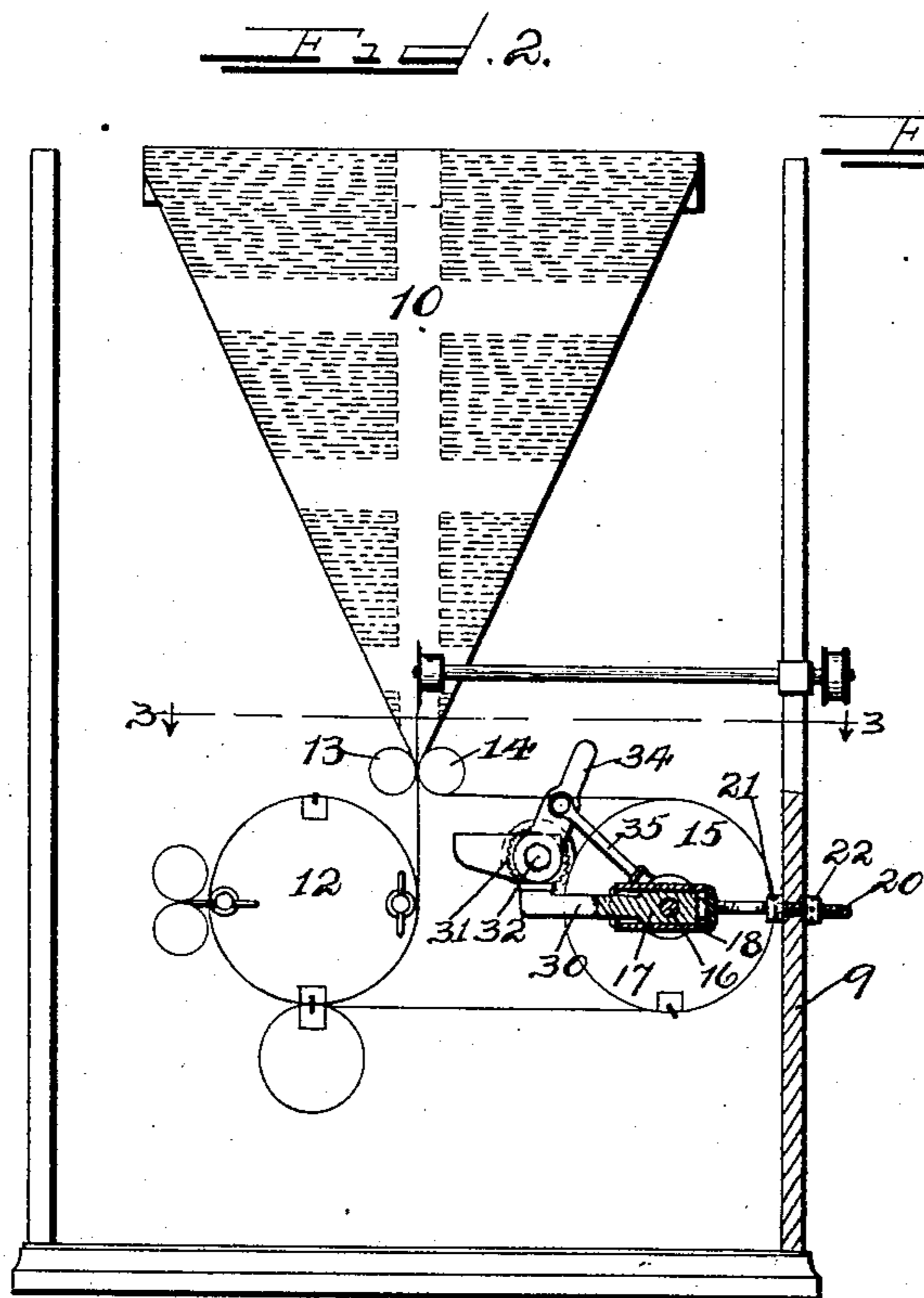
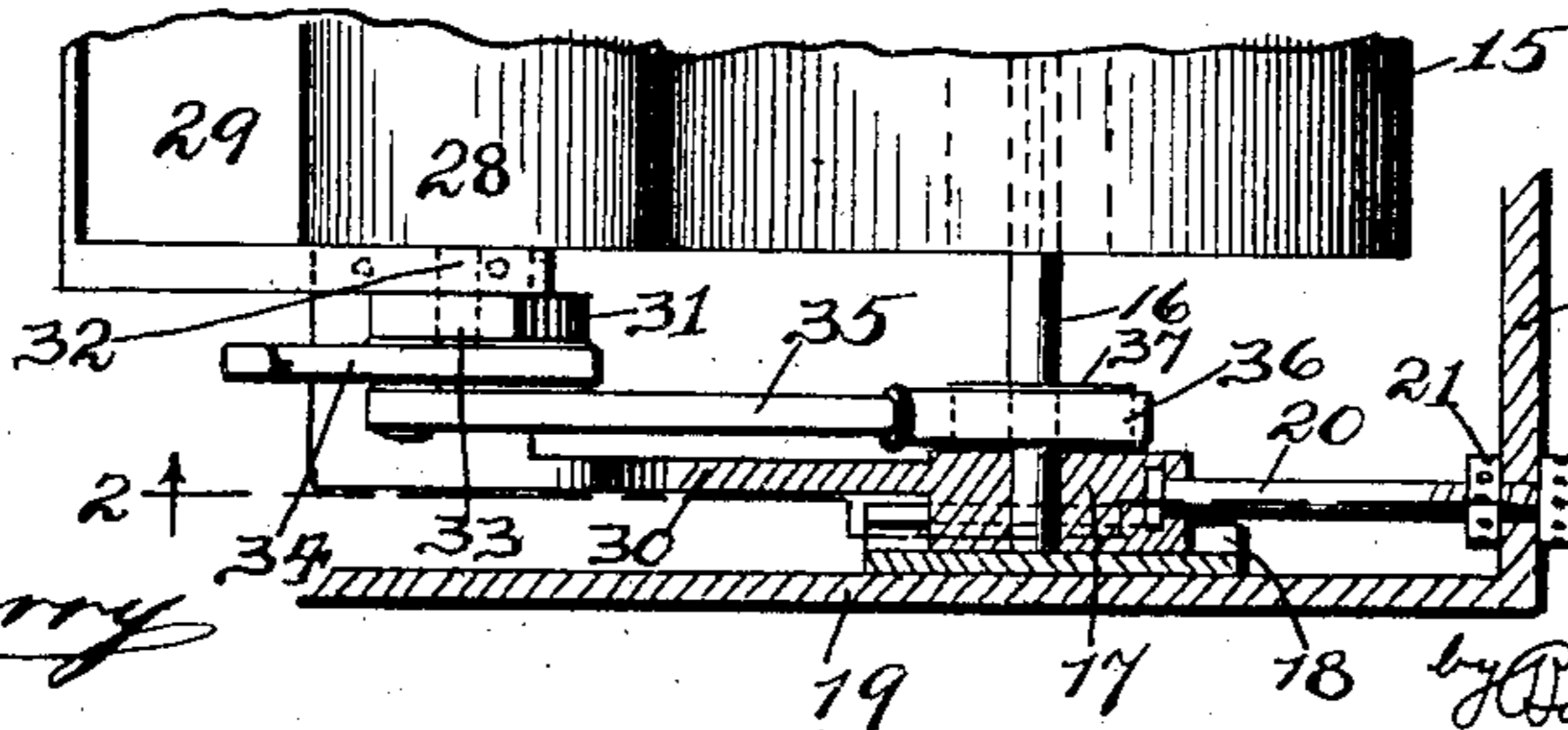


Fig. 3.



Witnesses

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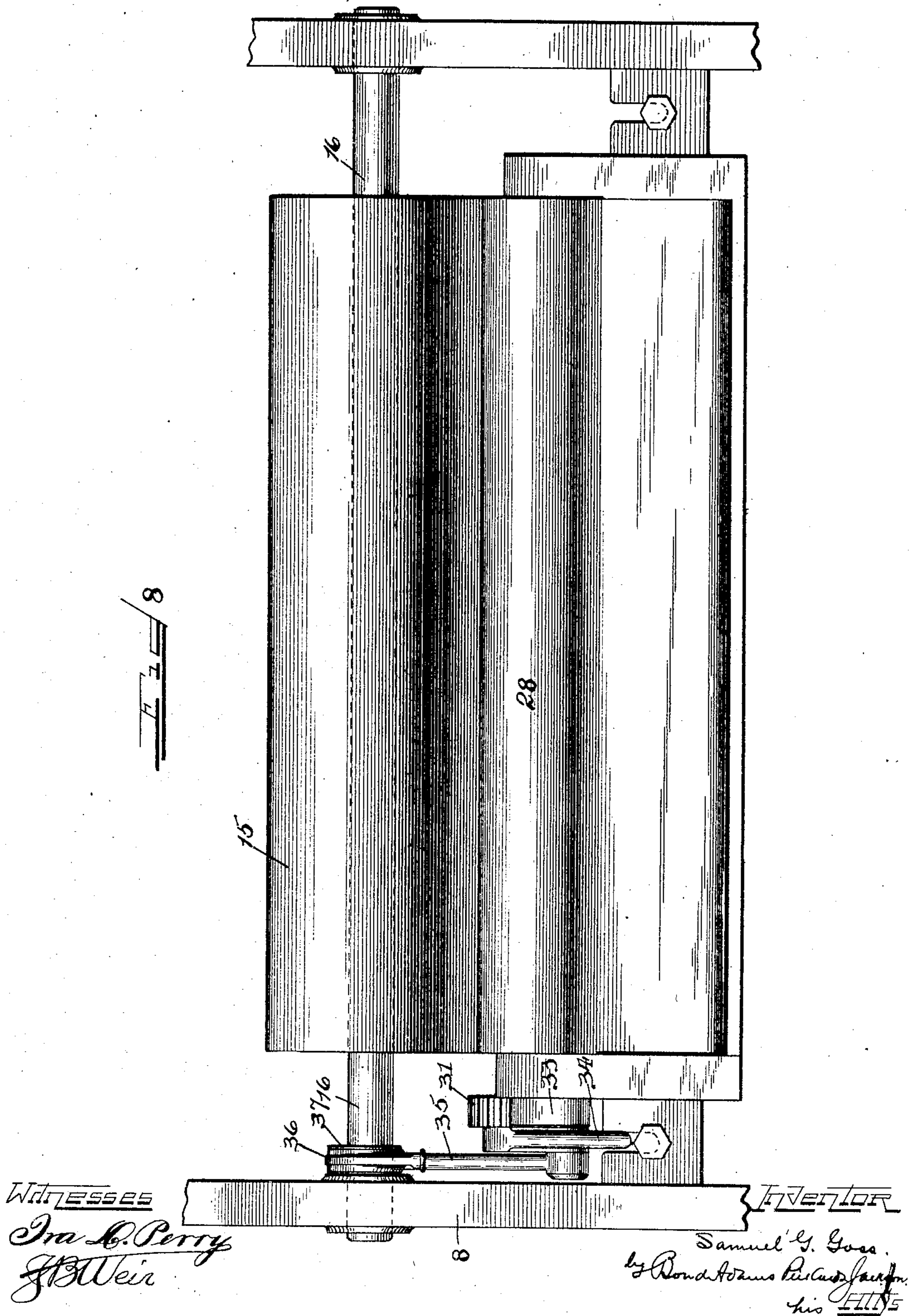
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APPLICATION FILED OCT. 12, 1901.

3 SHEETS—SHEET 3.



# UNITED STATES PATENT OFFICE.

SAMUEL G. GOSS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE GOSS PRINTING PRESS COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 786,283, dated April 4, 1905.

Application filed October 12, 1901. Serial No. 78,448.

*To all whom it may concern:*

Be it known that I, SAMUEL G. GOSS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Printing - Presses, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to perfecting printing machinery, and has special reference to the delivery apparatus thereof. In certain classes of presses it is desirable that two or more webs or parts of webs slit longitudinally be pasted together in a line transversely to the length of the webs either before the webs are longitudinally folded or after the longitudinal folding and slitting, and sometimes both before and after the longitudinal folding. The apparatus heretofore employed for cross-pasting consists of a paste-applying device composed of a strip carried by a suitable rotary support or shaft and adapted to engage the web in the course of its revolution about the shaft, the paste applied to the web being taken up by the strip from a paste-fountain engaged by it in the course of its movement. In order to guide the web properly by the paste-applying device and to hold it so that it will properly receive paste therefrom, it has been necessary to employ a number of guide-rollers, a number of which have had to be made adjustable to provide for making the necessary adjustments of the web, such as adjusting the length of the path traveled by it and adjusting its position with regard to the paste-applying device.

The principal object of my present invention is to avoid the use of so many parts and to simplify and improve the construction of the web guiding and pasting devices. This object I accomplish by employing a cylinder provided with paste-applying devices, said cylinder being arranged to guide the web while the paste-applying devices carried by it apply paste thereto, thus avoiding the numerous parts which have heretofore been necessary.

A further object of my invention is to pro-

vide for adjusting the cylinder to vary the length of the path of the web which passes over it, so that said cylinder acts as a pasting-cylinder as well as a compensating roller.

A further object is to provide certain other specific improvements which will be hereinafter set forth.

In the drawings I have illustrated my improvements as applied to a three-decker press provided with means for assembling the three webs, then slitting them longitudinally and afterward assembling the slit portions, cutting them into sheet lengths and imparting to the sheets a single fold; but it will be understood that my invention is not restricted in its application to a press of the specific construction and arrangement shown, as my improvements may be embodied in various styles of machines.

Referring to the drawings, Figure 1 is a side elevation, partly diagrammatic, of the delivery end of a perfecting-press. Fig. 2 is an end view, also diagrammatic in part, illustrating certain features of my invention, some parts being shown in section on line 2 2 of Fig. 3. Fig. 3 is a partial horizontal section taken on line 3 3 of Fig. 2. Fig. 4 is an enlarged detail illustrating the paste applying and supplying devices. Fig. 5 is a detail illustrating the paste-applying devices. Fig. 6 is a similar view showing a modification. Fig. 7 is a perspective view illustrating some parts of the paste-applying devices; and Fig. 8 is a plan view of the parts shown in Fig. 4, showing also the side frames of the press.

In the drawings, 8 9 indicate the side frames of the press, in which there are three sets of printing mechanism, marked, respectively, A, B, and C.

*a*, *b*, and *c* indicate three webs printed, respectively, in the sets of printing mechanism A B C.

10 indicates the folder or former, which is of the usual V shape, having its apex at the bottom, so that the webs pass down over it after having been printed and are folded longitudinally.

11 indicates a slitter, preferably at or near

the apex of the former, for slitting the webs longitudinally. The position of the slitter 11 may be varied.

12 indicates a combined cutting and folding cylinder, to which the webs are conducted after passing over the former 10 and by which they are cut into sheets and are folded transversely.

13 14 indicate rollers arranged side by side at the apex of the former, between which the webs pass as they leave the former.

15 indicates a cylinder, which in the construction illustrated is arranged at the opposite side of the apex of the former from the cylinder 12, as shown in Fig. 2. As will be hereinafter explained, the cylinder 15 is a combined guide and paste cylinder, around which a portion of the web or webs is conducted during the operation of delivering the webs. The cylinder 15 is mounted on a shaft 16, the ends of which are journaled in suitable bearing-blocks 17, which are adapted to slide longitudinally in guides 18, secured to the frame 19 of the press, as shown in Fig. 3, the object being to provide for moving the cylinder 15 toward or from the cutting-cylinder 12. The adjustment of the pasting-cylinder 15 is effected by means of rods 20, one of which is secured to each block 17 and projects through the side frame 9 of the press, as shown in Fig. 3, and carries at opposite sides of the frame adjusting-nuts 21 22, as shown. By adjusting the nuts 21 22 on the rods 20 it will be evident that the blocks 17 may be moved horizontally in the guides 18, consequently carrying the pasting-cylinder 15 toward or from the cutting-cylinder 12.

The pasting-cylinder 15 is provided with a tongue 23, of felt, rubber, or other suitable material, which when not pressed back by the web, as hereinafter described, is adapted to project beyond the periphery thereof and extends longitudinally of the cylinder, as indicated by dotted lines in Fig. 3. Said tongue is mounted in a box 24, fitted in the cylinder 15, as shown in Fig. 5, and adapted to move radially in its socket. Said box is normally held in its outermost position by means of springs 25, which exert outward pressure thereon because of their being placed between the under side of the box and the bottom of the socket in which the box is carried. When, however, the tongue passes under the web, the tension of the web forces it back into its socket, so that it then lies substantially flush with the surface of the cylinder. The box 24 is prevented from projecting beyond the periphery of the cylinder by reason of stop-bars 26, which are secured to the ends of the cylinder in position to intercept projecting shoulders 27 at the ends of the box 24 when the box is moved to its outermost position. This construction is best shown in Fig. 7.

The tongue 23 is the device by which paste

is applied transversely to the web, and it receives its paste from a roller 28, carried in a paste-fountain 29, as shown in Figs. 2 and 3. The paste-fountain 29 is carried at a suitable distance from the cylinder 15, so that while the cylinder itself is clear of the roller 28 its tongue 23 when projected will be carried into contact with the surface of said roller 28 by the rotation of the cylinder. The fountain is maintained at the proper distance from the cylinder 15, notwithstanding any adjustment of the position of said cylinder, by reason of the fact that it also is supported from the blocks 17. For this purpose the paste-fountain is carried by arms 30, which are secured to its ends and also are connected to the blocks 17, as best shown in Fig. 3. By this construction whenever the blocks 17 are adjusted horizontally, as above described, to adjust the position of the cylinder 15 the paste-fountain 29, with its roller 28, is correspondingly adjusted.

The pasting-cylinder 15 is constantly in rotation at the same speed as the cutting-cylinder 12, being driven in the usual way from the press-gearing, and is timed so that the tongue 23 applies the paste to the proper margins as the web passes around the cylinder. The paste-roller 28 is, however, rotated intermittently, this being accomplished by means of a ratchet-wheel 31, mounted on the shaft of the roller 28, said shaft being indicated by dotted lines in Fig. 3 and marked 32. Said ratchet-wheel 31 is operated by means of a pawl 33, carried by a lever 34, mounted on the shaft 32 and connected by an eccentric-rod 35 and strap 36 with an eccentric 37, mounted on the shaft 16 of the cylinder 15. This construction is best illustrated in Figs. 3 and 4. In Fig. 4 I have illustrated one of the paste-fountains and operating mechanism therefor which is employed in another part of the press; but the construction of such devices is identical with those just described and the same reference-numerals are employed to designate the corresponding parts of the mechanism for transmitting the motion to the paste-roller.

It will be seen from the foregoing description that as the cylinder 15 rotates each complete rotation thereof will rock the lever 34, causing the roller 28 to be rotated a distance equal to the space between successive teeth of the ratchet-wheel 31. In this manner fresh paste is constantly supplied to the tongue 23, thereby maintaining the efficiency of the pasting apparatus.

38 indicates a pasting-cylinder mounted in the upper part of the frame of the press between the printing mechanism A and the upper portion of the frame, said cylinder serving as a guide-cylinder over which the web passes to the former. Said cylinder 38 is similar in construction to the cylinder 15, be-

ing provided with a similar paste-applying tongue mounted similarly to the tongue in the cylinder 15, above described, and receiving paste from a fountain 39 similar to the fountain 29.

40 indicates a guide and pasting cylinder similar to the cylinder 38 and placed between the set of printing mechanism B and the former, said cylinder 40 serving as a guide over which the web *b* passes on its way to the upper portion of the former, where it meets the web *a* and the web *c*. The cylinder 40 is also provided with a paste-applying tongue 23, which receives paste from a fountain 41 in the same manner as already described.

The pasting-cylinder 40 and the pasting-cylinder 38 apply paste to the under surface of the webs *a b* in transverse lines and at the proper margins, so that when the webs *a b c* are brought together at the base of the former, where they pass over a roller 42, (shown in Fig. 1,) the three webs are pasted together transversely.

It will be understood that the cylinders 38 and 40 may be made adjustable in the same way as the cylinder 15, so that they may be used as compensating rollers to vary the length of the paths of the webs passing over them.

By the construction above described the use of separate guide and compensating rollers in addition to the pasting devices is avoided, since the cylinders employed serve at the same time as compensating and guide cylinders and pasting-cylinders, the paste being applied to the webs as they pass over said guide-cylinders by the tongues or equivalent paste-applying devices, which recede into the cylinder under pressure of the web when they come into contact therewith.

In lieu of using the sliding boxes 24 above described the construction shown in Fig. 6 may be employed. As there illustrated, a paste-applying tongue 43 is carried by rocking arms 44, mounted on pivots 45, carried by the pasting-cylinder 15, said tongue being normally held out beyond the periphery of the cylinder by springs 46, secured to the arms 44 and to the cylinder, as shown. This construction also secures the yielding action of the tongues, substantially as above described.

In addition to the two forms of construction shown and described various other modifications may be made, and I therefore do not restrict my invention to the specific constructions shown. Furthermore, my invention is not restricted to use with a paste-fountain constructed and operated as above described, as any other suitable style of fountain may be employed.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. A pasting-cylinder having a tongue which yieldingly projects beyond the periph-

ery thereof, and a sliding box in which said tongue is mounted, in combination with means for supplying paste to said tongue, substantially as described.

2. A pasting-cylinder having a tongue which yieldingly projects beyond the periphery thereof, a traveling box in which said tongue is carried, and a spring for forcing said tongue outward, in combination with means for supplying paste to said tongue, substantially as described.

3. The combination with means for associating a plurality of webs, of a combination guide and pasting cylinder over which one of the webs runs, said cylinder having a paste-applying tongue which projects beyond the periphery thereof and bears against the web, and means for supplying paste to said tongue, substantially as described.

4. The combination with means for associating a plurality of webs, of a combined guide and pasting cylinder over which one of the webs runs, said cylinder having a paste-applying tongue which projects yieldingly beyond the periphery thereof and bears against the web, and means for supplying paste to said tongue, substantially as described.

5. A combined guide and pasting device for web-presses, comprising a cylinder over which the web passes and by which it is guided, means for conducting the web over said cylinder, and a pasting device carried by said cylinder and adapted to apply paste to the margins to be pasted as the web passes over the cylinder, substantially as described.

6. A combined guide and pasting device for web-presses, comprising a cylinder around which the web passes and by which it is guided, means for adjusting the position of said cylinder, and a pasting device carried by said cylinder and adapted to apply paste to the margins to be pasted as the web passes around the cylinder, substantially as described.

7. The combination of a compensating cylinder, means for conducting a web thereover, and a paste-applying device carried by said cylinder and having means for applying paste to the web at intervals, substantially as described.

8. The combination with a combined guide and pasting cylinder having means for applying paste to a web at intervals, a paste-fountain for supplying paste to said cylinder, means for conducting the web over said cylinder and means for simultaneously adjusting said cylinder and fountain without varying their position relatively to each other, substantially as described.

9. A pasting-cylinder having a flexible tongue which projects beyond the periphery thereof, a support by which said tongue is carried, said support being movably connected with said cylinder, and spring mechanism arranged to act upon said support for forcing

said tongue outward, in combination with means for supplying paste to said tongue, substantially as described.

10. The combination with a folder adapted  
5 to fold a web longitudinally, a slitter adapted to slit the web longitudinally, transverse cutting and folding mechanism, a combined guide and pasting cylinder around which one portion of the slit web is conducted, means for  
10 adjusting the position of said combined guide and pasting cylinder to vary the length of the

path of the latter portion of the web, a paste-applying device carried by said cylinder, means for supplying paste to said paste-applying device, and means connecting the paste-supply- 15 ing means with said cylinder, whereby it will be maintained at a constant distance from said cylinder, substantially as described.

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ALBERT H. ADAMS.