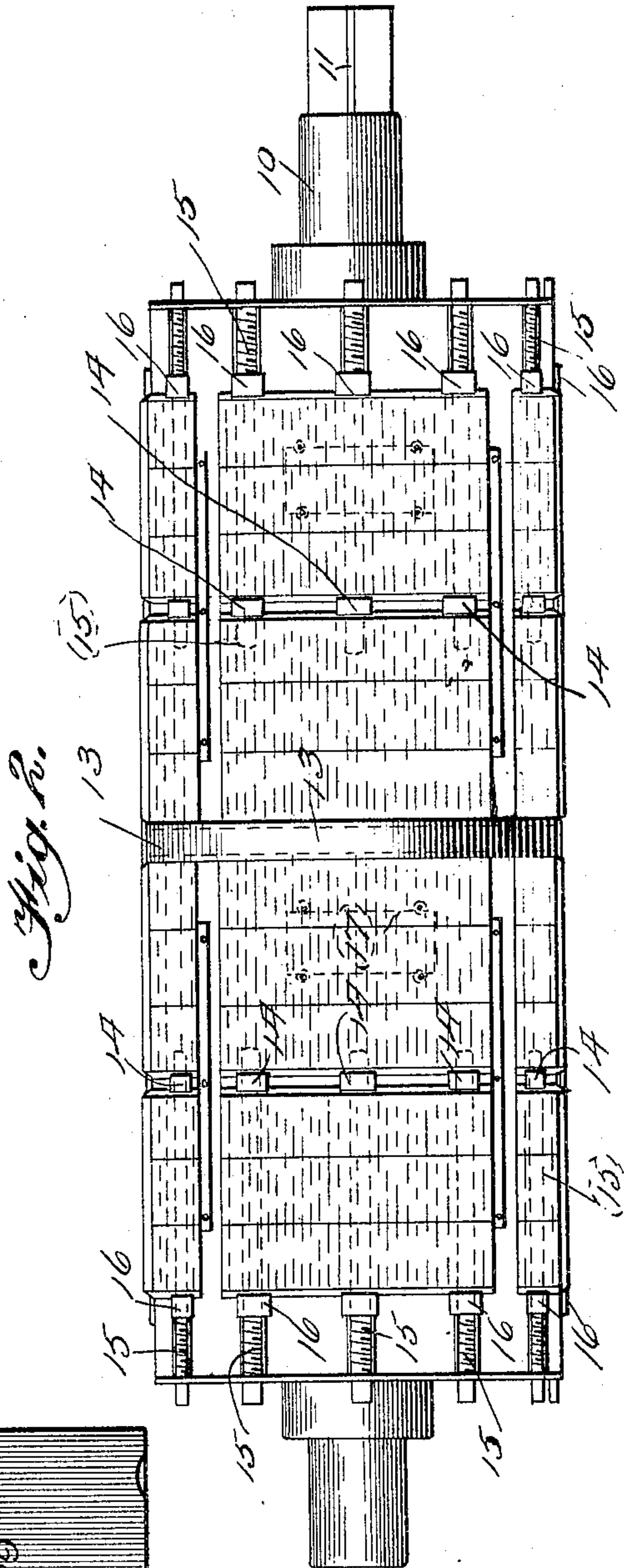
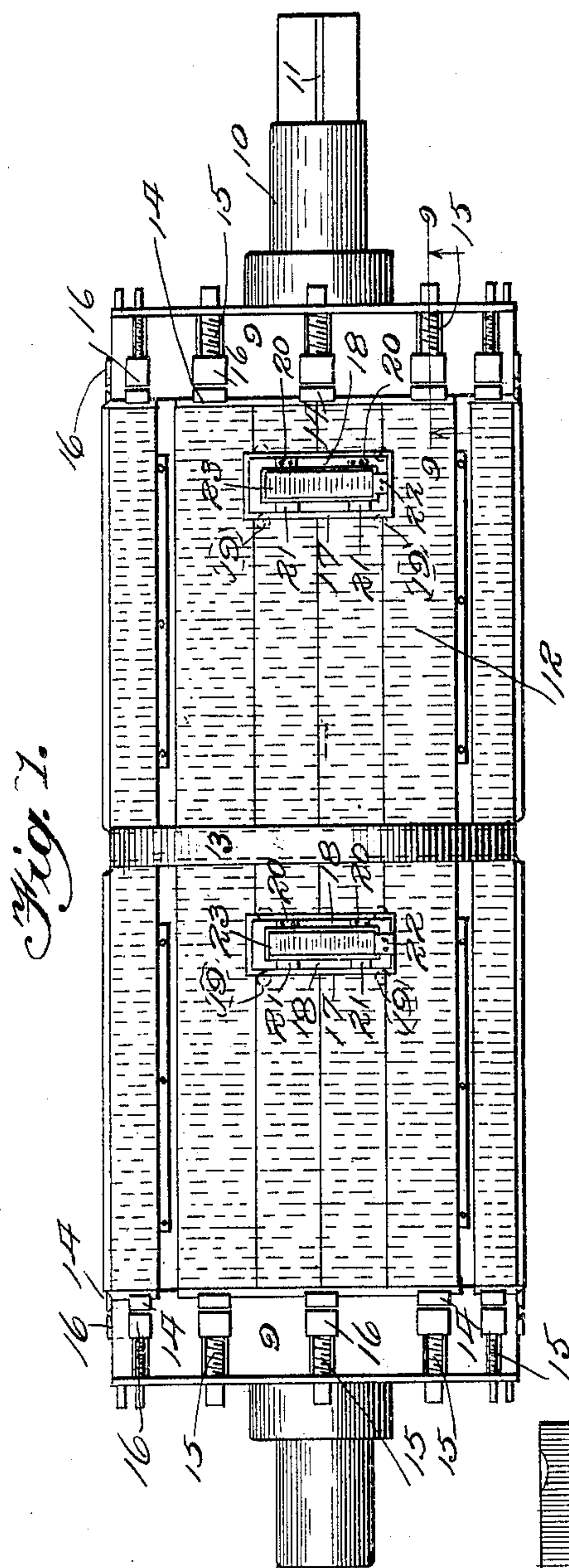


No. 789,725.

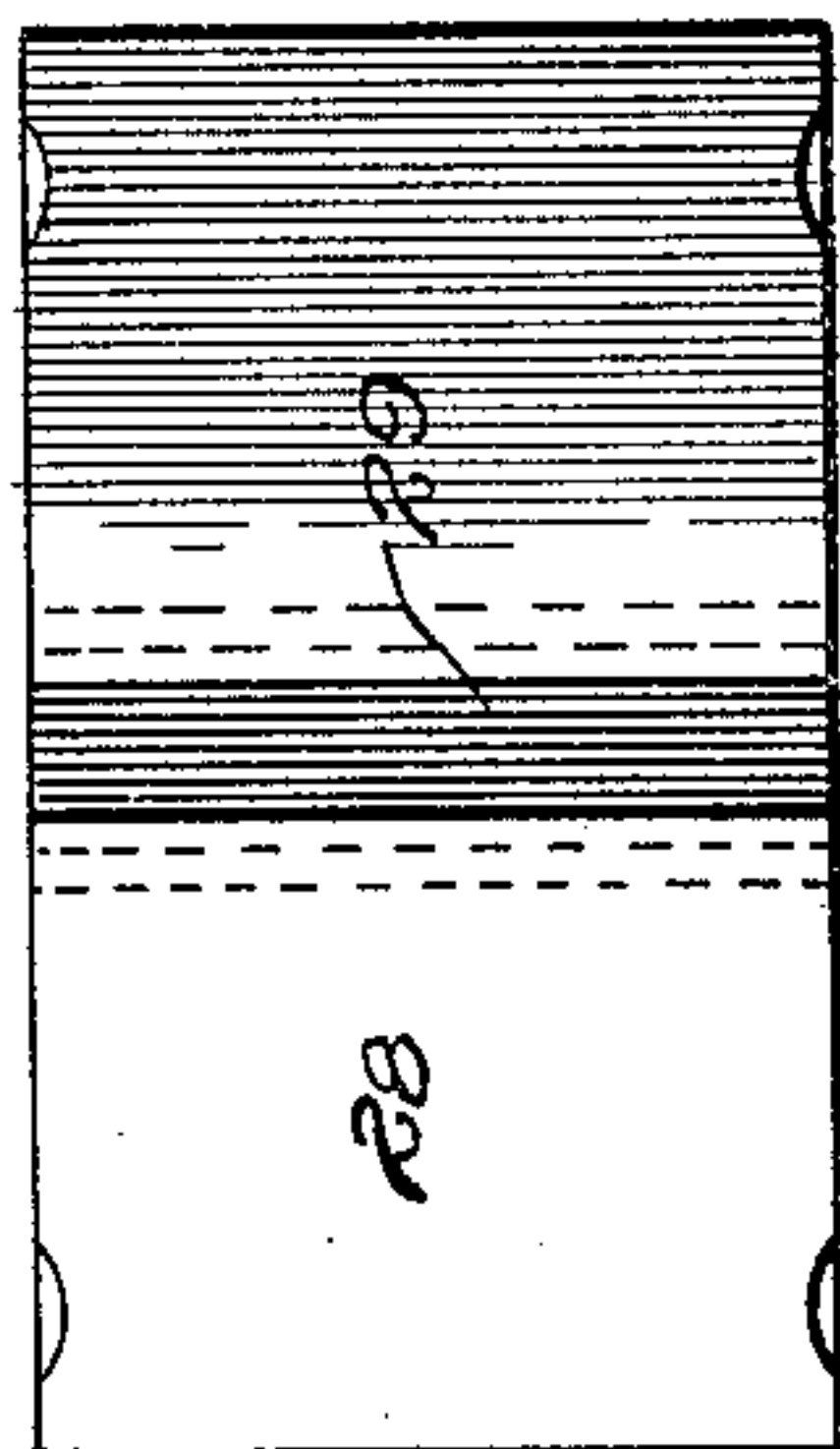
PATENTED MAY 16, 1905.

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

2 SHEETS—SHEET 1.



*Fig. 3.*



Witnesses  
J. Weir  
Robert H. Weir.

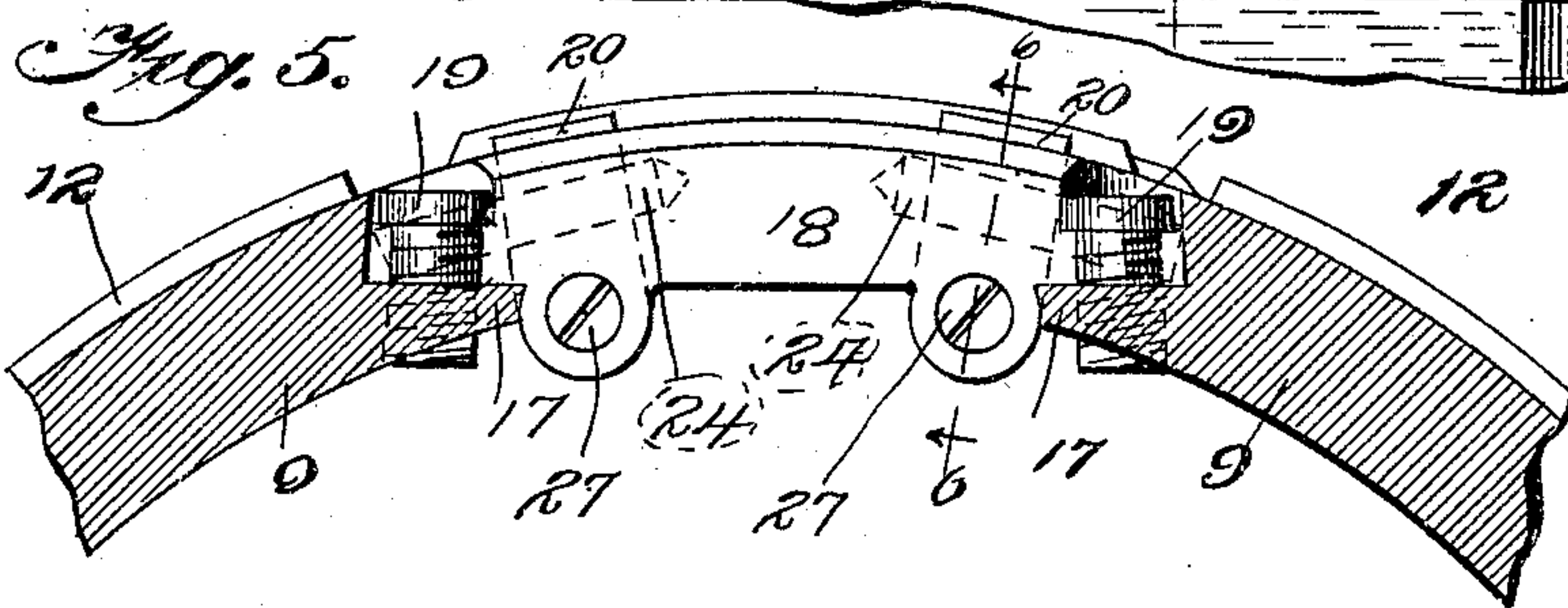
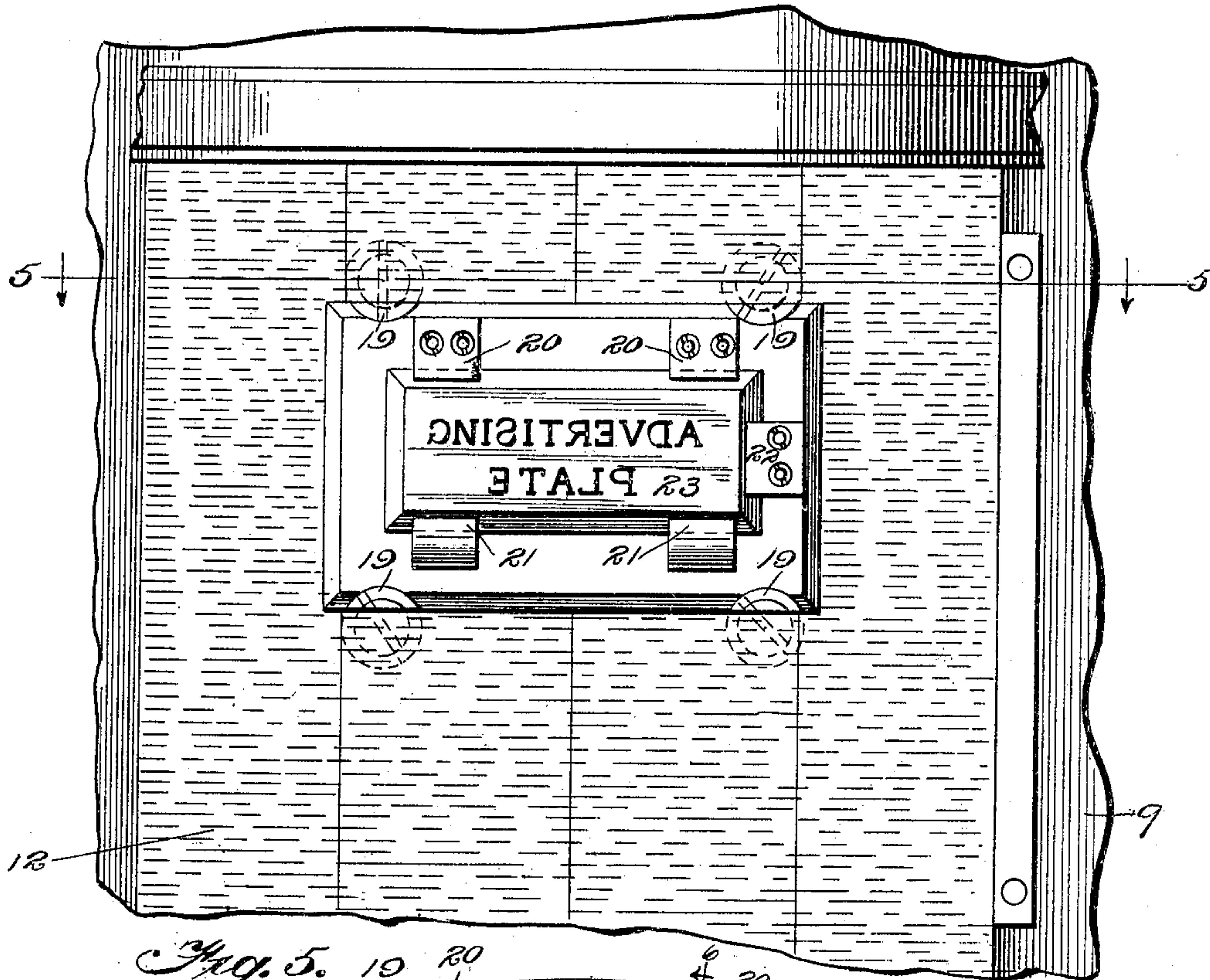
Inventor:  
Samuel G. Goss.  
by Bond Adams Richard Jackson,  
his Attorneys.

S. G. GOSS.  
PRINTING MACHINERY.

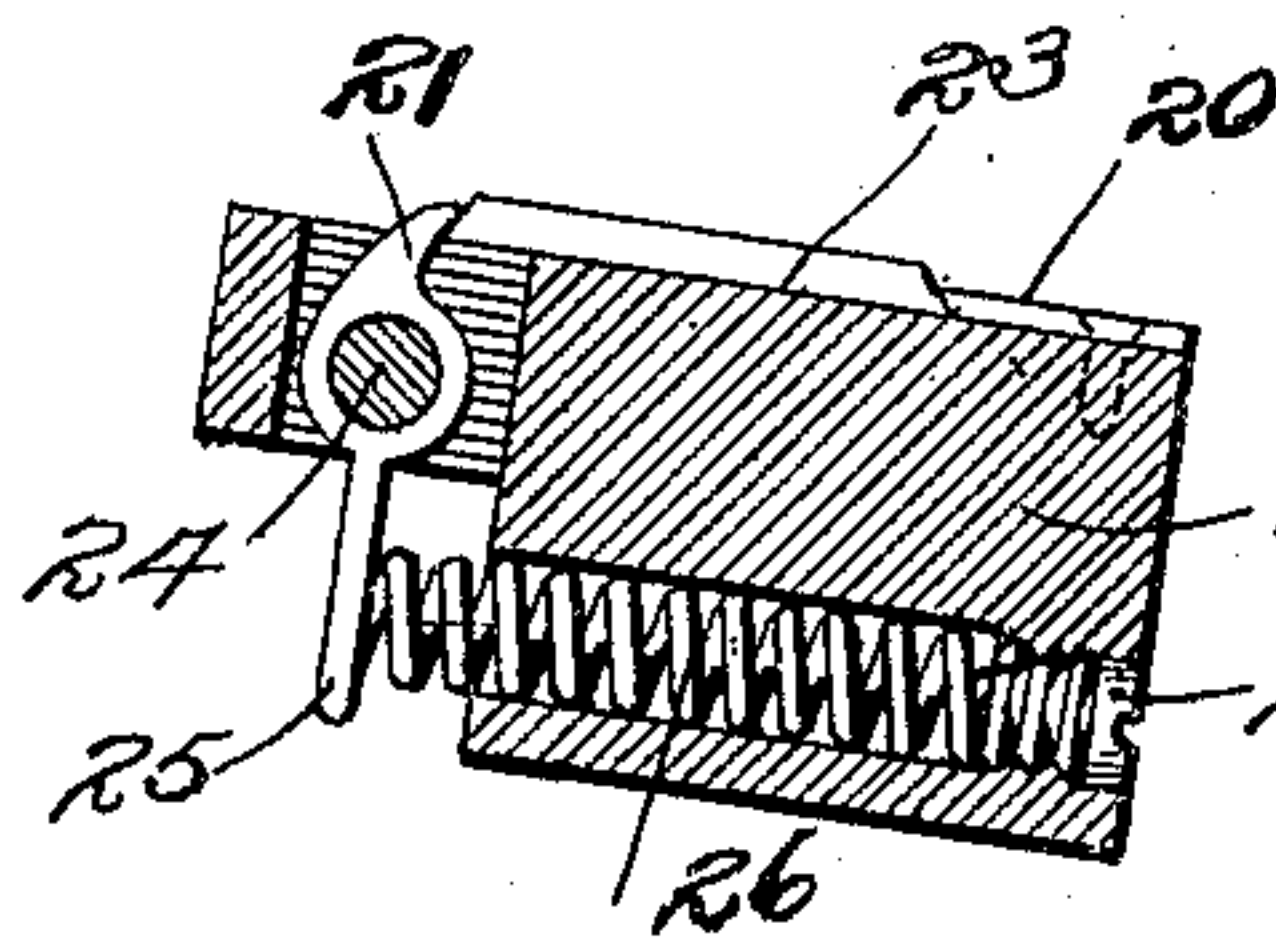
APPLICATION FILED OCT. 12, 1901.

2 SHEETS—SHEET 2.

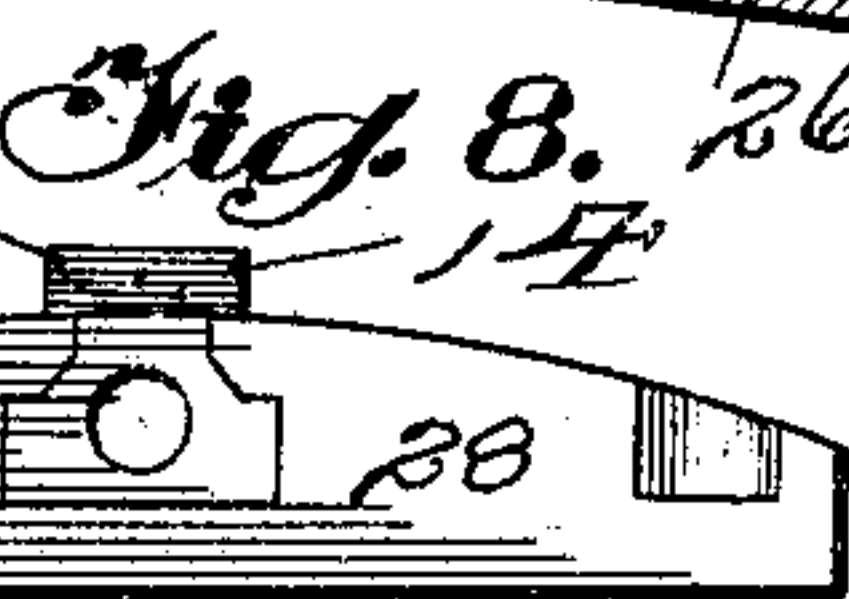
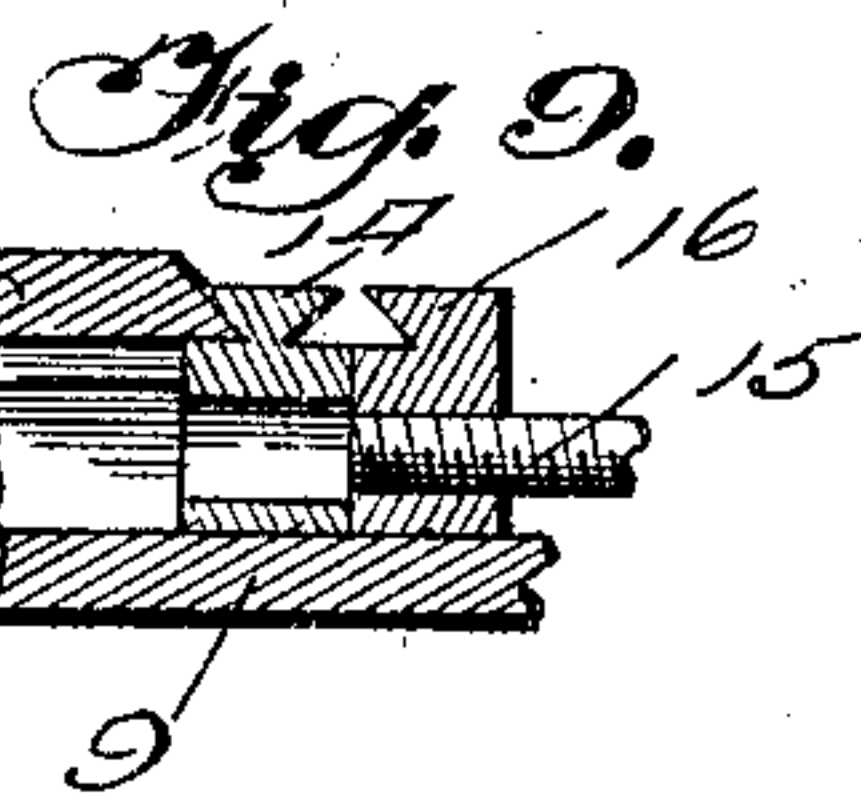
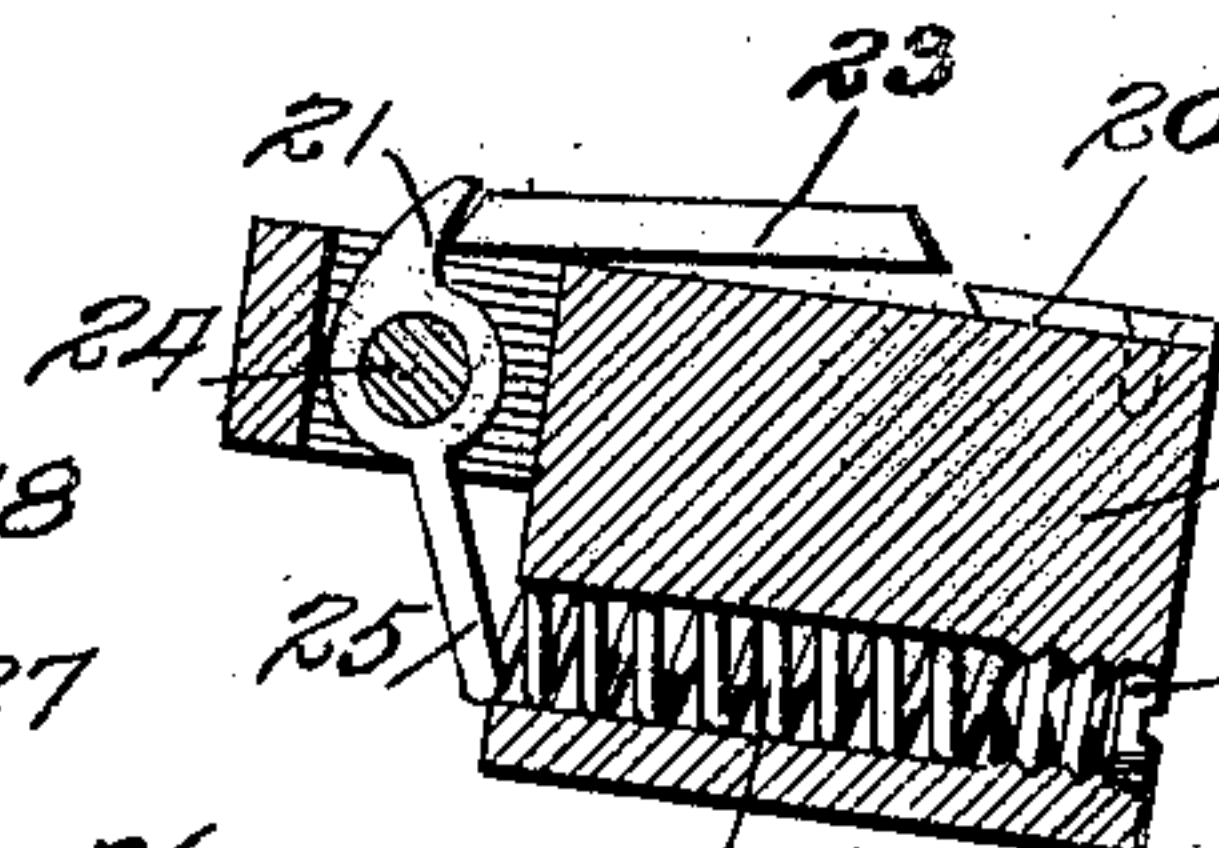
*Fig. 4.*



*Fig. 6.*



*Fig. 7.*



Witnesses:  
J. B. Weir  
Robert H. Weir.

Inventor:  
Samuel G. Goss,  
by Bond, Adams, Piskunoff & Johnson,  
his Attorneys.



# 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 MACHINERY.

SPECIFICATION forming part of Letters Patent No. 789,725, dated May 16, 1905.

Application filed October 12, 1901. Serial No. 78,447.

*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 Machinery, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to printing machinery, and has particularly to do with the construction of the form-cylinders of a rotary press. In presses of this description the printing-plates, which may be stereotype, electrotypes, or any other suitable kind of plates or forms, are made in semicylindrical form, and hitherto the common practice in newspaper-offices has been to substitute an entirely new form for the old one when new matter was to be incorporated. This results in a great loss of time, as well as in considerable expense; but, so far as I am aware, prior to my present invention no successful means of avoiding such objections has been devised.

It is the object of my present invention to avoid the objections incident to the former practice. This I accomplish by providing an improved construction of form-cylinder by which it is made possible to readily and quickly insert or remove special matter, such as an advertising-plate, carried at a certain point in the cylinder, so that without removing the full-page form or plate copies of the same publication may be produced, differing only from each other in that some copies will contain certain special matter, other copies other special matter, and so on to any desired extent.

My invention further provides for the use of such a cylinder in the ordinary way with ordinary printing plates or forms.

It further provides for the use of a cylinder with half-size plates, with the columns extending around the cylinder instead of longitudinally thereof.

That which I regard as new will be set forth in the claims.

Referring to the drawings, Figure 1 is a view of my improved cylinder, illustrating the advertising or other special plate in po-

sition. Fig. 2 is a view of the cylinder re-  
arranged to omit the special matter and hav-  
ing the columns extending around the cylin-  
der instead of longitudinally thereof, as they  
are in Fig. 1. Fig. 3 is a plan view of the  
dummy block used when the plate bearing  
the special matter is not to be printed. Fig.  
4 is an enlarged detail, being a plan view of  
a part of the cylinder, illustrating the special  
plate and the devices for holding it in posi-  
tion. Fig. 5 is a section on line 5 5 of Fig. 4.  
Fig. 6 is a section on line 6 6 of Fig. 5,  
illustrating the special plate in position and  
the devices for securing it. Fig. 7 is a simi-  
lar view showing the position of the special  
plate and locking devices when such plate is  
being inserted or removed. Fig. 8 is an end  
view of the dummy block shown in Fig. 3,  
and Fig. 9 is a section on line 9 9 of Fig. 1.

In the drawings, 9 indicates the cylinder, which is mounted on a shaft 10 in the usual way. One of the ends of the shaft 10 is a keyway, as shown at 11 in Fig. 1.

12 indicates one of the printing plates or forms, which may be a stereotype, electrotypes, or any other suitable style of plate, and is secured on the cylinder 9.

13 indicates a central band or ring which is secured on the cylinder 9 and is undercut at its edges to receive the ends of the printing-plates and retain them closely in contact with the surface of the cylinder. In the construction shown in Fig. 1 the cylinder is of double width, so that two printing-plates are secured thereon end to end, with the columns extending lengthwise of the cylinder. The outer edges of the printing-plates are secured by beveled blocks carried by screw-bolts 15, secured in the cylinder in the usual way. By rotating the bolts 15 the blocks may be jammed against the outer ends of the plates, which are beveled, thereby binding the plates closely upon the cylinder.

In the construction illustrated in the drawings I have arranged the binding-blocks in pairs, 14 indicating the inner blocks and 16 the outer ones. The outer blocks 16 are fitted upon the screw-threads of the bolts 15, while the inner blocks 14 are fitted to slide in lon-



itudinal grooves 14<sup>a</sup> in the cylinder, said grooves being illustrated by dotted lines in Fig. 2 and being indicated in Fig. 9. As shown, the grooves 14<sup>a</sup> coincide or are in line with the bolts 15, so that the blocks 14 and 16 are opposite each other.

It will also be observed from an inspection of Fig. 9 that the blocks 14 are beveled on both sides or dovetailed, so that they may be used to engage either the inner or the outer margin of the form. The blocks 16, however, need be beveled only on the inner side, as shown. The object of this arrangement is to provide for using either small-sized or full-sized forms. In the construction shown in Fig. 1 full-sized forms are employed, in which event the blocks 14 are moved to the outer portions of the grooves 14<sup>a</sup>, as shown in Fig. 1 and in Fig. 9, being then used to engage the outer margins of the forms. When so used, they are jammed tightly against the beveled margins of the forms by the blocks 16, which are clamped against them by turning the bolts 15 in the proper direction. When, however, it is desired to use smaller-sized forms, as shown in Fig. 2, the blocks 14 are moved inward in the grooves 14<sup>a</sup> into position to engage the outer margin of the inner form and the inner margin of the outer form, as shown, the outer blocks 16 being employed to engage the outer margin of the outer form. The blocks 14 and 16 therefore cooperate to bind the outer form properly upon the cylinder, while the blocks 14 cooperate with the ring 13 to hold the inner form in place. The forms may be released by simply unscrewing the bolts 15.

As shown in Figs. 4 and 5, a section of the cylinder 9 is cut away, forming a square recess having at each end a shoulder 17. 18 indicates a block which is fitted into said recess, resting upon said shoulders 17, as shown in Fig. 5, and has its outer surface curved to conform to the surface of the cylinder. The outer surface of said block 18 lies on a level with the surface of the cylinder. Said block is held in place by retaining-screws 19, which screw into the shoulders 17, the heads of said screws being arranged to project over the edges of the block 18, as shown in Fig. 4, thereby holding it firmly in position. The block 18 is designed to carry the advertising or other special plate on the same level as the printing-plate carried by the cylinder, so that the special plate will be arranged to print in the same way as the main printing-plates. For holding the special plate in position the block 18 carries at one side fixed clamps 20, as shown in Fig. 4, and at the opposite side swinging clamps 21, which are adapted to bind the special plate closely against the fixed clamps 20. At one end of the block 18 is a further fixed clamp 22, as shown in Fig. 4.

23 indicates the special plate, the edges of which are beveled to receive the clamping

devices, as shown. The swinging clamps 21 are best shown in Figs. 6 and 7. As there shown, each of said clamps is mounted on a pivot 24 and has a downwardly-projecting arm 25, which receives the thrust of a spring 26, mounted in a suitable socket in the block 18 and acting to force said arm 25 outward, thereby carrying the upper portion of the clamp inward against the special plate. A plug 27, which engages the inner end of the spring 26, provides for adjusting the tension of the spring.

As already described, the upper surface of the block 18 is flush with the surface of the cylinder, so that by making the special plate of the same thickness as the main form its surface will be flush with that of the main form and it will print in the same way. The special plate must of course be curved to conform to the curvature of the cylinder. Where the main printing plate or form is stereotyped, it is cast in the usual way, except that an opening is provided corresponding in size and outline to the block 18 and so placed that when the plate is fitted on the cylinder it registers with the block 18. The main form thus surrounds the auxiliary or special printing-plate entirely or in part, depending on the position of said auxiliary plate, which may be placed in any desired relation to the other matter which appears on the printed page. Where an electrotypes-plate is used, it is made in the usual way, except that a blank space is provided at such a point that when the plate is placed on the cylinder such blank space registers with the block 18. The blank portion being cut away, the special plate will lie in the opening thereby provided and will practically form a part of the electrotypes-plate so far as the printing is concerned.

It will be seen from the foregoing description that as the retaining devices of the form and the special printing-plate are independent of each other either the special plate or the form may be placed in position or removed without regard to the other, all that it is necessary to do to remove the special plate being to throw back the clamps 21 far enough to permit the opposite edge of the special plate to be moved out from under the clamps 21. A new plate may then be inserted and printing proceeded with. By this means there is a great saving in time and expense, since the special plate may be changed in a very few seconds and without remaking any of the main printing-plates, as has heretofore been necessary.

When the special plate is not to be used and it is desired to employ the ordinary main printing-plate, the block 18 is removed by removing the screws 19 and a dummy block 28 is substituted for it. Said dummy block is similar in construction to the block 18, but is not provided with the clamps, which, as shown in Figs. 6 and 7, project beyond the



upper surface of the block 18, and consequently would be in the way of an ordinary printing-plate. The dummy block is secured in position by the screws 19 and when in place fills the opening in the cylinder, forming a continuation of the surface thereof. The dummy block 28 is provided with a channel 29 to permit the block 14 to move across it when the small-page printing-plates (shown in Fig. 2) are used. Where the block 18 and the dummy block 28 lie near the longitudinal center of the machine, as shown at the left in Figs. 1 and 2, this channel 29 is of course unnecessary, since then the blocks 14 do not extend to said blocks.

While the form of clamps for the special plate shown and described are efficient and simple in construction, and therefore are preferred by me, my invention in its broadest aspect is not restricted to the use of said clamps, as other forms of clamps may be employed. I wish it to be understood, further, that my invention is not restricted to the specific details of construction shown and described, except in so far as such details are specifically claimed.

While the special plates are especially advantageous for printing advertising matter, they may of course be employed for any other purpose for which they are adapted, and, as above stated, they may be used with stereotype-plates, electrotype-plates, or any other suitable means for printing the remaining portion of the page.

I desire it understood that I reserve to myself the right to embody and claim in a separate application matter herein shown and described, but not specifically claimed.

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

1. A form-cylinder having a recess in its surface, a stationary block fitted in said recess with its outer surface below the surface of the form, means independent of the form for securing said block in place, and means carried by said block for securing a printing-plate thereto, substantially as described.

2. A form-cylinder having a recess in its surface, a stationary block fitted in said recess with its outer surface below the surface of the form, means independent of the form for removably securing said block in place, and means carried by said block for securing a printing-plate thereto, substantially as described.

3. An improved printing mechanism, comprising a form-cylinder having a recess in its surface, a form carried by said cylinder and having an opening adapted to register with said recess, a stationary printing-plate support fitted in said recess, its outer surface being below the surface of the form, means independent of the form for securing said printing-plate support in position, and means carried by said printing-plate support for remov-

ably securing a printing-plate thereupon, substantially as described.

4. The combination of a form-cylinder having a recess in the surface thereof, stationary plate-supporting mechanism carried by the cylinder and removably secured in said recess so that its surface lies below the surface of the form, means carried by said plate-supporting mechanism for removably securing a plate thereto, and independent devices carried by the cylinder adapted to engage and retain a form thereon, substantially as described.

5. The combination of a form-cylinder having a recess in the surface thereof, clamping mechanism carried by said cylinder in said recess, the surface of said clamping mechanism lying below the surface of the form, a printing-plate held in position by said clamping mechanism and having its surface flush with the surface of the form, a form carried by said cylinder and surrounding said clamping mechanism and printing-plate, said form having an opening to expose said clamping mechanism and printing-plate, and means for securing said form on said cylinder, substantially as described.

6. The combination of a form-cylinder having a recess in the surface thereof, clamping mechanism carried by said cylinder in said recess, the surface of said clamping mechanism lying below the surface of the form, a printing-plate held in position by said clamping mechanism and having its surface flush with the surface of the form, a form carried by said cylinder and surrounding said clamping mechanism and printing-plate, said form having an opening to expose said clamping mechanism and printing-plate, means for securing said form on said cylinder, and means independent of the form for removably securing said clamping mechanism in position, substantially as described.

7. The combination of a form-cylinder having a recess in the surface thereof, a block in said recess, the surface of said block being below the surface of the form, means independent of the form for securing said block in place, clamping mechanism carried by said block and adapted to engage and retain a printing-plate upon said block, a printing-plate adapted to fit upon said block, the surface of said printing-plate being flush with the surface of the form, a form carried by said cylinder and surrounding said block, said form having an opening to expose said printing-plate, and means for securing the form on said cylinder, substantially as described.

8. The combination of a form-cylinder having a recess in the surface thereof, a printing-plate support lying in said recess with its surface below the surface of the form, means securing said printing-plate support in position, spring clamping mechanism carried by said printing-plate support for securing the printing-plate thereto, a printing-plate mounted



on said printing-plate support and having its surface flush with the surface of the form, and a form carried by said cylinder and having an opening to expose said printing-plate, substantially as described.

9. The combination of a form-cylinder having a recess in the surface thereof, a printing-plate support lying in said recess with its surface below the surface of the form, means securing said printing-plate support in position, a fixed clamp member carried by said printing-plate support, a spring clamp member also carried by said printing-plate support and cooperating with said fixed clamp member to retain the printing-plate in position, a printing-plate mounted on said printing-plate support and having its surface flush with the surface of the form, and a form carried by said cylinder and having an opening to expose said printing-plate, substantially as described.

10. The combination of a form-cylinder having a recess in the surface thereof, a block secured to said cylinder and lying in said recess with its surface below the surface of the form, spring clamping mechanism carried by said block adapted to engage and retain a printing-plate on the cylinder with its surface flush with the surface of the form, a printing-plate mounted on said block, and a form carried by said cylinder, said form having an opening to expose said printing-plate, substantially as described.

11. The combination of a form-cylinder having a recess in the surface thereof, a stationary block fitted in said recess and having its outer surface flush with the outer surface of the cylinder, means carried by said block for removably securing a printing-plate thereupon, a printing-plate removably mounted on said block, and a form mounted on said cylinder, the surface of said printing-plate being flush with the surface of the form, substantially as described.

12. The combination of a form-cylinder having a recess in the surface thereof, a block fitted in said recess and having its outer surface flush with the outer surface of the cylinder, spring clamping mechanism carried by said block for removably securing a printing-plate thereupon, a printing-plate removably mounted on said block, and a form mounted on said cylinder, the surface of said printing-

plate being flush with the surface of the form, substantially as described.

13. A form-cylinder, having a recess in its surface, a block fitted in said recess with its outer surface below the surface of the form, means independent of the form for securing said block in place, and clamping means carried by said block and adapted to engage the edges of a printing-plate for securing it upon said block, substantially as described.

14. A form-cylinder, having a recess in its surface, a block fitted in said recess with its outer surface below the surface of the form, means independent of the form for securing said block in place, and spring clamping means carried by said block and adapted to engage the edges of a printing-plate for securing it upon said block, substantially as described.

15. A form-cylinder, having a recess in its surface, a block fitted in said recess with its outer surface below the surface of the form, means independent of the form for securing said block in place, and clamping means carried by said block below the surface of the form for securing a printing-plate upon said block, substantially as described.

16. A form-cylinder, having a recess in its surface, a block fitted in said recess with its outer surface below the surface of the form, means independent of the form for removably securing said block in place, and clamping means carried by said block below the surface of the form for securing a printing-plate upon said block, substantially as described.

17. An improved printing mechanism, comprising a form-cylinder having a recess in its surface, a form carried by said cylinder and having an opening adapted to register with said recess, a printing-plate support fitted in said recess, its outer surface being below the surface of the form, means independent of the form for securing said printing-plate support in position, and clamping means carried by said printing-plate support below the surface of the form for removably securing a printing-plate upon said support, substantially as described.

SAMUEL G. GOSS.

Witnesses:

JOHN L. JACKSON,  
ALBERT H. ADAMS.