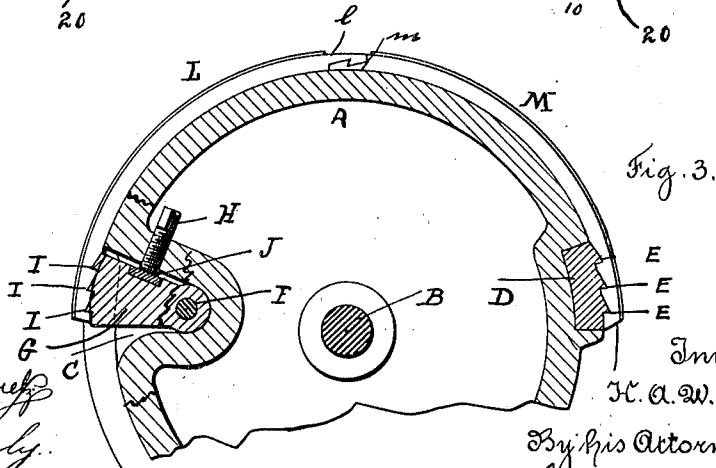
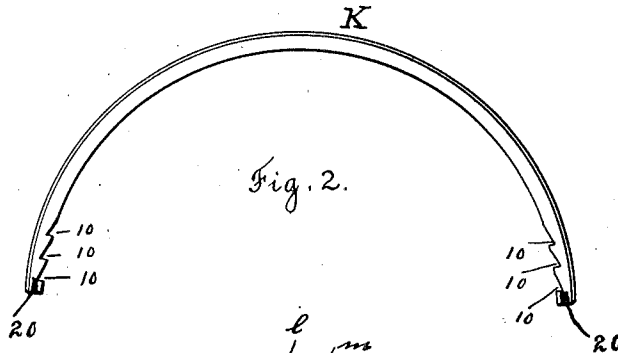
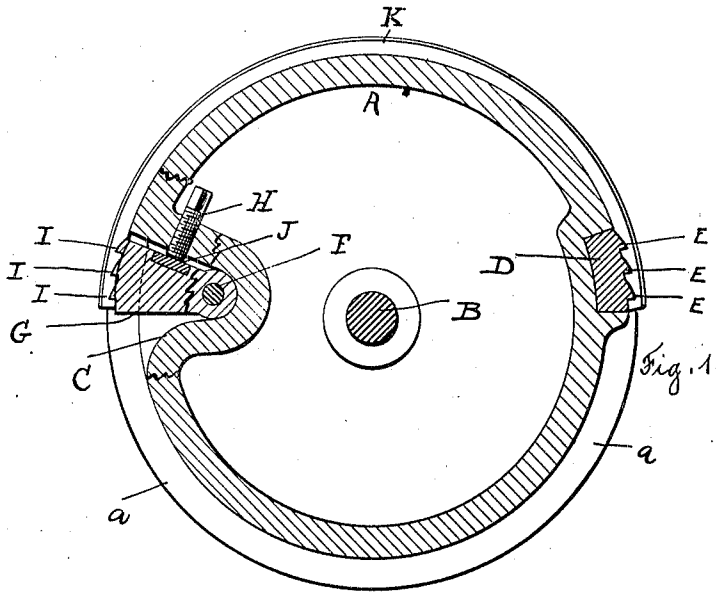


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 MEANS FOR SECURING PRINTING PLATES TO PRINTING CYLINDERS.  
 APPLICATION FILED JAN. 7, 1893. RENEWED OCT. 18, 1913.

1,096,982.

Patented May 19, 1914.

2 SHEETS—SHEET 1.



Witnesses  
 Chas. F. Schuchert  
 E. M. Healy.

Inventor  
 H. A. W. Wood,  
 By his Attorney  
 Louis W. Southgate

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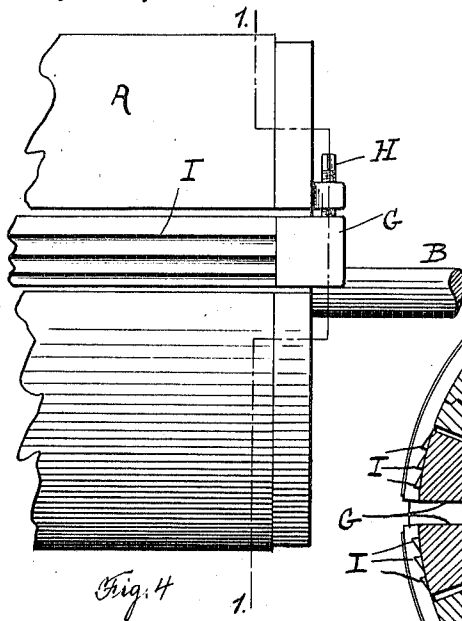


Fig. 4

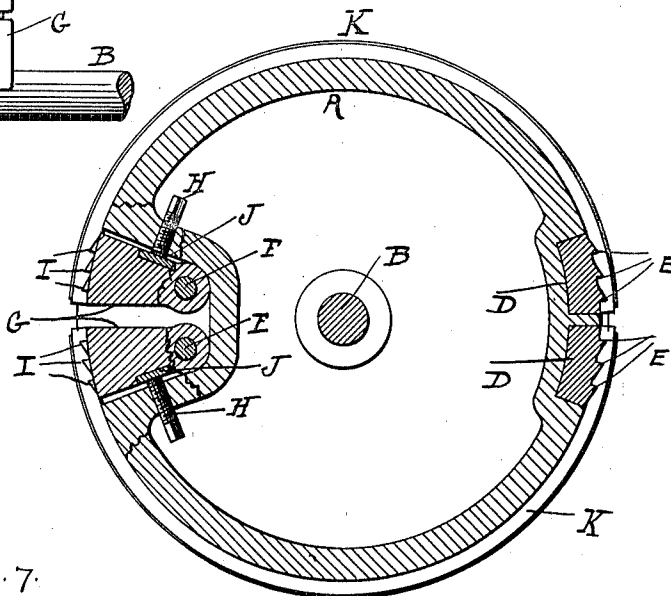


Fig. 5.

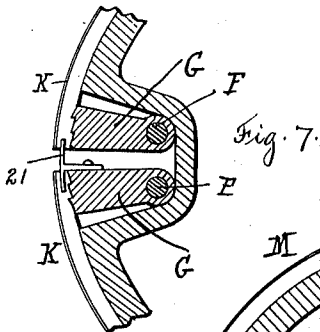


Fig. 7.

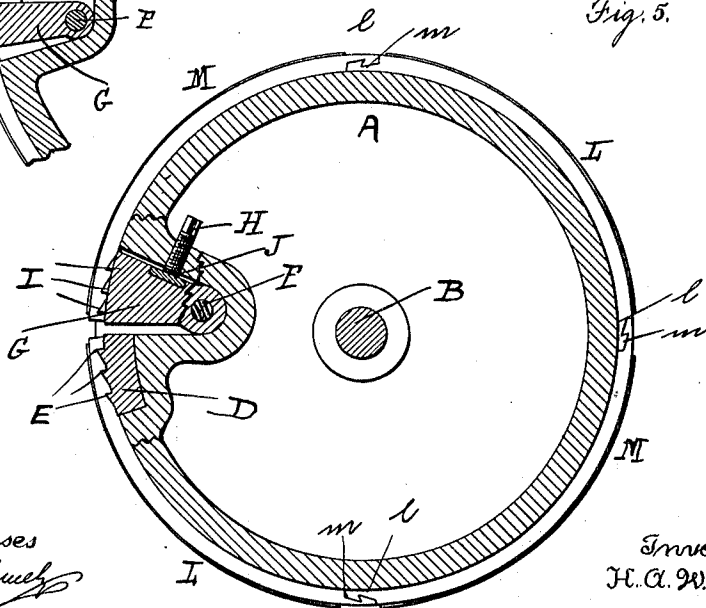


Fig. 6.

Witnesses  
*Geo. F. Schuch*  
*E. H. Healy*

Inventor  
 H. A. W. Wood,  
 By his Attorney  
*Louis W. Southgate*

# UNITED STATES PATENT OFFICE.

HENRY A. WISE WOOD, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO  
THE AUTOPLATE COMPANY OF AMERICA, OF JERSEY CITY, NEW JERSEY, A COR-  
PORATION OF NEW JERSEY.

## MEANS FOR SECURING PRINTING-PLATES TO PRINTING-CYLINDERS.

1,096,982.

Specification of Letters Patent.

Patented May 19, 1914.

Application filed January 7, 1893, Serial No. 457,671. Renewed October 18, 1913. Serial No. 796,069.

*To all whom it may concern:*

Be it known that I, HENRY A. WISE WOOD, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Improvement in Means for Securing Printing-Plates to Printing-Cylinders, of which the following is a specification.

The aim of this invention is to provide a new and improved means for holding rigid curved printing plates, such as stereotype printing plates on cylinders, and to this end, the invention consists of the device described and claimed in this specification, and illustrated in the accompanying two sheets of drawings, in which—

Figure 1 is a sectional elevation of the printing cylinder shown in Fig. 4 on the line 1—1 of said Fig. 4, Fig. 2 is a view of the printing plate, showing the way in which the same is prepared, Fig. 3 is a view similar to Fig. 1, showing the way in which two printing plates may be arranged to be held by the same clamping device, Fig. 4 is a side elevation of one end of the cylinder shown in Fig. 1, Fig. 5 is a view similar to Fig. 1, showing two printing plates mounted upon the cylinder, Fig. 6 is a similar view showing four printing plates mounted upon the printing cylinder, and Fig. 7 is a detail hereafter referred to.

One common way to prepare printing surfaces is to cast heavy stereotype printing plates in a curved shape, adapted to fit on cylinders. The manners in which these curved plates are clamped and held to the cylinders with which I am familiar work upon the principle of clamping said plates by their edges or ends by pushing thereon.

Stereotype plates, as is well known, are cast or shaped so that they will fit the curved surface of a printing cylinder, and sometimes it is the case, when these clamping devices, which push on the ends or sides of the plate, are applied to the same, the plate will spring or "buckle" in its center from the pressure of the clamping device, whereby the plate will not exactly fit the entire surface of the printing cylinder.

My device, as distinguished from these old devices, holds the stereotype plate to the cylinder by "end strain"; that is, the

plate is pulled down tightly on to the surface of the printing cylinder.

I am aware it is not broadly new to hold printing plates by end strain, as it has been proposed to hold thin zinc or similar printing plates to the surface of printing cylinders by end strain; but it is broadly new, so far as I am informed, to hold rigid plates, such as stereotype plates, to printing cylinders by end strain.

Referring now to the first sheet of drawings, and in detail, A represents a printing cylinder of the usual construction, which may be mounted on the usual shaft B, and this cylinder may have in the center or at one end thereof, a suitable rib or annular collar *a*, against which the edge of the plate is adapted to rest, whereby the plate can be slid sidewise on to the cylinder, and whereby this collar *a* forms the usual gage for said plate.

The cylinder has a recess C, and preferably substantially diametrically opposite to this recess, another recess is formed in the periphery of the cylinder, in which is fitted a steel block D, which has the projecting teeth or ribs E.

A shaft F is journaled in the cylinder, parallel to the axis thereof, and fitting on this shaft is a clamping block G, which has teeth or ribs I. This clamping block G has a steel face as J, inserted therein, and bearing against this face J at the sides of the cylinder, are arranged screws H, which are tapped into lugs formed on the sides of the cylinder, as shown in Fig. 4.

The printing or stereotype plate K is arranged with suitable notches 10, cut on the inside of the same, which notches 10 are adapted to fit the ribs E E E, and the ribs or teeth I I I of the clamp G. The inside of the plate is turned off smooth in the usual manner, and these notches 10—10 are cut into the inner surface of the plate, as shown. The plate is applied to the cylinder, and the notches are engaged with the teeth E E, and with the teeth I, as shown in Fig. 1. Then the bolts H are screwed down, whereby there will be a heavy end or peripheral strain imparted to the printing plate, and whereby the same will be rigidly held to the surface of the printing cylinder, as shown. By this way of attaching the printing plate

to the surface of the cylinder, it will be seen that there is no tendency for the plate to "buckle" or spring away from the surface of the printing cylinder; but, that the plate will be tightly held against the periphery of the cylinder. It is evident, of course, as before stated, that two printing plates can be applied to cover the entire surface of the printing cylinder in the same manner, as is shown in Fig. 5.

The bolts H may be arranged at each end of the cylinder so that the same can be easily got at to clamp the plate in place and if the bolts have to be arranged in the inside of the cylinder, as for example, where the cylinder is to carry a number of plates abreast, suitable operating connections may be provided extending to the side or sides of the cylinder.

A suitable machine may be provided for cutting the notches in the printing plate, or these notches may be formed when the plate is cast. Sometimes it is desired to put two separate plates on one-half of the periphery of the cylinder, and this can be done, as shown in Fig. 3, the printing plates L and M in this case, simply having interlocking tongues as *l* and *m*, whereby they will practically constitute one plate when they are applied to the printing cylinder. This way of interlocking two plates as shown especially in Fig. 3, is applicable of course, to two or more printing plates, and the entire periphery of the printing cylinder is shown in Fig. 6, as covered by four printing plates interlocked in this manner. By this method of attaching a plurality of printing plates to a printing cylinder, it will be seen that an equal strain will be put upon all the printing plates, and that the tendency of all the printing plates will be to fit to the periphery of the printing cylinder. The same advantages result from this construction as result from the structure previously described.

It is sometimes desired, and is sometimes necessary to hold the ends of the printing plates from springing away from the clamps or jaws, and when this is necessary or desired the ends of the plates may have grooves as 20 formed therein, and arranged on the periphery of the printing cylinder may be a tongue 21, adapted to fit into these grooves. These grooves are made deeper than the tongue, whereby the clamping device will have plenty of room to move or strain the plate to the periphery of the printing cylinder. This tongue and groove may be used with any of the devices before shown, so that the same can engage the free end or ends of any of the plates, if desired or necessary to have such a device. It is seen

that where these tongues are used, that the plate will be simply slid on endwise of the cylinder, so as to engage these tongues, and that the clamping device would then be used to strain the plate to the cylinder.

The device herein shown and described may be greatly varied by a skilled mechanic without departing from the scope of my invention as expressed in the claims.

Having thus fully described my invention, what I claim and desire to secure by Letters Patent is:—

1. The combination of a curved printing plate having grooves cut on the under surface and near the ends of the same, a cylinder having means as a jaw with teeth adapted to engage one end of said plate, and a straining device consisting of a pivoted jaw having teeth adapted to engage the other end of the plate, and means, as screws, for actuating the pivoted jaw, whereby the plate may be held on the surface of the cylinder by end strain, substantially as described.

2. The combination of a plurality of curved printing plates having grooves or tongues formed on the under surface and near the ends thereof, a cylinder provided with means for engaging the free end or ends of said plates, and with a straining device adapted to engage the other end or ends of said plates, and to strain the plates peripherally to the surface of the cylinder, substantially as described.

3. The combination of two curved printing plates having grooves cut on the under surface and near the ends of the same, a printing cylinder having two blocks D, D, with teeth adapted to engage the ends of said plates, and with two straining devices, as pivoted jaws, arranged to engage the other ends of said plates, and means as screws for actuating said jaws to strain said plates on to the surface of the cylinder, substantially as described.

4. The combination of a curved printing plate having grooves cut on the under surface and near the edges thereof, a cylinder provided with means for engaging said grooves, and for straining the plate on the surface of the cylinder, said plate also having a groove cut in the end thereof, and said cylinder also having a tongue engaging said groove, substantially as described.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

H. A. WISE WOOD.

Witnesses:

JAMES J. McGRATH,  
JAMES BOYLE.