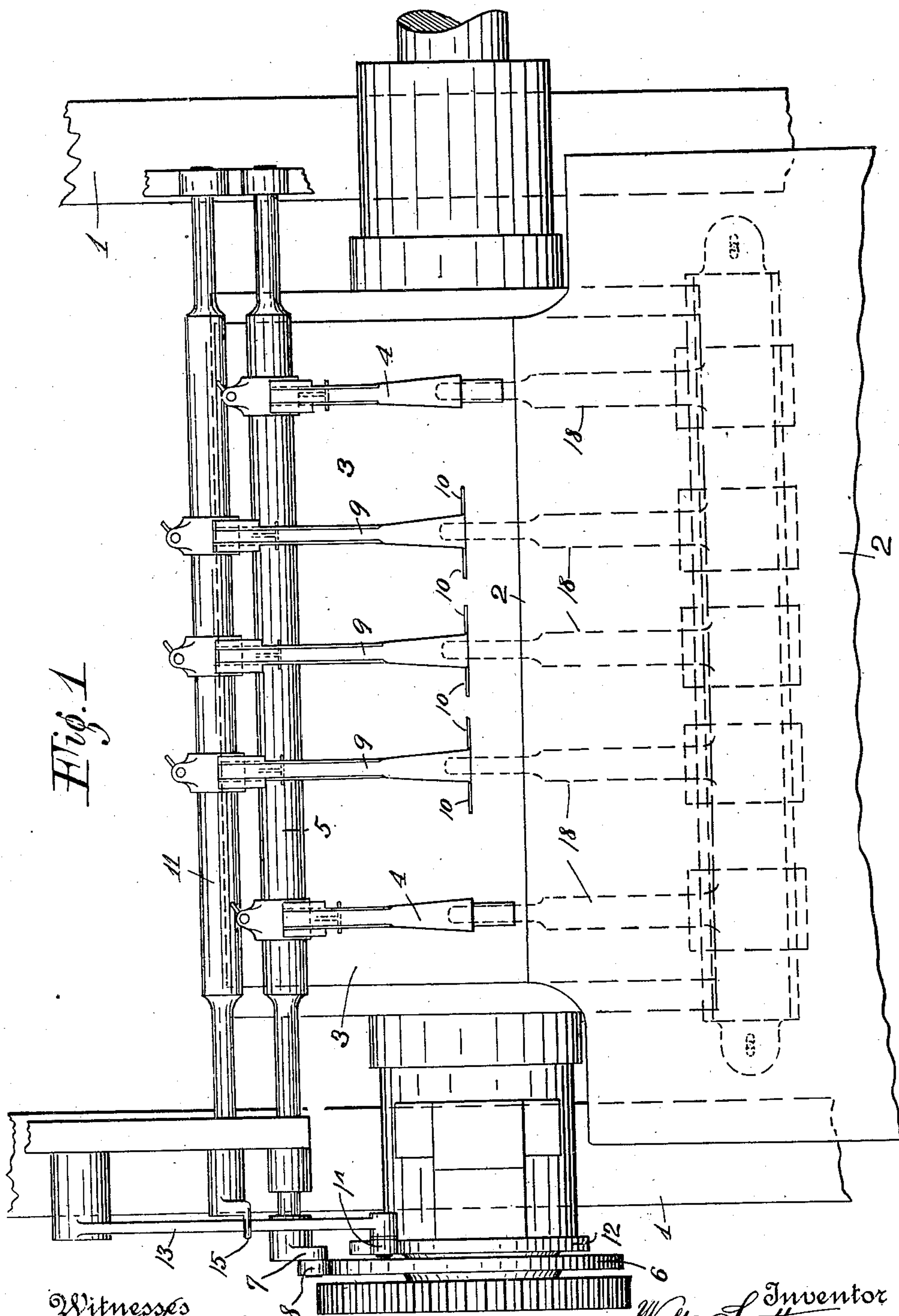


No. 863,321,

PATENTED AUG. 13, 1907.

W. SCOTT.
PAPER FEEDING MACHINE.
APPLICATION FILED JAN. 16, 1904.

2 SHEETS—SHEET 1.



Witnesses
Evan Honigsberg.
Annie W. Benham.

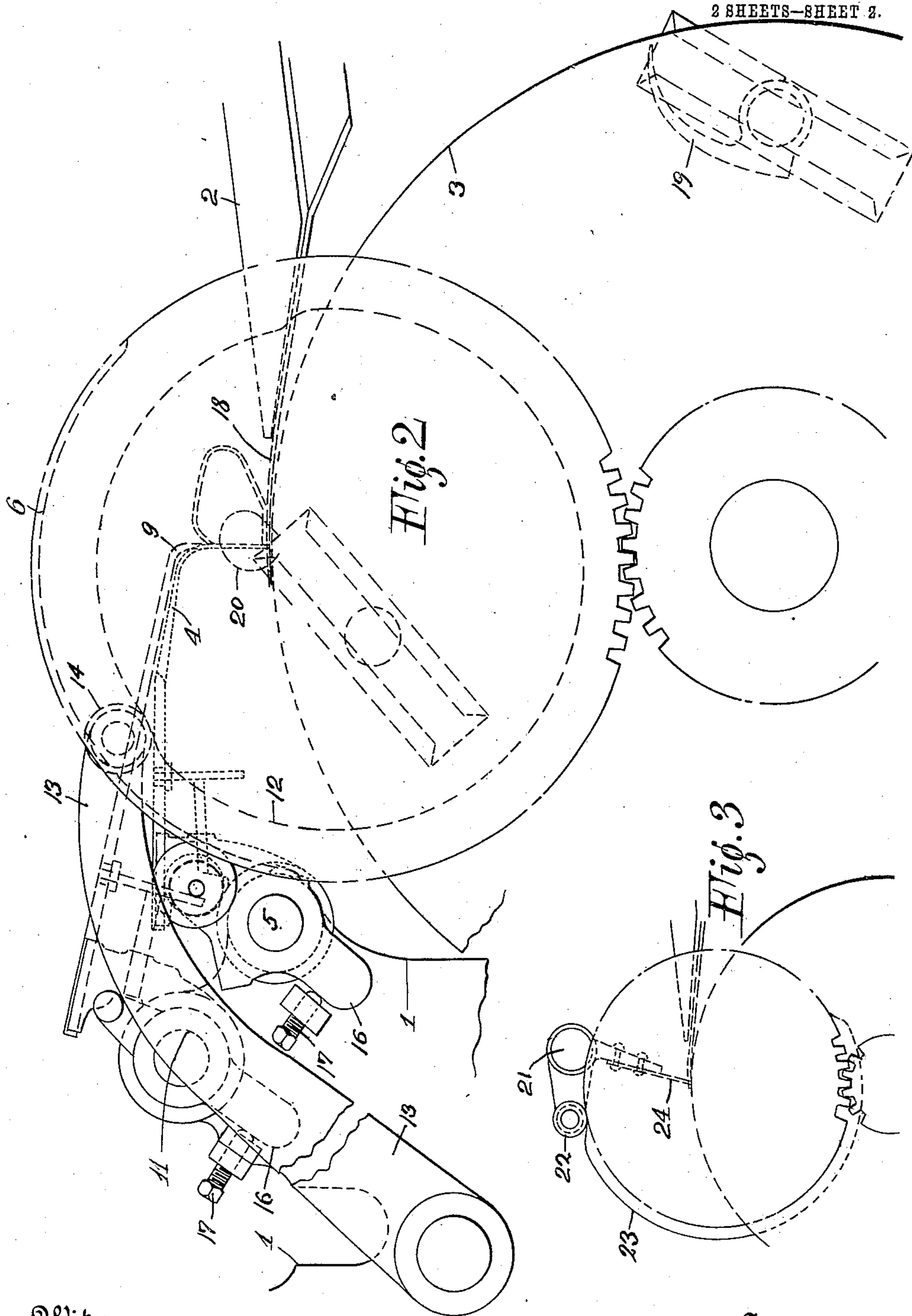
Inventor
Walter Scott.
By his Attorneys
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2 SHEETS—SHEET 2.



Witnesses
Fran Konigsberg.
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UNITED STATES PATENT OFFICE.

WALTER SCOTT, OF PLAINFIELD, NEW JERSEY.

PAPER-FEEDING MACHINE.

No. 863,321.

Specification of Letters Patent.

Patented Aug. 13, 1907.

Application filed January 16, 1904. Serial No. 189,237.

To all whom it may concern:

Be it known that I, WALTER SCOTT, a citizen of the United States of America, and a resident of Plainfield, Union county, New Jersey, have invented certain new and useful Improvements in Paper-Feeding Machines, of which the following is a specification.

My invention relates generally to paper feeding machines, and has more particular reference to the gages against which the sheet registers before it is taken by the grippers on the cylinder.

In some printing, or other machines, especially when automatic feeders are used, or when sheets are cut from a web and automatically fed to printing or other machines, the sheets are fed very rapidly and come down against the gages with considerable force. Inasmuch as the feed gages are usually located a considerable distance apart, leaving a wide space therebetween, the paper is frequently torn or creased by reason of its great impact. Owing to the fact also that the sheets are not always perfectly cut, they do not present an even edge to the gages, and proper alinement therefore is not obtained.

In an application filed by me on the 11th day of December, 1902, Ser. No. 134,753, I have shown a construction in which is provided a primary gage or gages located intermediate the gages proper and somewhat in advance of the same. In the present application, I employ an auxiliary gage or gages located preferably intermediate the gages proper and substantially in alinement with the said gages proper. This auxiliary gage or gages may be made as one long strip or blade or with a number of blades presenting preferably a practically solid front to the sheet as it advances, thereby preventing the sheet from buckling or from other injury. Means are further provided for lifting the auxiliary gage or gages out of the way, prior to the lifting of the gages proper so that the sheet will have an opportunity to get a second register against the gages proper in case the front edge of the sheet should be uneven. The gages are of course adjustable to suit the varying sizes of sheets and in that way the auxiliary gages will sometimes be located in the same plane as the grippers when such are used on the cylinder. For this reason also, it is preferable that the said auxiliary gages be moved out of the way before the grippers reach the feeding point.

In machines where automatic feeders are used, it is customary to have means for registering the sheet sidewise after it has reached the front gages. In my machine, the parts will preferably be so arranged that the auxiliary gage or gages will be lifted out of the way while the sheet is registered sidewise.

In the accompanying drawings, I have shown my

invention embodied in a suitable form, but changes of construction may of course be made and parts omitted, without departing from the spirit of my invention.

In the said drawings: Figure 1 is a plan view of a feed board, cylinder and gages, etc., embodying my invention. Fig. 2 is a side elevation of the parts shown in Fig. 1. Fig. 3 is a modification.

Similar characters of reference indicate corresponding parts in the different views.

1 indicates a framework of any suitable construction for properly mounting the parts.

2 is a feed board and 3 is the impression or other cylinder.

4 indicates the gages proper mounted upon the rockshaft 5 which is suitably operated from the cam 6 by means of the arm 7 mounted on the said shaft 5 and provided with the roller 8.

9 indicates one or more auxiliary gages, which, as previously stated, may be shaped as one continuous blade, but are in the present instance constructed with a number of contacting portions 10 which present, in this case, practically a solid front to the advancing sheet. This auxiliary gage or gages will be located substantially in alinement with the gages proper, though in certain instances, it may be found advantageous to place them a very slight distance ahead of the said gages proper. However, under all conditions, all the gages would be substantially in alinement with each other. The said auxiliary gage or gages are mounted on the rockshaft 11, which receives its motion in any suitable way as from the cam 12, through the instrumentality of the pivoted lever 13, having roller 14, adapted to come in contact with the pin or other member 15 on the rockshaft 11. All the gages are made adjustable on the rockshafts on which they are mounted in any usual or suitable way. Stops as 16 are further provided, coming in contact with the set screws 17 whereby the motion of the rockshafts on the return movement is limited.

In the present instance, the gages are shown as resting upon the tongues 18 which it is customary to attach to the under side of the feed board, and are to that end provided with a cut-out portion fitting over the said tongue in a well known way so as to prevent the sheet from passing between the gage and the said tongue.

The cylinder 3 may be and is, in this instance, provided with grippers 19 as is sometimes customary, and at 20, I have indicated the path of the point of the gripper as it tumbles to nip the sheet. The grippers, as has been previously pointed out, might at times interfere with the location of these gages as will be seen from this diagram. However, with the auxiliary gages moving out of the way previous to the grippers coming

in position to take the sheet, there will be no interference between the elements.

As the sheet advances, it will strike against the solid front presented to it by the auxiliary gages, and if both the auxiliary gages and the gages proper are in perfect alinement, the said gages proper will receive part of the impact. The auxiliary gage or gages are then raised and if the sheet is not properly registered with the gages proper, the tapes, or other means, which are generally used in such machines will continue to crowd the sheet down until it registers perfectly. However, the impact of the sheet has been checked by the auxiliary gages and no creasing or tearing has taken place. If the side registering device is used, the sheet will be moved sidewise during this period. The grippers now being in position to take the sheet and the sheet being in perfect register, the gages proper will be raised in the manner described, and the sheet will be taken on the cylinder 3.

In Fig. 3 I have shown a modification in which the auxiliary gage or gages 24 are mounted on the rock-shaft 21, operated by means of the roller 22 and cam 23, so as to move away from the advancing sheet. Any other mechanical equivalents might of course be used.

What I claim is:

1. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of a sheet, of an auxiliary gage or gages located substantially in alinement with the first mentioned gages and adapted to present a practically solid front to the sheet as it advances, and means for lifting the auxiliary gage or gages up ahead of the first mentioned gages.

2. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of a sheet, of an auxiliary gage or gages located intermediate of the first mentioned gages and substantially in alinement with the same adapted to present a practically solid front to the sheet as it advances, and means for lifting the auxiliary gage or gages up ahead of the first mentioned gages.

3. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of a sheet, of an auxiliary gage or gages located substantially in alinement with the first mentioned gages, a cylinder for receiving the sheet, means as grippers carried by the said cylinder for transferring the sheet to the said cylinder, means for lifting the auxiliary gage or gages before the grippers reach the feeding point and means for lifting the first mentioned gages substantially at the moment the grippers seize the sheet.

4. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of a sheet, of an auxiliary gage or gages located intermediate of the said first mentioned gages and substantially in alinement with the same, a cylinder for receiving the sheet, means as grippers carried by the said cylinder for transferring the sheet to the said cylinder, means for lifting the auxiliary gage or gages before the grippers reach the feeding point, and means for lifting the first mentioned gages substantially at the moment the grippers seize the sheet.

5. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of a sheet, of an auxiliary gage or gages located substantially in alinement with the first mentioned gages and adapted to present a practically solid front to the sheet as it advances, a cylinder for receiving the sheet, means as grippers carried by the said cylinder for transferring the sheet to the said cylinder, means for lifting the auxiliary gage or gages before the grippers reach the feeding point, and means for lifting the first mentioned gages substantially at the moment the grippers seize the sheet.

6. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of a sheet, of an auxiliary gage or gages located intermediate of the said first mentioned gages and substantially in alinement with the same and adapted to present a practically solid front to the sheet as it advances, a cylinder for receiving the sheet, means as grippers carried by the said cylinder for transferring the sheet to the said cylinder, means for lifting the auxiliary gage or gages before the grippers reach the feeding point, and means for lifting the first mentioned gages substantially at the moment that the grippers seize the sheet.

7. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of the sheet, of an auxiliary gage or gages located substantially in alinement with the said first mentioned gages at the moment the sheet strikes the said gages, and means for lifting the auxiliary gage or gages up ahead of the first mentioned gages.

8. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of the sheet, of an auxiliary gage or gages located intermediate of the said first mentioned gages and substantially in alinement with the same at the moment the sheet strikes the said gages, and means for lifting the auxiliary gage or gages up ahead of the first mentioned gages.

9. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of the sheet, of an auxiliary gage or gages located substantially in alinement with the first mentioned gages at the moment the sheet strikes the said gages and adapted to present a practically solid front to the sheet as it advances, and means for lifting the auxiliary gage or gages up ahead of the first mentioned gages.

10. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of the sheet, of an auxiliary gage or gages located intermediate of the first mentioned gages and substantially in alinement with the same at the moment the sheet strikes the said gages, and adapted to present a practically solid front to the sheet as it advances, and means for lifting the auxiliary gage or gages ahead of the first mentioned gages.

11. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of the sheet, of an auxiliary gage or gages located substantially in alinement with the first mentioned gages at the moment the sheet strikes the said gages, a cylinder for receiving the sheet, means, as grippers, carried by the said cylinder, for transferring the sheet to the said cylinder, means for lifting the auxiliary gage or gages up before the grippers reach the feeding point, and means for lifting the first mentioned gages substantially at the moment the grippers seize the sheet.

12. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of the sheet, of an auxiliary gage or gages located intermediate of the said first mentioned gages and substantially in alinement with the same at the moment the sheet strikes the said gages, a cylinder for receiving the sheet, means, as grippers, carried by the said cylinder for transferring the sheet to the said cylinder, means for lifting the auxiliary gage or gages before the grippers reach the feeding point, and means for lifting the first mentioned gages substantially at the moment the grippers seize the sheet.

13. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of the sheet, of an auxiliary gage or gages located substantially in alinement with the first mentioned gages at the moment the sheet strikes the said gages and adapted to present a practically solid front to the sheet as it advances, a cylinder for receiving the sheet, means, as grippers, carried by the said cylinder for transferring the sheet to the said cylinder, means for lifting the auxiliary gage or gages before the grippers reach the feeding point, and means for lifting the first mentioned gages at the moment the grippers seize the sheet.

14. In a machine of the character set forth, the combination with gages located so as to contact with the front edge of the sheet, of an auxiliary gage or gages located substantially in alinement with the first mentioned gages at the moment the sheet strikes the said gages and adapted to present a practically solid front to the sheet as it advances, a cylinder for receiving the sheet, means, as grippers, carried by the said cylinder for transferring the sheet to the said cylinder, means for lifting the auxiliary gage or gages before the grippers reach the feeding point, and means for lifting the first mentioned gages at the moment the grippers seize the sheet.

5 nation with gages located so as to contact with the front edge of the sheet, of an auxiliary gage or gages located intermediate of the said first mentioned gages and substantially in alignment with the same at the moment the sheet strikes the said gages, and adapted to present a practically solid front to the sheet as it advances, a cylinder for receiving the sheet, means, as grippers, carried by the said cylinder for transferring the sheet to the said cylinder, means for lifting the auxiliary gage or gages before

the grippers reach the feeding point, and means for lifting 10 the first mentioned gages substantially at the moment the grippers seize the sheet.

Signed at New York this 14th day of January 1904.

WALTER SCOTT.

Witnesses:

RAYMOND C. SPAULDING,
JOHN G. PEARSE.