R. C. SEYMOUR.

FOLDING MACHINE.

APPLICATION FILED JUNE 10, 1908.

908,157.

Patented Dec. 29, 1908.

5 SHEETS—SHEET 1.

Fig. 1.

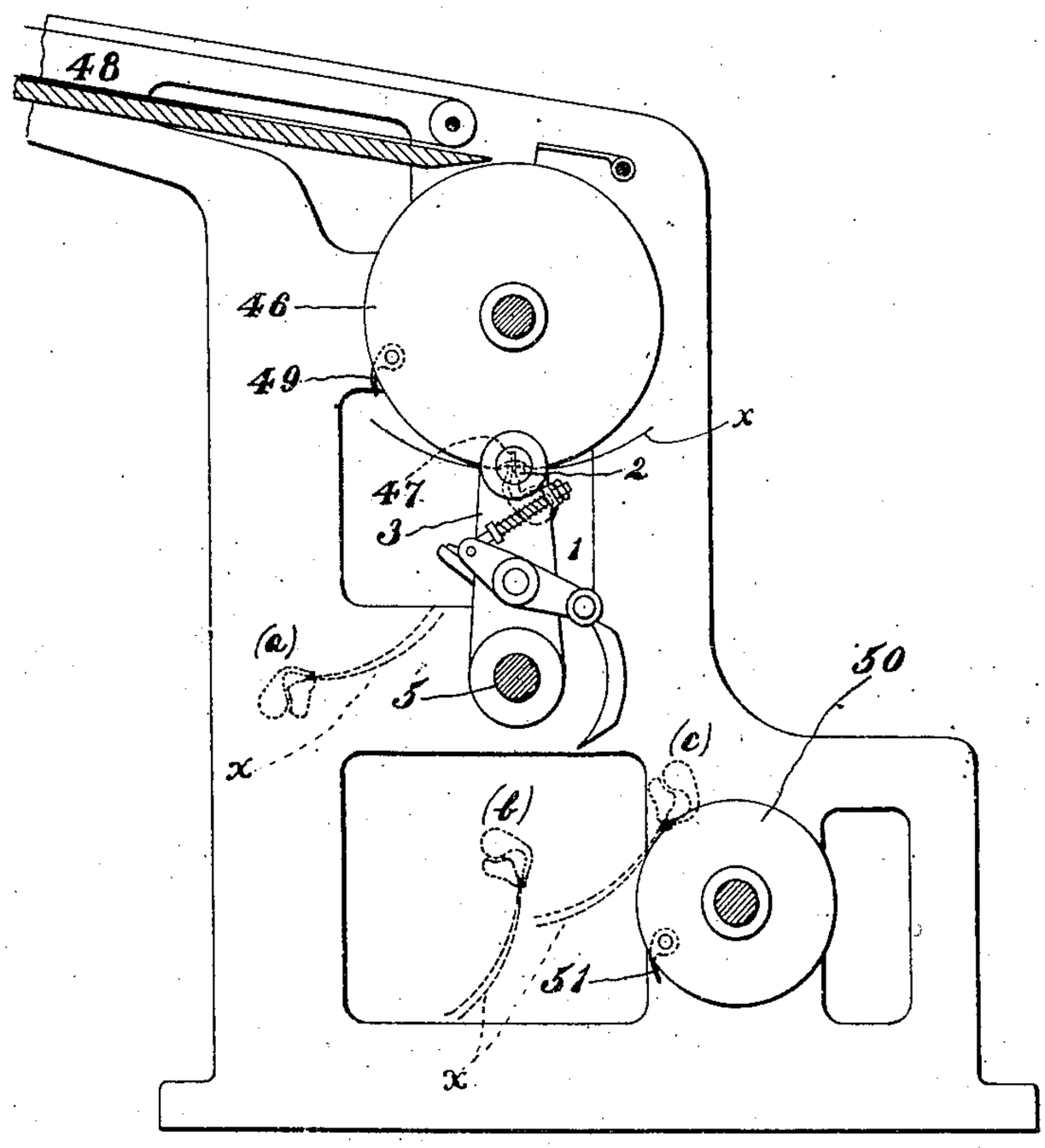
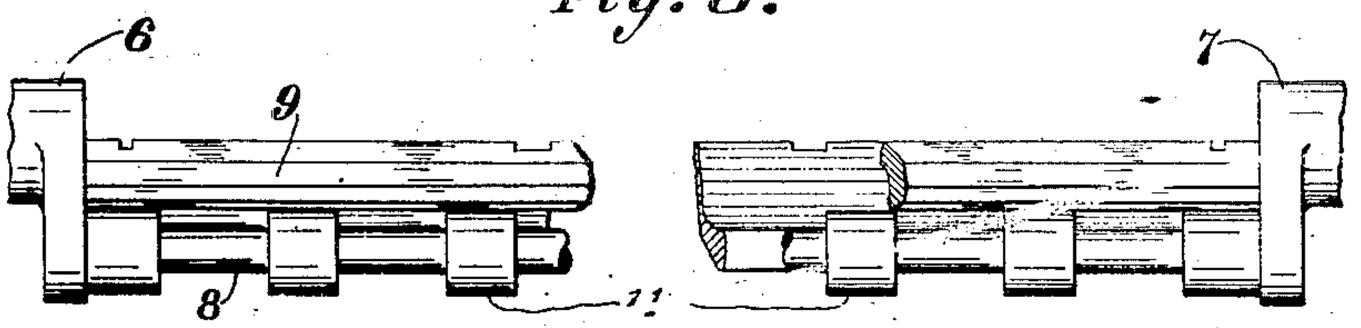


Fig. 8.



Witnesses:

William H. Irish.

Katharine Sexton

Inventor,

Ralph C. Seymour

By John D. Morgan

Attorney.

R. C. SEYMOUR.

FOLDING MACHINE.

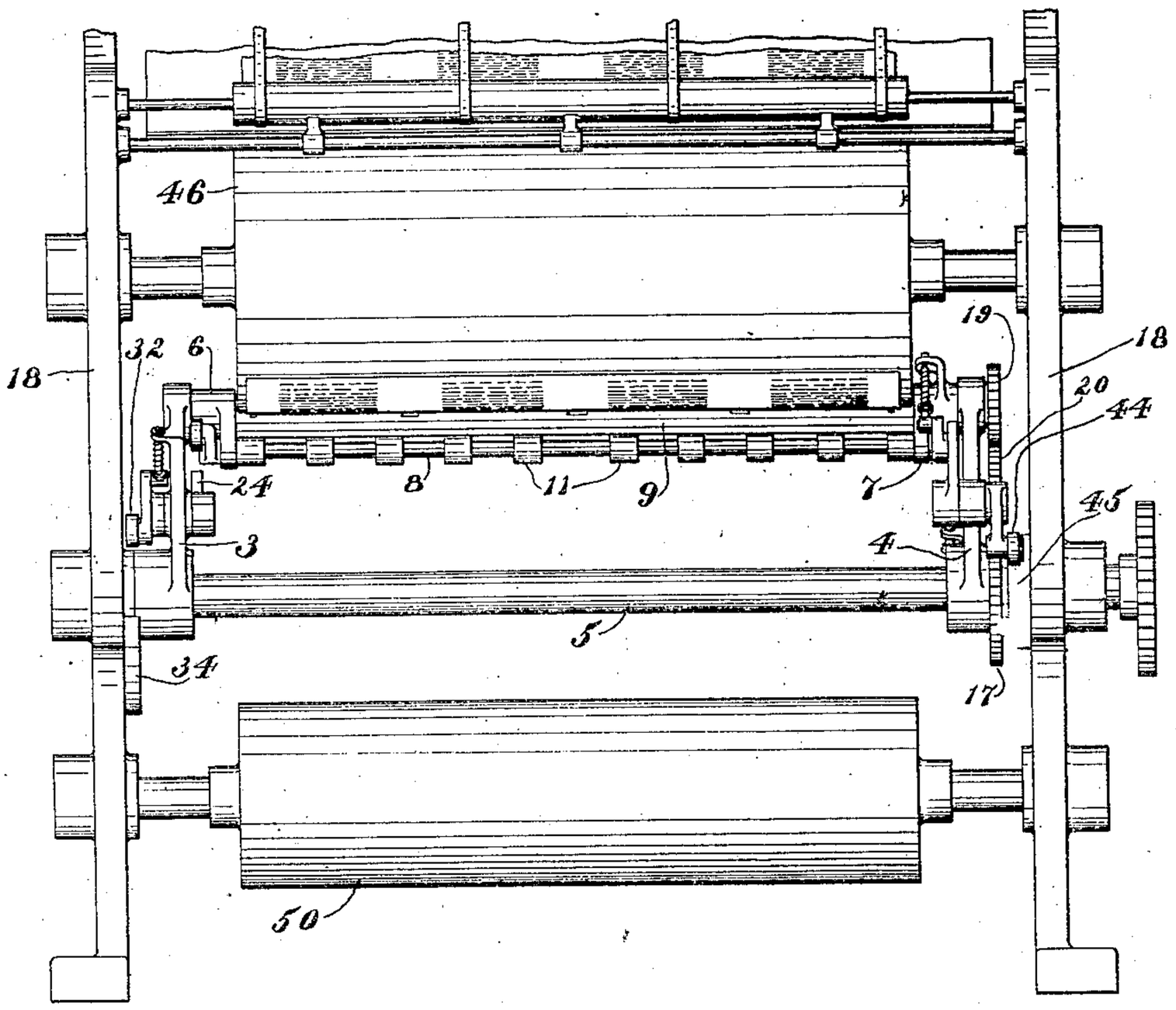
APPLICATION FILED JUNE 10, 1908.

908,157.

Patented Dec. 29, 1908.

5 SHEETS—SHEET 2.

Fig. 2.



Witnesses:
William H. Irish.
Catharine Sexton

Inventor,
Ralph C. Seymour
By John D Morgan
Attorney.

R. C. SEYMOUR.

FOLDING MACHINE.

APPLICATION FILED JUNE 10, 1908.

908,157.

Patented Dec. 29, 1908.

5 SHEETS—SHEET 3.

Fig. 3.

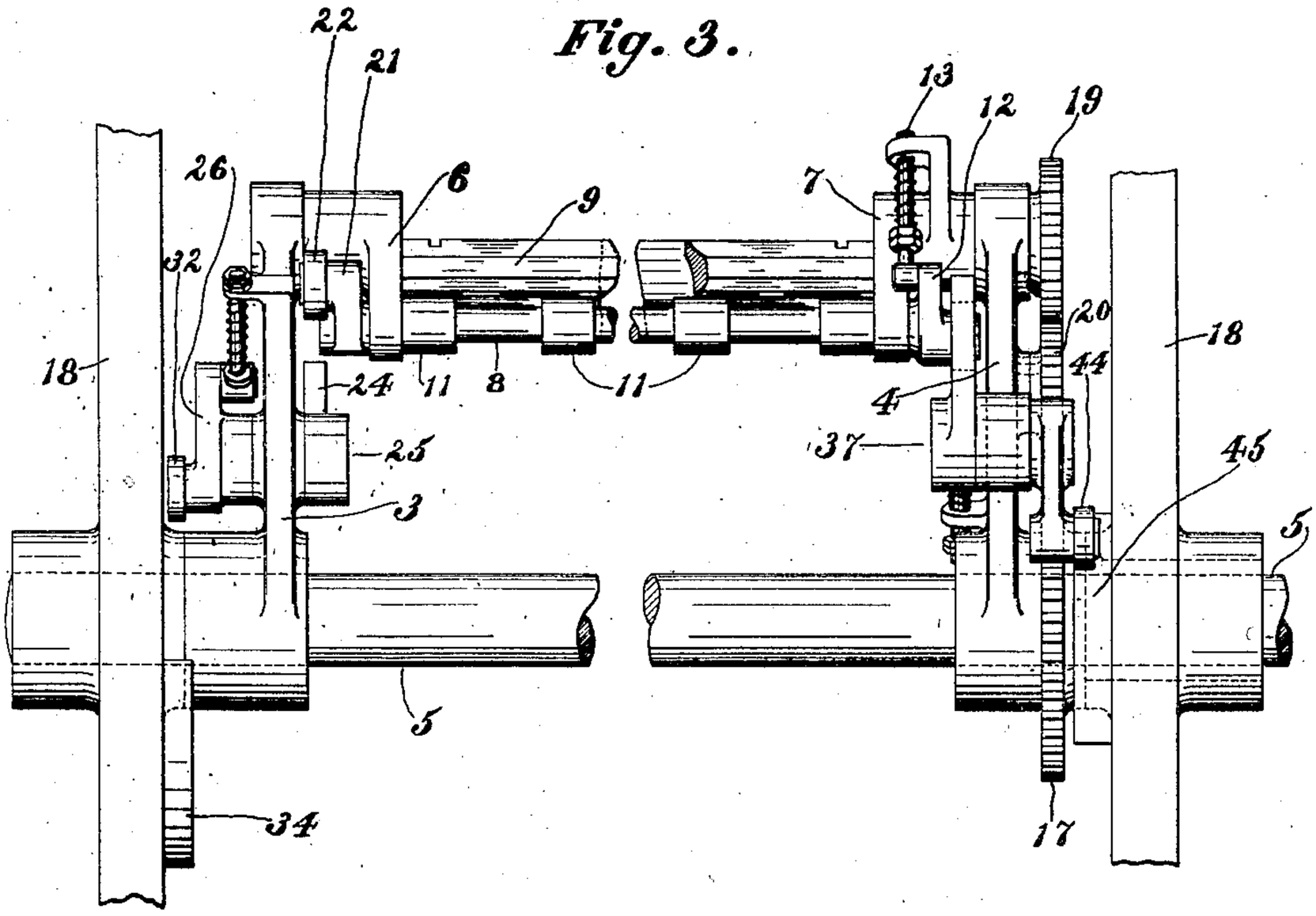
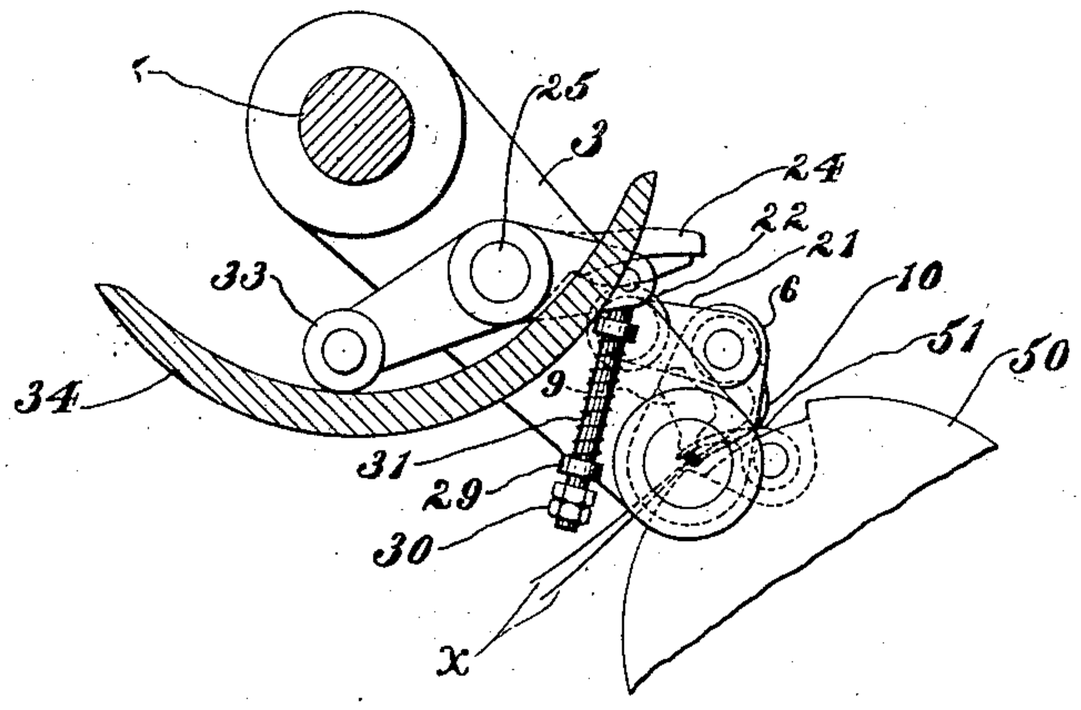


Fig. 7.



Witnesses:

William R. Irish.

Catharine Sexton

Inventor,

Ralph C. Seymour

By John D. Morgan

Attorney.

R. C. SEYMOUR.

FOLDING MACHINE.

APPLICATION FILED JUNE 10, 1908.

908,157.

Patented Dec. 29, 1908.

5 SHEETS—SHEET 4.

Fig. 4.

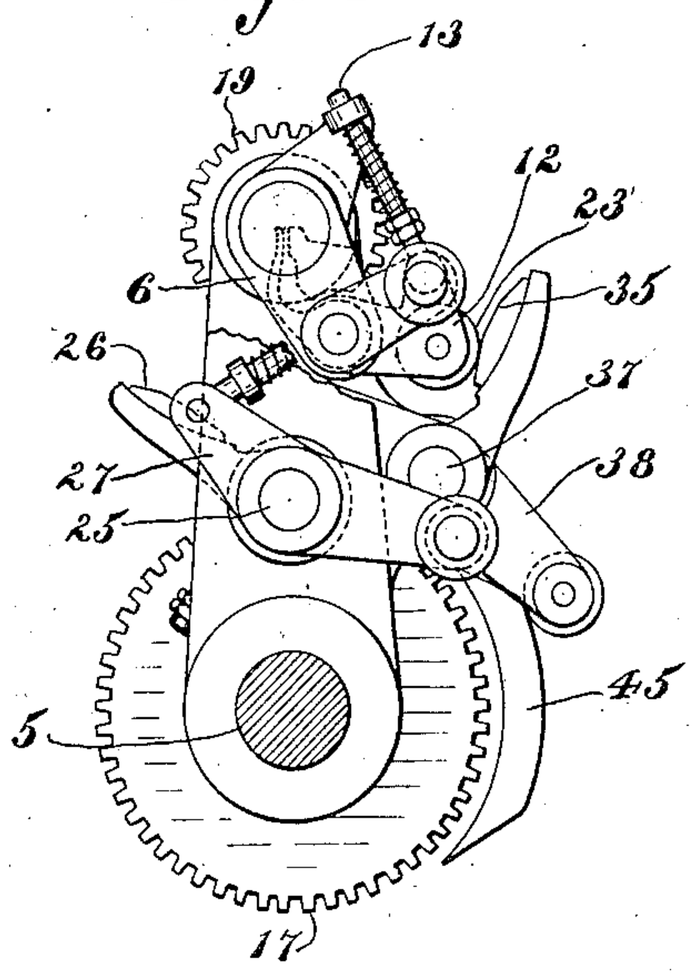


Fig. 5.

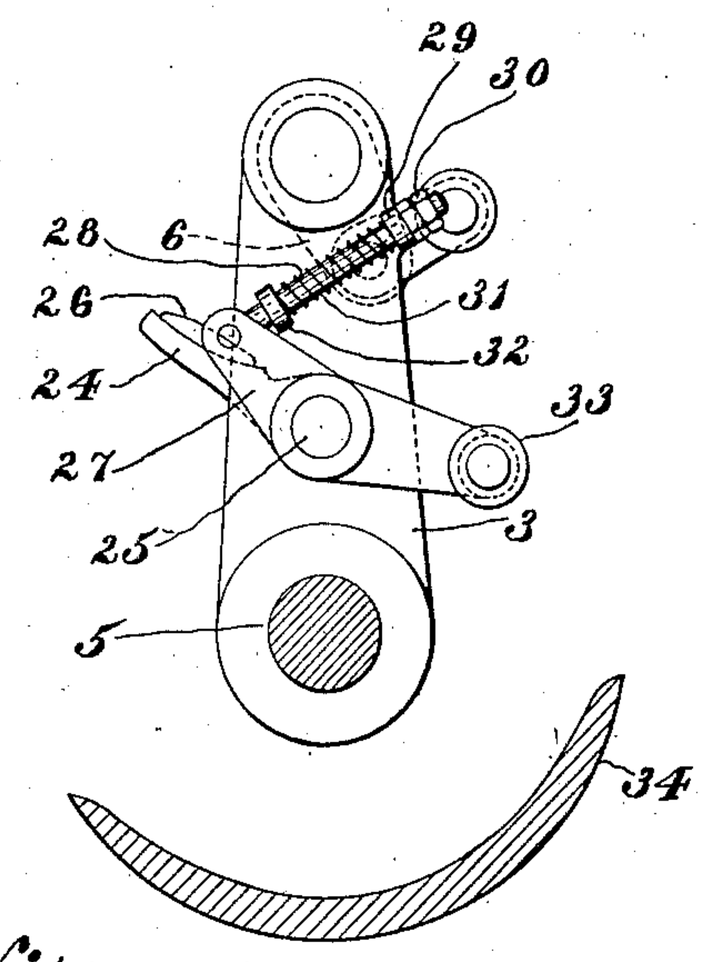
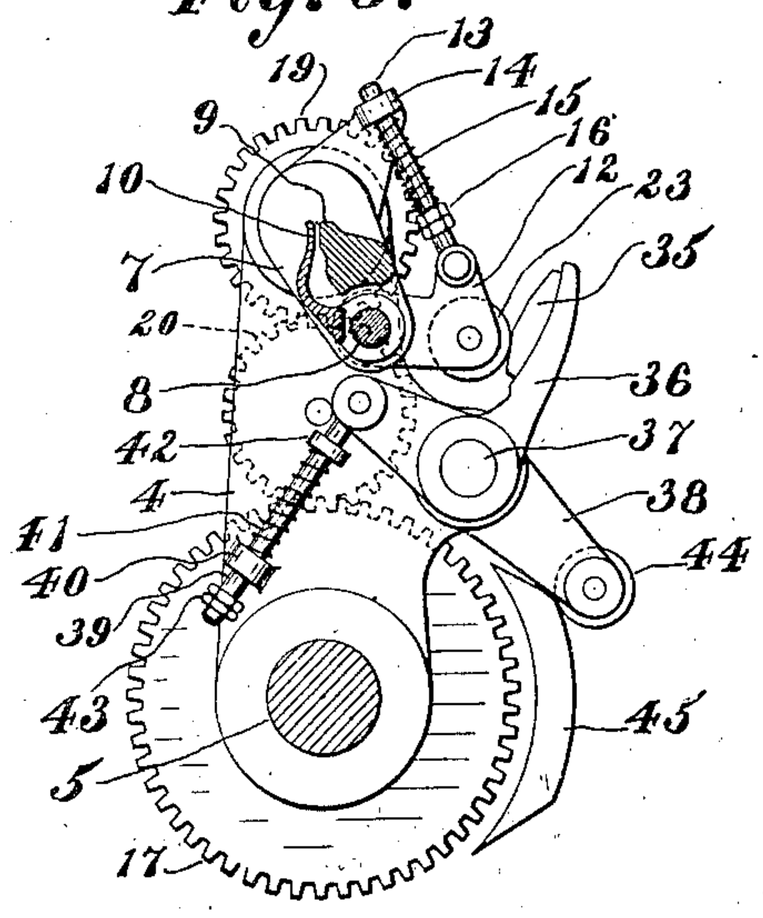


Fig. 6.



Witnesses:

William H. Irish

Katharine Sexton

Inventor,

Ralph C. Seymour

By John D. Morgan

Attorney.

908,157.

R. C. SEYMOUR.
FOLDING MACHINE.
APPLICATION FILED JUNE 10, 1908.

Patented Dec. 29, 1908.

5 SHEETS—SHEET 5.

Fig. 9.

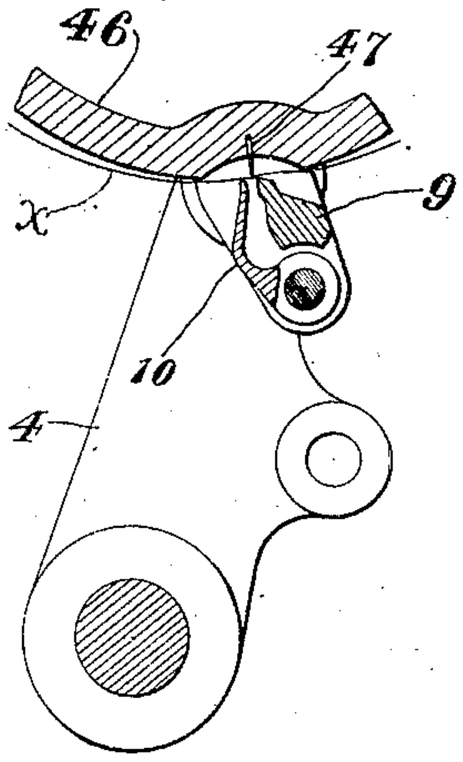


Fig. 10.

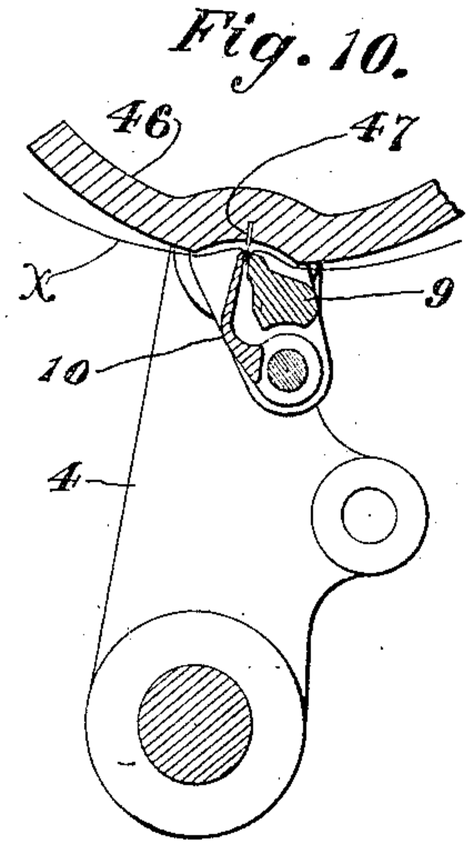


Fig. 11.

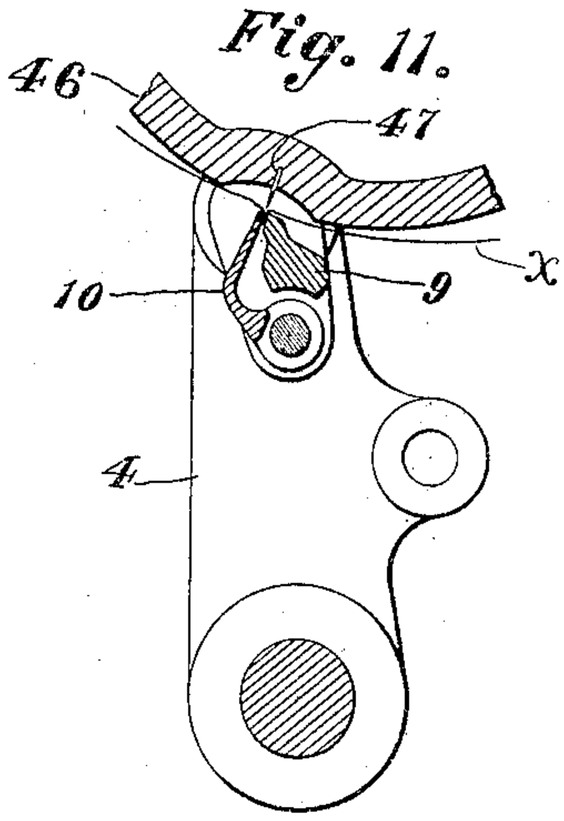
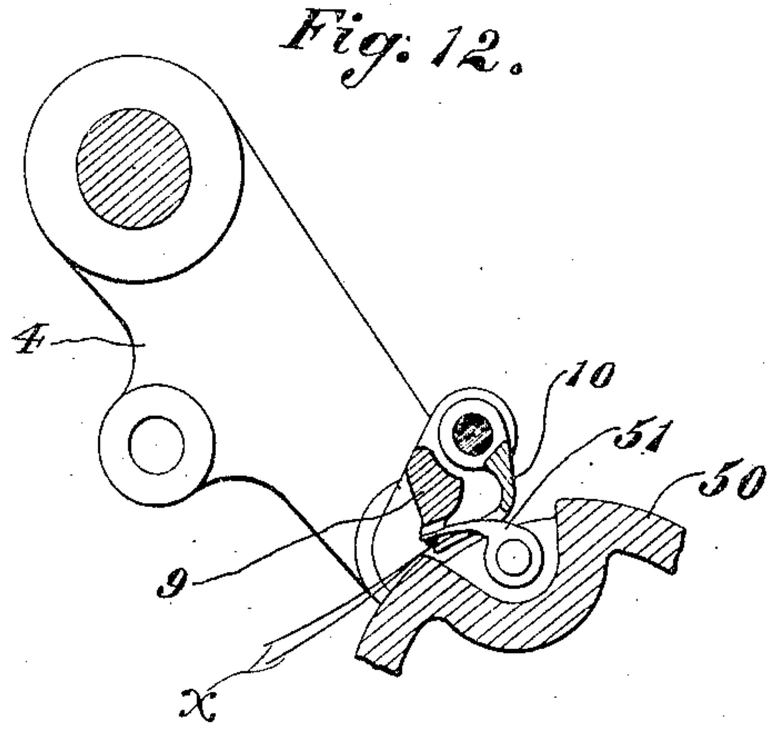


Fig. 12.



Witnesses:
William H. Irish.
Katharine Sexton

Inventor,
Ralph C. Seymour
By John D. Morgan
Attorney.

UNITED STATES PATENT OFFICE.

RALPH C. SEYMOUR, OF LARCHMONT, NEW YORK, ASSIGNOR TO GOSS PRINTING PRESS COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

FOLDING-MACHINE.

No. 908,157. Specification of Letters Patent. Patented Dec. 29, 1908.

Application filed June 10, 1908. Serial No. 437,732.

To all whom it may concern:

Be it known that I, RALPH C. SEYMOUR, a citizen of the United States, and residing at Larchmont, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Folding-Machines, of which the following is a specification.

The invention pertains to folding machines and in many of its features more especially to machines for folding printed sheets supplied to it from a printing press or other suitable source.

Objects of the invention are to provide a folder which will receive the sheet, fold it neatly, rapidly and accurately while permitting freedom of movement of the sheet, so as to avoid all rubbing, creasing or other undesirable action thereon; to avoid carrying the sheet about a cylinder, or cylindrical surface or between rolls during the folding operation, which is undesirable on account of offsetting, rubbing, smutting, creasing and otherwise injuring the product; to avoid also the unnecessary encumbering of the machine with a folding cylinder and its attendant mechanisms; to provide simple, inexpensive, reliable and rapid mechanisms for taking, folding and delivering the sheets while leaving the sheet free except at the fold line where it is engaged by the folding devices; to provide for moving the sheet freely through the air while being folded and transmitted and at the same time delivering it in an advantageous position; to promote the quick drying of the sheet by free movement through the air, and further to draw the parts of the sheet together after engagement by the folding jaws by the action of the atmosphere instead of by pressing between rolls, cylinders or tapes; to provide for ready view and observation of the mechanisms at all times and also easy access thereto; to provide a mechanism realizing the various objects of invention which is simple and convenient in design and efficient and reliable in operation. These and other objects of invention will in part be obvious and will in part appear more fully herein.

The invention consists in the novel parts, arrangements, combinations and improvements herein shown and described.

The accompanying drawings, referred to herein and forming a part hereof, illustrate one embodiment of the invention, the same serving in connection with the description herein to explain the principles of the invention.

Of the drawings: Figure 1 is an elevation of a machine constructed in part in accordance with the principles of the invention; Fig. 2 is an end elevation corresponding to Fig. 1; Fig. 3 is an enlarged elevation of the folding mechanism; Fig. 4 is a left end elevation referred to Fig. 3; Fig. 5 is a central section, looking to right on Fig. 3; Fig. 6 is a right end elevation, referred to Fig. 3, with certain parts omitted for clearness; Fig. 7 is a view corresponding generally to Fig. 5 showing the parts in a different position and coöperating with the sheet-receiving means; Fig. 8 is a detail of the folding jaws; and Figs. 9 to 12 inclusive are details showing the operation of the folding and delivering devices.

Referring to the accompanying drawings, showing by way of example one embodiment of the invention, 1 indicates a traveling carrier having folding jaws 2 mounted thereon. The carrier 1 is shown arranged to swing about a center and as comprising a pair of arms 3 and 4, respectively, fixed to a suitable shaft 5. The shaft 5 is rotated from a source of power by suitable connections, such connections being omitted from the drawings as well as those for other driven parts for the sake of clearness, the particular form of such connections constituting no part of the present invention and being within the skill of ordinary mechanical designers. The folding jaws 2 are movably mounted upon the carrier 1 and are further shown herein as being rotatably mounted upon said carrier. Said jaws are further shown as being eccentrically mounted and having a motion of rotation about their eccentric bearings. Accordingly there are shown journaled upon the arms 3 and 4, respectively, away from the shaft 5 and preferably near the ends of said arms, crank arms 6 and 7. Said crank arms are mounted for rotation with respect to the arms 3 and 4, the particular form of means for effecting such movement employed herein being described hereinafter. The folding jaws have, of course, movement relatively to each other and in this embodiment one folding jaw 9 is shown fixed to the crank arms 6 and 7 and extending therebetween. Fixed also to said crank arms and extending therebetween is a shaft 8 and the second folding

jaw 10 is provided with lugs 11 through which the shaft 8 passes so that the jaw 10 may swing or oscillate upon the shaft 8 toward and from the jaw 9 to close upon and release the sheet.

Suitable means for opening and closing the folding jaws at the proper times and in proper relation to the other mechanisms are provided and in this embodiment I have chosen to employ spring-pressed means for normally holding the folding jaws closed and also to employ positive means for opening said jaws to receive and release the sheet. The form of such means herein shown comprises an arm 12 fixed relatively to the jaw 10. Pivoted to the arm 12 is shown a rod 13 passing through an aperture in a lug 14 upon the arm 4. Spring pressure is applied to the rod 13 to maintain the jaw 10 in the closed position and in this embodiment this is effected by a spiral spring 15 mounted upon the rod 13 and working between the lug 14 and a nut 16 threaded upon the rod 13 and which also serves to regulate the amount of pressure.

As before indicated, suitable means for moving the folding jaws with reference to their carrier is provided, and the form thereof herein shown comprises a fixed gear 17 mounted upon the frame 18 of the machine and a gear 19 fixed to and concentric with the crank arm 7. A suitable intermediate 20 is shown mounted upon the arm 4. It will thus be seen that as the arms 3 and 4 of the carrier travel with their shaft that the folding jaws travel or rotate with respect to their carrier. In the drawings herewith the gears 17 and 19 are in the ratio of two to one and a more detailed description of their movement and working will be given later herein.

Suitable means for moving the folding jaw 10 against its spring are provided and the particular form thereof herein shown comprises a lever arm 21 connected to the jaw 10 at one end thereof and provided with a suitable truck or anti-friction roll 22. The arm 12 is also utilized for this purpose and is shown provided with a truck roll 23. Mounted upon an arm 24, fixed to a shaft 25 suitably journaled in the carrier arm 3, is a cam shape 26. Said cam shape is movable so as to pass into and out of the path of the arm 21 with its truck roll 22 thereby to control the opening and closing movement of the jaw 10. Suitable devices are provided for giving the requisite movement at the proper times to this cam shape 26 and in the illustrated form thereof it is held out of the path of the roll 22 by spring pressure and moved into said path by positive means. The shaft 25 is accordingly shown mounted in a suitable bushing in the arm 3 and passing therethrough. Upon the opposite side of the arm 3 is shown a lever 27 fixed to the shaft 25. Pivoted to one end of the lever 27 is shown a rod 28 the free end of which passes through a lug 29 upon the arm 3. Threaded upon the end of the rod 28 is shown a nut 30 and bearing upon the opposite side of the lug 29 a spiral spring 31 is coiled about said rod and bears also upon a collar 32 carried on the rod. Mounted at the other end of the lever 27 is shown a truck roll 33. A suitably shaped cam 34 for engaging the roll 33 and thus moving the lever 27 and cam shape 26 as hereinbefore described is provided. This cam is shown mounted in proper position upon the machine frame.

The mechanism just described serves to open the folding jaws in one position, namely the delivery position as will hereinafter appear more fully, and suitable devices are also provided for opening the jaws at the receiving position. Accordingly there is shown a cam shape 35 mounted on an arm 36 fixed to a shaft 37 mounted in the arm 4. Fixed to the shaft 37 upon the opposite side of the arm 4 is shown a lever 38 and pivoted to one end thereof a rod 39 working in a lug 40 upon the arm 4. A spiral spring 41 is shown about the rod 39 and working between the lug 40 and a collar 42 upon said rod. A nut 43 is provided at the end of the rod 39. At the other end of the lever 38 is shown a truck roll 44 and suitably located with reference thereto a cam 45, mounted upon the machine frame 18.

While certain features of the invention contemplate generally a traveling carrier and folding jaws movable thereon, other features of the invention have in view providing a carrier traveling in an endless path and folding jaws mounted on the carrier and also traveling in an endless path. Other features of the invention in connection with the present embodiment will appear from the description and the claims.

Suitable means for supplying sheets and also means for coöperating with the folding jaws to fold the sheets thereinto are provided and in the illustrated form thereof a traveling carrier 46 which may, if desired, be in the form of a cylinder is provided carrying a suitable folding blade 47. In this embodiment also the folding blade 47 is shown fixed relatively to its carrier. Sheets may be supplied in any suitable manner and for convenience they are shown herein as fed to the cylinder 46 at 48 in any suitable way and as being taken by grippers 49 and released therefrom as they are folded into the folding jaws.

Suitable devices for receiving the sheets from the folding jaws may be provided and according to certain features of the invention movable means for so receiving the sheets while moving in the same direction with the folding jaws or their carrier are contemplated and in the illustrated form thereof a cylinder

50 is shown provided with grippers 51 which serve to close on the sheet as the folding jaws 9 and 10 open to deliver the sheet.

The manner of operation of the herein described mechanism is substantially as follows: A sheet being fed to the cylinder 46 it is taken by the grippers 49. The carrier is timed to approach the cylinder 46 so that the folding jaws will meet the folding blade 47 to have the sheet upon the cylinder 46 folded thereinto. As the jaws and blade so approach, the truck roll 44 rides upon the cam 45 as shown in Fig. 6 of the drawings. The cam shape 35 swings inwardly, as shown in said figure, and as the folding jaws rotate upon the carrier arms the truck roll 23 rides upon said cam and is moved against the spring 15 to swing the jaw 10 away from the fixed jaw 9. The folding jaws are now in line with respect to the fixed folding blade 47, substantially as shown in Fig. 9, and as the rotation of the carrier 1 and cylinder 46 progresses the folding blade and the open folding jaws approach each other so that the sheet is tucked between the jaws. The rotation of the jaws upon their carrier serves to keep them in alinement with the blade 47 so as to remain in favorable position with respect thereto during the entire folding operation. The relative movements of the folding jaws and blade are substantially similar to those illustrated in Figs. 10 and 11 of the drawings. Fig. 10 shows the sheet tucked into the jaws by the blade and Fig. 11 the sheet carried away by the folding jaws as the carrier 1 moves onward in its path. It will be understood of course that as the truck roll 44 passes off the cam 45, the spring 15 acts to close the jaws.

As hereinbefore stated the gears 17 and 19 are in the ratio of two to one thus giving one absolute rotation of the folding jaws for each rotation of the carrier but giving two rotations of the folding jaws relatively to the carrier for each rotation of the carrier. The various positions of the folding jaws between the receiving and delivering positions for the sheet are approximately shown in dotted line in Fig. 1 of the drawings. As the carrier 1 moves away from the receiving point for the sheet the folding jaws rotate inwardly relatively thereto to the position (*a*) the sheet swinging freely except along the fold where it is engaged by the folding jaws and swinging inwardly between the arms 3 and 4 and also inwardly with respect to the path of travel of the carrier. By this movement the action of the atmosphere tends to draw the two parts of the sheet on the opposite side of the fold generally towards each other without any rubbing or mechanical handling thereof whatsoever and without bringing the surfaces into contact with a cylinder or any other mechanism. At the same time a slight layer or cushion of air is left between the two surfaces of the sheet which approach each other and while of very small thickness it serves to prevent smutting or offset of the inside faces and at the same time allows the drying action to go on. As the carrier 1 travels farther along its path to the position (*b*) the sheet is now swung outwardly by the rotation of the jaws and as the carrier moves onward to the position (*c*) the motion of the jaws permits the sheet to travel behind with the folded edge in front and still moving freely through the atmosphere except where engaged at the fold and it is then delivered to the receiving cylinder 50, the grippers 51 engaging it on the folded edge. During this entire movement and this relatively long path of travel the sheet has been subjected to the action of the air and of the air currents to facilitate and expedite the drying thereof, while it has been folded together in the manner and with the advantages set forth. As the carrier 1 approaches the delivery position the truck roll 33 rides upon the cam 34 and moving the lever 27 against its spring 31 brings the cam shape 26 into the path of the truck roll 22 to swing the jaw 10 open in a manner which will be well understood from the foregoing description, the spring 31 serving to close the jaw as the roll 33 rides clear of its cam. The grippers 51 may be arranged to work through slots in the grippers 9 and 10 to take the sheet therefrom, if desired, in the manner shown in Fig. 7 of the drawings.

The described embodiment, it will be seen, permits the sheet to move free of the parts of the machine except along the fold where it is engaged by the folding jaws, that is, not necessarily free from accidental contact with some part of the machine as the sheet moves freely, but free from constraint or close contact with the parts of the machine whereby the sheet is bent, creased, smutted or otherwise more or less injured.

The handling of a newly printed sheet during the folding thereof in the manner herein described possesses great advantages, as will be readily understood by anyone skilled in the art and such advantages are especially apparent where it is desired to do high class printing and folding with great rapidity and without damage to or deterioration of the product. Such handling and its attendant advantages have been made possible for the first time by the present invention. It will be understood therefore that a machine has been provided which realizes the objects of invention and the advantages herein set forth, together with other objects and advantages.

The invention, in its broader aspects, is not limited to the particular constructions shown, nor to any particular constructions by which it has been or may be carried into effect, as many changes may be made in the

construction without departing from the main principles of the invention and without sacrificing its chief advantages.

What I do claim as my invention and desire to secure by Letters Patent, is:

1. A folding machine including in combination traveling means carrying a folding blade, traveling means carrying folding jaws, said parts being constructed and arranged to fold a sheet into said jaws and to permit the sheet to move free of the parts of the machine except along said fold while carried by said traveling means, and means for receiving the sheet from said traveling means.

2. A folding machine including in combination traveling means carrying a folding blade, traveling means carrying folding jaws, said parts being constructed and arranged to fold a sheet into said jaws and to permit the sheet to move free of the parts of the machine except along said fold while carried by said traveling means, and means for receiving the sheet from said traveling means by engaging it along said fold.

3. A folding machine including in combination traveling means carrying a folding blade, traveling means carrying folding jaws, said parts being constructed and arranged to fold a sheet into said jaws and to permit the sheet to move free of the parts of the machine except along said fold while carried by said traveling means, and means for receiving the sheet from said traveling means by engaging it along said fold while moving in the same direction.

4. A folding machine including in combination traveling means carrying a folding blade, traveling means carrying folding jaws movable thereon, and means for moving said jaws, said parts being constructed and arranged to fold a sheet into said jaws and to permit the sheet to move free of the parts of the machine except along said fold while carried by said traveling means.

5. A folding machine including in combination traveling means carrying a folding blade, traveling means carrying folding jaws movable thereon, means for moving said jaws, said parts being constructed and arranged to fold a sheet into said jaws and to permit the sheet to move free of the parts of the machine except along said fold while carried by said traveling means, and means for receiving the sheet from said traveling means by engaging it along said fold.

6. A folding machine including in combination a rotating member carrying a folding blade fixed with reference thereto, traveling means carrying folding jaws, said parts being constructed and arranged to fold a sheet into said jaws and to permit the sheet to move free of the parts of the machine except along said fold while carried by said traveling means, and means for receiving the sheet from said traveling means.

7. A folding machine including in combination a rotating member carrying a folding blade fixed with reference thereto, traveling means carrying folding jaws movable relatively thereto, said parts being constructed and arranged to fold a sheet into said jaws and to permit the sheet to move free of the parts of the machine except along said fold while carried by said traveling means, and means for receiving the sheet from said traveling means by engaging it at its folded edge.

8. A folding machine including in combination traveling means carrying a folding blade, traveling means carrying folding jaws movable thereon, said parts being constructed and arranged to fold a sheet into said jaws and to permit the sheet to move free of the parts of the machine except along said fold while carried by said traveling means, and means for moving said jaws relatively to their carrier while the sheet is being folded thereinto.

9. A folding machine including in combination traveling means carrying a folding blade, traveling means carrying folding jaws movable thereon, said parts being constructed and arranged to fold a sheet into said jaws and to permit the sheet to move free of the parts of the machine except along said fold while carried by said traveling means, and means for moving said jaws relatively to their carrier while said sheet is being carried thereby.

10. A folding machine including in combination traveling means carrying a folding blade fixed with reference thereto, traveling means carrying folding jaws movable thereon, said parts being constructed and arranged to fold a sheet into said jaws and to permit the sheet to move free of the parts of the machine except along said fold while carried by said traveling means, means for moving said jaws relatively to their carrier while said sheet is being folded thereinto, and means for receiving the sheet.

11. A folding machine including in combination traveling means carrying a folding blade, traveling means carrying folding jaws, said parts being constructed and arranged to fold a sheet into said jaws and to permit the sheet to move free of the parts of the machine except along said fold while carried by said traveling means, means for moving said jaws relatively to their carrier while said sheet is being carried thereby, and means for receiving the sheet from said traveling means by engaging it along said fold.

12. A folding machine including in combination a traveling carrier having folding jaws movably mounted thereon, means coacting with said jaws to fold a sheet thereinto, means for moving said jaws relatively to their carrier, said parts being constructed

and arranged to permit the sheet to move with the jaws and free from the other parts of the machine.

13. A folding machine including in combination a traveling carrier having folding jaws movably mounted thereon, means co-acting with said jaws to fold a sheet thereinto, means for moving said jaws relatively to the carrier, said parts being constructed and arranged to permit the sheet to move freely with the moving jaws without constraint or direction by the other machine parts, and means for receiving the sheet from said jaws by engaging said fold.

14. A folding machine including in combination a traveling carrier having folding jaws movably mounted thereon, means co-acting with said jaws to fold a sheet thereinto, means for moving said jaws relatively to their carrier, said parts being constructed and arranged to permit the sheet to move freely with the moving jaws without constraint or direction by the other machine parts, and movable means for receiving the sheet from said jaws by engaging said fold while moving in the same direction.

15. A folding machine including in combination a carrier having folding jaws mounted thereon for movement together about a single axis, means co-acting with said jaws to fold a sheet thereinto, and means for moving said jaws only in one direction.

16. A folding machine including in combination a traveling carrier having folding jaws mounted thereon for movement together about a single axis, means co-acting with said jaws to fold a sheet thereinto, and means for moving said jaws only in one direction.

17. A folding machine including in combination a carrier having folding jaws mounted thereon for rotation together about a single axis, means co-acting with said jaws to fold a sheet thereinto, and means for completely rotating said jaws relatively to their carrier.

18. A folding machine including in combination a traveling carrier having folding jaws mounted thereon for rotation together about a single axis, means co-acting with said jaws to fold a sheet thereinto, and means for completely rotating said jaws relatively to their carrier.

19. A folding machine including in combination a carrier having folding jaws eccentrically mounted thereon, means co-acting with said jaws to fold a sheet thereinto, and means for completely rotating said jaws about their eccentric mounting.

20. A folding machine including in combination a traveling carrier having folding jaws eccentrically mounted thereon, means co-acting with said jaws to fold a sheet thereinto, and means for completely rotating said jaws about their eccentric mounting.

21. A folding machine including in combination a carrier having folding jaws mounted thereon for rotation together about a single axis, means co-acting with said jaws to fold a sheet thereinto, means for completely rotating said jaws relatively to their support, and means for receiving the sheet from said jaws by engaging it at the fold.

22. A folding machine including in combination a pair of arms constructed and arranged to swing about a center, folding jaws mounted upon said arms away from said center for rotation together about a single axis, and means for rotating said folding jaws.

23. A folding machine including in combination a pair of arms constructed and arranged to swing about a center, folding jaws mounted upon said arms away from said center for rotation together about a single axis, and means carried by an arm for rotating said folding jaws.

24. A folding machine including in combination a pair of arms constructed and arranged to swing about a center, folding jaws mounted upon said arms away from said center, for rotation together about a single axis, and a gear train carried by one of said arms and connected to said folding jaws.

25. A folding machine including in combination a pair of arms constructed and arranged to swing about a center, folding jaws eccentrically mounted upon said arms away from said center, and means for rotating said folding jaws.

26. A folding machine including in combination a pair of arms mounted upon an axis, folding jaws eccentrically mounted upon said arms away from said axis, a fixed gear concentric with the axis of said arms, and a gear connected to said fixed gear and concentric with the axis of said folding jaws.

27. A folding machine including in combination a carrier having a folding blade and mounted to swing about a center, a pair of arms mounted to swing about a center, folding jaws mounted in said arms away from said center, for rotation together about a single axis, and means for rotating said jaws while a sheet is being folded therebetween by said folding blade.

28. A folding machine including in combination a carrier having a folding blade and mounted to swing about a center, a pair of arms mounted to swing about a center, folding jaws rotatably mounted in said arms away from said center, for rotation together about a single axis, and means for rotating said jaws while a sheet is being folded therebetween by said folding blade and also when the jaws have the sheet but have passed out of engagement with the folding blade.

29. A folding machine including in combination a carrier mounted to swing about a center and having a folding blade fixed therein, a pair of arms mounted to swing

about a center, folding jaws mounted upon said arms away from said center, and means for rotating said jaws while a sheet is being folded therebetween by said folding blade.

30. A folding machine including in combination a carrier mounted to swing about a center and having a folding blade fixed radially therein, a pair of arms mounted to swing about a center, folding jaws rotatably mounted on said arms away from said center, and means for rotating said jaws while a sheet is being folded therebetween by said folding blade.

31. A folding machine including in combination folding jaws, means co-acting with said jaws to fold a sheet therebetween, a supporting structure upon which said jaws are mounted for movement together, means for causing said supporting structure to travel, and means for so moving said jaws relatively to their support, said parts being so constructed and arranged as to permit the sheet to pass between the jaws and supports with the movement of the jaws, and while engaged by the jaws along said fold.

32. A folding machine including in combination folding jaws, means co-acting with said jaws to fold a sheet therebetween, a supporting structure upon which said jaws are mounted for rotation together, means for causing said supporting structure to travel, and means for so rotating said jaws relatively to their supports, said parts being so constructed and arranged as to permit the sheet to pass between the jaws and supports with the rotation of the jaws, and while engaged by the jaws along said fold.

33. A folding machine including in combination a pair of arms, folding jaws mounted eccentrically between said arms near one end thereof, and means for causing said folding jaws to rotate about their axis.

34. A folding machine including in combination a pair of traveling arms, a pair of folding jaws rotatably mounted between said arms for movement together about a single axis, and means for rotating said jaws.

35. A folding machine including in combination a carrier moving in an endless path, folding jaws mounted thereon and movable together relatively thereto in an endless path, means for moving said carrier, and means for moving said jaws.

36. A folding machine including in combination a carrier moving in an endless path, means for moving said carrier, folding jaws movably mounted upon said carrier, means co-acting with said jaws to fold a sheet thereinto, and means for moving said jaws so as to swing the sheet inwardly with reference to the path of said carrier.

37. A folding machine including in combination a carrier moving in an endless path, means for moving the carrier, folding jaws movably mounted upon said carrier, means co-acting with said jaws to fold a sheet thereinto, means for moving said jaws so as to swing the sheet inwardly relatively to the path of said carrier and for delivering the sheet with the folded edge in advance, and means for receiving the sheet.

38. A folding machine including in combination a carrier moving in an endless path, means for moving the carrier, folding jaws movably mounted upon said carrier, means co-acting with said jaws to fold a sheet thereinto, means for moving said jaws so as to swing the sheet inwardly relatively to the path of said carrier and then outwardly relatively thereto.

39. A folding machine including in combination a carrier moving in an endless path, means for moving the carrier, folding jaws movably mounted upon said carrier, means co-acting with said jaws to fold a sheet thereinto, means for moving said jaws so as to swing the sheet inwardly relatively to the path of said carrier and then outwardly relatively thereto and for delivering the sheet with the folded edge in advance, and means for receiving the sheet.

40. A folding machine including in combination a carrier swinging about a center, means for moving said carrier, folding jaws movably mounted upon said carrier, and means for moving said jaws so as to swing the sheet inwardly relatively to the path of the carrier.

41. A folding machine including in combination a carrier swinging about a center, means for moving said carrier, folding jaws movably mounted upon said carrier, and means for moving said jaws so as to swing the sheet inwardly relatively to the path of the carrier and then deliver the sheet with the folded edge in advance.

42. A folding machine including in combination a carrier swinging about a center, means for moving said carrier, folding jaws movably mounted upon said carrier, and means for moving said jaws so as to swing the sheet inwardly then outwardly relatively to the path of the carrier.

43. A folding machine including in combination a carrier swinging about a center, means for moving said carrier, folding jaws movably mounted upon said carrier, means for moving said jaws so as to swing the sheet inwardly then outwardly relatively to the path of the carrier and then deliver the sheet with the folded edge in advance, and means for receiving the sheet.

44. A folding machine including in combination a carrier swinging about a center, means for moving said carrier, folding jaws movably mounted upon said carrier, means for moving said jaws so as to swing the sheet inwardly then outwardly relatively to the

path of the carrier and then deliver the sheet with the folded edge in advance, and means for receiving the sheet by engaging it at said folded edge.

45. A folding machine including in combination a pair of folding jaws, a traveling carrier upon which said jaws are mounted, the jaws and carrier being relatively movable, and a cam mounted upon said carrier to operate the jaws to receive or release the sheet.

46. A folding machine including in combination a pair of folding jaws, a traveling carrier therefor, said jaws and carrier being relatively movable, and a cam mounted upon said carrier to operate the jaws through the relative movement of the carrier and pair of jaws.

47. A folding machine including in combination a pair of folding jaws, a traveling carrier therefor, said jaws and carrier being relatively movable, a cam mounted upon said carrier to operate the jaws through the relative movement of the carrier and pair of jaws, and means for permitting or preventing the operation of the jaws by the cam.

48. A folding machine including in combination a pair of folding jaws, a traveling carrier therefor, said jaws and carrier being relatively movable, a movable member for operating said folding jaws, and a cam mounted on said carrier and movable into and out of position to engage said movable member.

49. A folding machine including in combination a carrier moving in an endless path, a pair of folding jaws moving in an endless path upon said carrier, and means upon said carrier for operating said jaws.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

RALPH C. SEYMOUR.

Witnesses:
JOHN D. MORGAN,
KATHARINE SEXTON.