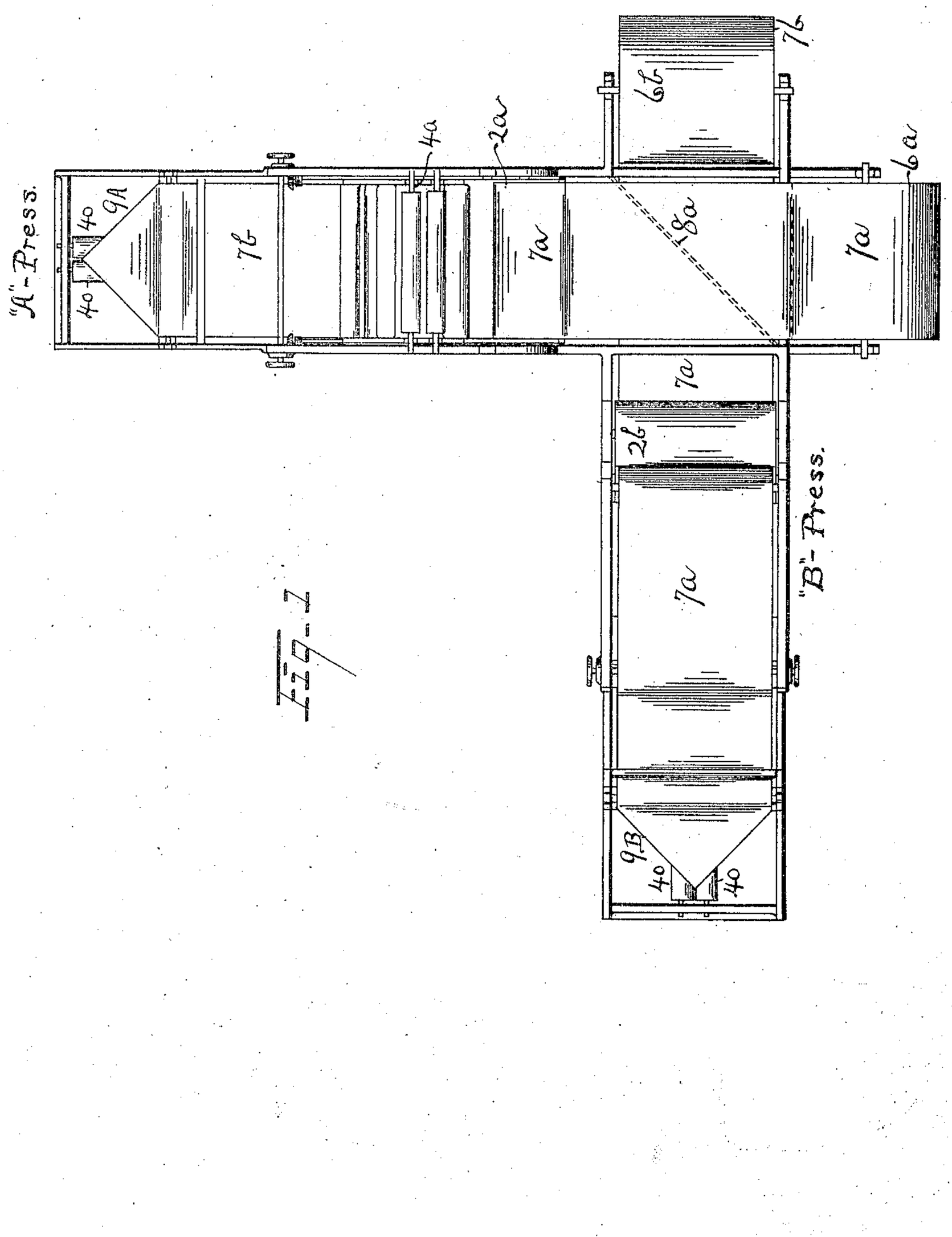
No. 865,726. PATENTED SEPT. 10, 1907.

J. A. SMITH.

PRINTING PRESS.

APPLICATION FILED JULY 30, 1906.

5 SHEETS—SHEET 1.



WITNESSES:

Brennan Birdsall

G. A. Myers

INVENTOR,

Jacob A. Smith

BY

Baker, Foulds & Baird

ATTYS.

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5 SHEETS—SHEET 2.

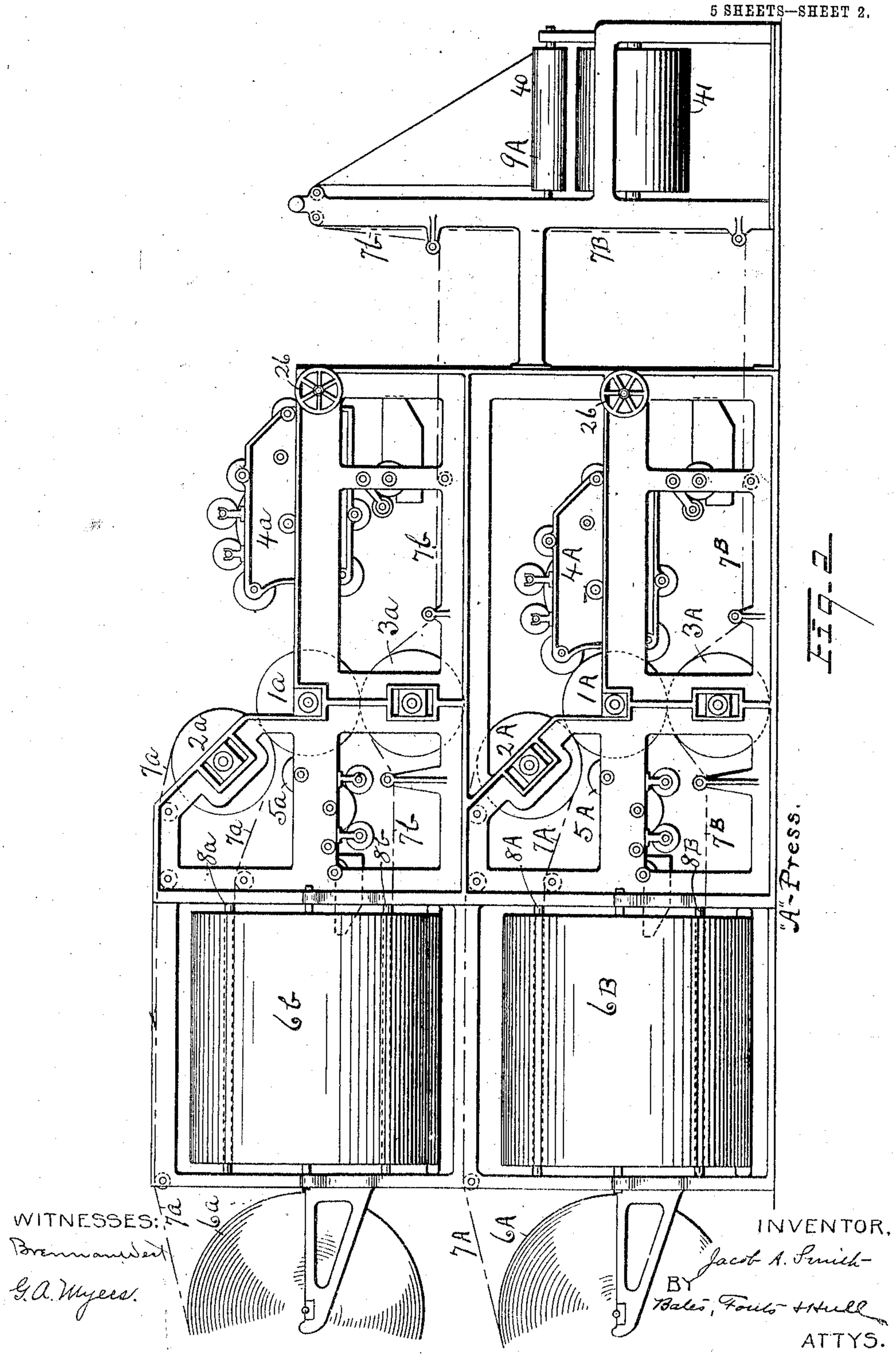

Fig. 2.

"A" Press.

WITNESSES:
Brennan West
G. A. Myers.

INVENTOR,
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ATTYS.

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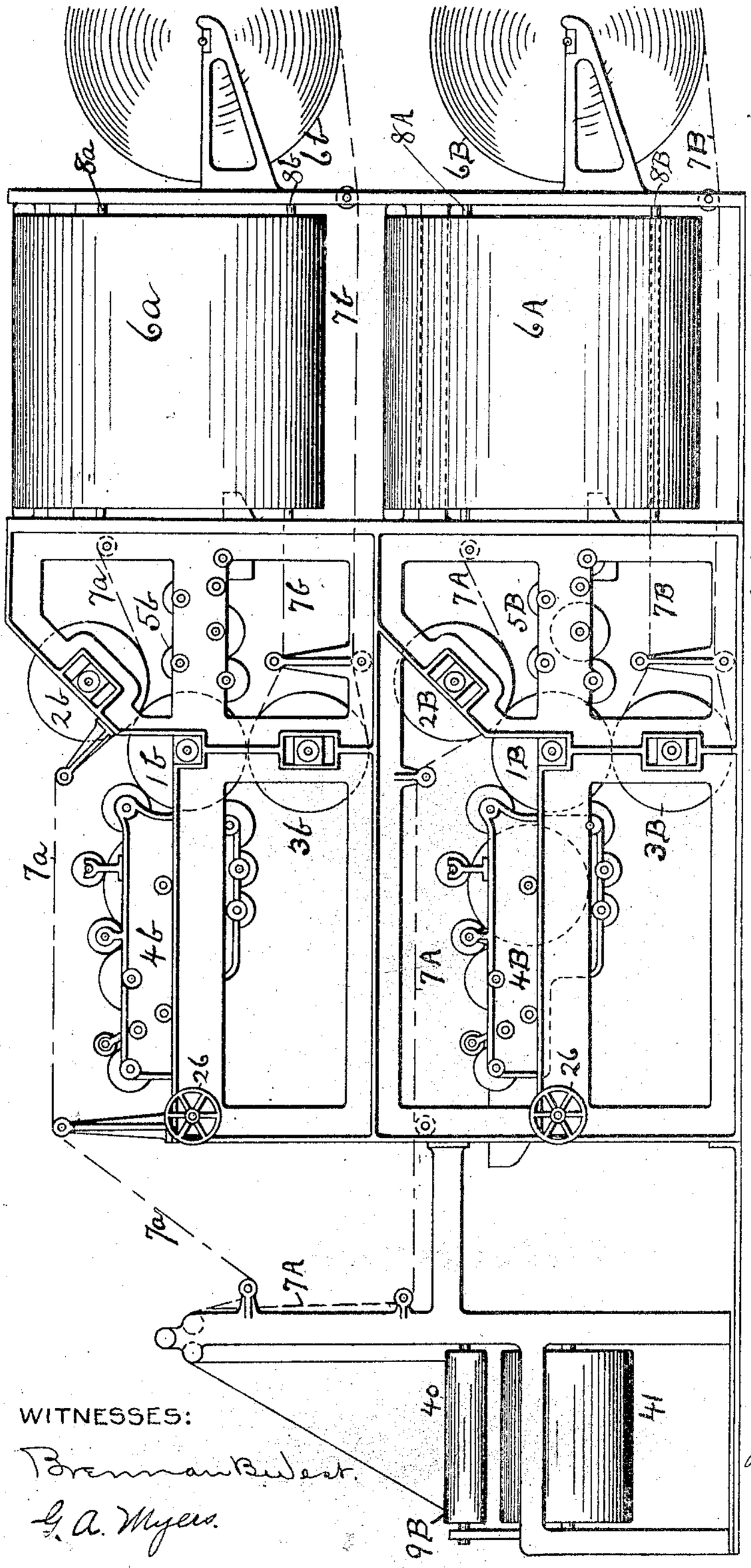
5 SHEETS—SHEET 3.



"B" Press.

FIG. 7.

WITNESSES:

Brennan Bullock.

G. A. Myers.

INVENTOR,

Jacob A. Smith

BY

Bakewell, Towle & Hull

ATTYS.

No. 865,728. PATENTED SEPT. 10, 1907.

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APPLICATION FILED JULY 30, 1906.

5 SHEETS—SHEET 4

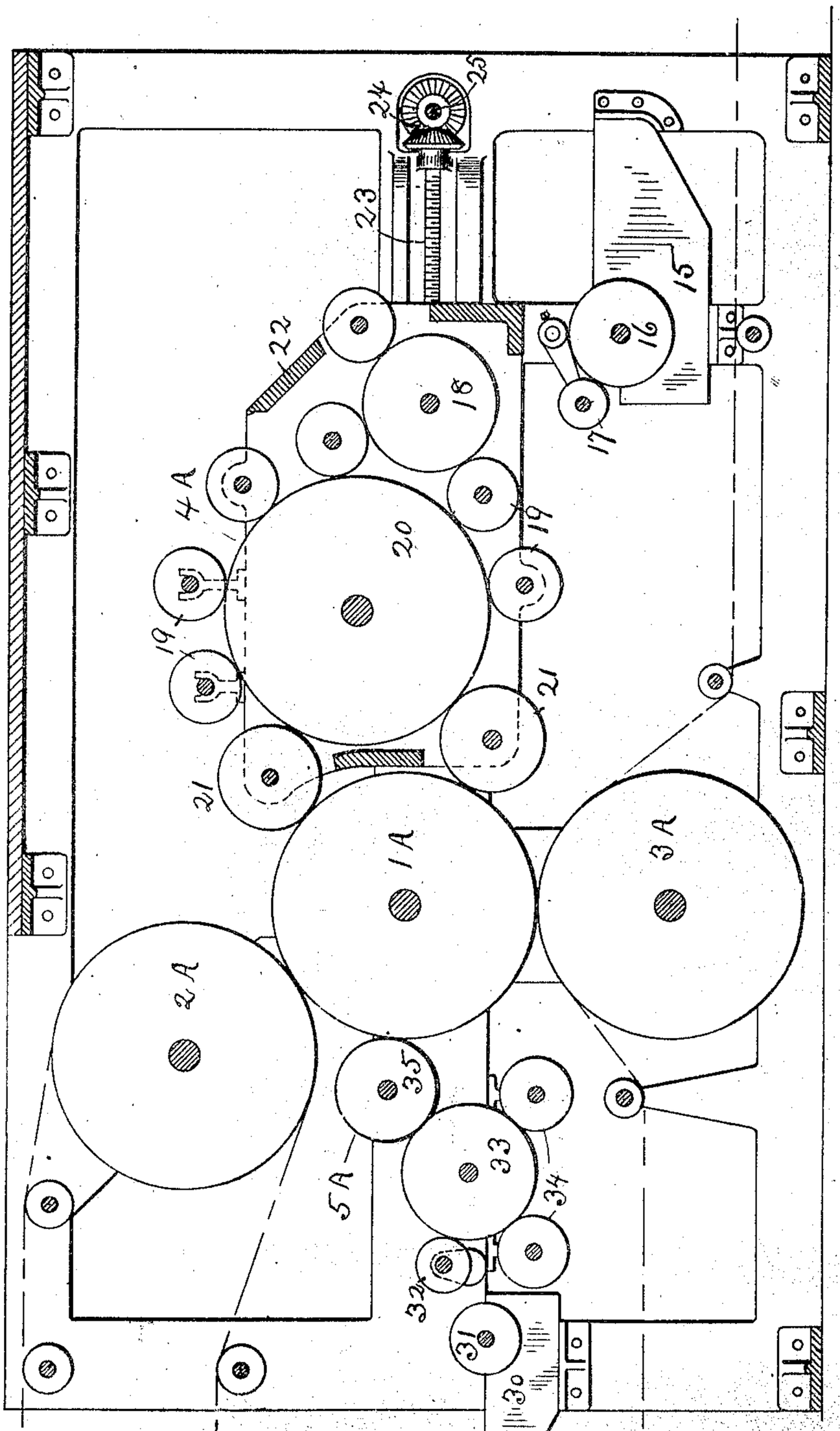

Fig. 4

WITNESSES:

Brennan Budd.

G. A. Myers.

INVENTOR,

Jacob A. Smith.

BY

Baker, Fouke & Hull

ATTYS.

No. 865,728. PATENTED SEPT. 10, 1907.

J. A. SMITH.

PRINTING PRESS.

APPLICATION FILED JULY 30, 1906.

5 SHEETS—SHEET 5.

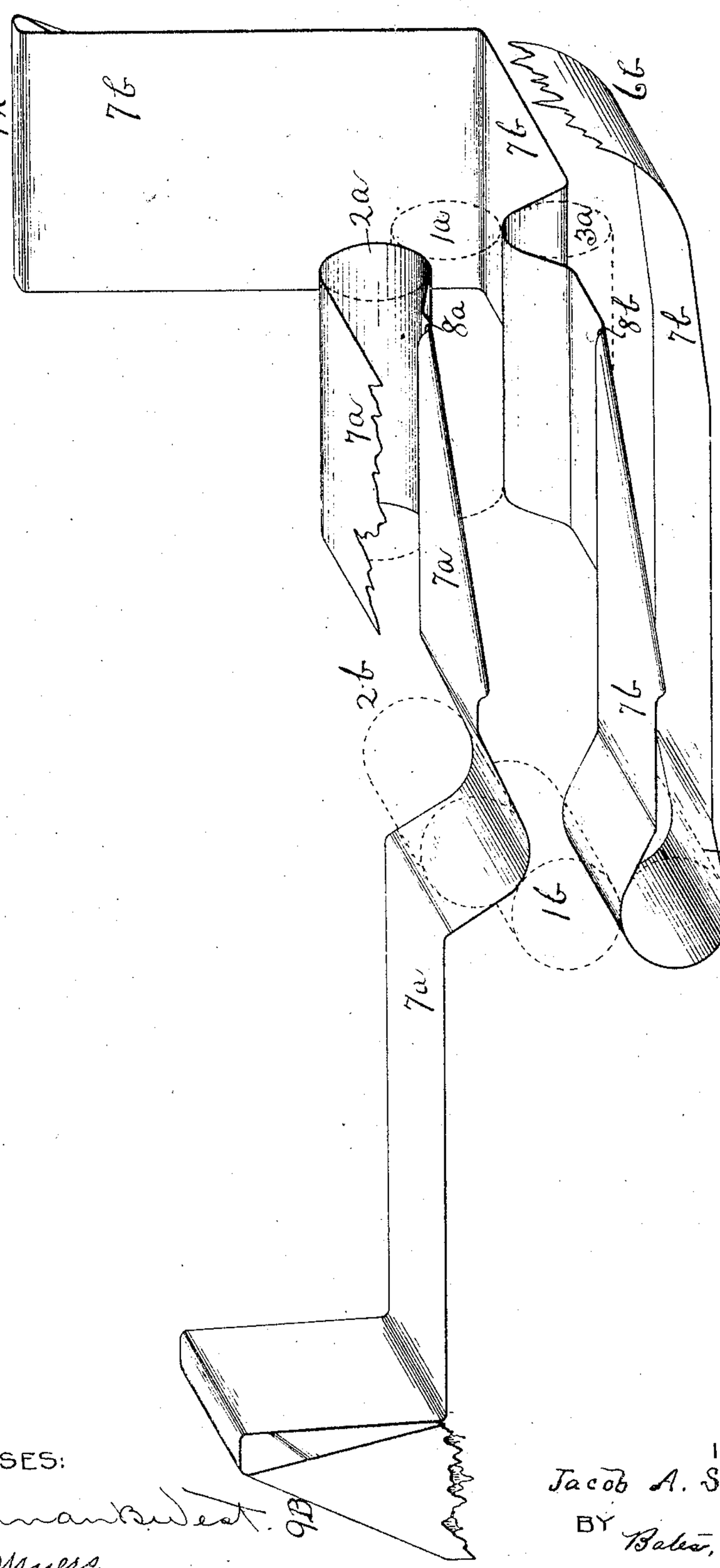

FIG. 5

WITNESSES:

Brennan & West.

G. A. Myers.

INVENTOR,

Jacob A. Smith,

BY Bakewell, Fouke & Hull

ATTYS.

UNITED STATES PATENT OFFICE.

JACOB A. SMITH, OF CLEVELAND, OHIO.

PRINTING-PRESS.

No. 865,728. Specification of Letters Patent. Patented Sept. 10, 1907.

Application filed July 30, 1906. Serial No. 328,344.

To all whom it may concern:

Be it known that I, JACOB A. SMITH, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Printing-Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The object of this invention is to provide a web perfecting printing press which shall combine simplicity and cheapness of construction with the advantages of perfect impression, rapidity of operation and quickness in getting under way, ease of inspection and repair, and convenience in location of the paper rolls, and folders for the finished product.

The invention is adapted to be built as many decks high as desired, whereby its capacity may be increased without increasing the floor space, while the form rolls may be as many pages wide as desired.

Broadly considered, the invention includes a pair of printing mechanisms, each comprising a form roll and two impression rolls, which mechanisms are placed at right angles to each other, and there being a pair of angle bars located between the respective paper rolls and printing mechanisms, whereby the web passes from its supply between one of the impression rolls and a form roll, then across a single angle turning-bar and between the form roll and one of the impression rolls of the other printing mechanism to a folder at right angles to the supply roll.

Other features of the invention contributing to the objects above set forth are included in my invention, the whole being hereinafter more fully described, and definitely set out in the claims.

The drawings disclose a convenient embodiment of my invention.

Figure 1 is a plan of the press; Fig. 2 is a right hand or side elevation of such press when built double deck; Fig. 3 is a left hand or front elevation; Fig. 4 is a vertical section through one of the printing mechanisms in a plane parallel with Fig. 2; Fig. 5 is a diagrammatic perspective showing the course of the webs in one deck.

Referring to the embodiment shown in the drawings, which is a double deck press, 1^a and 1^A represent the form rolls of the upper and lower deck respectively of the right hand press (which may be abbreviated into the "A" press), and 1^b and 1^B the corresponding form rolls of the left hand or "B" press. The impression rolls of the right hand press are designated 2^a, 3^a and 2^A, 3^A respectively for the upper and lower decks, while in the left hand press the corresponding rolls are designated 2^b, 3^b and 2^B, 3^B. Each form roll has a corresponding main inking apparatus as 4^a, 4^A, 4^b, 4^B.

Fig. 4 shows the inking apparatus for the lower deck of the A-press—those for the other presses being similar. As shown, each of the main inking apparatuses includes the fountain 15, roller 16, movable ductor roll 17, receiving roll 18, various distributers 19, main ink cylinder 20, and transfer rolls 21, 21. All these rolls, with the exception of the fountain and ductor, are mounted in a movable frame 22, adapted to be moved toward or from the form roll by the screw 23, bevel gears 24, shaft 25 and hand wheel 26. Some or all of the distributing rolls may have longitudinal movement, as is well understood.

Besides the main inking apparatuses above described, each form roll has associated with it a supplementary inking apparatus, 5^a, 5^A, 5^b, 5^B respectively. Each supplementary apparatus, as shown in Fig. 4, comprises a fountain 30, roll 31, ductor 32, ink cylinder 33, distributers 34, and transfer roll 35. The supplementary inking apparatus, as a whole, may be carried stationarily by the frame.

As shown, and for a purpose hereinafter described, the upper impression roll is offset from the vertical plane through the form roll and the lower impression roll. This leaves the form roll with more than a semicircumference exposed on one side and less than a semicircumference on the other, and the main inking apparatus is on the side of the major exposure, while the supplemental apparatus is on the minor side.

6^a, 6^A, 6^b and 6^B represent the paper rolls, which are grouped at the common corner of the press. Between these rolls and the presses directly in front thereof are angle turning bars which pass across the two presses at an angle of 45 degrees to each. There is one turning bar for each web of paper, the webs from the respective rolls being designated 7^a, 7^A, 7^b and 7^B and the turning bars being designated 8^a, 8^A, 8^b and 8^B according to the webs with which they coöperate. In the double deck press shown, there are four turning bars mounted directly over each other in the order 8^a, 8^b, 8^A, 8^B.

The machine is provided with two folders 9^A and 9^B, each folder serving for all the decks of the corresponding press. Each folder may comprise a longitudinal folding member with rollers 40, 40, and a transverse folding roll 41, as is well understood.

Each web of paper passes from its supply roll, around one of the impression rolls parallel therewith, then directly to one of the turning bars, which inverts the web, whence it passes across the corresponding impression roll of the other press to the folder of that press. Usual guiding rollers are provided, which need not be specifically enumerated. Tracing the course of the different webs: The web 7^a passes from the upper side of the supply roll 6^a, around the impression roll 2^a, being thus printed on its under side by the form roll 1^a; thence this web passes across the angle bar 8^a, being turned on its unprinted side, which brings the printed side uppermost; thence the web passes between the impression roll 2^b and the form roll 1^b, and is thus print-

ed on its underside, the completely printed web now passing to the folder 9^B. The web 7^A travels in exactly similar course, passing beneath the web 7^a as it goes to the folder and thus being folded within the web 7^a. The webs 7^b and 7^B pass from the under side of their respective rolls 6^b, 6^B around the impression rolls 3^b, 3^B, and in contact with the form rolls 1^b, 1^B, to the turning bars 8^b, 8^B, thence between the impression rolls 3^a, 3^A, and the form rolls 1^a, 1^A, and in common to the folder 9^A.

The embodiment above set out is adapted to run off in duplicate eight page papers. Thus the form roll 1^a may carry the form for pages 8 and 1; the roll 1^b, pages 2 and 7; the roll 1^A, pages 6 and 3, and the roll 1^B, pages 4 and 5. This is simply illustrative, as it is to be understood that the rolls may be several pages wide, or may contain more than one page peripherally, and the press may be as many decks high as desired.

Attention is called to the fact that the paper rolls are located adjacent to each other at the common corner of the press. This allows them to be very conveniently put in place. By having the angle bars outside of the press proper, great ease in threading the press is provided as well as for inspecting it. From the common corner of the press the operator may observe both webs and take care of all his tensions, and whenever necessary may enter the press. Thus in case of breakage of the paper, or when the press is first started, it is adapted to be very quickly threaded and gotten under way. This is a most important point, as with the modern daily paper every second saved in getting under way is of value. Each web in passing across the turning bar is turned on its unprinted side. This eliminates all danger of smudging, and insures a clean impression.

As has been heretofore mentioned, the impression rolls are not on diametrically opposite sides of the form rolls, but the planes through the axes of the three rolls make an obtuse angle at the axis of the form roll. By this means the two impressions on the same form roll are not diametrically opposite each other, so that whenever the form roll is passing the blanket slot in one of the impression rolls, an impression is being made with the other blanket cylinder. There is thus a continuous impression and there is avoided the jumping and pounding incident to the omission of impressions at the blanket slots, where the two impression rolls are diametrically opposite.

I claim:

1. In a web perfecting printing press, the combination of two intersecting printing mechanisms, each including two impression rolls and an intermediate form roll, turning mechanism located at the intersection, and means for guiding two paper webs at an angle to each other opposite such intersection, whereby the webs from the two rolls are fed, first to the two mechanisms respectively, then turned and fed each to the other mechanism.

2. In a web perfecting printing press, the combination of a pair of printing mechanisms located at right angles to each other, each mechanism comprising two impression rolls and an intermediate form roll, a single turning bar for each web of paper, means for carrying two rolls of paper at right angles to each other opposite the respective printing mechanisms, whereby the webs from the two rolls are fed first to the two mechanisms respectively, and then turned and fed each to the other mechanism, and two folding mechanisms at the ends of the press opposite the ends where the paper rolls are located.

3. In a web perfecting printing press, the combination of two printing mechanisms at an angle to each other, each mechanism comprising two impression rolls and an intermediate form roll, turning mechanism located adjacent to the apex of the angle formed by the two printing mechanisms, and two folding mechanisms on those sides of the respective printing mechanism which are opposite the turning mechanism.

4. In a web perfecting printing press, the combination of two printing mechanisms located at right angles to each other, each consisting of a pair of impression rolls and an intermediate form roll, means for carrying two paper rolls at right angles to each other, and a pair of angle bars located between the roll-carrying means and the respective printing mechanisms.

5. In a web perfecting printing press, the combination of two printing mechanisms located at right angles to each other each consisting of a pair of impression rolls and an intermediate form roll, means for carrying two paper rolls adjacent to each other and at right angles to each other, and a pair of angle bars one above the other between the roll carrying means and the respective printing mechanisms.

6. In a web perfecting printing press, the combination of a pair of intersecting printing mechanisms, mechanism for guiding two webs of paper to cause them to pass first through the different printing mechanisms respectively, for turning such webs between the printing mechanisms and then passing them each through the other printing mechanism, and two folding mechanisms on two ends of the press, respectively.

7. In a web perfecting printing press, the combination of a pair of printing mechanisms located at right angles to each other and each comprising a pair of impression rolls and an intermediate form roll, and mechanism for guiding two webs of paper to cause them to pass first between the form roll and one of the impression rolls of the different printing mechanisms respectively, means for turning such webs between the printing mechanisms, and means for passing them then each between the form roll and the other impression roll of the other printing mechanism, and two independent folding mechanisms located on ends of the press at right angles to each other.

8. In a web perfecting printing press formed in wings, the combination of a pair of printing mechanisms located at right angles to each other, each mechanism comprising two impression rolls and an intermediate form roll, means for carrying two paper rolls parallel with the respective printing mechanisms, folders for the respective printing mechanisms located at the end of the two wings of the press respectively, and angle turning bars between the two mechanisms whereby each web of paper may be run through one mechanism, turned, run through the other, and folded.

9. The combination, in a printing press having two printing mechanisms located in two wings diverging from a common point, of paper rolls opposite the proximate ends of the wings, folding mechanism opposite the distant ends of the wings, and means for directing each web of paper through the two wings.

10. In a web perfecting printing press, the combination of two printing mechanisms at right angles to each other, each comprising two impression rolls and an intermediate form roll, the impression rolls having their axes out of the same plane through the axis of the form roll, a pair of turning bars, means for supporting two rolls of paper on substantially the same level and at right angles to each other; and means for guiding the two webs of paper from the same, each through different ones of the printing mechanisms, then across a turning bar, and then through the other printing mechanism respectively.

11. In a web perfecting printing press, the combination of two printing mechanisms at right angles to each other, each comprising two impression rolls and an intermediate form roll, the impression rolls having their axes out of the same plane through the axis of the form roll, said mechanism being mounted in frames which intersect each other, a pair of turning bars located at the intersection, means for supporting two rolls of paper adjacent and at right angles to each other on the outer sides of the intersection, means for guiding the two webs of paper from the rolls,

each through different ones of the printing mechanisms, then across a turning bar, and then through the other printing mechanism respectively, and two folders respectively at the two ends of the press opposite the paper rolls.

12. In a web perfecting printing press, the combination of two frames intersecting near their common ends, means for carrying rolls of paper opposite such ends respectively, printing mechanisms carried by each frame respectively and each comprising an intermediate form roll, two coöperating impression rolls and an inking device, and a pair of turning bars located at the intersection.

13. In a web perfecting printing press, the combination of two frames at right angles to each other and intersecting near their common ends, means for carrying rolls of paper opposite such ends respectively, printing mechanisms carried by the two frames respectively and each comprising an intermediate form roll, an impression roll below it, an impression roll above it, and inking devices on opposite sides of the form roll, a pair of turning bars located at the intersection of the frames, and folders at the opposite ends of the frames respectively.

14. The combination, in a web perfecting press, of two frames at right angles to each other and meeting near their ends, means for carrying paper rolls opposite such ends respectively, whereby the rolls are adjacent but inspection space is allowed between them, turning bars in the common space in front of the two rolls, and printing mechanisms independently mounted in the two frames and each receiving paper directly from the corresponding roll, said paper after being printed on one side being turned by the turning bars and passed through the other printing mechanisms respectively.

15. In a web perfecting printing press, the combination of two printing mechanisms at right angles to each other, each including a form roll and two coöperating impression rolls, and means for guiding a web of paper through the first printing mechanism, turning it and guiding it through the second printing mechanism, and means for guiding another web of paper through the second printing mechanism, then turning it, and guiding it through the first printing mechanism.

16. In a web perfecting printing press, the combination of two printing mechanisms at right angles to each other, each including a form roll and two coöperating impression rolls, means for guiding a web of paper between the form roll and one of the impression rolls of the first printing mechanism and turning it at right angles and guiding it between the form roll and one of the impression rolls of the second printing mechanism, and means for simultaneously guiding another web of paper between the form roll and the other impression roll of the second printing mechanism and then turning it at right angles and guiding it between the form roll and the other impression roll of the first printing mechanism.

17. A web perfecting printing press arranged in two wings intersecting each other at an angle, each wing comprising first a printing mechanism, second means for holding a roll of paper parallel therewith on one side of the printing mechanism; and a third folder on the opposite side of the printing mechanism, said wings intersecting between the paper rolls and the printing mechanisms, and turning bars located at such intersection.

18. In a web perfecting printing press, the combination of two intersecting printing mechanisms which include two impression rolls and intermediate form roll, turning mechanism located at the intersection, means for carrying two rolls of paper on substantially the same level at an angle to each other opposite such intersection, and two folding mechanisms at the ends of the press opposite the two paper rolls, whereby the webs from the two rolls may be fed first to the two printing mechanisms respectively, then turned and fed each to the other printing mechanism, and then passed to the respective folders.

19. In a web perfecting printing press, a plurality of decks each comprising two intersecting printing mechanisms, each including two impression rolls and an intermediate form roll, turning mechanism located at the intersection, and means for guiding two paper webs at an angle to each other opposite such intersection, whereby the webs from the two rolls are fed, first to the two mechanisms respectively, then turned and fed each to the other mechanism, combined with a pair of folders independent of each other and each common to the plurality of decks.

20. In a web perfecting printing press, a plurality of decks each comprising a pair of printing mechanisms located at right angles to each other, each mechanism comprising two impression rolls and an intermediate form roll, a single turning bar for each web of paper, means for carrying two rolls of paper at right angles to each other opposite the respective printing mechanisms, whereby the webs from the two rolls are fed first to the two mechanisms respectively, and then turned and fed each to the other mechanism, and two folding mechanisms at the ends of the press opposite the ends where the paper rolls are located, each folder being common to the plurality of decks.

21. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms at an angle to each other, each mechanism comprising two impression rolls and an intermediate form roll, turning mechanism located adjacent to the apex of the angle formed by the two printing mechanisms, and two folding mechanisms on those sides of the respective printing mechanisms which are opposite the turning mechanism, each folder being common to the plurality of decks.

22. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms located at right angles to each other, each consisting of a pair of impression rolls and an intermediate form roll, means for carrying two paper rolls at right angles to each other, and a pair of angle bars located between the roll carrying means and the respective printing mechanisms, combined with a pair of folders independent of each other and each common to the plurality of decks.

23. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms located at right angles to each other each consisting of a pair of impression rolls and an intermediate form roll, means for carrying two paper rolls adjacent to each other and at right angles to each other, and a pair of angle bars one above the other between the roll-carrying-means and the respective printing mechanisms, combined with a pair of folders independent of each other and each common to the plurality of decks.

24. In a web perfecting printing press, a plurality of decks each comprising a pair of intersecting printing mechanisms, mechanism for guiding two webs of paper through the different printing mechanisms respectively, for turning such webs between the printing mechanisms after they have passed through the two mechanisms, and for then passing them each through the other printing mechanism, combined with a pair of folders independent of each other and each common to the plurality of decks.

25. In a web perfecting printing press, a plurality of decks each comprising a pair of printing mechanisms located at right angles to each other and each comprising a pair of impression rolls and an intermediate form roll, and mechanism for guiding two webs of paper between the form roll and the impression rolls of the different printing mechanisms respectively, means for then turning such webs between the printing mechanisms, and means for then passing them each through the other printing mechanism, combined with a pair of folders independent of each other and each common to the plurality of decks.

26. In a web perfecting printing press, a plurality of decks each comprising a pair of wings, each wing having a pair of printing mechanisms located at right angles to each other, each mechanism comprising two impression rolls and an intermediate form roll, means for carrying two paper rolls parallel with the respective printing mechanisms, folders for the respective printing mechanisms located at the ends of the two wings of the press respectively, and angle turning bars between the two mechanisms whereby each web of paper may be run through one mechanism, turned, run through the other, and folded, each folder being common to the plurality of decks.

27. In a web perfecting printing press, a plurality of

decks each comprising a printing press having two printing mechanisms located in two wings diverging from a common point, paper rolls opposite the proximate ends of the wings, folding mechanism opposite the distant ends of the wings, and means for directing each web of paper through the two wings, each folder being common to the plurality of decks.

28. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms at right angles to each other, each printing mechanism comprising two impression rolls and an intermediate form roll, the impression rolls having their axes out of the same plane through the axis of the form roll, a pair of turning bars, means for supporting two rolls of paper on substantially the same level and at right angles to each other, and means for guiding the two webs of paper from the same, each through different ones of the printing mechanisms, then across a turning bar, and then through the other printing mechanism respectively, combined with a pair of folders independent of each other and each common to the plurality of decks.

29. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms at right angles to each other, each printing mechanism comprising two impression rolls and an intermediate form roll, the impression rolls having their axes out of the same plane through the axis of the form roll, said mechanism being mounted in frames which intersect each other, a pair of turning bars located at the intersection, means for supporting two rolls of paper adjacent and at right angles to each other on the outer sides of the intersection, means for guiding the two webs of paper from the rolls, each through different ones of the printing mechanisms, then across a turning bar, and then through the other printing mechanism respectively, and two folders respectively at the two ends of the press opposite the paper rolls, each folder being common to the plurality of decks.

30. In a web perfecting printing press, a plurality of decks each comprising two frames intersecting near their common ends, means for carrying rolls of paper opposite such ends respectively, printing mechanisms carried by each frame respectively and each comprising an intermediate form roll, two coöperating impression rolls and an inking device, and a pair of turning bars located at the intersection, combined with a pair of folders independent of each other and each common to the plurality of decks.

31. In a web perfecting printing press, a plurality of decks each comprising two frames at right angles to each other and intersecting near their common ends, means for carrying rolls of paper opposite such ends respectively, printing mechanisms carried by the two frames respectively and each comprising an intermediate form roll, an impression roll below it, an impression roll above it, and inking devices on opposite sides of the form roll, a pair of turning bars located at the intersection of the frames, and folders at the opposite ends of the frames respectively, combined with a pair of folders independent of each other and each common to the plurality of decks.

32. In a web perfecting printing press, a plurality of decks each comprising two frames at right angles to each other and meeting near their ends, means for carrying paper rolls opposite such ends respectively, whereby the rolls are adjacent, but inspection space is allowed between them, turning bars in the common space in front of the two rolls, and printing mechanisms independently mounted in the two frames and each receiving paper directly from the corresponding roll, said paper after being printed on one side being turned by the turning bars and passed through the other printing mechanisms respectively, combined with a pair of folders independent of each other and each common to the plurality of decks.

33. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms at right angles to each other, each including a form roll and two coöperating impression rolls, and means for guiding a web of paper through the first printing mechanism, turning it and guiding it through the second printing mechanism, and means for guiding another web of paper through the second printing mechanism, then turning it, and guiding it through the first printing mechanism, combined with a pair of folders independent of each other and each common to the plurality of decks.

34. In a web perfecting printing press, a plurality of decks each comprising two printing mechanisms at right angles to each other, each printing mechanism including a form roll and two coöperating impression rolls, means for guiding a web of paper between the form roll and one of the impression rolls of the first printing mechanism and turning it at right angles and guiding it between the form roll and one of the impression rolls of the second printing mechanism, and means for simultaneously guiding another web of paper between the form roll and the other impression roll of the second printing mechanism and then turning it at right angles and guiding it between the form roll and the other impression roll of the first printing mechanism, combined with a pair of folders independent of each other and each common to the plurality of decks.

35. In a web perfecting printing press, a plurality of decks each comprising a printing press arranged in two wings intersecting each other at an angle, each wing comprising first a printing mechanism, second means for holding a roll of paper parallel therewith on one side of the printing mechanism, and third a folder on the opposite side of the printing mechanism, said wings intersecting between the paper rolls and the printing mechanisms, and turning bars located at such intersection, each folder being common to the plurality of decks.

36. In a web perfecting printing press, a plurality of decks each comprising two intersecting printing mechanisms each of which includes two impression rolls and intermediate form roll, turning mechanism located at the intersection, means for carrying two rolls of paper on substantially the same level at an angle to each other opposite such intersection, and two folding mechanisms at the ends of the press opposite the two paper rolls, whereby the webs from the two rolls may be fed first to the two printing mechanisms respectively, then turned and fed each to the other printing mechanism, and then passed to the respective folders, each folder being common to the plurality of decks.

37. In a web perfecting printing press, a plurality of decks, each having a pair of printing mechanisms, each mechanism comprising a pair of impression rolls and an intermediate form roll, means for each deck for guiding two webs of paper to cause one to pass through one printing mechanism and the other through the other printing mechanism, and means for each deck for turning each web on its unprinted face after the other faces have been printed by the respective printing mechanisms and then passing said turned webs through the two printing mechanisms, respectively, causing each web to receive its second impression from the printing mechanism which gave the first impression to the other web, and two independent folders, each folder being common to all the decks.

38. In a web perfecting printing press, the combination of a pair of printing mechanisms, each mechanism comprising a pair of impression rolls and an intermediate form roll, means for guiding two webs of paper to cause one to pass through one printing mechanism and the other through the other printing mechanism, and means for turning each web on its unprinted face after the other faces have been printed by the respective printing mechanisms and then passing said turned webs through the two printing mechanisms, respectively, causing each web to receive its second impression from the printing mechanism which gave the first impression to the other web, and two independent folding mechanisms for the two webs located respectively adjacent to the form roll which gives the last impression to the web to be folded thereby.

39. In a web perfecting printing press, the combination of a plurality of decks each having a pair of printing mechanisms, each mechanism comprising a pair of impression rolls and an intermediate form roll, means for guiding two webs of paper for each deck to cause one to pass through one printing mechanism and the other through the other printing mechanism, and means for turning each web on its unprinted face after the other faces have been printed by the respective printing mechanisms and then passing said turned webs through the two printing

mechanisms, respectively, causing each web to receive its second impression from the printing mechanism which gave the first impression to the other web, and two independent folding mechanisms for the two webs located respectively adjacent to the form roll which gives the last impression to the web to be folded thereby, each folding mechanism being common to all the decks.

40. In a web perfecting printing press, the combination of a pair of intersecting printing mechanisms, mechanism for guiding two webs of paper to cause them to pass first through the different printing mechanisms respectively, for turning such webs on their unprinted faces between the printing mechanisms and then passing them each through the other printing mechanism, and two independent folding mechanisms located respectively adjacent to the two printing mechanisms.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

JACOB A. SMITH.

Witnesses:
ALBERT H. BATES,
S. E. FOUTS.