

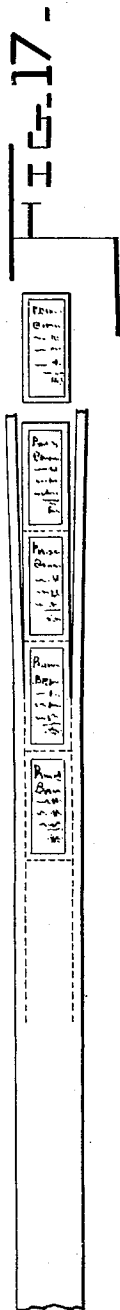
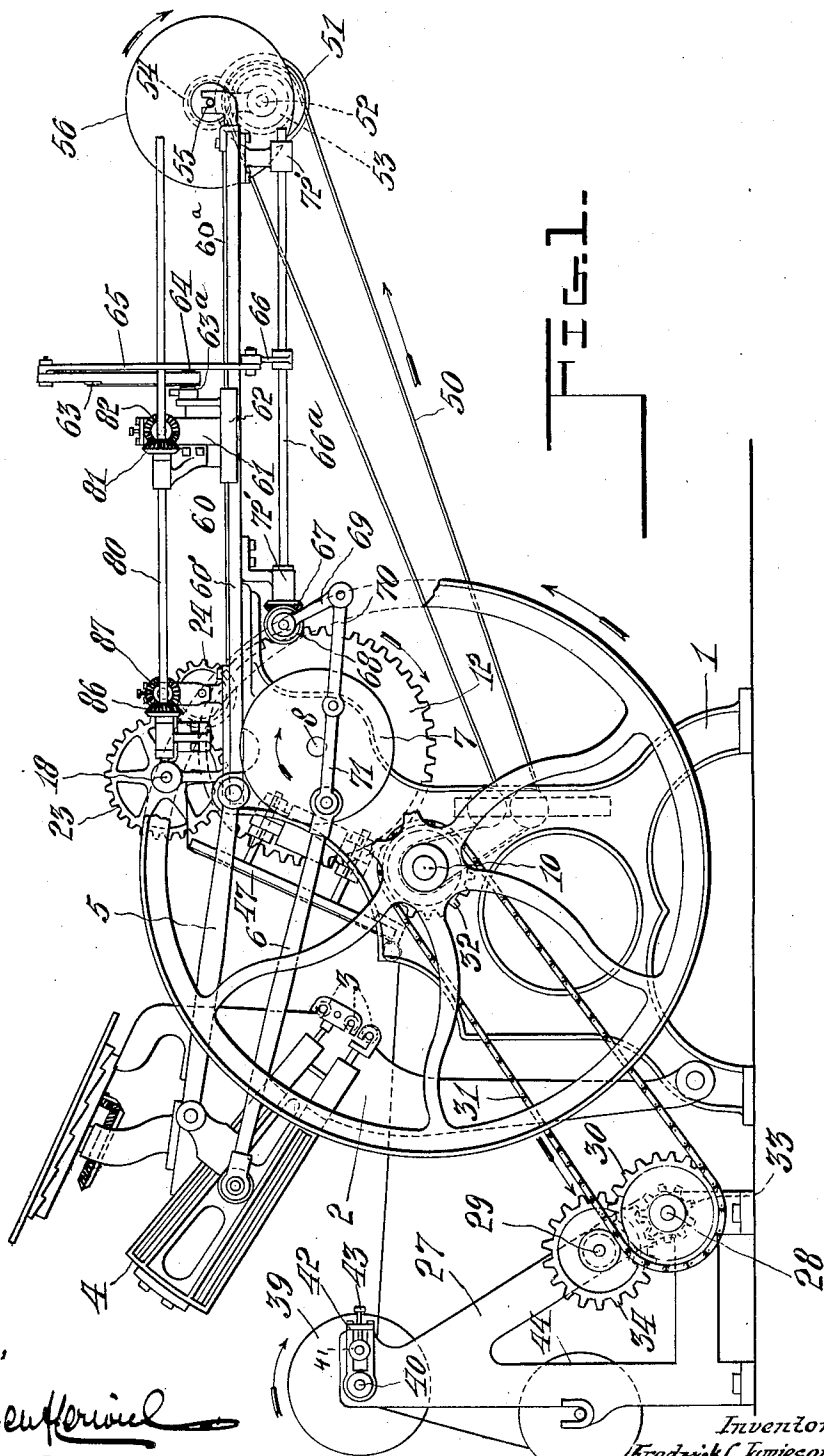
No. 876,646.

PATENTED JAN. 14, 1908.

F. C. JAMIESON.
TAG AND LABEL PRINTING PRESS.

APPLICATION FILED FEB. 10, 1906.

6 SHEETS—SHEET 1.



Witnesses,
John F. Deufferville
Edwin Vrooman.

Inventor
Fredrick C. Jamieson.
By *F. H. Gibbs*
Attorney.

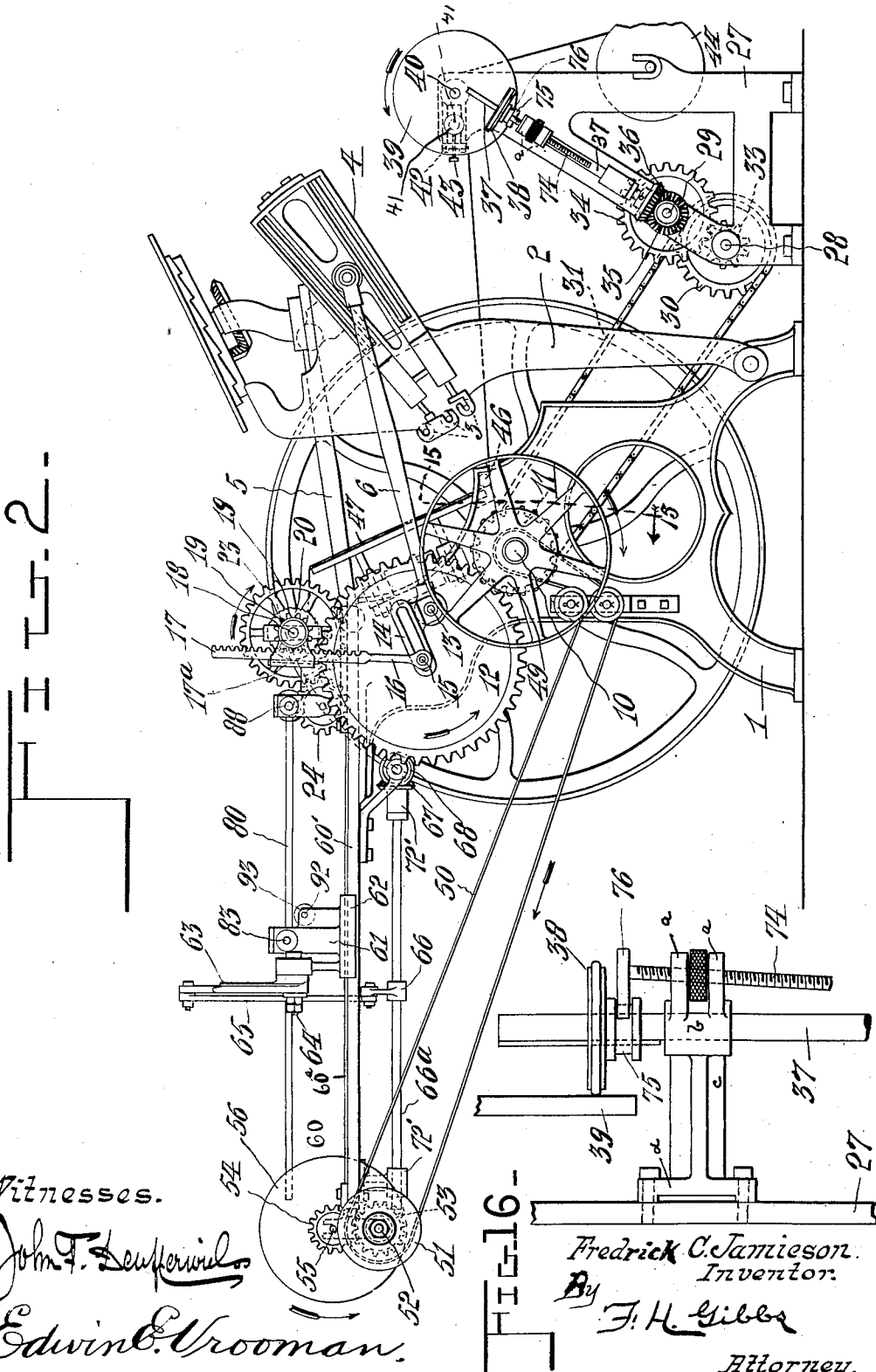
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6 SHEETS—SHEET 2.



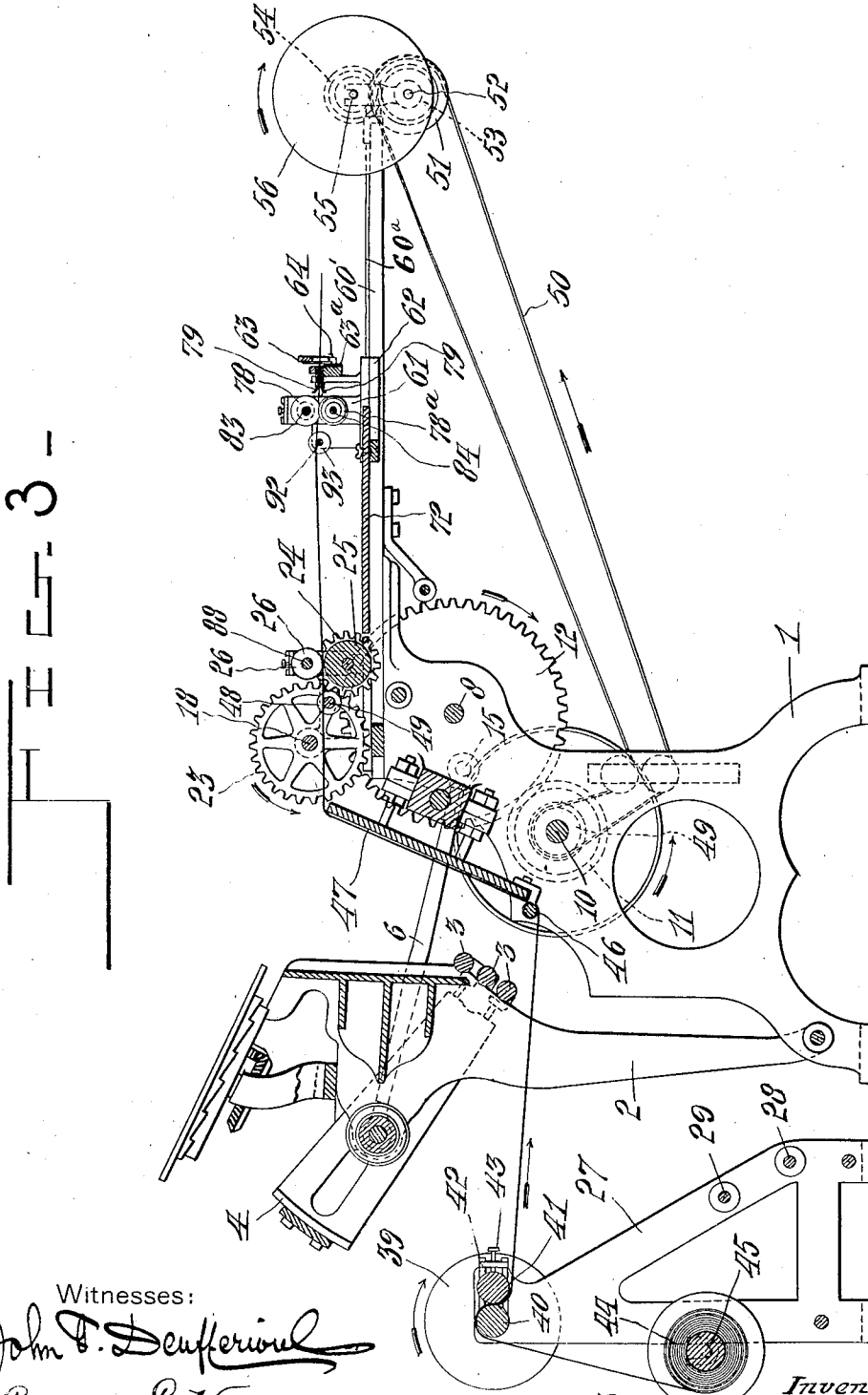
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6 SHEETS—SHEET 3.



Witnesses:
John D. Deufferin
Edwin C. Vrooman.

Inventor:
By Fredrick C. Jamieson.
J. H. Gibbs
Attorney.

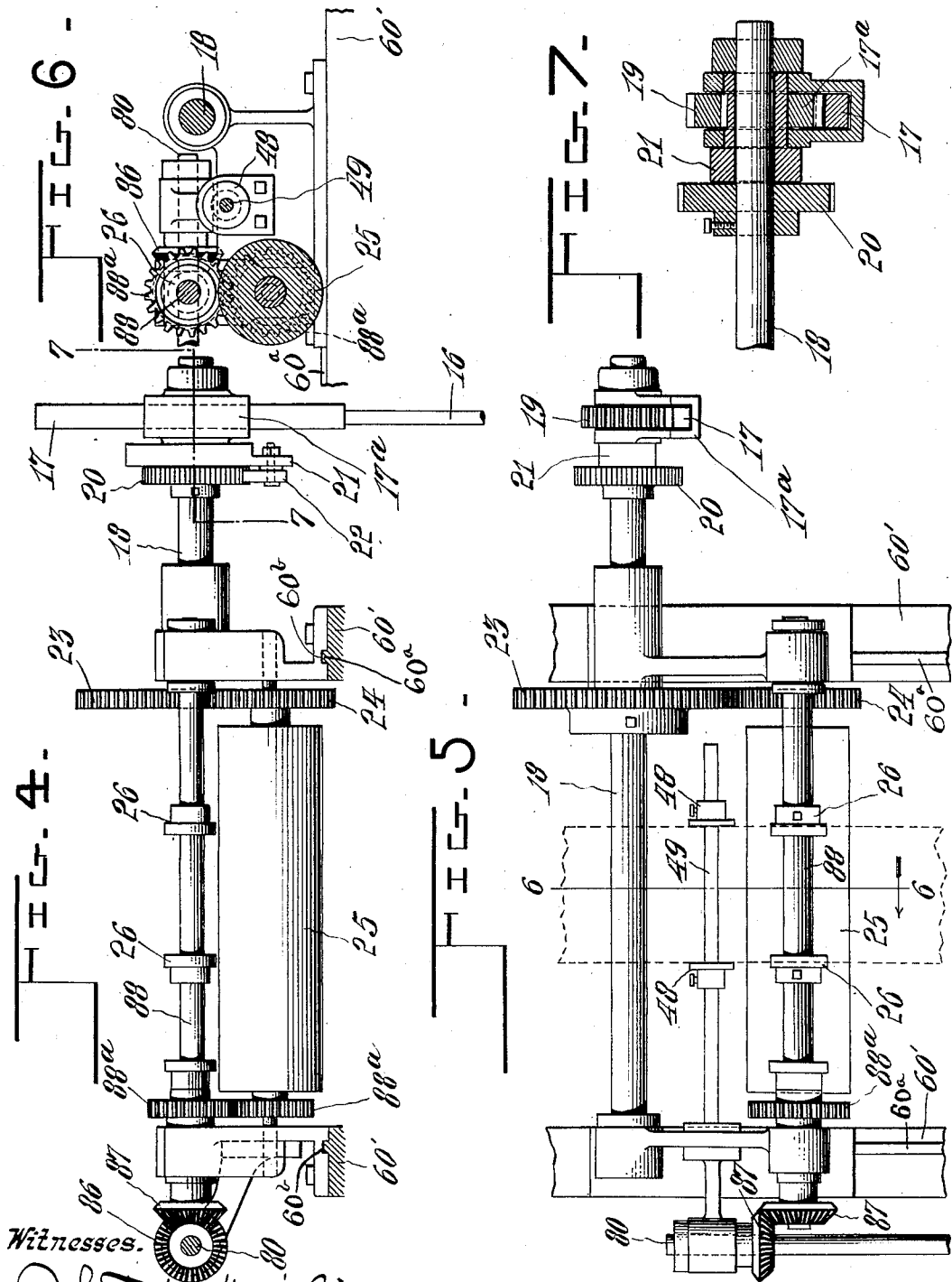
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6 SHEETS—SHEET 4.



Witnesses.
John T. Deufferin
Edwin C. Vrooman

Fredrick C. Jamieson
Inventor
By *F. H. Gibbs*
Attorney

No. 876,646.

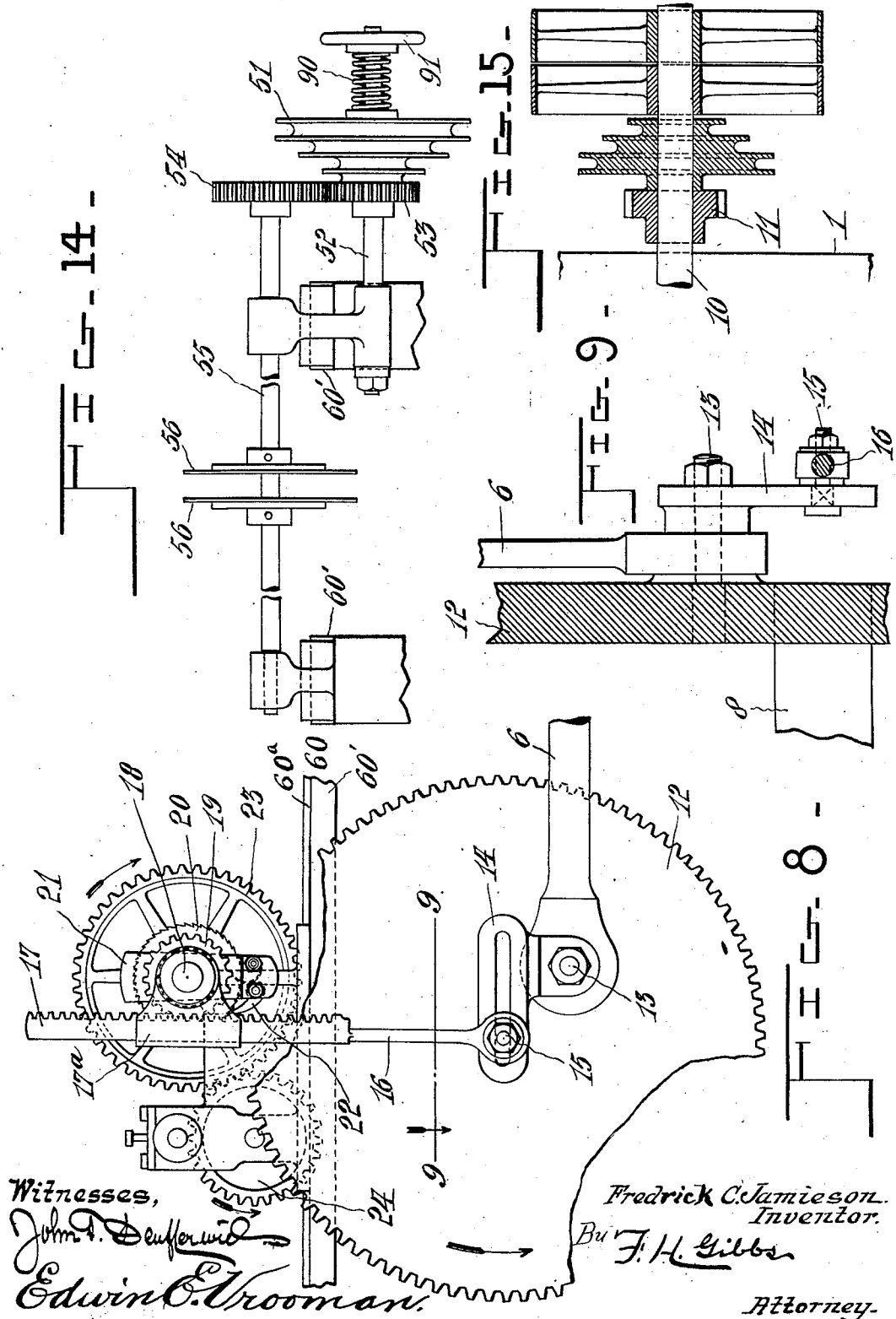
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6 SHEETS—SHEET 5.



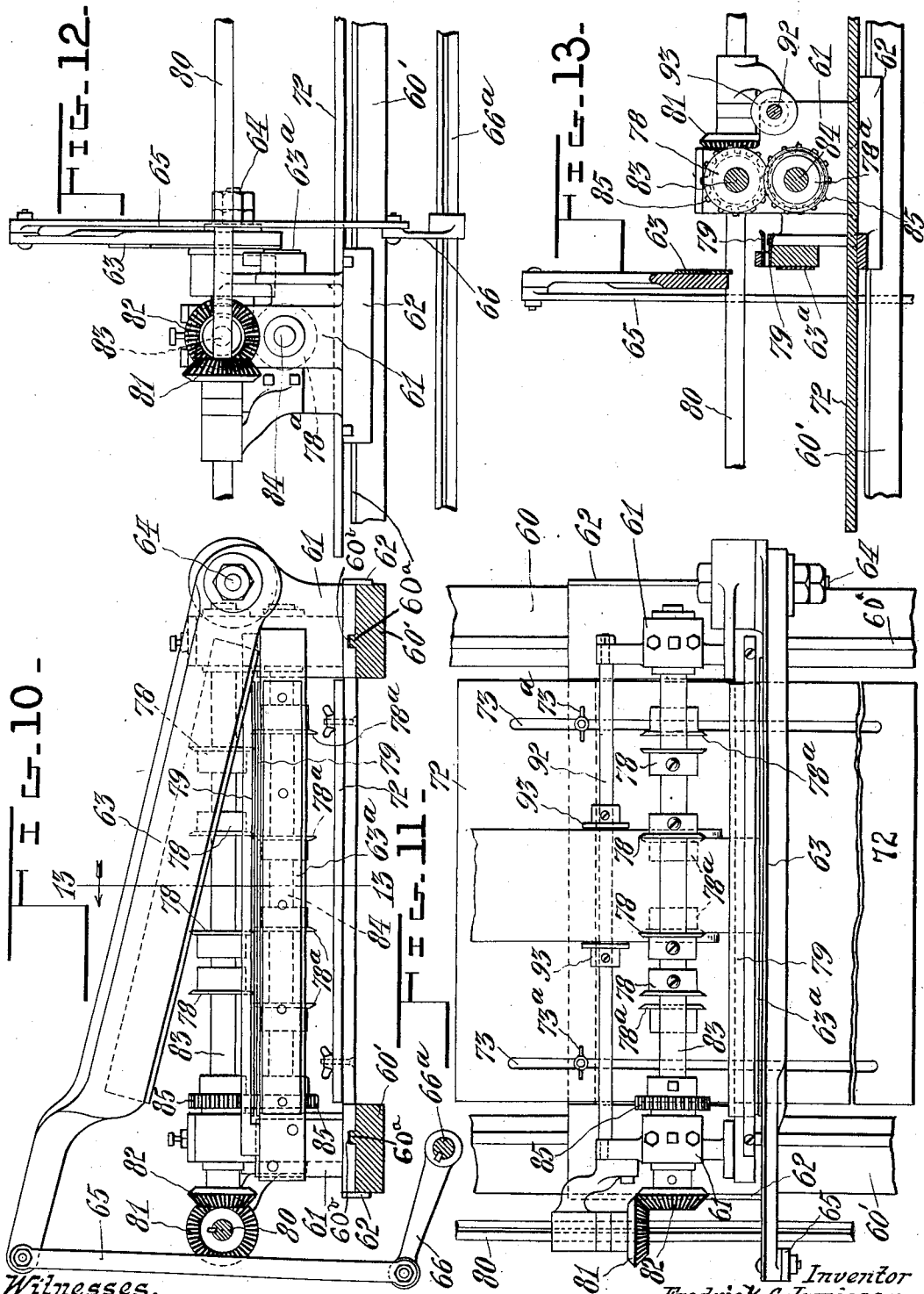
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APPLICATION FILED FEB. 10, 1906.

6 SHEETS—SHEET 6.



Witnesses.

John T. Deffenwill
Edwin C. Thorman.

Inventor
Frederick C. Jamieson.

By F. H. Gibbs

Attorney.

UNITED STATES PATENT OFFICE.

FREDRICK C. JAMIESON, OF MONTREAL, QUEBEC, CANADA.

TAG AND LABEL PRINTING PRESS.

No. 876,646.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed February 10, 1906. Serial No. 300,392.

To all whom it may concern:

Be it known that I, FREDRICK CARLYLE JAMIESON, of Montreal, Province of Quebec, Dominion of Canada, have invented certain new and useful Improvements in Tag and Label Printing Presses; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to printing presses and particularly to a machine which is designed especially for use in printing and cutting tags and labels, or strips, upon which the printed matter of tags or labels is printed, which strips may be wound upon a roll or in a coil which is subsequently fed to another machine which will cut the material of said coil into proper lengths for use.

The object of the invention is to simplify the construction and operation of this type of machine and the invention consists in certain features of novelty in the detail construction and operation thereof all as hereafter, more fully set forth and specifically pointed out in claims.

Referring to the accompanying drawings, in which similar characters of reference denote corresponding parts in all the views, Figure 1 is a side elevational view of the complete machine; Fig. 2 is a view taken in side elevation looking from the side opposite to that shown in Fig. 1; Fig. 3 is a central vertical sectional view of the machine; Fig. 4 is a detached detail view illustrating the feeding rollers and their actuating means as seen looking from the position occupied by the operator; Fig. 5 is a plan view of the parts shown in Fig. 4; Fig. 6 is a section taken on line 6—6 of Fig. 5; Fig. 7 is a section taken on line 7—7 of Fig. 4; Fig. 8 is an enlarged detail view of the means for rotating the paper feed rollers; Fig. 9 is a section taken on line 9—9 of Fig. 8; Fig. 10 is a rear elevational view of the transverse cutting knife with its immediate connecting parts; Fig. 11 is a top plan view of the parts shown in Fig. 10; Fig. 12 is a view looking from the left of Fig. 10; Fig. 13 is a section taken on line 13—13 of Fig. 10; Fig. 14 is a fragmentary detail view showing the winding drum and its connected mechanism at the rear end of the machine. Fig. 15 is a fragmentary sectional view taken on line 15—15 of Fig. 2; Fig. 16 is a detached fragmentary view illustrating details of con-

struction of the paper feed at the feed end of the machine, and Fig. 17 is a plan view of the strip which is fed through the machine, printed and cut off to the required length for use.

Referring to the parts 1 is the main supporting frame of the machine on which is pivotally mounted the yoke 2 which carries the inking mechanism and serves as a bed plate for the type form to be used in printing. The usual inking rollers 3 are carried by the rockable yoke 4 which yoke is connected, by means of the links 5 with the stationary frame 1 while the pitmen 6 serve as actuating means to rock the yoke 4 and carry the inking rollers across the face of the type.

On the main driving shaft 10 is a pinion 11 which meshes with the gear 12, said gear being carried on the shaft 8 on which is carried the disk 7 at its opposite end, one pitman 6 being connected eccentrically with said disk and one with said gear 12.

Carried by the stub shaft 13 projecting from the gear 12 is a slotted yoke 14 in which travels the pin 15 which pin projects from the rod 16 of the rack 17, which rack reciprocates in the rockably mounted sleeve 17^a and meshes with the pinion 19 mounted on the shaft 18, said pinion being free to rotate on said shaft in either direction.

Carried by and rotatably independent of the shaft 18 and fixedly secured to the pinion 19, is a bracket 21, which bracket 21 is provided with a spring-actuated pawl 22. A ratchet 20 is fixedly secured to the shaft 18, and is engaged by the pawl 22, whereby, when the pinion is rotated in one direction, the ratchet 20 and shaft 18 will also be rotated in the same direction. As the pinion 11 rotates with the main shaft the gear 12 also rotates during the operation of the machine, and the pinion 23 which is securely mounted on the shaft 18 is caused to rotate the pinion 24 with which it meshes to drive the feed rollers 25 and 26 to advance the paper passing between said rollers after it has been printed upon.

At the feed end of the machine is placed a bracket 27 which is securely bolted in position in proximity to the main frame 1 and on the bracket 27 are mounted shafts 28 and 29, on the former of which is mounted the sprocket wheel 30 over which runs the chain 31 to the sprocket wheel 32 on the main shaft 10. A pinion 33 on shaft 28 meshes

with a gear 34 on shaft 29 and on the opposite end of shaft 29 is a beveled gear 35 which meshes with a correspondingly beveled gear 36 on the shaft 37 which carries a friction pulley 38. The shaft 37 is journaled in a sleeve *b* integral with a horizontal, auxiliary bracket *c*, which bracket *c* is secured at its base *d* to a bracket 27. The sleeve *b* is provided with parallel lugs *a*, for the purpose hereinafter specified.

The friction pulley 38 bears against the disk 39 on the shaft 40 coöperating with which is a friction roller 41 adjustably mounted in the yokes 42 made adjustable by means of the screw 43 so as to bear more or less against said shaft 40.

Paper roll 44 is mounted on the spindle 45 with the paper passing therefrom in a web over shaft 40, under friction roller 41, thence under a guide roller 46 and obliquely upwardly past and in contact with the platen 47 after which the paper passes between the adjustable guides 48 carried by the stub shaft 49 to and between the feed rollers 25 and 26 so that a web is fed from the roll 44 to the feed rollers 25 and 26, but the mechanism is so timed that the said feed rollers 25 and 26 rotate only while the bed plate is on its return stroke and are carrying the type away from the paper which passes over the platen under the influence of said rollers.

On shaft 10 is a multiple pulley 49 about which passes the belt 50 which also passes about a multiple pulley 51 on the stub shaft 52 said stub shaft carrying the gear 53 which meshes with a gear 54 on the spindle 55, disks 56 being adjustably mounted on said spindle to receive between them a roll of printed paper fed thereto by the feed rolls when it is desired to print a continuous strip to be rolled and afterward cut into sections for use. By mounting the belt 50 in different grooves of pulleys 49 and 51, the speed of the shaft 55 will be varied. In many cases however it is preferred to print and cut the paper into predetermined lengths in which case the transverse cutting knife of Figs. 10 to 13 inclusive is used.

Supported by the main frame 1 is an extension 60 comprising runners 60' upon which is slidably mounted the knife supporting bracket 61 which is provided at opposite sides with the depending guide flanges 62 adapted to hold the said bracket in correct alinement. Each runner 60' is provided with a longitudinally-extending guiding bead 60^a, preferably upon its upper face. The knife-bracket 61 is provided in its bottom with transverse grooves or ways 60^b in which extend the beads 60^a, see Figs. 4 and 10.

The knife 63 is pivoted at 64 and has connected with its opposite end the link end 65 which in turn is pivotally connected with the arm 66 keyed and slidably mounted upon the shaft 66^a. This shaft 66^a carries a beveled

gear 67 in mesh with a correspondingly beveled gear 68 which latter gear is positively connected with the arm 69. Pivotally connecting the arm 69 with the disk 7 is a double link 70—71 jointed so as to permit it to buckle when the arm 69 has reached the limit of its pendulum like movement toward the rear of the machine. By means of the double link referred to the shaft 66^a is rocked in its bearings 72' to raise and lower the knife 63 to cut off the printed paper to a predetermined length upon each rotation of the disk 7.

The knife bracket 61 may be shifted longitudinally of the table extension 60 so as to place the knife at any desired distance from the feeding rollers, the speed of rotation of said rollers being regulated by the distance at which the pin 15 is locked, in the slotted member 14, away from the center of the gear 12. As the knife 63 when in use descends regularly with each full movement of the type bed, it is evident that an increase or decrease of speed of the feed rollers will increase or decrease the size of the section of printed paper which will be cut off upon each stroke of the knife.

To cut the material to the proper width overlapping circular knives or cutting rollers 78 with knife edges are provided between which the paper is fed from the feeding rollers after which the paper is conducted between the guide lips 79 shown in Fig. 13 in proximity to which the knife 63 coöperates with the plate 63^a to sever the paper.

On the shaft 80 is mounted a beveled pinion 81 which is in mesh with a correspondingly beveled pinion 82 on the shaft 83 which shaft 83 carries the circular knives 78 referred to which knives coöperate with correspondingly shaped circular knives 78^a on the shaft 84 which shaft is driven from shaft 83 by means of the gears 85. The shaft 80 is driven by the beveled gears 86—87 the latter of which is on the shaft 88 which carries the feed rollers 26, so that the circular slitting knives 78—78^a are driven at approximately the speed of the paper feed.

A table 72 is provided with longitudinally extending slots 73 in which are set screws 73^a adapted to lock said table in any required position to receive the cuttings as they come from the knife 63.

To regulate the feed from the roll 44 the friction pulley 38 may be shifted upon the shaft 37 by means of the screw 74, mounted in lugs *a*, to carry said friction pulley 38 up or down on said shaft thereby causing said friction pulley to bear upon the disk 39 nearer to or further away from its center and increasing or diminishing the feed as may be required, a collar 75 being connected with said friction pulley and a yoke 76 on the screw 74 bearing on said collar to effect the necessary adjustment of the friction pulley 38.

The operation of the machine is as follows:

Paper is fed from the roll 44, by means of the pulley 38, to the platen 47 from whence it is carried by the feed rolls 25 and 26 between the slitting knives 78, 78^a and after each impression of the type said paper is advanced to the transverse cutting knife 63 by means of which the prescribed amount of paper is cut off and falls upon the table 72 or when the knife 63 is placed out of commission the paper is printed upon and wound upon the spindle 55 between the disks 56. A tension spring 90 is provided on the spindle 52 and it will be understood that the hand wheel 91 is adjustable on the said spindle 52 for a well understood purpose. The gear 23 meshes with the pinion 24 on the roller shaft 25 thus actuating the gear 88^a and driving the beveled pinion 87, pinion 86 and shaft 80. In convenient proximity to the shaft 83 on which are carried the rotary cutters 78 is a rod 92 carrying the guides 93 which are secured thereon as shown in Fig. 11 to guide the paper in its approach to said rotary cutters. The paper feed is regulated by the feed rollers 25 and 26, which rotate only while the bed plate is on its return stroke, carrying the type away from the paper which is stretched over the platen as shown in Fig. 3. Upon referring to Fig. 8, it will be seen that this drive comes through the pawl 22 engaging the ratchet 20 when the rack 17 is ascending, that is, when the type are moving away from the platen. As the pawl 22 slips over the ratchet on its return stroke, the gear 23 does not drive the pinion 24 or feed rolls 25 and 26 when the type are moving toward the paper on the platen, thus there is an intermediate feed on the web from the roll 44.

Having described the invention what is claimed as new is:

1. In a printing mechanism, the combination of a frame provided with horizontal, parallel runners, each runner provided with a longitudinally extending bead, a knife-supporting bracket carried by said runners, said bracket provided with transverse grooves, the beads of said runners positioned within said grooves, a transverse knife carried by said bracket, means for vertically moving said knife upon said bracket, and means for feeding a printed web or strip to said bracket, in the path of movement of said transverse knife.

2. In a printing mechanism, the combination of a frame provided with horizontal, parallel runners, each runner provided upon its upper face with a longitudinally extending bead, a longitudinally adjustable knife-supporting bracket carried by said runners, said bracket provided with grooves and with depending guide flanges, the beads of said runners positioned within the grooves of said bracket, vertically movable and rotatable cutting means carried by said bracket, and

means for feeding a web or sheet of printed material to said bracket in the path of movement of said cutting means.

3. In a printing mechanism, the combination of a frame provided with horizontal, parallel runners, a longitudinally, adjustable knife-supporting bracket carried by said runners, a knife carried by said bracket, a rockable shaft secured upon said frame contiguous to said runners, an arm keyed to said rockable shaft and capable of being adjusted longitudinally thereof, a link connecting said arm and knife, a beveled gear fixedly secured to one end of said rockable shaft, an arm provided with a beveled gear, carried by said frame, said last mentioned gear meshing with the first mentioned gear, a double link connected to said last mentioned arm, means for actuating said double link for imparting rotary movement to said beveled gears for rocking said shaft, and thereby vertically moving said knife, and means for feeding a web or sheet of printed material to said bracket in the path of movement of said knife.

4. In a printing mechanism, the combination of a frame provided with horizontal runners, a knife-supporting bracket carried by and adjustable longitudinally of said runners, a table provided with longitudinally extending, parallel slots, said table carried by said knife-supporting bracket, fastening means carried by said bracket and positioned within the slots of said table for securing the table in an adjusted position, said table being capable of transverse adjustment upon said bracket, cutting means carried by said bracket, and means for feeding a printed web or sheet to said bracket in the path of movement of said cutting means.

5. In a printing mechanism, the combination of a frame provided with a horizontal supporting bracket, of a longitudinally adjustable knife-supporting bracket carried by said horizontal bracket, said knife-supporting bracket comprising parallel standards, a horizontal base member connecting said standards, a table carried by said base member and adjustable transversely thereof, vertically movable cutting means carried by said knife-supporting bracket, rotatable guiding means carried by said knife-supporting bracket, a plurality of co-acting, rotatable, cutting knives carried by said bracket, and means for feeding a web or sheet of printed material to said knife-supporting bracket between said knives and in the path of movement of said cutting means.

6. In a mechanism of the class described, the combination with a frame, of a horizontal, adjustable bracket carried by said frame, an upper and a lower shaft journaled upon said bracket, pairs of adjustable, overlapping knives secured to said shafts, a shaft journaled upon said bracket to one side of

said first mentioned shafts, adjustable guiding means carried by said last mentioned shaft, a transverse knife pivotally mounted upon said bracket, means for actuating said shafts and transverse knife, and means for feeding a printed web or sheet to said bracket between said guiding means and in the path of movement of said knives.

7. In a printing mechanism, the combination with a frame, an impression mechanism carried by said frame, an adjustable table carried by said frame, said table provided with parallel, elongated slots, fastening means positioned within said slots and capable of securing said table in an adjusted position, reciprocating and rotatable cutting means positioned upon said frame above said table, and means for feeding a web or sheet to said impression mechanism and over said table in the path of movement of said cutting means.

8. In a printing mechanism, the combination with a frame, an impression mechanism carried by said frame, a pivotally mounted knife carried by said frame, a rockable shaft provided with a beveled gear, carried by said frame, means connecting said knife to said rockable shaft, an arm provided with a beveled gear, carried by said frame, said beveled gears meshing, a disk carried by said frame, a double link eccentrically connected to said disk and pivotally connected to said arm, means for driving said disk and thereby imparting movement to said knife through said shaft, beveled gears, arm, and links, and feeding means for supplying a web to said impression mechanism and in the path of movement of said knife.

9. In a printing mechanism, the combination with a frame provided with a bracket, of a knife-supporting bracket carried by said frame and longitudinally adjustable thereof, reciprocating and rotating cutting means carried entirely by said knife-supporting bracket, rotatable guiding means carried entirely by said bracket, means for intermittently operating said cutting means and guiding means, and means for feeding a printed web or sheet between said guiding means and in the path of movement of said cutting means.

10. In a printing mechanism, the combination with a frame, of an adjustable bracket carried by said frame, said bracket provided with vertical standards, parallel guide lips positioned between and connecting said standards, upper and lower shafts positioned contiguous to said guide lips and journaled in said standards, pairs of overlapping, adjustable knives carried by said shafts contiguous to said guide lips, rotatable guides carried by said standards, said upper and lower shafts positioned between said guide lips and rotatable guides, verti-

cally swinging cutting means carried by said bracket, and means for feeding a printed web or sheet to said bracket in engagement with said rotatable guides and in the path of movement of said overlapping knives and vertically swinging cutting means.

11. In a printing mechanism, the combination of a frame provided with parallel, horizontal runners, a knife-supporting bracket carried by and adjustable longitudinally of said runners, a transverse knife pivotally mounted upon said bracket, means for actuating said knife, rotatable cutting means carried entirely by said bracket and positioned contiguous to said transverse knife, rotatable guiding means positioned upon one side of said rotatable cutting means, an adjustable table carried by said bracket, and means for feeding a printed web or sheet to said cutting means.

12. In a printing mechanism, the combination with a frame, provided with a horizontal bracket, of a knife-supporting bracket adjustable longitudinally of said supporting bracket, said knife-supporting bracket provided with depending side guides, guiding means formed upon the engaging surfaces of said bracket and knife-supporting bracket, rotatable cutting means carried entirely by said knife-supporting bracket, transverse cutting means carried by said knife-supporting bracket and movable at right-angles to said rotatable cutting means, movable guiding means carried by said knife-supporting bracket, and means for feeding a web or sheet between said guiding means and in the path of movement of said cutting means.

13. In a mechanism of the class described, the combination with a frame, of a horizontal, adjustable knife-supporting bracket carried by said frame, a table carried by said bracket and adjustable transversely of said bracket, a plurality of cutting means carried by said bracket above said table, and means for feeding a printed web or sheet to said bracket in the path of movement of said cutting means.

14. In a mechanism of the class described, the combination with a frame, of an adjustable table carried by said frame, said table comprising a flat member provided with parallel, elongated slotted portions, fastening means positioned within the slotted portions of said table, cutting means positioned above said table, and means for feeding a web or sheet over said table in the path of movement of said cutting means.

15. In a printing mechanism, the combination with a frame, of a transverse knife carried by said frame, a rockable shaft carried by said frame, means connecting said knife and rockable shaft, an arm provided with a beveled gear, carried by said frame, said rockable shaft provided with a beveled gear, a disk carried by said frame, said bev-

eled gears meshing, a double link eccentrically secured to said disk and pivotally connected to said last mentioned arm, means for driving said disk, and means for intermittently feeding a web or sheet in the path of movement of said knife.

16. In a printing mechanism, the combination with a frame provided with a stationary platen and a movable type bed, of a horizontal, adjustable knife-supporting bracket positioned upon said frame, a transverse knife pivotally mounted upon said bracket, a rockable shaft carried by said frame, means connecting said knife and rockable shaft, said means capable of being adjusted longitudinally upon said shaft, means connecting said type bed and rockable shaft and continuously rocking said shaft, and means for feeding a web or sheet between said platen and type bed and in the path of movement of said knife.

17. In a printing mechanism, the combination of a frame provided with a parallel, horizontal runners, a knife-supporting frame carried by and adjustable longitudinally of said runners, a transverse knife pivotally mounted upon said frame, bearings carried by one of said runners, a rockable shaft journaled in said bearings, an arm carried by said rockable shaft and capable of being adjusted longitudinally thereof, means connecting said arm and knife, means for rock-

ing said shaft, and means for supplying a web or sheet of material in the path of movement of said knife.

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18. In a printing press, the combination of a frame provided with horizontal, parallel runners, a longitudinally-extending bead formed upon the upper face of each runner, a movable knife-supporting bracket carried by said runners, said bracket provided with transverse grooves upon its under face, in which the beads are positioned, an adjustable table carried by said bracket, means securing said table in an adjusted position, cutting-means carried by said bracket, and means for supplying a web to said cutting-means above said table.

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19. In a printing mechanism, the combination with a frame provided with horizontal runners, of depending bearings secured to one of said runners, a rockable shaft journaled in said bearings, an adjustable knife-supporting frame carried by said runners, a pivoted knife carried by said frame, means adjustably connecting said knife to said rockable shaft, and means for rocking said shaft and thereby swinging said knife.

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

FREDRICK C. JAMIESON.

Witnesses:

F. H. GIBBS,

JOHN F. DEUFFEREIOD.