

E. P. SHELDON.

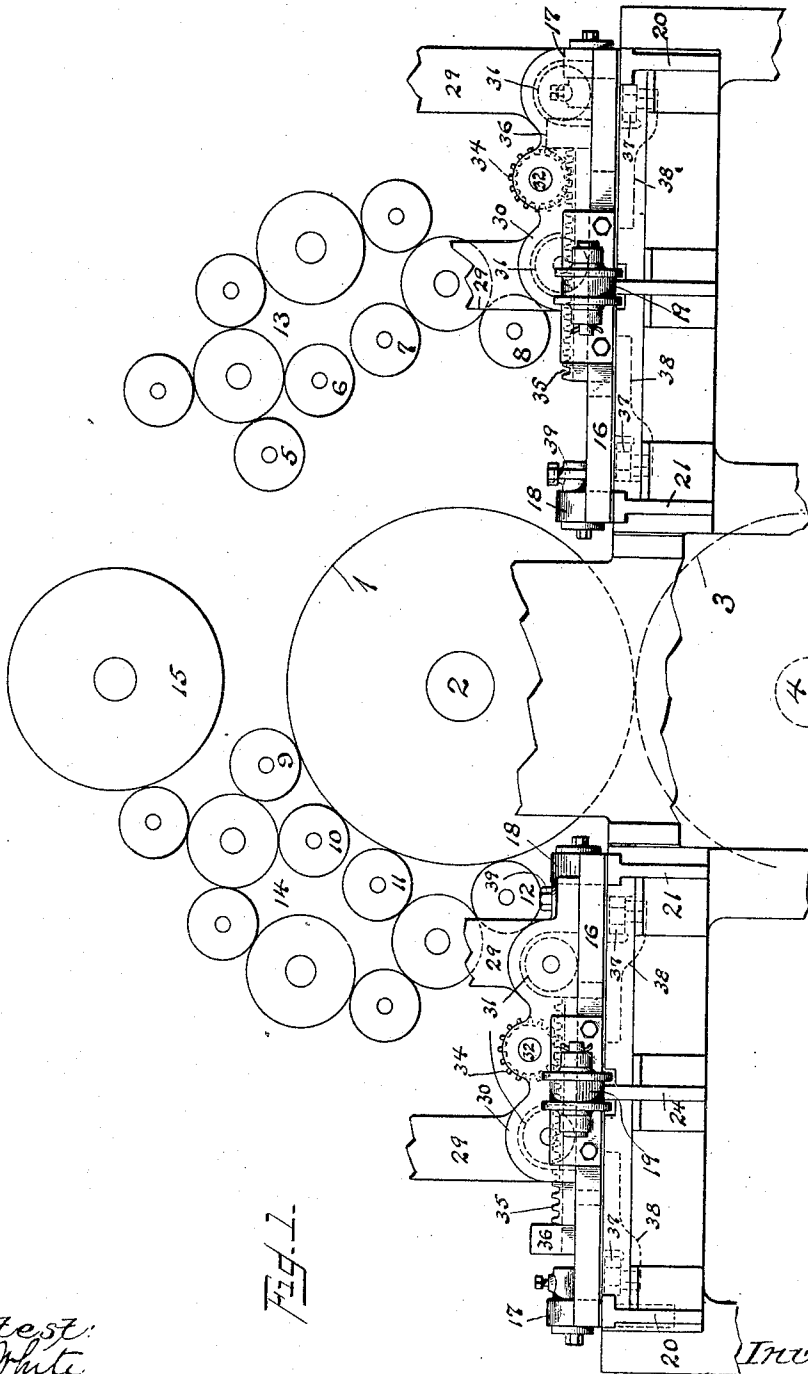
INKING DEVICE.

APPLICATION FILED OCT. 15, 1907.

Patented Aug. 23, 1910.

3 SHEETS—SHEET 1.

967,985.



Attest:
A. White
for Examiner

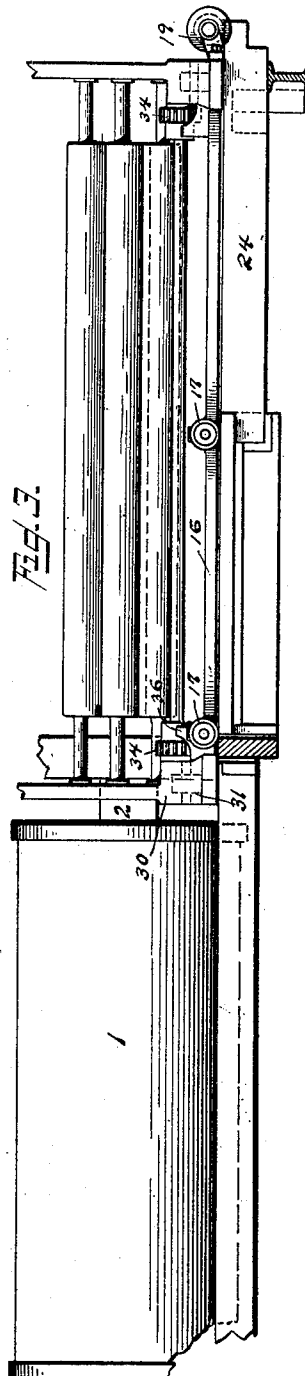
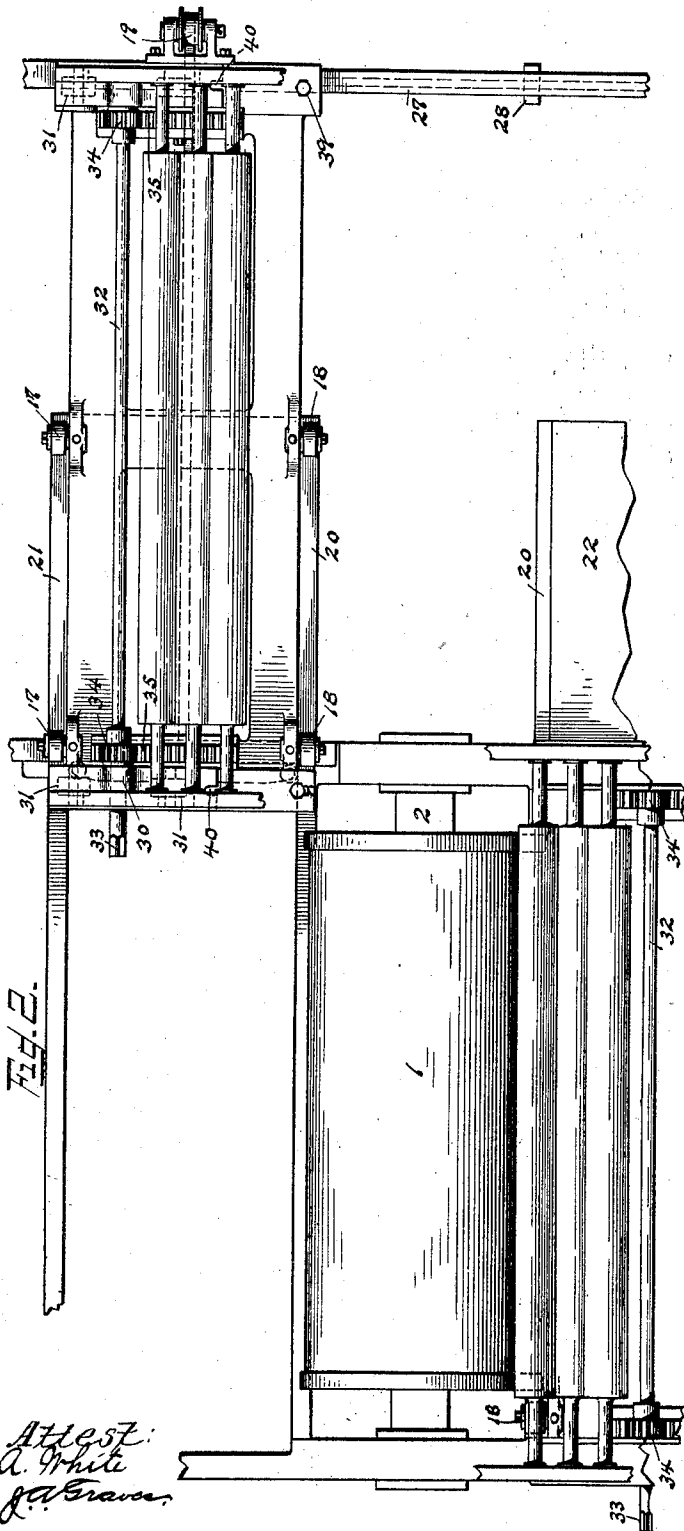
Inventor
Edward P. Sheldon
by his Attys. Philip J. Barry, Ric. Kennedy

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3 SHEETS—SHEET 2.



Attest:
A. White
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Edward P. Sheldon
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Philip S. Brown, Richard L. [Signature]

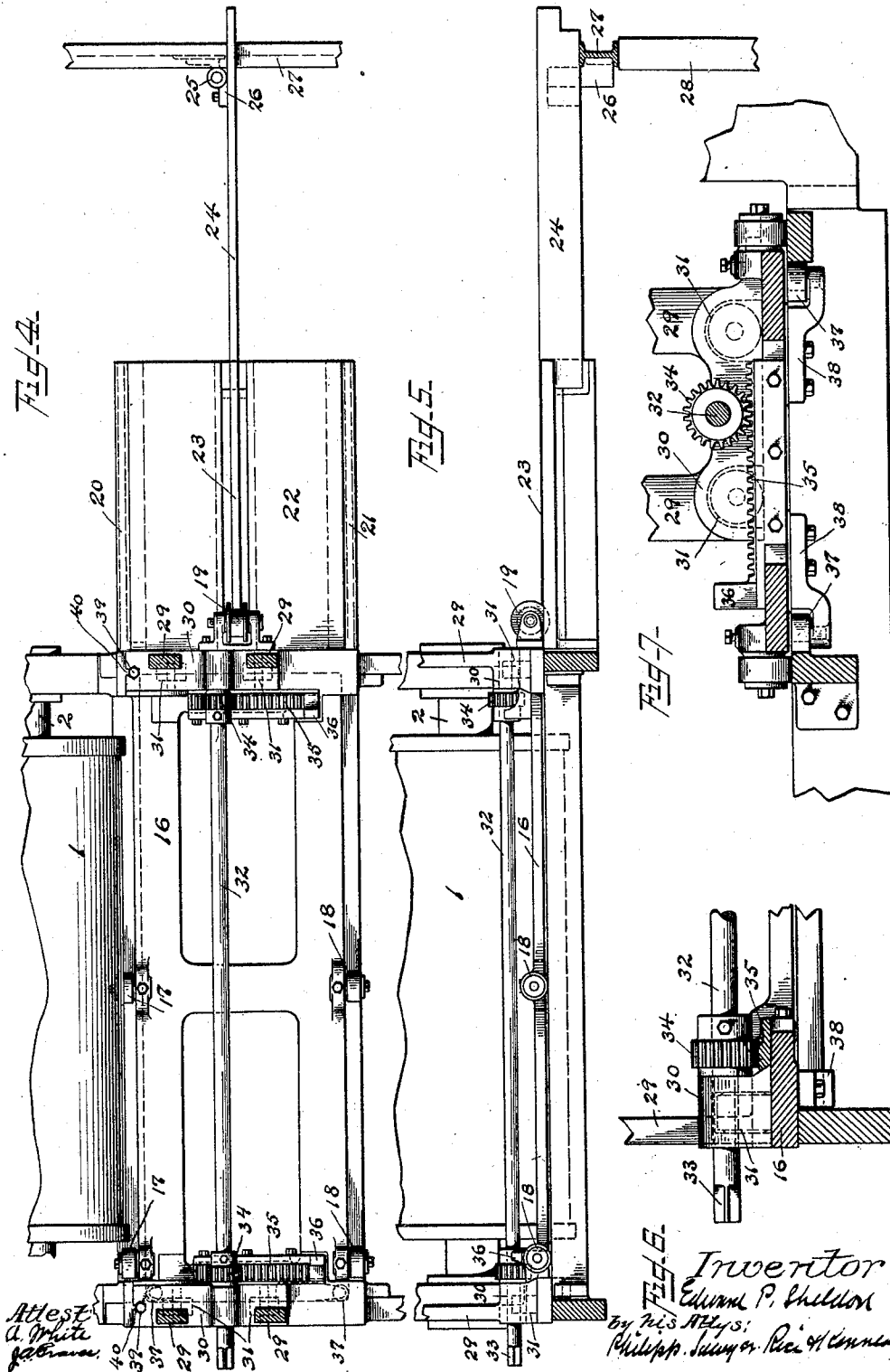
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3 SHEETS—SHEET 3.

967,985.



Attest
a White
Gibson

Inventor:
E. P. Sheldon
By his Attys.
Philippe, Sawyer, Rice & Connolly

UNITED STATES PATENT OFFICE.

EDWARD P. SHELDON, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO
R. HOE AND CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

INKING DEVICE.

967,985.

Specification of Letters Patent.

Patented Aug. 23, 1910.

Application filed October 15, 1907. Serial No. 397,519.

To all whom it may concern:

Be it known that I, EDWARD P. SHELDON, a citizen of the United States, residing at New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Inking Devices, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in inking apparatus for printing machinery.

It is desirable in printing machinery to have the inking rolls so supported that they may move out of contact with the printing member of the printing couple and into position where access may be had thereto, particularly for the purpose of washing and cleaning the rolls and also for the purpose of permitting ready access to be had to the printing surfaces on the cylinders. Printing machines have been constructed in which the inking rolls were movable away from the printing cylinder for the purposes heretofore referred to, but in so positioning the rolls they were moved in a line at right angles to the axes of the cylinders. In order to permit ready access to the rolls, it is necessary to give considerable movement to the set, and such machines were constructed to provide for this movement, the result being that the machines occupied a large amount of space. This increase is disadvantageous in machines employing a plurality of printing couples and in which the inking rolls are located between the couples, not only because of the increased space required to accommodate the machine, but also because of the increase in the run of the web between printing couples. Further, in such machines, the inking rolls were arranged in a single set, so that when the set was moved away from a printing couple, the operation of the machine was necessarily stopped.

It is one of the objects of this invention to produce an improved printing machine in which the inking rolls may be moved away from the printing couple and into position where access may be had thereto for cleaning purposes and to permit access to the printing surfaces, which shall be more compact, occupying less space than in former constructions, and which shall, in machines employing a plurality of couples, provide

for shorter runs of the web between the couples than heretofore.

A further object of the invention is to produce an improved printing machine having its inking devices arranged in two sets, either set being movable to give access thereto without disturbing the position of any roll with respect to the others of the set, so that one set may be in operation, if desired, while the other set is being cleaned.

With these and other objects in view, the invention consists in certain constructions and in certain parts, improvements and combinations as will be hereinafter fully described and then specifically pointed out in the claims.

Referring to the accompanying drawings—Figure 1 is an end elevation of one form of printing machine constructed in accordance with the invention, certain of the parts being diagrammatically illustrated. Fig. 2 is a plan view of the construction illustrated in Fig. 1. Fig. 3 is a side elevation of the construction illustrated in Fig. 2. Fig. 4 is a plan view of the construction shown in Fig. 2 with the carriage in the position it occupies when the rolls are in operative position with respect to the printing cylinder but with the rolls removed. Fig. 5 is a side elevation of the construction shown in Fig. 4. Figs. 6 and 7 are detail views illustrating certain features of construction.

Referring to the drawings, 1 indicates a printing or type cylinder which may be of any usual construction, this cylinder being mounted on the shaft 2 suitably supported in the frame. The impression member of the couple, which may also be a cylinder, is indicated at 3, and is mounted on a shaft 4 also suitably supported in the machine frame.

The inking devices of machines constructed in accordance with the invention will, as is usual, consist of rolls which may be arranged either as a single set or as a plurality of sets, according to the requirements of the machine, the character of the printing to be effected, etc. In the particular machine illustrated, the inking devices consist of two sets of form rolls, the rolls of one set being marked 5, 6, 7, 8, and the rolls of the other set being marked 9, 10, 11 and 12. Each set of form rolls may have the usual distributing rolls coöperat-

ing therewith, a set of said rolls marked 13 being shown as cooperating with rolls 5 to 8 inclusive, and a set, marked 14, being shown as cooperating with rolls 9 to 12 inclusive. In the particular construction illustrated, these distributing rolls are so arranged as to take their ink from a distributing cylinder, indicated at 15, which is in turn supplied with ink in any suitable manner from a fountain, not shown. It will be understood that in carrying out the invention, any suitable arrangement of form and distributing rolls may be employed.

In machines constructed in accordance with the invention, each set of inking rolls employed will be arranged so that it may be given an endwise movement or a movement which is parallel to the axis of the printing member of the couple, in order to bring the rolls into position where access may be had to them for the purpose of cleaning or to the printing surface on the cylinder, or both. The means employed by which this movement is given to the form rollers may be widely varied. In the particular construction illustrated, each set of rolls is supported by a carriage located at the side of the couple, said carriage, as shown, including a bed plate 16. Inasmuch as in the machine illustrated, the carriages and the parts connected therewith by which the movement of the rolls is effected are duplicates, only one need be described.

The carriage for the inking rolls may be provided with suitable wheels or rollers, so that its movement may be easily effected. These wheels may be variously disposed, but in the particular construction illustrated, the carriage is provided with two pairs of wheels, the wheels of one pair being marked 17 and the wheels of the other pair being marked 18. In addition to the two pairs of wheels referred to, the carriage may also be provided with an end wheel 19. If desired, the carriage wheels, when they are employed, may cooperate with a suitable track. In the particular construction illustrated, the track includes the rail 20 on which the wheels 17 run, and a rail 21 on which the wheels 18 run, these rails being supported on the frame of the machine and on the usual platform 22 which is supported on the frame of the machine. Where, as in the particular machine shown, a wheel like the wheel 19 is employed, the track may also include a rail for this wheel. In the machine shown, the rail for the wheel 19 comprises a section, as 23, which is shown as supported on the platform 22 and a movable section, as 24, this section being illustrated as pivoted at 25 on a bracket 26 supported on an I-beam 27 arranged alongside the machine, this I-beam being in turn supported on a suitable post 28. The arrangement of wheels and tracks as illustrated is a desir-

able one, inasmuch as the weight of the ink rolls and the parts immediately supporting them is well distributed in all positions of the carriage, and by making the rail for the wheel 19 with a movable section, as 24, this section can be swung out of the way when the carriage is in inking position so as to permit free passage around the machine and between it and the I-beam.

The ink rolls may be supported on the carriage in any suitable manner. In the particular construction illustrated, they are carried on a support comprising a pair of side frames 29. In machines embodying the invention, the ink rolls should be so supported as to enable them to be moved in a right line so that they may be out of operative position with respect to the printing cylinder before the carriage is given its endwise movement. This may be accomplished in various ways, but in the construction shown, it is effected by making the support for the ink rolls movable across the carriage. As illustrated, each of the side frames is provided with a cross bar or foot piece 30, these foot-pieces being chambered out to receive rollers 31 which are journaled therein, these rollers running on the bed plate 16.

Suitable means may be provided to move the rollers and their support along the bed plate. As shown, these means comprise a shaft, as 32, having a squared end 33 to which a suitable handle may be applied, this shaft being journaled in the foot-pieces 31. This shaft 32, in the particular construction shown, is provided with pinions 34 which mesh with racks 35 bolted to the ends of the bed plate 16. It will be understood that by turning the shaft, the roll support consisting of the side frames and foot pieces, and the rolls carried thereby can be moved toward and away from the printing cylinder. In order to prevent the rolls from being moved too far away from the cylinder, stops 36 may be provided, which stops, if desired, may be formed on the racks. After the side frames have been moved so as to carry the rolls away from the printing cylinder, the carriage may be slid endwise on the track, thus carrying the rolls clear of the cylinder. To control the carriage in its movement, guiding rolls 37 may be provided, these rolls being supported in brackets 38 secured to the bed plate 16. When the rolls are brought into operative position with respect to the printing cylinder the carriage may be locked in position by means of a bolt 39 which engages a toe 40 on one of the foot pieces 30.

It will be understood that with the construction described, the set of rolls may be moved with respect to the printing cylinder, so as to give ample space for getting at the rolls and at the cylinder, and this with a very slight movement of the rolls in a direc-

tion at right angles to the axis of the cylinder. This decreases the space required in the machine and is particularly advantageous where, as in the case of modern presses, a number of printing couples are arranged one behind the other with the inking devices between them, because the couples and their inking devices can be placed nearer together than in former constructions. Further, when the rolls are arranged in two sets, as in the construction shown, one set may be moved out of the machine for the purpose of cleaning and the machine run on the other set, or, if particularly fine distribution of the ink is desired, both sets of rolls may be simultaneously employed in connection with the printing cylinder. The construction is also particularly advantageous in that it provides means by which the sets of rolls may be moved out of operative relation with the cylinder and run for the purpose of inking up.

Changes and variations may be made in the construction by which this invention is carried into effect. The invention is not, therefore, to be limited to the particular construction herein described and illustrated in the accompanying drawings.

What is claimed is:—

1. The combination with a rotary printing couple having one of its cylinders arranged beneath the other, of a carriage located at the side of the couple, an ink roll support mounted on the carriage and movable across it in a right line toward and away from the couple, inking rolls on the support, and means for enabling the carriage to be moved in a line parallel with the axes of the cylinders.

2. The combination with a rotary printing couple having one of its cylinders arranged beneath the other, of a carriage located at the side of the couple, a support mounted on the carriage, inking rolls on the support, means for moving the support across the carriage toward and away from the couple in a right line, and a track for the carriage parallel with the axes of the cylinders.

3. The combination with a rotary printing couple having one of its cylinders arranged beneath the other, of a carriage located at the side of the couple, a wheeled ink-roll support mounted on the carriage,

means for moving the support on the carriage, and a track for the carriage parallel with the axes of the cylinders.

4. The combination with a rotary printing couple having one of its cylinders arranged beneath the other, of a carriage located at the side of the couple, a support slidably mounted on the carriage, inking rollers on the support, means including suitable gearing for sliding the support on the carriage to cause the inking rollers to be in and out of operative position with respect to the printing cylinder, and a track for the carriage parallel with the axes of the cylinders.

5. In a printing machine, the combination with a printing cylinder, of two carriages movable in a direction substantially parallel to the axis of the cylinder, a set of inking rolls on each carriage, and means whereby either set of rolls may be positioned out of contact with the cylinder.

6. In a printing machine, the combination with a printing cylinder, of a track parallel with the axis of the cylinder, said track including a movable section, a carriage movable on the track, a set of inking rolls supported on the carriage, and means whereby the set of rolls may be positioned out of operative relation with the cylinder before the carriage is moved.

7. In a printing machine, the combination with a printing cylinder, of a track parallel with the axis of the cylinder, a carriage movable on the track, a set of inking rolls, a support for the rolls including suitable side frames arranged to move across the carriage, and suitable means including a pair of racks and pinions for moving the support on the carriage.

8. In a printing machine, the combination with a printing cylinder, of a carriage, a set of inking rolls supported thereon, side and end wheels on the carriage, and a track for the carriage, said track having a rail having a movable section.

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

EDWARD P. SHELDON.

Witnesses:

F. W. H. CRANE,
GEO. M. BROWN.