

949,849.

E. P. SHELDON.
NUMBERING MECHANISM.
APPLICATION FILED JUNE 22, 1907.

Patented Feb. 22, 1910.

3 SHEETS—SHEET 1.

Fig. 1.

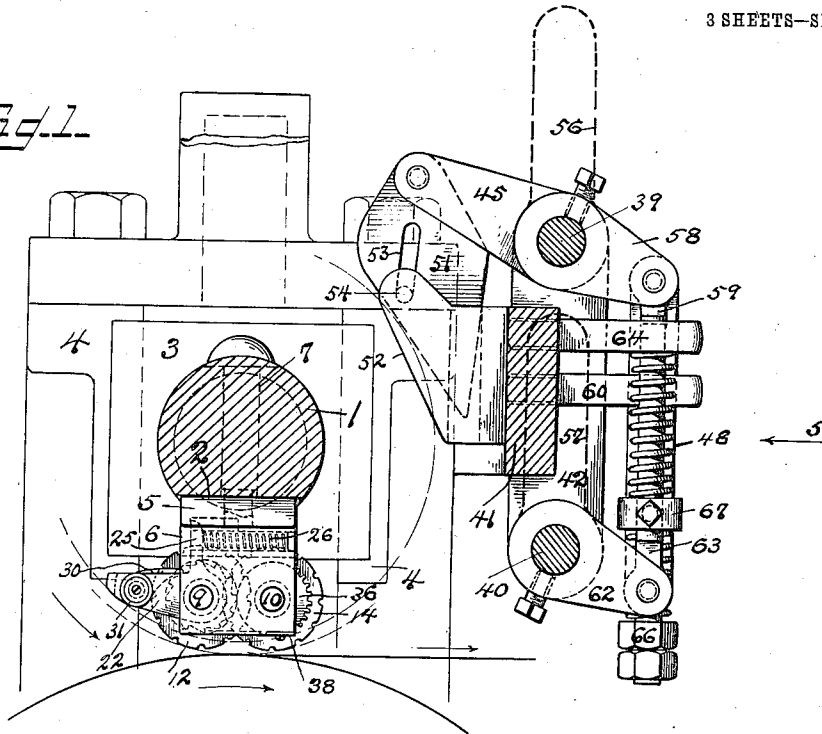


Fig. 2.

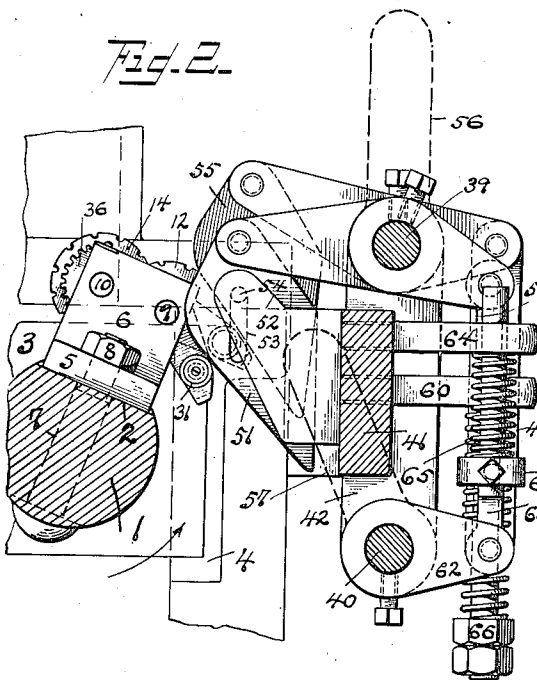
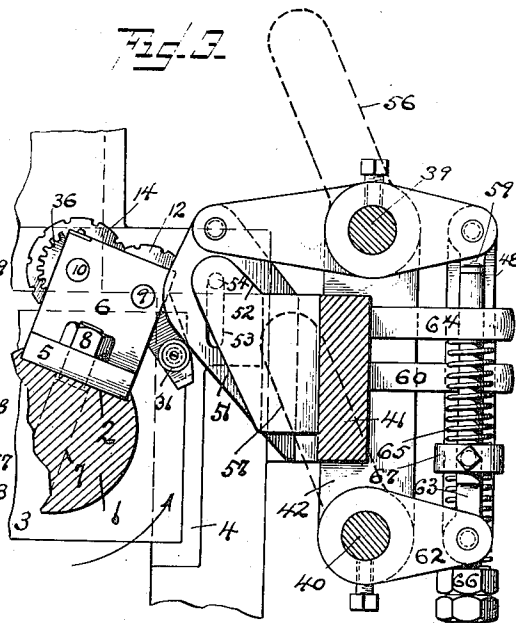


Fig. 3.



Witnesses:
A. White
A. Journey.

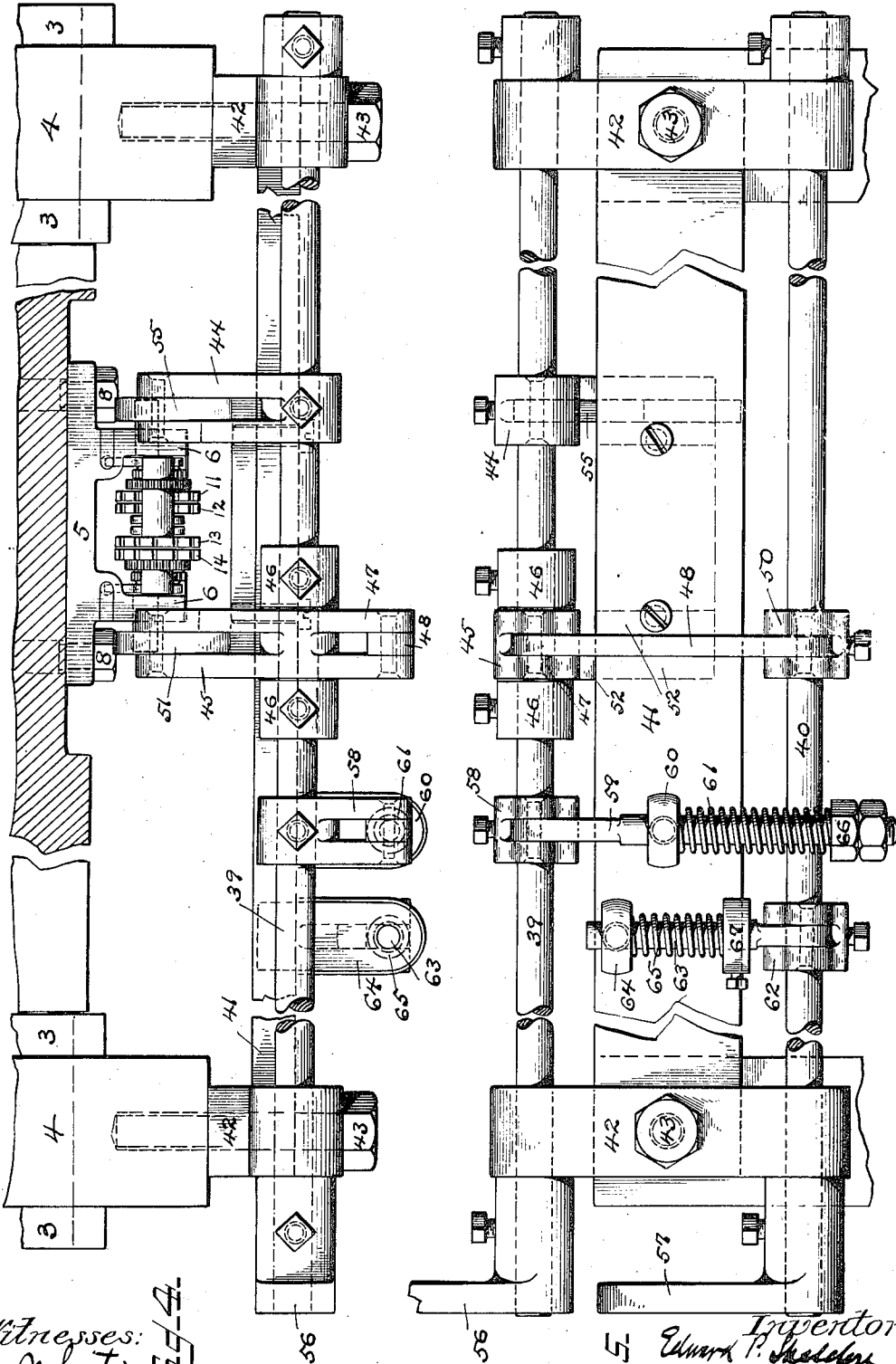
Inventor:
Edward P. Sheldon
By his Attys:
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3 SHEETS—SHEET 2.



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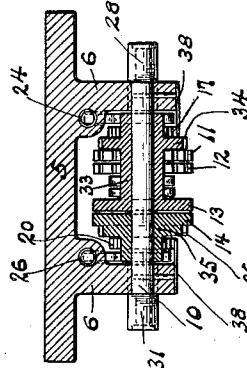
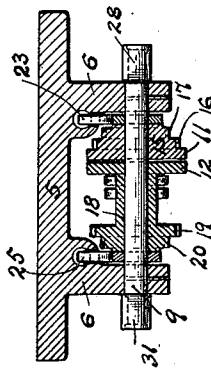
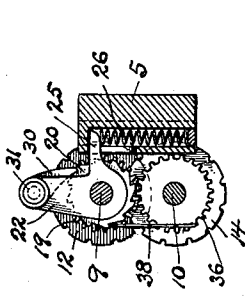
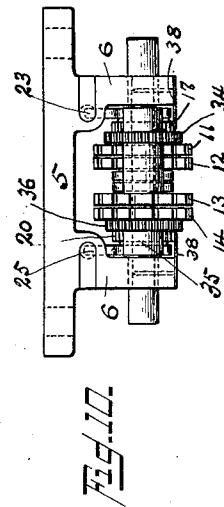
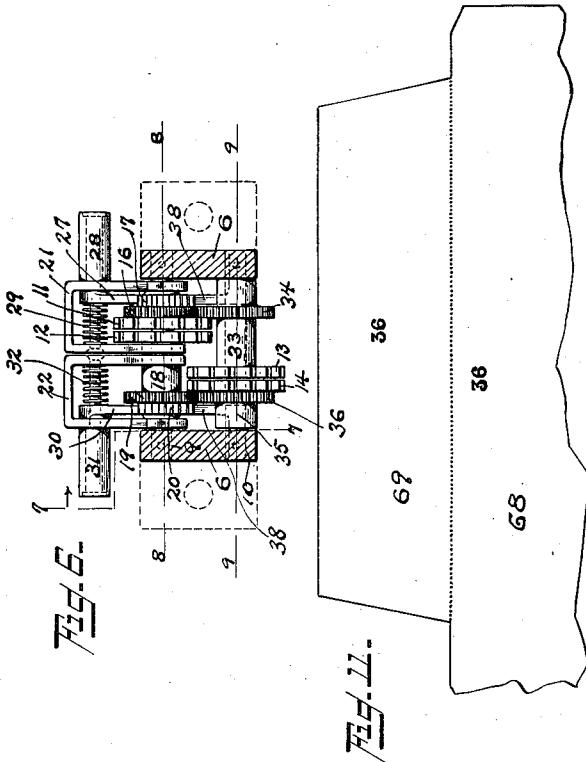
Inventor:
 Edward P. Sheldon
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3 SHEETS—SHEET 3.



Witnesses
A. White
A. Journey.

Inventor
Edward P. Sheldon
By his Attys.
Philip P. Sawyer
Rice & Kennedy

UNITED STATES PATENT OFFICE.

EDWARD P. SHELDON, OF NEW YORK, N. Y., ASSIGNOR TO ROBERT HOE, OF
NEW YORK, N. Y.

NUMBERING MECHANISM.

949,849.

Specification of Letters Patent. Patented Feb. 22, 1910.

Application filed June 22, 1907. Serial No. 380,224.

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 Numbering Mechanisms, 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 numbering mechanism.

In certain classes of printing machines, it is desirable to employ numbering devices and to have these devices so constructed that any desired number of repeat impressions may be produced in succession, it being possible to change the numbers thus printed without stopping the operation of the printing machine. It is also desirable in certain classes of printing machines to employ numbering devices which will produce any desired number of repeat impressions in duplicate, it being possible to simultaneously change the numbers to be printed by said devices without stopping the operation of the printing machine.

This invention has for one of its objects to produce a numbering mechanism which may be employed in connection with the printing or other machine, the numbering device being so constructed that the numbers to be printed thereby may be changed when desired without stopping the operation of the machine in which the numbering device is embodied.

A further object of the invention is to produce a numbering device which will print repeat numbers in duplicate, said device being so constructed that said duplicate numbers may be simultaneously changed without stopping the operation of the machine with which the numbering device is employed.

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 drawings—Figure 1 is a sectional elevation of a construction embodying the invention. Figs. 2 and 3 are views similar to Fig. 1 but showing the

parts in different positions. Fig. 4 is a plan view of the numbering mechanism and its operating devices. Fig. 5 is a side elevation of the construction shown in Fig. 1, the position of the observer being indicated by the arrow 5 in Fig. 1. Fig. 6 is a plan view of the numbering mechanism, certain parts of the operating mechanism being removed. Fig. 7 is a section on the line 7—7 of Fig. 6. Fig. 8 is a section on the line 8—8 of Fig. 6. Fig. 9 is a section on the line 9—9 of Fig. 6. Fig. 10 is a side elevation, the position of the observer being indicated by the arrow 10 in Fig. 6. Fig. 11 is a view of the product produced.

Referring to the drawings which illustrate one embodiment of the invention, the numbering mechanism may be mounted on a carrier the construction of which may be varied. In the particular construction illustrated, the carrier is rotary and comprises a shaft 1, a portion of this shaft being squared off as indicated at 2. This shaft may be mounted in boxes of any usual construction, such as indicated at 3 the boxes being supported, as is common, in bearings 4. The numbering mechanism may be supported on the carrier in any suitable manner. In the particular construction illustrated, there is provided a carrier block which, as shown, comprises a base 5 and two standards 6 rising therefrom. This block is, in the particular construction illustrated, secured to the carrier by means of bolts 7 and nuts 8. The construction of the number printer may be varied within wide limits. In the particular construction illustrated, the standards 6 referred to carry two supports 9, 10, these being the supports on which the numbering printing devices are mounted. While the construction of these number printing devices may be varied they may consist, as is usual, of rotary disks provided with numbers on their peripheries, these disks being arranged in groups. The number of disks employed in each group and the number of groups will, of course, vary according to the requirements under which the numbering mechanism is to be used. In the particular construction illustrated, two groups of disks are employed and there is a units and a tens disk in each group. In the drawings, the units disk of one group is marked 11 and the tens disk 12, the units disk of the

other group being marked 13 and the tens disk 14.

Under the requirements obtaining where number printers of the character to which this invention relates are employed, what may be termed consecutive numbering is not a prerequisite, but it is desirable to change the numbers to be printed at will. Furthermore, the changing means employed should be such that they permit any desired number of repeat impressions and at the same time also permit each member of the number printer group to be changed independently of the other. In the best constructions, therefore, embodying the invention, the changing devices will be normally inoperative and will be such that any disk of the group may be changed without changing the other disk or disks of the group. Furthermore, when as in the particular construction illustrated, a plurality of duplicate impressions is desired, the mechanism, in the best constructions, will be such as to simultaneously effect the same change in corresponding wheels of the different groups.

While the construction by which the results just referred to are effected may be varied, in the drawings the disk 11 is formed on a hub 15, this hub being also provided with a gear 16 and a ratchet 17. The disk 12 is mounted on a sleeve 18, this sleeve also carrying a gear 19 and a ratchet 20. The support 9 is provided with two bails 21 and 22, these bails being loosely hung on the support. To maintain the bails in position to be operated in a manner hereinafter described, the bail 21 is provided with an arm 23 which coöperates with a spring 24 located in a suitable recess in the base 5 of the carrier block, and the bail 22 is provided with a similar arm 25 coöperating with a similarly located spring 26, this construction being best shown in Fig. 7. Each of the bails has a rod running through it, the rod for the bail 21 serving to support a pawl 27 and an operating roll 28, the pawl being held up to its duty by a torsion spring 29 arranged around the rod. The rod for the bail 22 supports a pawl 30 and an operating roll 31, the pawl being held up to its duty by a torsion spring 32. It will be understood that by operating the bail 21 the units disk 11 may be changed as desired and by operating the bail 22, the tens disk 12 may be changed as desired.

In order to produce the same change in the corresponding wheel of the other group, the wheel 13 may be mounted on a sleeve 33 which sleeve may carry a gear 34 which is in mesh with the gear 16 on the hub 15. The disk 14 may be mounted on a hub 35, this hub being provided with a gear 36. This gear may be in mesh with the gear 19 mounted on the sleeve 18 before referred to. With this construction, it will be understood

that when either the disk 11 or the disk 12 is changed, a corresponding change will take place in the corresponding disk 13 or 14. Check springs, as 38, may be provided, to prevent the ratchets from overthrowing under the impulse of the pawls.

Suitable means will be provided for operating the bails 21, 22 at will, these means being such that the bails as well as the operating means will be inoperative at all times except when it is desired to change the number to be printed. While the operating means for the bails may be varied, in the particular construction illustrated, two shafts 39, 40 are provided extending across the machine, and there is also provided a cross bar 41 which extends across the machine. The shafts 39, 40 are supported in brackets 42 and these brackets and the bar 41 may be secured to the bearings 4 by screws 43, or in any other suitable manner. The shaft 39 may support a forked arm 44 which is fast thereon. This shaft may also support an arm 45 which is loose thereon, said arm being, in the particular construction illustrated, located between two collars 46 fast on the shaft. This arm 45 may have a rearward extension 47 between the parts of which is secured a link 48. This link may extend downward and may be secured to an arm 50 fast on the shaft 40. In the particular construction illustrated, the arm 45 carries a pivoted actuator block 51 this block working between guide pieces 52 extending from the cross-bar 41. As shown, the actuator block is provided with a slot 53 which works in conjunction with a guide pin 54 carried by the guide pieces 52. The arm 44, in the particular construction illustrated, carries a similar actuator block 55 which is or may be supported and guided in the same manner as the block 51. The construction is such, in the apparatus shown, that the actuator blocks 51, 55 are normally out of the path of the operating rolls 31, 28 of the bails as they are carried around by the rotation of the carrier 1. They may, however, be interposed in the path of these rolls so as to produce a change in the number printers when desired. To effect this, the shaft 39 is provided with a handle, as 56, and the shaft 40 is provided with a handle, as 57, by which the shafts may be rocked so as to throw either or both the actuator blocks 51, 55 down into the path of the rolls, as desired. As has been indicated, the shafts 39, 40 are normally in such position that the actuator blocks are out of the path of the rolls. This may be effected in various ways. The shaft 39 has secured to it a short arm 58 to which is connected a spring rod 59, this rod passing through a guide 60 secured to the bar 41. A spring 61 surrounds the rod 59 and bears against the underside of the guide 60 and thus holds

the shaft 39 in the position referred to. Similarly, the shaft 40 may be provided with a forked arm 62 which extends upward and to which is connected a spring rod 63, this rod passing upward through a guide 64 carried by the bar 41. The spring 65 which surrounds this rod bears against the guide 64 and holds the shaft 40 in the desired position. The tension of the spring 61 may be adjusted by nuts 66 and the tension of the spring 65 by an adjustable collar 67.

The operation of the construction will be obvious from the description which has been before given. Referring to Fig. 1, the parts are shown in such position that the number printer changing mechanism is out of operation and the carrier will rotate and each group of number printers will continue to print simultaneously repeat impressions. As the construction is illustrated in Fig. 2, the actuator block 51 has been thrown down into the path of the roll 31 so that a change will be produced on the revolution of the carrier in the two tens wheels 12 and 14. As the construction is shown in Fig. 3, both actuator blocks are down, so that a change will be produced in both wheels of each group as the carrier rotates. The particular mechanism illustrated is designed for use in envelop machines for printing duplicate numbers on the body and tag of an envelop, the body of the envelop being indicated at 68 in Fig. 11 and the tag at 69.

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

What is claimed is:—

1. The combination with a rotary carrier, of means for driving the carrier, a numbering head including a units wheel and a tens wheel, normally inoperative devices for each wheel for changing the number to be printed, and means for throwing any of said devices into and out of operative position during the movement of the carrier.

2. The combination with a rotary carrier, of a plurality of number printers for printing a plurality of duplicate numbers, each of said printers including a units wheel and a tens wheel, and means for simultaneously changing the numbers to be printed by the tens wheels or the units wheels during the movement of the carrier.

3. The combination with a rotary carrier, of a numbering head including a pair of supports, of a number printer mounted on each support, each printer including a units wheel and a tens wheel, and means for simultaneously changing the number to be printed by both printers.

4. The combination with a rotary carrier, of a pair of supports, a number printer

mounted on each support, each printer including a units wheel and a tens wheel, normally inoperative devices for changing the number to be printed by the units wheel of one printer, normally inoperative devices for changing the number to be printed by the tens wheel of said printer, means for operating said devices at will, and means for transmitting the movement of said units or tens wheel from one printer to the units or tens wheel of the other printer.

5. The combination with a rotary carrier, of a support, a number printer mounted thereon, said printer including a units wheel and a tens wheel, normally inoperative devices for changing the number to be printed by the units wheel, normally inoperative devices for changing the number to be printed by the tens wheel, an actuator for said devices, and means for moving the actuators into and out of operative position whereby the number to be printed by either wheel may be changed during the movement of the carrier.

6. The combination with a rotary carrier, of a pair of supports mounted thereon, a number printer on each support, each of said printers including a units wheel and a tens wheel, normally inoperative devices for changing the number to be printed by the units wheel of one printer, normally inoperative devices for changing the number to be printed by the tens wheel of said printer, means including suitable gearing for transmitting the movement of either wheel of one printer to the corresponding wheel of the other printer, actuators for said devices, and means for moving the actuators into and out of operative position.

7. The combination with a shaft, of a block mounted thereon, a pair of supports mounted in the block, numbering devices mounted on each support, and normally inoperative means for changing the numbers to be printed by said devices, said means being capacitated to be operated during the movement of the shaft.

8. The combination with a shaft, of a carrier block mounted thereon, a pair of supports mounted in the block, a numbering device on each support, normally inoperative means for changing the numbers to be printed by one device, and means for simultaneously producing a corresponding change in the number to be printed by the other device.

9. The combination with a shaft, of means for driving the same, a carrier block mounted thereon and receiving a rotary movement therefrom, a pair of supports mounted in the block, a numbering device on each support, normally inoperative means for changing the numbers to be printed by one device, and means including suitable gearing between the devices for simultaneously

producing a corresponding change in the number to be printed by the other device.

10. The combination with a shaft, of a carrier block mounted thereon, a pair of supports in the block, a pair of numbering wheels on each support, a pair of change pawls for the wheels of one support, connections including suitable gearing between corresponding wheels of each support, normally inoperative actuators for the pawls,

and means for throwing the actuators into and out of operative position at will.

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

EDWARD P. SHELDON.

Witnesses:

F. W. H. CRANE,
LOUIS ROEHM.