W. D. DOREMUS.

MACHINES FOR COMPRESSING AND STAMPING LEAD-SEALS.

No. 194,226. Patented Aug. 14, 1877.

Fig 1.

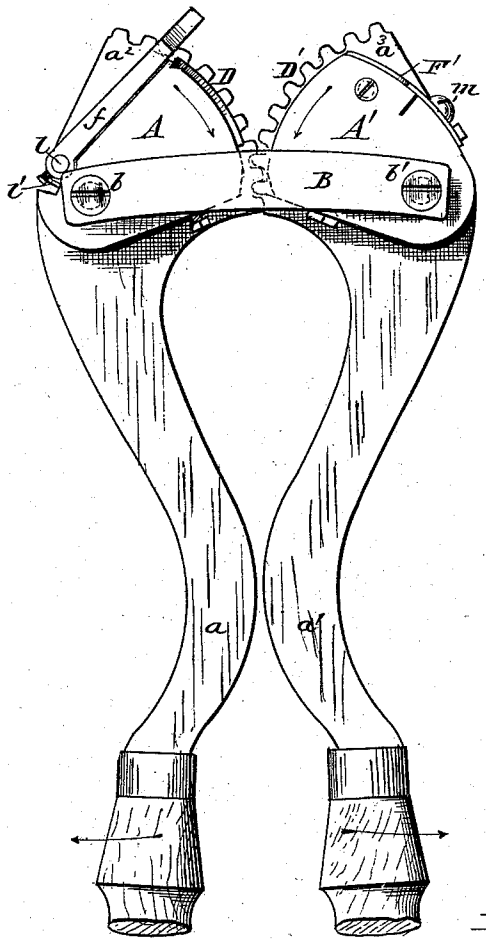


Fig. 2.

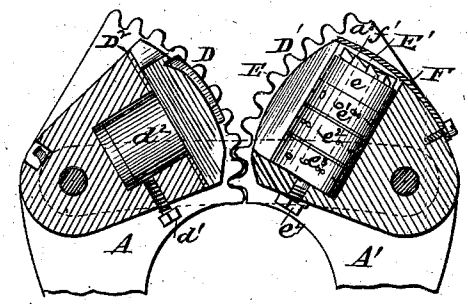


Fig. 3.

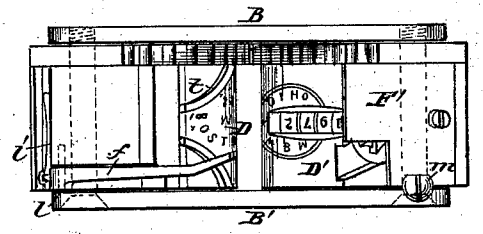


Fig. 4.

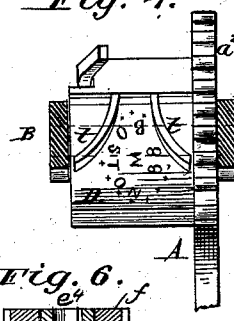


Fig 5

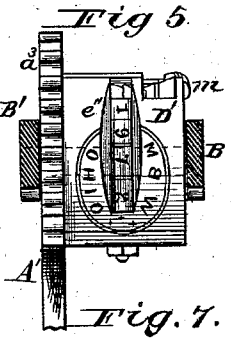


Fig. 6.

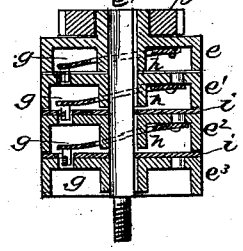


Fig. 7.

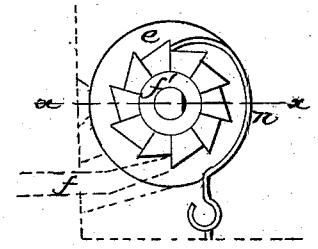
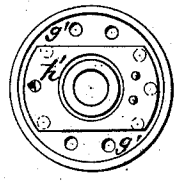


Fig. 8.



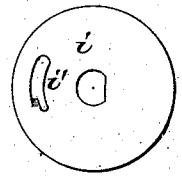


Fig. 9.

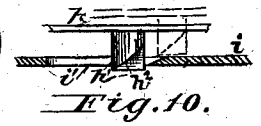


Fig. 10.

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UNITED STATES PATENT OFFICE.

WILLARD D. DOREMUS, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR OF TWO-THIRDS OF HIS RIGHT TO JOHN W. MANCOURT, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MACHINES FOR COMPRESSING AND STAMPING LEAD SEALS.

Specification forming part of Letters Patent No. **194,226**, dated August 14, 1877; application filed June 30, 1877.

To all whom it may concern:

Be it known that I, WILLARD D. DOREMUS, of the city and county of Washington, and District of Columbia, have invented certain new and useful Improvements in Presses or Stamps for Compressing and Stamping Metal Disks or Lead Seals used on Railroad, Baggage, and Freight Cars, of which the following, taken in connection with the accompanying drawing, is a specification.

Heretofore the presses or stamps employed for this purpose have been so constructed that the die or impression plate was caused to act by direct pressure upon the seal, thereby requiring great power and labor to properly compress the metal disk or seal upon its carrying wire or wires, and to impress upon said disk or seal the proper symbols or characters.

The object of this invention is to overcome this difficulty, and to produce a press or stamp which shall not only be simple in its operation and cheap in its construction, but which will, in addition to its improved capability of compressing the metal disk or seal, also affix to the same a series of numbers or letters which shall differ on each and every seal, the mechanism for producing the latter being operated automatically by the operation of the press or stamp; and it consists, first, in the construction of the serial or numbering wheels and the mechanism employed for automatically operating the same relatively to each other, whereby a series of numbers are brought in proper position to be impressed upon the disks or seals, and which shall differ with each and every disk or seal operated upon; second, in certain combinations and arrangements of parts, which will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawing, Figure 1 represents a side view of my invention; Fig. 2, a partial longitudinal section of the jaws or carriers, showing the arrangement of the stirrups and the serial wheels together, with the means employed for causing the said jaws or dies to work in unison; and Figs. 4, 5, 6, 7, 8, 9, and 10 are detailed views of various parts of my improved press or stamp.

Like letters represent similar parts in all of the drawings.

A A′ are two jaws or carriers, which are secured together by means of two straps or stirrups, B B′, pivoted to each side thereof by screw-bolts b b' in such a manner as to permit the said jaws or carriers turning loosely thereon. These jaws or carriers are provided with handles or levers a a^1, of any suitable form or construction, and have the toothed sectors a^2 a^3 secured thereto for causing said jaws to work in unison.

D D^1 are the dies for compressing the metal disks or seals upon their carrying-wires, and also for impressing upon the same any desired letters or characters, and for this purpose they are constructed with their operating surface having the form of a segment of a circle, the circumference of which will be concentric with the axes of the screw-bolts b b', respectively, so that by extending the handles or levers the said surfaces will be caused to roll together, thereby exerting the desired pressure for compressing and impressing the metal disks or seals. These dies may be made integral with their carrier or jaw, or may be detachable therefrom, as may be desired. In practice, however, I have found it desirable to make one integral and the other detachable, as will be seen in Fig. 2 of the drawing, wherein it will be observed that the die D^1 forms a part of the carrier or jaw A′, while the die D is made detachable, it being provided with a suitable shank, d^2, which enters a correspondingly-shaped socket formed in the jaw or carrier A, a screw, d^1, being employed for holding it in place.

D^2 is a washer, by means of which the die D may be made adjustable with respect to the die D^1.

Longitudinally of the die D^1 is formed a slot, E, which communicates with a recess, E′, in which are arranged the serial or numbering wheels e^1 e^2 e^3, they being supported therein upon a stud or bearing, e^4, so as to be free to revolve thereon. A plate, F, being secured to the jaw or carrier D^1, confines the said wheels in place. The serial or numbering wheels are so formed as to accurately fit

the recess E′, which is cylindrical in form, in order that as much strain as possible may be relieved from the carrying-stud or bearing e^4. These wheels are operated automatically each time the handles or levers a a^1 are extended, the pawl f coming in contact with the ratchet f', formed upon the end of the carrying-wheel e, carries it forward one tooth, and this in turn carries forward, at the proper time, by suitable mechanism, the wheel e^1, and so on to the wheel e^3. I have shown in the drawing four of these wheels, which are adapted to impress a series of numbers upon the metal disks or seals operated upon, but it is obvious that a greater or less number may be employed, or that letters or any desired character may be employed in lieu of the figures. When adapted to impress a series of numbers, the wheel e will be so arranged as to make ten complete revolutions to one of wheel e^1, and this wheel ten revolutions to one of the next succeeding wheel, and so on in the same relative proportion to the last wheel in the series.

The means for accomplishing this result is as follows: e e^1 e^2 e^3 are the serial or numbering wheels, having formed on their peripheries proper numbers from zero to nine. These wheels are formed with recesses on one of their sides, as shown in Figs. 6 and 8 in the drawing, and are provided with a series of holes, g', corresponding with the number of figures formed on their peripheries. In the recesses g, and to the wheels e e^1 e^2 e^3, are secured spring-plates h, one end of which is bent upward flush with the face of said wheels, and carries a stud or pin, h^1, having its end beveled off, as shown in Fig. 10 of the drawings.

Between said wheels are arranged plates or partitions i, they being secured to the carrying stud or bearing e^4 by being keyed thereto, or by having one side of the said stud or bearing removed, and making the hole through the said plate or partition conform thereto. These plates or partitions have slots i' formed therein, through which the pins h^1 are thrust by the action of the spring-plates h when said pins are brought in proper relative position thereto by the action of the carrying-wheels. These slots are constructed in the said plates or partitions in the path of the pins h^1 concentric to the axis of the stud or bearing e^4, and of a length a little longer than the distance between the holes in the serial or numbering wheels, so that as each wheel revolves and brings its pin h^1 opposite the slot i' in its respective plate or partition i, said pin is forced by the action of its carrying-spring h through the slot i' and into one of the holes of the next adjacent wheel, thus locking the two wheels together. As the press is continued in operation the said wheels continue their rotation together until the beveled edge h^2 of the pin h^1 impinges against the beveled end of the slot i', withdrawing it from the hole in which it was thrust. The wheel thus released from the action of the pin h^1 remains at a state of rest until the wheel to which the pin was attached has made a complete revolution, when it is again engaged and carried forward as before. As the length of the slot i' is slightly longer than the distance between the holes in the serial or numbering wheels, and as such holes correspond with the numbers on the peripheries of said wheels, it will be seen that the amount of movement of the pins h^1, while in engagement with the holes in the next adjacent wheel, will carry the said wheel the distance of one of its numbers, the pins in question being held by the plates or partitions i from engagement with the next adjacent wheel during the remaining portion of the rotation of the wheel to which the said pin was attached.

As before remarked, upon extending the handles or levers a a^1 the pawl f engages with the ratchet f' to carry it forward. For this purpose the pawl is pivoted to the jaw or carrier A, and is caused to swing with said jaw on its pivot b. After having been brought into engagement with the said ratchet the continued extension of the arms forces the pawl forward, and thereby turns the ratchet. In order that no injury will result to the pawl f after its engagement with the ratchet f' by the continued action of the said arms or levers, as would be the case if no provision was made to obviate the same, I attach the said pawl to a pivot, l, that is free to revolve in the jaw or carrier A′, and holds said pawl to the lowest limit of its downward movement by a spring, l'.

In order that the ratchet f' may not return after having been moved forward by the pawl f, I provide the spring n, which is secured in the jaw or carrier A′, and engages with the said ratchet, as is shown in Fig. 7 of the drawing.

The operation of my press is as follows: The metal disk or seal being placed in proper position on its carrying wire or wires, the handles or levers of the press are closed. In this position the metal disk or seal is dropped between the dies D D^1, which are engraved with any suitable design, until said disk or seal drops below the dies. The handles or levers a a^1 are then extended until the screw-stop m on the jaw A′ comes in contact with the strap or stirrup B, and the pawl f has by this movement carried forward the serial or numbering wheel or wheels. The press is then lowered until the disk or seal strikes the stops t, when the handles or levers a a^1 are drawn together, rolling the metal disk or seal between the said dies D D^1, which firmly compress the soft metal composing the disk or seal upon its carrying wire or wires, and forcing it through the slot E onto the serial or numbering wheels, the latter, in connection with the dies D D^1, impressing at the same time a series of numbers and such other character or characters as may be desired upon said disks or seals.

It is obvious that the letters or characters may be omitted from the dies, and their faces

left smooth, without departing from my invention.

By making the die D detachable, and providing it with a shank for entering a socket formed in the jaw or carrier A, I provide a means for adjusting the press to metal disks or seals of different thicknesses, as it is obvious that by placing washers upon the shank of the die D the surface of the latter can be adjusted to any desired distance from the opposing die D^1.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is the following:

1. The combination, with the jaws or carriers A A′, provided with dies or faces having their operating surfaces constructed in the form described, and mechanism for holding the same in proper relative position to each other, of serial or numbering wheels arranged in one of said jaws, substantially as specified.

2. The combination, with the jaws or carriers A A′, provided with dies or stamps constructed as described, and the straps or stirrups B B′, of the serial or numbering wheels, arranged within the jaw A′, and mechanism, substantially as specified, for revolving said wheels, whereby in the operation of the press the disks or seals are compressed upon their carrying-wires, and a series of numbers impressed upon their faces which shall differ on each and every seal, as set forth.

3. The combination, with the jaws or carriers A A′, connected together as described, and the serial or numbering wheels e e^1 e^2 e^3, the former being provided with a ratchet, f', of the pawl f, pivoted to the jaw or carrier A′, as and for the purposes set forth.

4. The combination, with the serial or numbering wheels e e^1 e^2 e^3, constructed with the recess g formed in their sides, and being provided with a series of holes, as shown, of the partition i, provided with the grooves i', and the spring-plates h, carrying the pins h^1, as and for the purposes set forth.

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Witnesses:

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WM. H. HARDING, Jr.