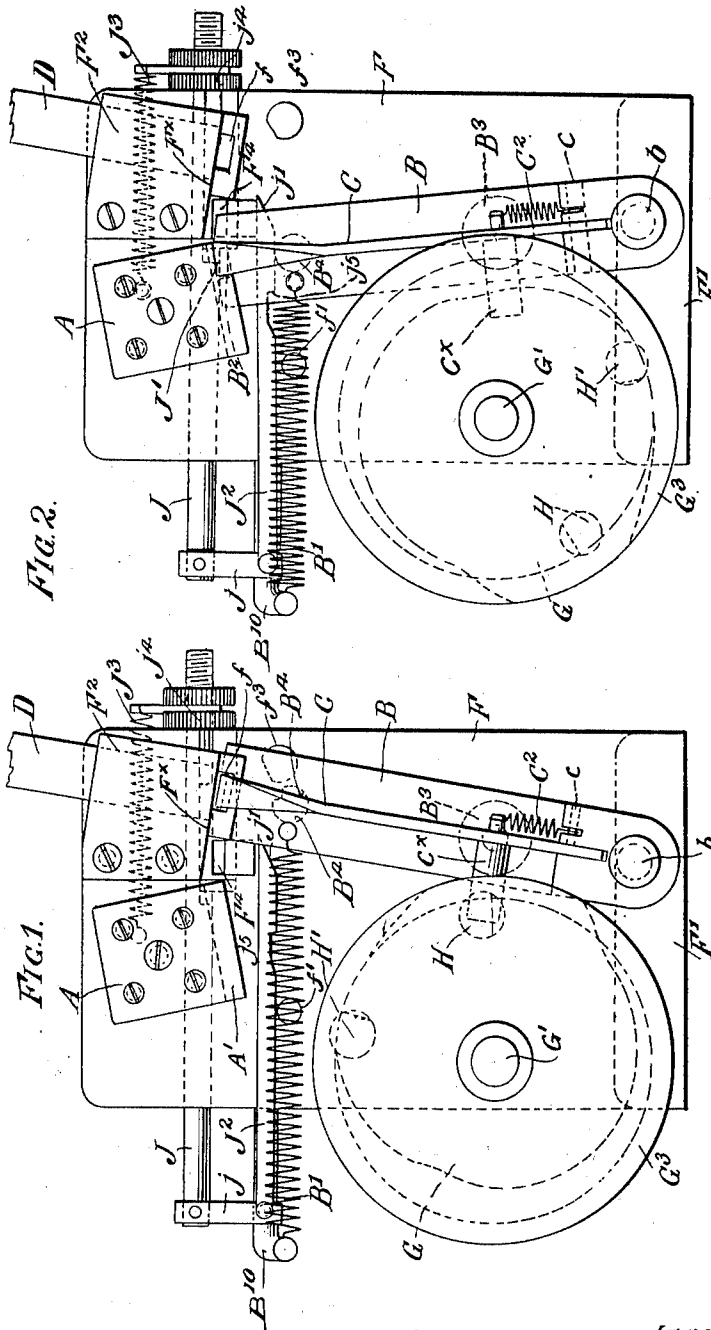


F. H. PIERPONT.
MATRIX GAGING AND SORTING MECHANISM.
APPLICATION FILED NOV. 9, 1909.

1,061,558.

Patented May 13, 1913.

5 SHEETS—SHEET 1.



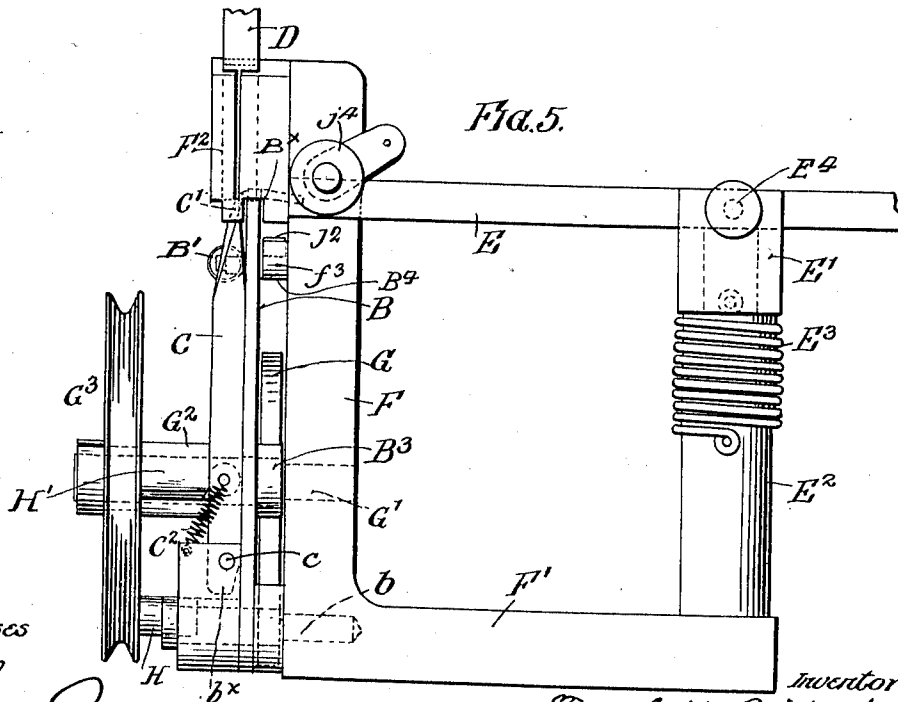
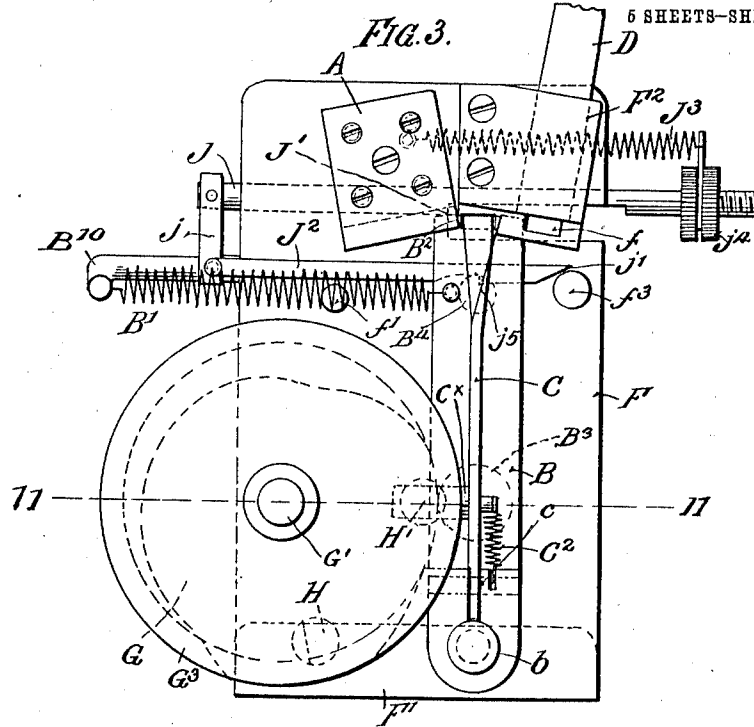
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Hubert P. Brown
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5 SHEETS—SHEET 2.



Witnesses

John M. ...
Halbert P. Brown.

Inventor

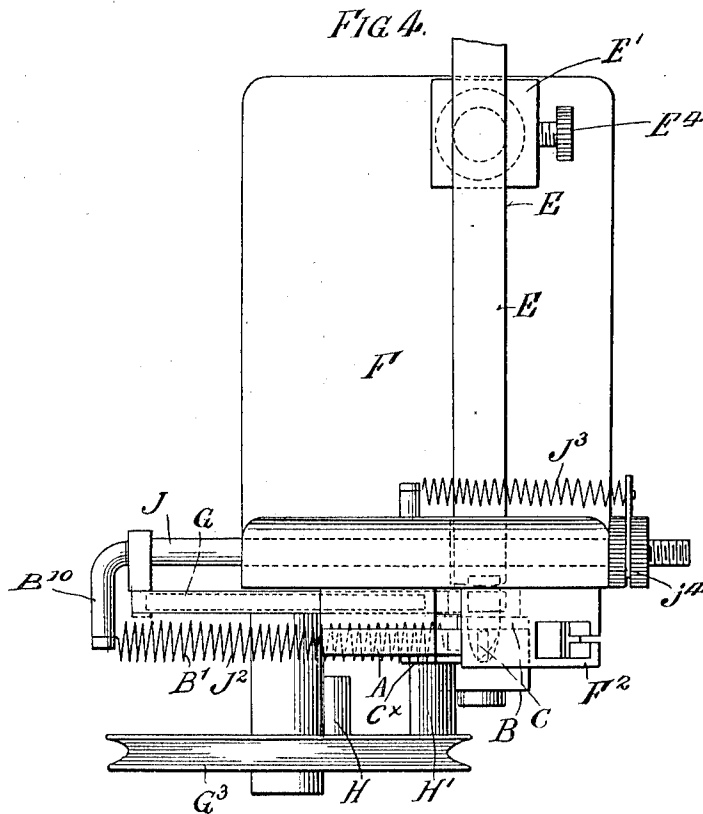
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5 SHEETS—SHEET 3.



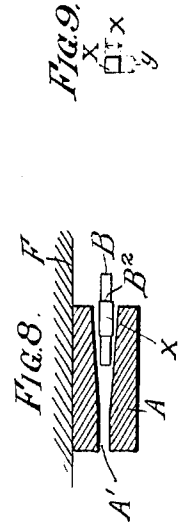
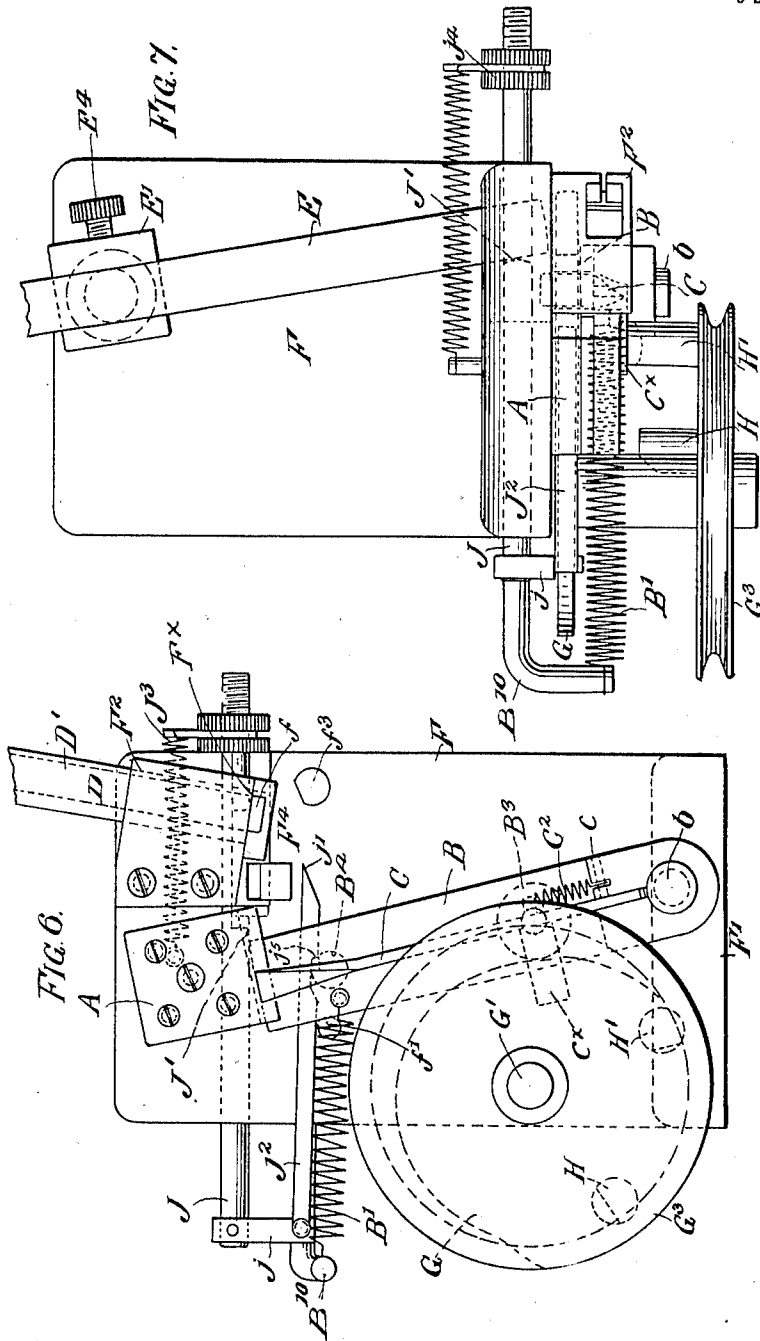
Witnesses *Mr. [Signature]* *Frank H. Pierpont*
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5 SHEETS-SHEET 4.



Witnesses *[Signature]* Inventor
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5 SHEETS-SHEET 5.

FIG. 10.

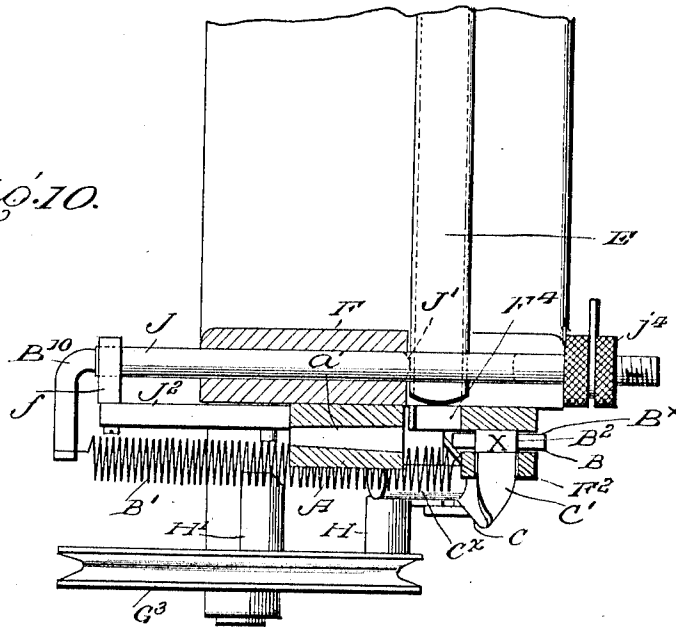
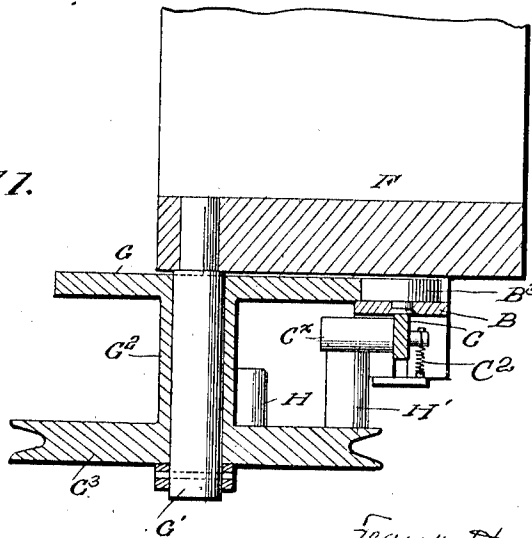


FIG. 11.



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UNITED STATES PATENT OFFICE.

FRANK HINMAN PIERPONT, OF HORLEY, COUNTY OF SURREY, ENGLAND, ASSIGNOR
TO LANSTON MONOTYPE MACHINE COMPANY, OF PHILADELPHIA, PENNSYLVANIA,
A CORPORATION OF VIRGINIA.

MATRIX GAGING AND SORTING MECHANISM.

1,061,558.

Specification of Letters Patent.

Patented May 13, 1913.

Application filed November 9, 1909. Serial No. 527,053.

To all whom it may concern:

Be it known that I, FRANK HINMAN PIERPONT, a citizen of the United States, temporarily residing at Horley, in the county of Surrey, England, have invened a certain new and useful Improvement in Matrix Gaging and Sorting Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to the gaging or measuring and separating or sorting of typographical matrices and similar blocks or bodies, and is particularly intended for use in connection with matrices such as are employed in the die-case of the type-casting machine of Patent No. 625,998, dated May 30, 1899. These matrices are of parallelepiped form and are assembled in rows in two directions in a frame or holder each matrix being capable of a very slight amount of movement relatively to its neighbors. A very high degree of accuracy in size of these matrices is absolutely necessary to allow them to be accurately centered over the mold cavity; and the same degree of accuracy is also necessary during manufacture, as a slight departure from standard dimension may result in an erroneous placing of the character on the matrix body or in otherwise rendering the matrix useless or faulty. Owing to the number of operations to be performed in the manufacture of these matrices, involving highly skilled labor and careful manipulation, it is required that any slight inaccuracy, say beyond two-tenths of a thousandth, be detected at an early stage in the manufacture so as to avoid the expenditure of needless labor on a faulty matrix body. Further, it is necessary that a machine while gaging or measuring these matrices accurately should work automatically and rapidly, and it is the chief object of the present invention to provide a simple machine or apparatus to automatically and accurately gage or measure such matrices as to size, and to automatically sort or separate undersized matrices from those of full or normal size. So far as the gaging operations of the pres-

ent machine are concerned, they may be performed with relation to completed matrices or to the blanks therefor at an intermediate stage in the manufacture; but for convenience of description the things operated upon, whether complete or in blank, and irrespective of the form or use, will be designated matrices, they being the articles for which the machine is primarily designed to deal with.

According to the present invention the matrices or other bodies to be gaged are presented singly to a gage which latter, in gaging an undersized body, renders operative mechanism which prevents, or effects the prevention of, such undersized body from being delivered or placed with bodies of full or normal size. The mechanism which prevents the undersized body from being placed with full sized or normal bodies after gaging automatically becomes operative on the presentation of an undersized matrix to the gage, but is not effected by the gaging of a normal or full-sized matrix. The matrices, conveniently stored in a feeding or delivery galley or holder, enter or are fed into a carrier or conveyer adapted to receive and transfer a single matrix and a variation in the travel or movement of this carrier within or into the gage, brought about by the presentation to the gage of an undersized matrix, renders the mechanism operative to prevent the said matrix being delivered in the normal way or being discharged among the normal or full-sized matrices. Acting in conjunction with the conveyer or carrier there is provided a pusher, which, when the carrier is in the matrix-receiving position, is operated to feed a matrix into an opening or chamber in the carrier and after being gaged the matrix is ejected from the carrier by the pusher which is again actuated for this purpose. The separation is conveniently effected by the temporary displacement of the matrix-receiving galley or holder from its position in line with the discharge outlet of the apparatus, and advantage is taken of the movement of the carrier to move the galley; for this purpose the mechanism aforesaid which is automatically operated on the presentation to the gage of an undersized matrix is automatically connected under such conditions to the

carrier and is adapted to act upon the normal or full-sized matrix-receiving galley, so that on the movement of the carrier from the gaging toward the ejecting position the galley is temporarily displaced.

The apparatus is devised to gage or measure the matrices in one direction at a time and by arranging the galleys in the manner hereinafter described, and interchanging them, the matrices can be gaged with reference to their four sides by being passed through the apparatus twice.

In the accompanying drawings illustrating a preferred form of embodiment of the invention: Figure 1 is a front elevation of the apparatus showing the carrier in position to receive a matrix. Fig. 2 is a similar view with the carrier in the matrix-gaging position when a normal or full-sized matrix is in the carrier. Fig. 3 is also a similar view to Fig. 1 with the carrier in the matrix-delivery or ejecting position and an undersized matrix in the carrier. Fig. 4 is a plan view of the apparatus with the carrier in the matrix-ejecting or delivery position and a normal matrix in the carrier. Fig. 5 is a side elevation of Fig. 4. Fig. 6 is a front elevation similar to Fig. 1 but with the carrier in the position it moves to when an undersized matrix is presented to the gage. Fig. 7 is a plan view of Fig. 6. Fig. 8 is a section through the gage, and Fig. 9 is an end view of a matrix which the present embodiment of the invention is designed to gage or measure. Fig. 10 is a horizontal section in the plane of movement of the pusher; Fig. 11 is a horizontal section on the line 11-11 Fig. 3.

A is the gage; B the carrier; C the pusher; D the feeding galley; and E the receiving galley.

The gage A which is mounted on the front upright or standard F of the machine frame F' has a tapered opening or gaging slot A' (see Fig. 8) with the walls of which the matrix X in the carrier comes in contact, and the gage is slotted at its underside for the passage or entrance of the carrier B with the matrix.

The carrier B as herein shown includes a supporting bar or arm is pivoted to the frame F' at b and is provided with a blank holder in its outer end in the form of a transverse slot B², Figs. 3 and 10, and said carrier is moved positively from the gaging to the matrix-ejecting position and then to the matrix-receiving position by a rotating cam G against the action of a spring B' connected to the carrier and to a bracket B¹⁰ fast on the machine frame. The cam G is mounted loosely upon a shaft G' carried on the machine frame and is secured to a sleeve G² connected with a driving pulley G³. The cam is adapted to bear upon or engage a boss B⁸ Figs. 5 and 11 on the carrier

B. The spring B' which has been tensioned by the movement of the carrier by the cam advances the carrier until the matrix X which is disposed in an opening B² in the upper end of the carrier contacts by its, for the time being, two vertical sides, with the walls of the gaging opening A', see Fig. 10, when the movement of the carrier under the action of the spring B' will cease. The distance to which the matrix enters the gage, hence the position at which the carrier is arrested, depends upon the width of the matrix at its point of contact with the opposed converging surfaces of the gage.

The feeding galley D which has an opening or channel D' adapted to take up to full-sized matrices is disposed at a slight angle to the vertical in the socket F² to bring the delivery end of the galley in line with and to one side of the opening B² in the carrier when the latter is in the receiving position as shown at Fig. 1. The matrices are fed or pushed down by gravity or under the influence of a weight disposed in the galley. The lower end of the galley rests upon a shoulder F^x in the base of socket F², its channel registering with a transverse opening f in the base of socket F² (see Figs. 2 and 3) for the passage of the inturned upper end or blade C' of the pusher C, said transverse opening f intersecting one wall of the channel B^x traversed by carrier B. In its receiving position, the opening B² in the carrier B is in a line with the opening f and in this position the pusher C is operated by a cam (as hereinafter explained) to feed the lowermost matrix sidewise through opening f and deliver the same into the opening B² in the carrier, the matrix being arrested by contact with the opposite wall of channel B^x.

The pusher C is pivoted at c to the carrier B so that it moves backward and forward with the carrier, but is reciprocated independently of the movement of the carrier by cams H H' carried on the pulley G³. As illustrated cams H H' are formed by pins attached to the side of pulley G³ with their ends beveled and in position to successively engage a pin C^x Figs. 1 and 11 projecting from the side of pusher C. The pusher C is retained in its retracted position by a spring C² Fig. 5 connected to the pusher and to the carrier B, the outward movement of said pusher being limited by the engagement of shoulder b^x with the side of the carrier, Fig. 5. The carrier moves in the rear of the feeding galley as shown in Fig. 1, and the cam H which actuates the pusher C to deliver a matrix from the galley D to the carrier B is timed to engage the pusher when the cam G has moved the carrier and the pusher into the receiving position, as shown in Fig. 1. After a matrix has been fed into the carrier by the

pusher C, and the latter has been retracted to the extreme degree permitted by shoulder B^x, the cam G, in rotating, permits the carrier to move to the left under the influence of the spring B' until the carrier moving into the gage is stopped by the matrix X coming in contact with the walls of the gaging opening A' and preventing the carrier moving any farther. During this movement of the carrier the latter enters between the converging walls of gage A while the pusher passes outside of said gage, as clearly shown in Figs. 2 and 6. A normal or full-sized matrix by engaging the walls of the gaging slot will stop the travel of the carrier B in or approximately in the position shown in Fig. 2. The carrier is held in this position until in its continued rotation the cam G again engages it and moves it back against the influence of spring B' into the ejecting or delivery position as shown in Figs. 3 and 4. In this position the cam H' engages the pusher C to eject the gaged matrix. The cam G is so shaped that the carrier remains in the delivery position for a short period while the pusher C ejects the matrix and the latter, on being ejected from the carrier, is propelled by the pusher through an opening F⁴ in the upright F, and if the matrix be a normal one, into the receiving galley. The cam H' projects farther than the cam H so that the pusher travels farther under the influence of the former cam. The faces of cams H H' are inclined to the plane of movement of their support G³ and in passing pin C^x each momentarily displaces said pin and its attached pusher toward the carrier B against the resistance of spring C², and immediately either cam passes off said pin C^x spring C² retracts the pusher until shoulder b^x re-engages when blade C' will be held clear of socket piece F² and gage A in position to pass outside of said parts as the carrier reciprocates. The receiving galley E similar in construction to the delivery galley is arranged horizontally and approximately at right angles to the feeding galley D with its inlet end normally in line with the discharge opening F⁴ of the apparatus. The galley E is detachably secured to a support E' carried on an upright E² Fig. 5. After the ejection of the matrix and the return of the pusher C the cam G moves the carrier back into its receiving position.

Should an undersized matrix X be delivered to the carrier B, it will not contact with the walls of the gaging opening A' so early in the travel of the carrier as did the full-sized matrix. The carrier will, therefore, move under the influence of its spring B' into or about the position shown in Fig. 6 and be coupled through a pick-up device J² B⁴ with the receiving galley E in a manner to cause the displacement of said galley

during the return of the carrier to its discharging station.

Supported to slide in the upright F is a rod J, a shoulder J' on which normally bears against one side of the receiving galley E and to the rear end of the rod J is connected by a link j a latch or notched rod J² which is pivoted to the link and normally rests upon a stud j' Figs. 2 and 6 in the upright F. When, by the presentation to the gage A, an under-sized matrix allows the carrier to move into the position shown in Fig. 6, a stud B⁴ on the rear of the carrier is moved into a position to engage a shoulder j⁵ on the latch J² when the carrier again moves under the influence of the cam G. When the cam G now moves the carrier to the delivery position (see Fig. 3) the latch J² and rod J move with it and through the rod J turns the receiving galley E on its pivot away from the opening F⁴ so that the inlet end of this galley is no longer in a line with the delivery opening from the carrier. The galley is secured to the support E' pivotally mounted on a post E², and when the galley has been turned away the pusher C, when operated by cam H', instead of feeding the gaged matrix into the galley E will simply cause it to be ejected and to fall down into a receptacle for undersized matrices. After the ejection of the matrix, the carrier is moved again to the receiving position (see Fig. 1, and a beveled end j' on the end of the latch J² encounters a pin f³ Fig. 3 on the upright F of the machine which causes the latch to rise and to be disengaged from the stud B⁴ on the carrier after which the rod and latch are returned by a spring J³, Fig. 4 and the galley E is moved backward to its normal position by a spring E³ Fig. 5 which surrounds the post or upright E² upon which the galley is pivoted, one end of the spring being secured to the upright and the other to the support E' to which the galley is secured by screw stud E⁴. One end of the spring J³ is secured to the machine frame and the other between two adjustable nuts j⁴ screwed on the extended end of the rod J so that the tension of the spring can be adjusted. The matrices delivered into the galley E have thus been gaged in one direction, say the distance between the sides denoted by the line x (Fig. 9), and by placing this galley E in the socket F² previously occupied by the galley D the matrices will be given a quarter turn so that when again passed through the machine in the manner already described the sides denoted by line y, Fig. 9 will be submitted to the gaging test.

Motion is imparted to the machine preferably by belt-gearing, the belt passing around the pulley G³.

As above stated, it is not intended to limit the invention for use in gaging matrices such

as referred to as although essentially applicable to these, the machine, without departing from the spirit of the invention, can be equally well applied for gaging and separating other bodies.

The operation of the apparatus is as follows: A galley D previously charged with matrices is inserted in socket F² and power is applied to pulley G³. Through the action of cam G carrier B and associated pusher C are retracted until the pusher and blank holder or channel B² register with opening "f" as indicated in Figs. 1 and 10. At this time shoulder b^x is held in engagement with the side of the carrier by spring C² with the inner end of its blade C' outside socket F² and in register with opening f. The parts are retained in this position by cam G while cam H passes pin C^x thereby advancing the pusher to move the lowermost matrix into holder B² as in Fig. 10. As soon as cam H passes off pin C^x pusher C is withdrawn by its spring, and carrier B advances under the action of spring B' until arrested by the engagement of the contained matrix with the opposite inclined faces of the gage. The carrier enters the slot A' of the gage while the pusher C passes outside the latter as seen in Figs. 2 and 6. If the matrix is of normal dimensions the carrier will be arrested before the pick-up engages, that is to say, before shoulder B⁴ passes shoulder j⁵ of latch j², as seen in Fig. 2, so that upon the return movement of the carrier the receiving galley E, will not be displaced.

Cam G is so shaped that the carrier and pusher will be arrested for an instant opposite galley E, and while so held cam H' passes pin C^x thereby advancing pusher C and forcing the matrix from the carrier into the galley. If, however, the contained matrix is undersized, it will permit carrier B to advance sufficiently to bring the pick-up into action by causing shoulder B⁴ to pass beyond shoulder j⁵, as indicated in Fig. 6, whereupon, during the return movement of carrier B to its position opposite the entrance to galley E, the latter will be shifted to one side, as in Fig. 7 and when the pusher advances, as before, under the influence of cam H', the imperfect matrix will be discharged clear of the galley. After the pusher has completed its excursion, by the passing of cam H' it is retracted and the rearward or outward movement of the carrier is resumed and the cycle is completed when the holder and pusher are again brought into register with the delivery channel of the supply galley D. When the supply of blanks in galley D has thus been acted upon, such as have passed the test will have been deposited in galley E with their gaged faces transverse to the column so that by transferring said galley to holder or socket F² and running the blanks again

through the machine the dimensioning operation can be performed with relation to the remaining transverse dimension.

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

1. In a gaging apparatus, the combination of the following elements, to-wit; a gaging member provided with opposed converging gaging surfaces; a blank holder movable longitudinally of and between said gaging surfaces; and actuating devices for said holder including a retracting cam and opposed advancing spring.

2. In a gaging apparatus, the combination of the following elements, to-wit; a gaging member provided with opposed longitudinally converging gaging surfaces; a reciprocatory carrier slotted transversely to form a blank holder, and means for traversing the latter longitudinally of and between the gaging surfaces of the gaging member.

3. In a gaging apparatus, the combination of the following elements, to-wit; a gaging member provided with opposed converging gaging surfaces; a transversely slotted carrier supported to traverse between and longitudinally of said gaging surfaces; actuating devices for said carrier; and blank feeding devices located contiguous to the path of the carrier in rear of the gaging member.

4. In a gaging apparatus, the combination of the following elements, to-wit; a gaging member provided with opposed converging gaging surfaces; a reciprocatory carrier provided with a blank holder, the latter traversing said gaging member; and actuating devices for said carrier including an advancing spring and retracting means opposing said spring.

5. In a gaging apparatus, the combination of the following elements, to-wit; a gaging member provided with opposed converging gaging surfaces; a blank holder movable between said gaging surfaces; actuating devices for said blank holder including an advancing spring and retracting means opposing said spring; and blank feeding devices including a galley or holder and a pusher the latter delivering to the blank holder at a point in advance of the entrance to the gaging member.

6. In a gaging apparatus, such as described, the combination of the following elements, to-wit; a gaging member provided with opposed converging gaging surfaces; a reciprocatory carrier provided with a pusher and a blank holder, the latter traversing between said gaging surfaces; a feeding or supply receptacle; and actuating devices for said carrier and pusher including an advancing spring and an opposed retracting cam acting upon the carrier, and means for reciprocating the pusher when the blank

holder registers with the delivery channel of the blank supply receptacle.

7. In a gaging apparatus, such as described, the combination of the following elements, to-wit; a gaging member; a reciprocatory carrier provided with a matrix or blank holder; a movable receiving galley normally registering with the blank holder, when the carrier is in discharging position; carrier actuating mechanism for advancing a contained matrix or blank into contact with the gaging member to limit the advance of the carrier and for subsequently retracting the latter; and transmitting devices, including a pick-up, intermediate the carrier and movable galley for effecting a displacement of the latter during the return of the carrier in the event said carrier shall have been permitted by the contained matrix or blank to pass a predetermined point in its movement relatively to the gaging member.

8. In a gaging apparatus such as described, the combination of the following elements, to-wit; a gaging member provided with opposed converging gaging surfaces; a reciprocatory carrier provided with a transverse slot or holder traversing between said gaging surfaces; supply and receiving galleys disposed in sequence with the gaging member; actuating devices for the carrier; a pusher for discharging a contained matrix or blank from the holder; and means for shifting the receiving galley, including a pick-up device for coupling the receiving galley and carrier when the latter, during its advance, passes a predetermining point.

9. In a gaging apparatus, such as described, the combination of the following elements, to-wit; a gaging member, a movable receiving galley, and a supply galley arranged in sequence; a reciprocatory blank holder; a pusher and actuating devices therefor for discharging the blank from the holder to the receiving galley; actuating devices for the blank holder including an advancing spring and opposed retracting cam; and connections intermediate the blank holder and movable galley including a pick-up operative at a predetermined point in the movement of the blank holder toward the gaging member, and releasing devices for said pick-up operative upon the retraction of the blank holder.

10. In a gaging apparatus, such as described, the combination of the following elements, to-wit; a reciprocatory carrier provided with a transverse slot or opening for the reception of a blank; a gaging member located within the path of the holder and provided with opposed converging gaging surfaces overlapping the path of the carrier on opposite sides thereof; a blank ejector for the carrier a supply galley; a movable receiving galley intermediate the gaging

member and supply galley; actuating devices for the carrier; and actuating devices for the receiving galley including an automatic pick-up acting to couple the receiving galley and carrier when the latter is permitted to advance between the gaging surfaces beyond a predetermined point.

11. In a gaging apparatus, such as described, the combination of the following elements, to-wit; a reciprocatory carrier; a gaging member and a movable receiving galley disposed in sequence in the line of movement of the carrier, said gaging member co-operating with the blank in the carrier to limit the advance of the latter; actuating devices for the carrier including an advancing spring and an opposed cam; a pusher for transferring the blank from the carrier to the receiving galley when in register therewith; and means for automatically coupling the receiving galley and carrier during the retracting movement of the latter, including a pick-up which becomes operative upon the advance of the carrier beyond a predetermined point determined by the engagement of the contained blank with the gaging member.

12. In a gaging apparatus, the combination of the following elements, to-wit; a gaging member provided with converging gaging surfaces; a supply galley located in advance of said gaging member; a reciprocatory blank carrier movable between the gaging surfaces of the gaging member; a pusher supported to reciprocate in unison with said carrier and registering with the blank receiving recess in said carrier; and actuating devices for said carrier and for said pusher.

13. In a gaging apparatus, the combination of the following elements, to-wit; a gaging member; a reciprocatory carrier provided with a blank holder and limited in its movements by the engagement of a contained matrix or blank with said gaging member; supply and receiving galleys arranged in sequence with the gaging member in the line of movement of the carrier beside the latter; a pusher registering with the blank holder and moving in unison with the carrier; and actuating devices for said carrier and for said pusher operating to successively present the blank holder in register with the delivery of the supply galley, the gaging member and the entrance to the receiving galley, and means to advance the pusher each time the holder so registers with either galley.

14. In a gaging apparatus, such as described, the combination of the following elements, to-wit; a reciprocatory carrier provided with a blank holder; a gaging member extending on opposite sides of a portion of the path traversed by said holder, to engage opposite sides of a contained

blank; a supply galley from which the blanks are delivered to the holder; a receiving galley into which the blanks are delivered from the holder; actuating devices
 5 for the carrier adapted to present the holder to the supply galley, the gaging member and the receiving galley; means for effecting the transfer of the blanks from the supply galley to the holder, and from the
 10 latter to the receiving galley; and means controlled by the carrier for preventing the delivery of an undersized blank to the receiving galley.

15 15. In a gaging apparatus, such as described, the combination of the following elements, to-wit; a reciprocatory carrier; a gaging member adapted to limit the movement of the carrier by engagement with a blank contained therein; a receiving galley;
 20 means for transferring the blank from the carrier to said receiving galley; and means for preventing the delivery of undersized blanks to said receiving galley, said means being controlled by the carrier in its move-
 25 ment toward the gaging member.

16. In a gaging apparatus, the combination of the following elements to wit: a gaging member; a reciprocatory carrier provided with a blank holder and whose move-
 30 ment in one direction is limited by the engagement of a blank or matrix within said holder with said gaging member; a galley with which the holder registers in one position of the carrier; a pusher mounted upon
 35 and partaking of the motion of the carrier in one direction and independently movable in a direction transverse to the path of the carrier for discharging a blank from the holder into the galley; and actuating de-
 40 vices for said carrier and for said pusher.

17. In a gaging apparatus, the combination of the following elements, to wit: a gaging member; a blank carrier movable relatively to said gaging member and adapted to be arrested by the engagement of a
 45 matrix or blank in the carrier with said gaging member; a movable receiving galley normally in register with said holder when the carrier is in discharging position; actuating devices for the carrier; and actuat-
 50 ing devices for said galley including a latch coupled with the galley, an engaging shoulder coupled with the carrier, and a latch

releasing shoulder on the frame, said members being so proportioned and arranged
 55 that the latch will be engaged by the engaging shoulder to couple the carrier and movable galley when said carrier advances beyond a predetermined position, and on the return of the carrier the latch will be
 60 engaged by the releasing shoulder to uncouple the carrier and galley.

18. In a gaging apparatus, the combination of a gaging member provided with opposed converging gaging surfaces and a re-
 65 ciprocatory carrier arranged to traverse longitudinally of and between said converging gaging surfaces and provided with a blank holding means permitting free bodily move-
 70 ment of a contained blank in a direction transverse to the path of the carrier, whereby the excursion of the carrier is admeasured and the latter is arrested by the engagement of the blank with the opposed
 75 inclined surfaces of the gaging member.

19. In a gaging apparatus the combination of the following elements, to wit: a gaging member provided with opposed converging gaging surfaces; a reciprocatory
 80 carrier guided to traverse longitudinally of and between said gaging surfaces and provided with a blank holder adapted to engage opposite sides of a contained blank and to permit movement of the latter in a
 85 direction transverse to the path of the carrier; and actuating devices for said carrier including yieldable propelling means for advancing the same toward the gaging member until arrested by the engagement of the matrix in the holder with the converg-
 90 ing gaging surfaces.

20. In a gaging apparatus, the combination with a gaging member provided with opposed converging gaging surfaces, of a reciprocatory carrier provided with a blank
 95 holder, the latter traversing longitudinally of and between said converging surfaces for the insertion and withdrawal of a contained blank, said gaging member operating upon the blank in the carrier to ad-
 100 measure the advance of said carrier and arrest the latter.

FRANK HINMAN PIERPONT.

Witnesses:

H. D. JAMESON,

F. L. RAND.