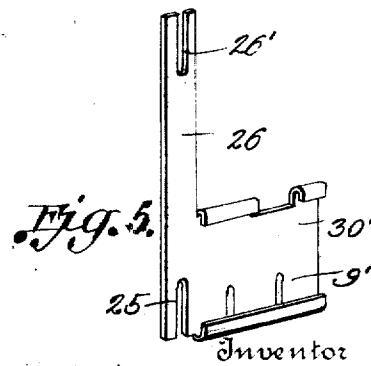
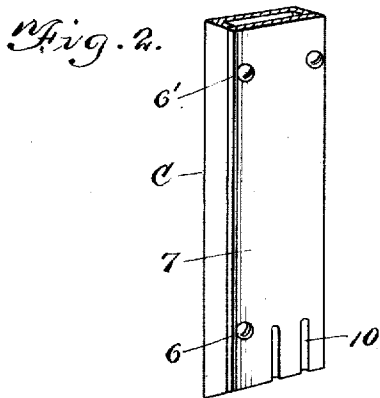
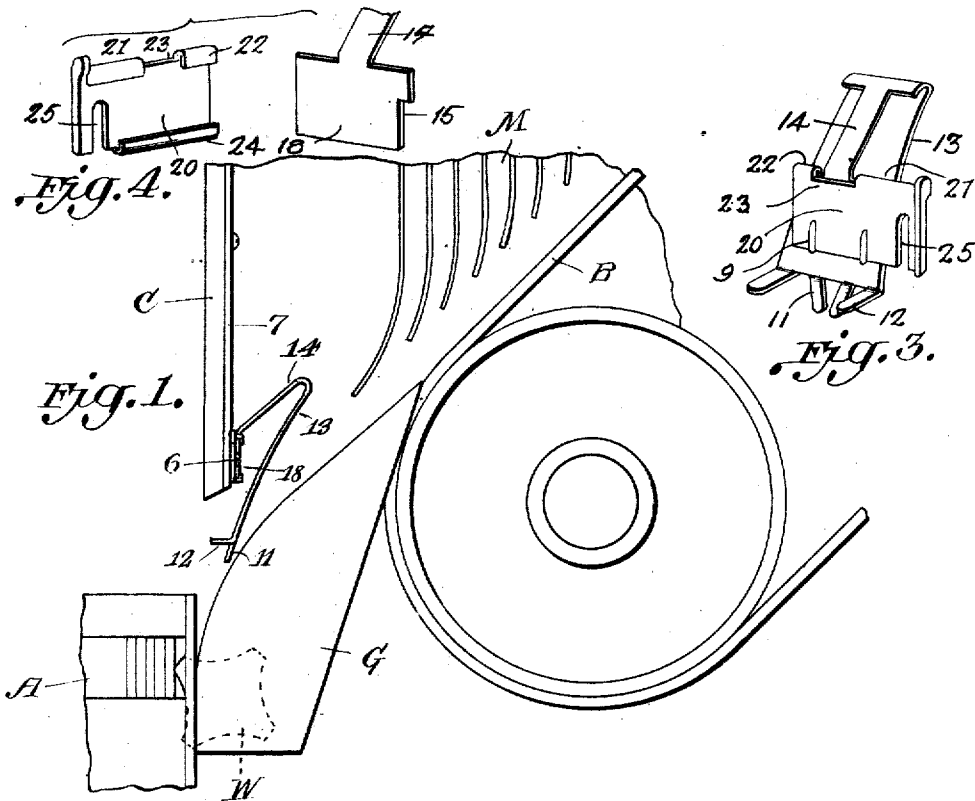


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CHUTE SPRING.
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1,316,441.

Patented Sept. 16, 1919.



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CHUTE-SPRING.

1,316,441.

Specification of Letters Patent. Patented Sept. 16, 1919.

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To all whom it may concern:

Be it known that I, WALTER G. GLAFCKE, a citizen of the United States, residing at Durant, in the county of Bryan and State of Oklahoma, have invented new and useful Improvements in Chute-Springs, of which the following is a specification.

This invention relates to typographical machines, and more especially to the chute springs therefor; and the object of the same is to produce an improved chute spring at the outlet end of the chute attached directly to its face plate so as to eliminate details of structure which were hitherto necessary.

A further object is to provide the device with means for attaching it to most of the typographical machines now in use, and yet to permit of its adjustment when in place.

Another object is to provide the free end of the spring with teats or projections between its usual prongs, for the purpose of preventing the matrices from jumping out of the assembler.

These and other objects are carried out by the construction hereinafter more fully described and claimed, and as shown in the drawings wherein:—

Figure 1 is a front elevation of that portion of a typographical machine which contains the elements coacting with this spring, the latter being shown in its proper relative position thereto.

Fig. 2 is an enlarged perspective detail of the lower end of the spaced band chute, showing the slits in the lower extremity of its face plate and the screws for securing this plate in place.

Fig. 3 is a perspective view of the spring with a clasp plate carried thereby.

Fig. 4 is a detached view showing elements of the structure appearing in Fig. 3.

Fig. 5 is a perspective view of a slightly modified structure.

The principal elements of Fig. 1 may be briefly described as follows:—The magazine M contains channels for the matrices, and beneath the lower or outlet ends of these channels travels a belt B and stands a guide or rail G, these elements collectively making up the matrix chute. Said chute leads to and over a star wheel W which stands adjacent the assembling block or "assembly" A, as it is hereinafter called. The letter C designates a substantially vertical chute through which drop the space bands, and the lower end of this chute stands at some little

distance above the wheel W, while the bodies of the chute and the rail converge toward this wheel and the assembly as usual. The space bands drop through the chute C and the matrices travel down the rail G, and both are collected within the assembly A in a manner not necessary to illustrate in detail. The purpose of the present invention is to employ a short and resilient chute spring of inverted U-shape, having one leg directly attached to the face plate of the chute C by means of the screw already employed to hold said face plate in position, and the other leg overlying the rail and coacting therewith as a guide for the matrices, and the details of structure of this spring constitute the subject matter of the present case.

My improved chute spring is substantially inverted U shape in side elevation, with one leg approximately vertical, the other leg being longer and carrying prongs at one end, the bend of the U being somewhat flattened.

In Fig. 4 the lower end of the spring element is shown as enlarged into a substantially square head 18, from the upper edge of which extends an integral neck 14 somewhat reduced in width, and from the remote end of the neck depends a longer leg 13 which curves in under the lower edge of the head, increases somewhat in width toward its lower extremity, and is there provided at its side edges with prongs 12. Between these said extremity is also provided with short converging teats 11, and the prongs and teats project forward under the mouth of the chute C as is usual and over the assembly A. I might not always employ the teats, but when they are used they prevent the matrices from jumping out of the assembly—a contingency that is so objectionable to certain operators. If their use is not desirable, they may be filed off, cut off, or perhaps bent upward out of the way; but I should consider it advisable for the manufacturer to make the chute spring with these teats on it, and let the user employ them or not at will. Whatever the type of spring employed, it is made of light sheet metal having a high degree of resiliency, and serves the same function as the spring heretofore employed.

While it is quite possible to loosen the screw 6 and adjust the head of the chute spring up and down, because the ribs 9 will

slide to a limited extent within the slits 10, I have made provision in the preferred type of my invention for adjusting the device laterally of the face plate and such lateral adjustment is best seen in Figs. 3 and 4. The numeral 20 designates as a whole a clasp made of a substantially rectangular plate somewhat longer than the head 18, and the plate is provided along its upper and lower edges with guides which are formed by turning the metal over as best seen at the left of Fig. 4. The upper guide is in two parts 21 and 22 with the notch 23 between them, and these parts slidably receive the upper edge of the head 18 while the notch loosely receives the neck 14. The lower guide extends the full length of the plate as at 24 excepting where the notch 25 opens out its lower edge. The parts are assembled first and the guides turned up later, and they are shown assembled in Fig. 3.

Obviously the head can be moved a little from side to side behind the plate, and to permit it to have considerable movement one end may be notched out as shown at 15 and if the head is adjusted too far toward the notch 25 it will not contact with the screw 6. The latter obviously engages the clasp instead of the short leg of the spring, but the clasp becomes a part of the leg as will be clearly understood. In Fig. 3 it is the body of the clasp plate which is provided with the ribs 9, whereas the head 18 will of course be flat as shown at the right of Fig. 4. The clasp 30' shown in Fig. 5 is practically identical excepting that here the ribs 9' are shown and an upwardly extending finger 26 is provided above the notch 25, the upper end of the finger having another notch 26' which may engage another screw 6' on the face plate. Either or both the notches may thus be employed if the screws occur in the proper position, but if both notches are used of course the ribs 9' will not be necessary as the clasp 30' can not turn with respect to the face plate 7 when attached thereto at two points. One or both of the notches could be considerably deeper than illustrated so as to adapt the device to a face plate having the screws 6 and 6' differently positioned.

The general purpose of my invention is to provide a chute spring of this type capable of being adapted to and fitted to a variety of makes of typographical machines, and capable of adjustment in place to the idiosyncrasies of the operator and even to adapt itself to use on machines where the size and therefore the weight of the matrices is frequently changed. I do not wish to be limited to the precise material employed, but whatever the material it is obvious that—in addition to the adjustment provided for—it is

quite possible for the operator with the use of a small pair of pincers to forcibly bend or straighten out some part of the spring excepting perhaps its flat head 18 or its clasp 20 which lie against the face plate 7. That is to say, by proper manipulation he could impart greater or less curvature to the neck 14, to the long leg 13, or to the prongs 12; and, as above suggested, he could file off or turn up the teats 11 if he did not consider their use desirable. Perhaps the very next day he would be called upon to do work with matrices which required adaptation of the spring further than permitted by its several adjustments, and with the use of the same pincers he could adapt it. This flows from the preferred material employed for the attachment and which, while resilient to a high degree, must be pliable to a certain extent to permit it to be bent. This attachment eliminates the use of the bracket and long spring heretofore employed, as it is attached directly to the face plate of the chute, and yet by reason of the curvature of its neck it has a high degree of elasticity and flexibility at the lower extremity of its long leg where its prongs 12 underlie the chute C. Finally it is economically manufactured, quickly applied and easily adjusted, and if it should get irretrievably out of order it could be replaced by a new one at a minimum cost.

What is claimed as new is:—

1. In a typographical machine, the combination with the matrix rail and space band chute, and screws for removably securing the face plate to the body of said chute; of a clasp plate having a notch engaged by the head of one of said screws and its upper and lower edges turned over into guides, and a chute spring of inverted U-shape with an enlarged rectangular head at one end slidably engaged with said guides for lateral adjustment on the plate and prongs at the extremity of its other end.

2. In a typographical machine, the combination with the matrix rail and space band chute, and screws for removably securing the face plate to the body of said chute; of a clasp plate having a notch engaged by the head of one of said screws and having its lower edge turned upward in a guide and its upper edge turned rearward and downward into two guides with a notch between them, and a chute spring of inverted U-shape having a bend and having a rectangular plate at the lower extremity of one leg adjustably engaged with said guide, its bend passing through said notch between the upper guides, and the lower extremity of its other leg provided with prongs.

In testimony whereof I affix my signature.
WALTER G. GLAFCKE.