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FEEDING DEVICE FOR SCREW MACHINES AND THE LIKE.
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992,935.

Patented May 23, 1911.

2 SHEETS-SHEET 1.

Fig. 1

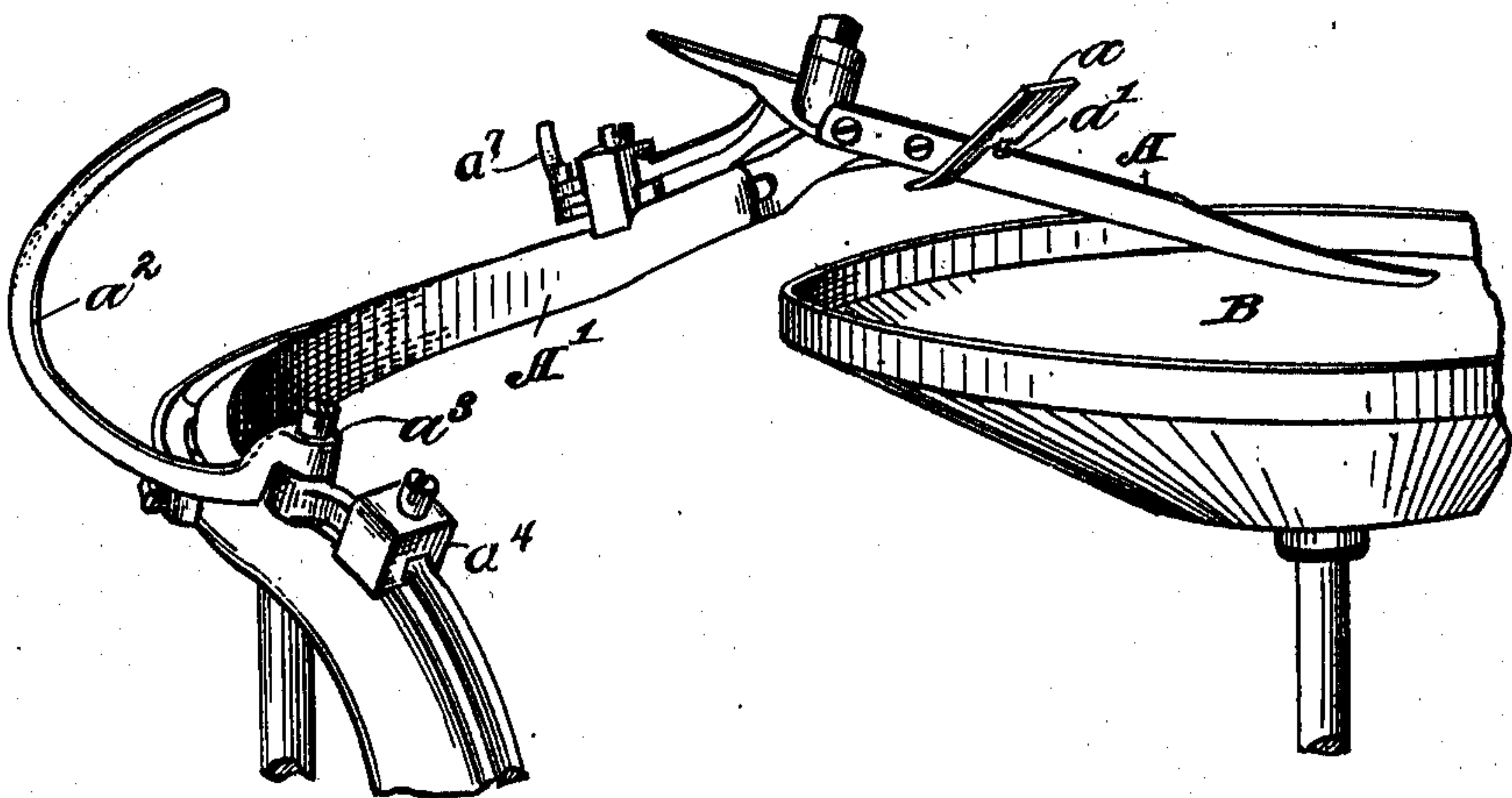


Fig. 2

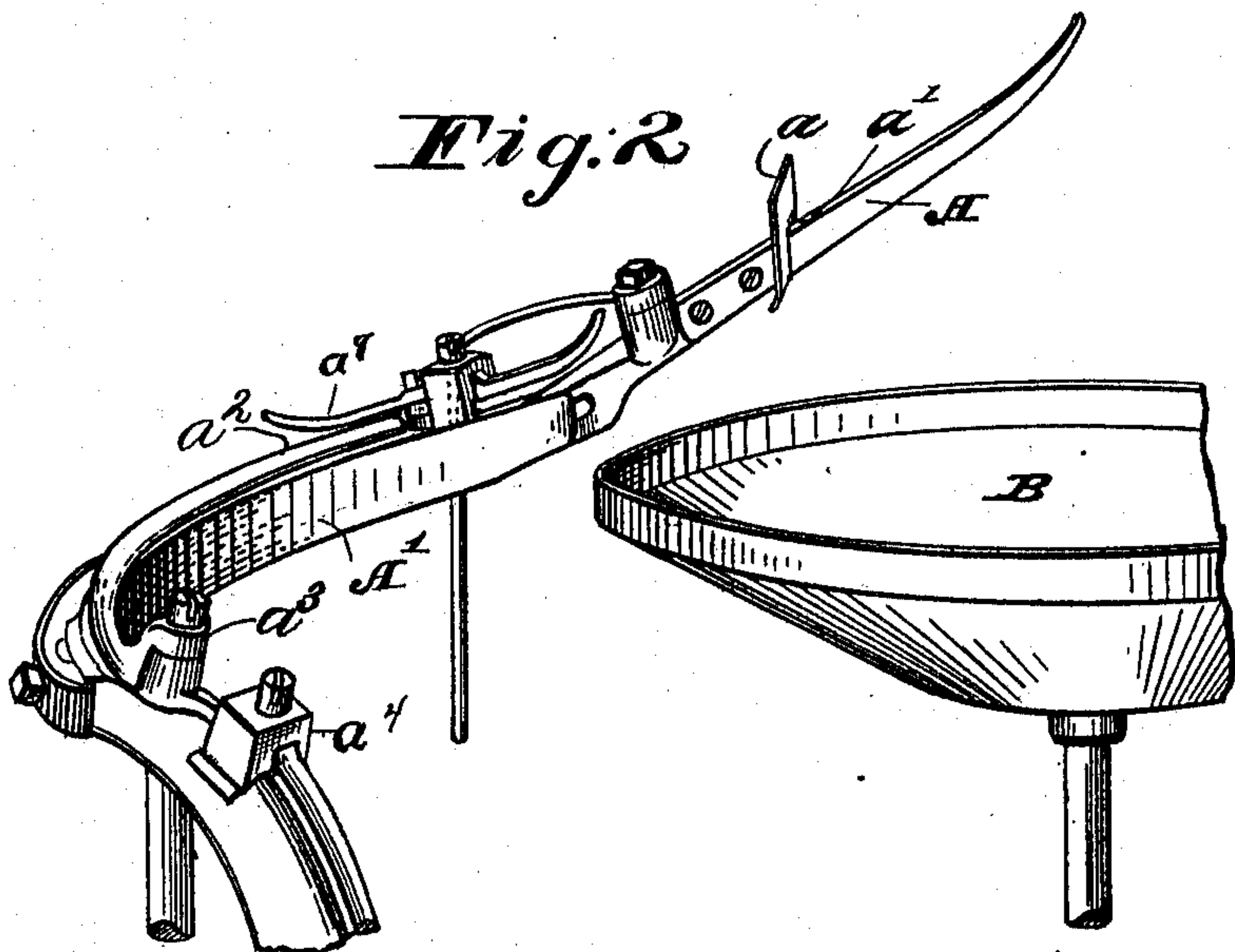


Fig. 7



Witnesses:

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2 SHEETS--SHEET 2.

This technical drawing illustrates a mechanical assembly, possibly a component of a pump or engine. It features a circular base (B) with a central vertical shaft. A lever arm (H) is pivoted to the base and is equipped with several adjustment points labeled 'a', 'a1', 'a2', 'a3', 'a4', and 'a5'. The lever arm is shown in two positions, indicating its range of motion. The drawing is a detailed line illustration with hatching for shading.

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FEEDING DEVICE FOR SCREW-MACHINES AND THE LIKE.

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To all whom it may concern:

Be it known that I, JASON A. BIDWELL, a citizen of the United States, resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Feeding Devices for Screw-Machines and the Like, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

This invention, relating as indicated to feeding devices such as are employed in connection with screw machines, bolt threading machines and the like, has particular regard to the improvement of such devices whereby the loss of blanks and consequent waste of material that occurs in the present type of machine may be avoided, and jamming of the blanks in the feed way or "fountain" as it is commonly known, may be avoided.

To the accomplishment of these and related ends said invention then consists of the means hereinafter fully described and particularly pointed out in the claim.

The annexed drawings and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings: Figure 1 represents the adaptation of my invention to the type of feeding device commonly employed in connection with that type of screw machine wherein the actual screw threads are cut; Fig. 2 is a similar view of the same device, showing certain parts, however, in different operative positions; Fig. 3 is a view similar to Fig. 1 but illustrating the form of feeding device employed in machines wherein the heads of the screws are turned and slotted; Fig. 4 is another view of the device illustrated in Fig. 3, showing the parts in different operative positions; Figs. 5 and 6 illustrate the manner of operation of one detail of the device; and Fig. 7 is a cross-sectional view taken through the guard of the feed-way and a locking device coöperative therewith.

The general type of feeding device to which the invention relates is that wherein a pivoted fork is adapted to be lowered into a mass of blanks held in a revolving hopper,

the effect of the revolution of the hopper being to force a greater or smaller number of the blanks onto the fork between the tines of the same so that when the fork is thereupon raised these blanks are suspended by their heads between such tines and will slide down and thence onto the regular feed way or track of the fountain that conducts the blanks to the operating mechanism whatever that may be. In general this type of feeding device has been found quite satisfactory and has been in use for many years. Difficulty, however, has been experienced in using the same to handle very short blanks for the reason that when it is sought to catch or gather up blanks of this sort onto the tines of the pivoted fork they are apt to be improperly received or positioned thereon; the longer blanks do not occasion this trouble for the reason that they will, if improperly positioned, overbalance and fall off the tines, it being, of course, understood that in their proper position they hang by their heads in the track or way. When such improperly positioned blanks pass on down the fork onto the feed way proper it will be quite obvious that either the feed will be blocked or else direct damage occasioned, should the improperly positioned blanks be passed through, and checked off to the operative mechanism of the machine. To the end of obviating this difficulty I provide the simple means to which attention will now be called, such means consisting essentially of a plate *a* secured to the fork A so as to incline forwardly as shown in the several figures of the drawings. This plate extends laterally a short distance on either side of the fork and has its under side provided with an opening *a'*, Figs. 5 and 6, just large enough to permit the free passage therethrough of the heads of the screw blanks when the latter are properly positioned in the fork way. It will accordingly be obvious that if, when the fork is raised, any blanks should be picked up criss-cross or in other irregular position, as they slide down they will come in contact with the plate *a* and be deflected back into the hopper B again. Even should they be merely detained no serious effect will result for as soon as the fork is again lowered into the hopper they will fall off of their own weight into the hopper, and the operation can then continue.

The second detail of the improvement to which I desire to call attention is that of the cover guard a^2 provided for holding down the blanks in the feed-way A' proper, of the fountain as they pass therealong. Heretofore this guard has always been fixedly attached to the feed-way, and inasmuch as it is necessary to have access to the latter should the blanks become blocked, it has ordinarily been mounted so as to lie a short distance above the top of the feed-way, thus increasing the liability of the blanks to rise from their seat in the way and clog up the same. As will be readily apparent from inspection of the several drawings I pivotally mount my cover a^2 at its one end, as a^3 , to the feed-way and am thus enabled to fit the cover more closely to the feed-way so as to diminish the liability of the blanks to rise out of their proper position, and at the same time should they become for any reason fast in the way the entire cover may be readily moved to one side and the trouble quickly corrected.

In the type of feeding device illustrated in Figs. 3 and 4, the guard a^2 is most conveniently attached at its upper end; it will hence normally tend to remain in its closed position. The block a^4 , however, that rises above the track of the fountain A at the lower end of the latter, may be recessed as at a^5 to receive the lower end of such guard, thus adding to the security with which it is retained in such closed position. In the case of the other form of device, Figs. 1 and 2, the guard is more conveniently attached to the fountain at its lower end; some sort of locking device is accordingly desirably employed to secure such guard against dislodgment. A convenient form of lock consists of a handled cam-lever a^7 pivoted at the upper end of feed way A so as to be movable in a substantially horizontal plane, and having its under face formed to engage the upper face of the guard which is round-

ed as shown in Fig. 7. Such guard being more or less resilient, it will be evident that lever a^7 , when alined therewith, will hold the same securely in place.

By the foregoing improvements in feeding devices of the character in hand it will accordingly be seen that all blanks not presented by the fork to the track A' of the fountain in proper position for reception thereon are stopped and deflected back into the hopper, thereby saving much time and annoyance as well as material. Furthermore, the feature of the movable cover for the feed-way itself not only renders the blanks less liable to clog, but vastly facilitates the correction of any difficulty on the rare occasions when it does arise.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by the following claim or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

In a device of the character described, the combination with the feed track or way of the fountain, of a resilient guard having a convex upper face, said guard being pivoted on said track about an axis substantially vertical thereto, and adapted, when closed, to retain blanks passing along said way in proper position for checking, and a cam lever also pivotally mounted upon said feed way, said cam lever having a concave under face adapted to engage the convex face of said guard, when alined therewith, and secure the same in closed position.

Signed by me, this 6th day of March, 1908.

JASON A. BIDWELL.

Attested by—

E. R. RODD,

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