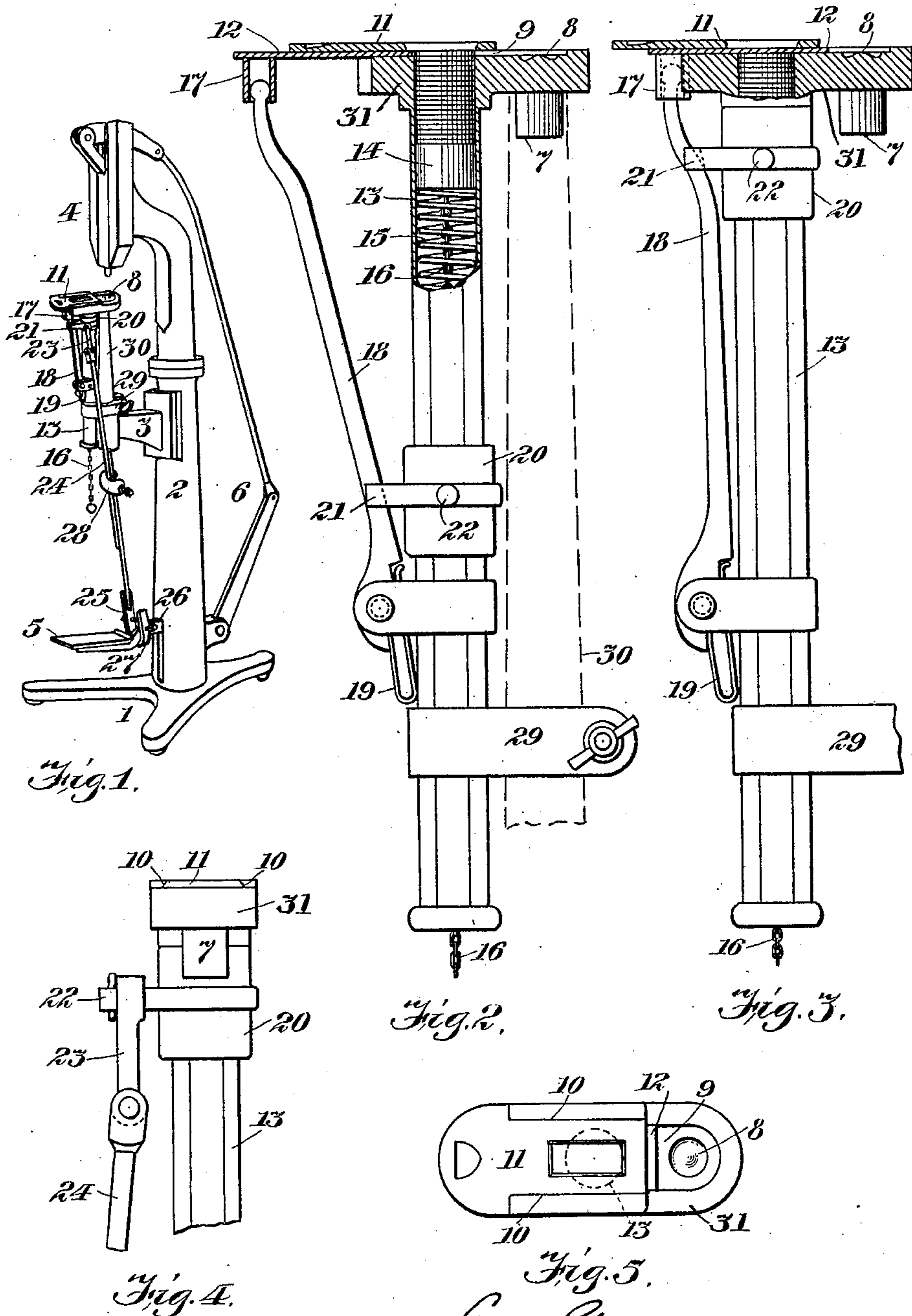


S. GROSSMAN.  
WASHER OR BUTTON FEEDING ATTACHMENT FOR SETTING MACHINES.  
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Witnesses:  
*H. W. Springmeyer*  
*Annie B. Bumbly*

*Simon Grossman* Inventor  
By his Attorney *E. Scherr*

# UNITED STATES PATENT OFFICE.

SIMON GROSSMAN, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO EDWIN B. STIMPSON COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

## WASHER OR BUTTON FEEDING ATTACHMENT FOR SETTING-MACHINES.

No. 925,088.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, SIMON GROSSMAN, a citizen of the United States, and a resident of the city of Pittsburg, county of Allegheny, and State of Pennsylvania, have invented a new and useful Washer or Button Feeding Attachment for Setting-Machines, of which the following is a specification.

My present invention relates to a portable attachment which can be readily applied to existing setting machines for the purpose of providing said machines with an automatic feed for washers, buttons or other component part of a fastener device, thereby to greatly increase the efficiency and quantity of output of machines where the washer or other feed is by hand.

In the drawings which show only one of the forms which my invention may take, Figure 1 is a view of a post-setting machine showing my attachment applied thereto; Fig. 2 is a side elevation partly in vertical section of my attachment omitting the depending connecting parts to the treadle and showing in dotted lines the post of the machine; Fig. 3 is the same except that the parts are shown in another phase of their relative movement and the machine post is omitted; Fig. 4 is a view of a detail; and Fig. 5 is a top plan view as seen from above in Fig. 3.

Describing now my invention with particular reference to the devices of the drawings, my attachment is shown in connection with a setting machine which, forming no part of my present invention except that my attachment is adapted to be used in connection with a setting machine of some sort where the washer or other feed is by hand, will need no detailed description and consequently has been shown merely in outline in the drawings. However enough has been shown of the setting machine to indicate its base 1, pillar 2, arm 3, head 4, treadle 5, and operating levers 6. After removing the lower set from such a machine, an opening is left suitable to receive a downward projecting stud 7 from the head of the attachment to center said attachment on the setting machine and secure it against lateral displacement.

The head 31 of my attachment in that portion 8 which is immediately over the stud 7 constitutes the set or anvil to receive against it and upset the end of the rivet

shank fed from above in usual manner by the head of the setting machine. This anvil or set 8 in the particular form shown has a central elevation adapted especially to spread the prongs of a bifurcated, or the shank of a hollow tubular rivet. However it will be understood that of course this is an immaterial feature which will depend upon the nature of the fastener part fed from the head of the setting machine.

The particular form of my feeding attachment shown is illustrated in connection with washers and in the annexed description the device will be described in connection with washers, although it will be understood that the invention is equally applicable with or without immaterial modification to feeding buttons and other articles and it is herein intended to be so claimed.

In the top of the head 4 is a depressed guide-way 9 adapted to receive the washer flatwise and permit it to be pushed along until it occupies a position immediately over the anvil, whereby the shank of the rivet fed by the rivet head can be passed down through the washer opening into contact with the anvil to be upset against the underside of the washer.

At the sides of the washer guide-way in the particular device shown are undercut guides 10 adapted to receive between them the correspondingly beveled side-edges of a cover-plate 11 adapted to be manually moved into and out of position between said undercut guides. Said cover-plate when in position leaves an intervening space between itself and the bottom of the washer guide-way, somewhat greater than the thickness of the washer, so that the washer can be freely progressed under it.

For the purpose of so progressing the washer, a push-member 12 is located in the washer guide-way adapted to have its end contact with the edge of a washer in said guide-way to push it toward the anvil. The means for automatically operating said push member from the machine treadle will be described hereafter.

The means for delivering the washers up into the washer guide-way so that member 12 can push them one at a time to the anvil, comprises a tube 13 adapted to hold the washers in a pile, said tube opening at its top into the bottom of the washer guide-way in the head and containing a follower 14

spring-pressed from below by spiral spring 15 to give the washers a normal upward tendency, whereby the topmost washer is forced up against the bottom of the cover 11 and so occupies the washer guide-way in the path of the push member 12, whenever said member on its return reciprocation uncovers the tube opening.

The follower 14 has attached to it a depending chain 16 which comes out through an opening in the bottom of the magazine tube and which can be pulled downwardly and held, to control the spring 15 to permit filling the magazine with washers, said filling being conveniently accomplished through the delivery end of the magazine by withdrawing the sliding cover 11 and also the push member 12 so as to uncover and give access to the mouth of the magazine.

The means for automatically operating the push member to deliver a washer at each stroke of the machine comprises operative connections as follows. Thus the rear end of the push member has a socket 17 into which extends the free end of the member 18, pivotally supported from the magazine tube to adapt it to be moved to and away from said tube to reciprocate the push member in the washer guide-way. A spring 19 located between the pivot arm 18 and the magazine tube gives said arm a normal tendency to collapse against the magazine tube and to carry the push member toward the anvil end of the head to deliver a washer to said anvil.

To bring about the return reciprocation of the push member, a sleeve 20 is provided having a sliding fit up and down on the magazine tube and carrying at one side a yoke 21 adapted to slidably engage the pivot arm 18, whereby when said sleeve is in its uppermost position said arm can occupy a position in which the push member is in its innermost feeding position, whereas depressing said sleeve naturally causes the return reciprocation of the push member due to the fact that the sleeve engages the pivot rod nearer its pivot connection with the magazine tube.

Projecting from the side of the sleeve 20 is a pivot-pin 22 connected by link 23 with connecting rod or rods 24, the other end of the latter being secured to a U shaped clamp 25 between the arms of which the bar 26 of the machine treadle 5 is adapted to be secured by taking upon set screws 27.

It will be noted that the connecting rod 24 consists of two overlapping parts clamped rigidly together by clamp 28. Thus said connecting rod is adjustable in length so that when the machine treadle is up, said rod can be adjusted to the proper operative length to reach the link 23 on the sleeve 20 when said sleeve is in its uppermost position,

whereby depressing the machine treadle carries the sleeve with it to retract the push member 12 to uncover the washer opening from the magazine and releasing the treadle causes the raising of said sleeve with the consequent result that the spring-pressed pivot arm 18 forces the push member forward and carries the topmost washer into operative position over the anvil. Whereupon again depressing the treadle causes said washer over the anvil to be riveted due to the descent of the machine head 4 at the same time that the push member is retracted to permit the up-springing of another washer into the feed-way and its subsequent delivery to the anvil upon the return of the treadle into elevated position. In other words, every release of the treadle in the machine shown causes a feeding of a washer to the anvil, whereas every down-press of the treadle causes the washer so fed to be taken up and permits another washer to spring up into position, ready to be fed to the anvil upon the release of the treadle.

Means for removably securing the attachment to the machine is shown comprising a clamp 29 on the magazine tube and adapted to engage a fixed part of the machine, for example its post 30. It will be noted that the clamp can be loosened up to permit the axial turning of the magazine tube. There is considerable advantage in this, also in the fact that the head of the attachment is small because in box-work, which this attachment lends itself with particular advantage, it often happens as for example in setting rivets in the bottoms of suit-cases, bags, and so forth, that a rivet must be set in a corner which could not be reached even with the present attachment were it not arranged to permit turning to meet the given condition. When the clamp 29 is released and the magazine tube is turned, it will be noted that the attachment in the particular form shown swings about set-opening engaging stud 7 so that the anvil or place to which the washer or other part is fed by the attachment is not removed out of alignment with the machine head.

Preferably the sleeve 20 is mounted on the magazine tube to slide in fixed relation thereto as for example by making said tube of octagonal or other angular peripheral cross-section to which the inside of the sleeve conforms.

Having thus described my invention, what I claim is:

1. A washer and the like feeding attachment for use in connection with setting machines, said attachment comprising a tubular magazine holding the washers in a pile, means yieldingly pressing the washers from below to deliver them from the mouth of the magazine, a head to which the magazine is attached having a washer guide-way

into the bottom of which the magazine mouth opens, an anvil in the bottom of said guide-way adapted when the attachment is on the machine to be under the machine head, a push member working in the washer guide-way adapted on its return reciprocation to uncover the magazine opening to permit a washer to be up-pressed into the guide-way and on its forward reciprocation to feed said washer to the anvil, a downwardly extending projection on the head of the attachment located under the anvil and adapted to be lodged in the set-opening of the machine, means adapted to reciprocate the push member including an operative connection adapted to be made with the machine treadle, and means adapted to secure the attachment to the machine comprising a clamp on the magazine.

2. A washer and the like feeding attachment for use in connection with setting machines, said attachment comprising a tubular magazine holding the washers in a pile, means yieldingly pressing the washers from below to deliver them from the mouth of the magazine, a head to which the magazine is attached having a washer guide-way into the bottom of which the magazine mouth opens, an anvil in the bottom of said guide-way adapted when the attachment is on the machine to be under the machine head, a feed member slidably received in the washer guide-way adapted on its return reciprocation to uncover the washer opening from the magazine to permit the topmost washer to spring up into the guide-way and on its forward reciprocation to push said washer into position over the anvil, a pivot arm pivotally connected above to the push member and below to the magazine tube, said arm being spring-pressed to reciprocate the push member on its forward or delivery stroke, a sleeve mounted slidably up and down on the magazine tube, said sleeve when depressed engaging the pivot arm and forcing it away from the tube to retract the push member, and an operative connection adapted to connect said sleeve with the machine treadle to depress said sleeve with the depression of the treadle.

3. A washer and the like feeding attachment for use in connection with setting machines, said attachment comprising a magazine for the washers and the like, an anvil located in alinement with the head of the setting machine when the attachment is on the machine, delivery means for delivering washers from the magazine into position on the anvil, said means being operated from a moving part of the setting machine, and means for operatively securing the attachment to the setting machine and at will removing it as a complete unit, said means consisting of three features first, a portion of the attachment adapted to fit in the set

opening of the machine to pivot therein, second, locking means preventing longitudinal displacement of said portion in said set opening, and third, a releasable operative connection between the above named delivery means and the moving part of the setting machine, whereby the attachment can turn about its portion in the set opening as a pivot when the aforesaid locking means has been released.

4. A washer and the like feeding attachment for use in connection with setting machines, said attachment comprising a magazine for the washers, said magazine having a delivery mouth; a head secured to the magazine at its delivery mouth; an anvil on said head located in alinement with the head of the setting machine when the attachment is on the machine; delivery means for delivering washers received from the mouth of the magazine to the anvil, said means being operated from a moving part of the setting machine; and means for operatively securing the attachment to setting machines and at will removing it as a complete unit, said means consisting of three features, first, a projection from the head of the attachment received snugly in the set opening of the machine, second, a clamp on the magazine adapted releasably to clamp a portion of the setting machine, and third, a releasable operative connection between the above named delivery means and the moving part of the setting machine, whereby the attachment can turn about a longitudinal axis through the set opening when the aforesaid clamp has been released.

5. A washer and the like feeding attachment for use in connection with setting machines, said attachment comprising means for centering the attachment pivotally about the set opening of the machine; locking means releasably locking the attachment stationary in a given pivotal position; said attachment further comprising an anvil located over the set opening of the machine when the attachment is on the machine; a magazine for washers; delivery means for delivering washers received from the magazine to the anvil; and an operative connection for operating the delivery means from a moving part of the machine and adapted to have releasable connection with said moving part.

6. A washer and the like feeding attachment for use in connection with setting machines of the post variety, comprising a vertically disposed tubular magazine delivering from its upper end; clamp means releasably clamping the magazine vertically alongside the post; a head projecting from the upper end of the magazine to overhang the set opening in the post, provided on its upper side with an anvil over the set opening in the post, and on its under side with a pro-

jection received in the set opening, said attachment pivoting about said projection in the set opening when the clamp means is released; and delivery means for delivering  
5 washers received from the magazine to the anvil, said means being operated from the moving part of the machine and having releasable connection therewith.

In witness whereof, I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

SIMON GROSSMAN.

Witnesses:

E. W. SCHEN, Jr.,  
HENRY V. RAU.