May 19, 1925. 1,538,442

J. A. MANN

FEED COLLET

Filed May 31, 1924

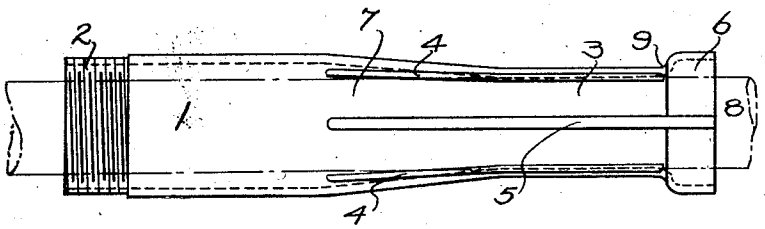


Fig.1.

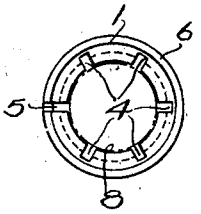


Fig.2.

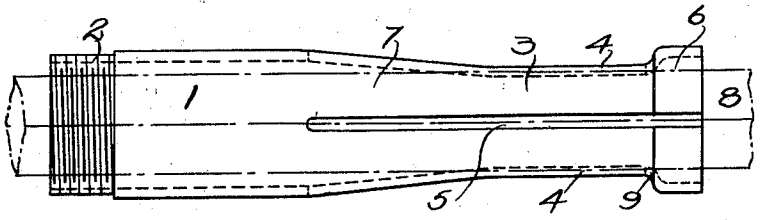


Fig.3.

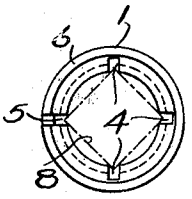


Fig.4.

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UNITED STATES PATENT OFFICE.

JACOB A. MANN, OF DETROIT, MICHIGAN, ASSIGNOR TO MARGARET JANE MANN.

FEED COLLET.

Application filed May 31, 1924. Serial No. 717,162.

To all whom it may concern:

Be it known that I, JACOB A. MANN, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Feed Collet, of which the following is a specification.

My invention relates to improvements in feed collets used in automatic screw machines and the like, and is intended for gripping and feeding forward work not otherwise held. One of the objects being to provide a feed collet with a gripping surface of reduced diameter intermediately of its length, in which circumferential spring tension is provided from both ends of the collet.

A further object of my invention is to so design a feed collet that the distance from the front end of the gripping surface to the front of the collet may be reduced to a minimum.

Heretofore it has been customary either to provide a plurality of slots in a feed collet extending right to the front in which case it has only been possible to obtain spring tension from one end of the collet, or else to supply a front collar of circumferentially closed diameter, in the latter case it is necessary to provide a gradually tapered portion of some considerable length between the gripping surface and the closed collar in order to provide sufficient spring tension for the front portion of the gripping surface. In the present invention spring is obtained both from the closed threaded end, and from the front split collar, in addition to which the construction provides for a minimum of distance from the front of the gripping surface to the split collar, so that shorter pieces of stock can be fed into a machine than by a collet with a circumferentially closed front end.

With these and other objects in view the invention is hereafter more fully described with the aid of the accompanying drawings and claims.

Figure 1 shows a side elevation, and

Figure 2 an end elevation of one form of my invention.

Figure 3 is a side view, and

Figure 4 an end view of a slightly modified form of my feed collet.

Referring more particularly to the drawings, 1 designates the collet which is made of one piece of circular material, preferably seamless tubing, one end of which is threaded externally at 2 so as to provide means for attaching the collet to the operating member therefor. In the collet 1 I supply an intermediate body portion 3 of reduced diameter, through which are cut a plurality of longitudinal slots 4, and one slot 5, which extends through the front collar 6, which is integral with and forms a portion of my feed collet 1.

Between the rigid threaded end 2 and the intermediate slotted body portion 3 is a gradually tapered tubular portion 7, through which the said slots 4 and 5 preferably extend, which must be of sufficient length to allow the said intermediate portion 3 to spring sufficiently to grip the piece of stock 8. Whereas the tubular connecting portion 9 between the intermediate slotted body portion 3 and the split collar 6 is short and abrupt, because the slot 5 by which the collar 6 is severed permits of this without impairing the spring tension of the front part of the intermediate portion 3. It is also found in practice that with the collar 6 and the intermediate body portion 3 properly tempered, the collet will retain its resiliency for a considerable length of time without becoming distorted.

The slots 4 and 5 are so spaced that work of various forms of cross section may be held. The two most usual arrangements of slots are shown in the drawings. Figures 1 and 2 show a feed collet with six slots adapted to grip either round or hexagonal work, and Figures 3 and 4 show a feed collet with four slots for gripping either round or square work.

From the foregoing the utility of my device can readily be seen, it is understood that whereas the preferred embodiment of my invention has been described and illustrated, I may make alterations in the construction provided the said alterations fall within the scope of what I claim.

What I claim is:

1. A feed collet comprising a tubular member threaded externally at one end which is circumferentially closed, a gradually tapered connection extending from said closed end to an intermediate body portion of reduced diameter, and an abrupt change of diameter between said intermediate body portion and a front collar, said intermediate

body portion being pierced by a plurality of longitudinal slots, one of said slots also being extended through and splitting said collar.

2. A feed collet comprising a tubular member threaded externally at one end which is circumferentially closed, a graually tapered connection extending from the circumferentially closed end to an intermediate body portion of reduced diameter, said tapered connection and said intermediate body portion being pierced longitudinally by slots, and a front split collar.

3. A feed collet comprising a tubular member threaded externally at one end which is circumferentially closed, a gradually tapered connection extending therefrom to an intermediate body portion of reduced diameter, said intermediate body portion and said tapered connection pierced by longitudinal slots, one of which extending through a collar in which the other end of said collet terminates.

4. A feed collet comprising a tubular member threaded externally at one end which is circumferentially closed, a gradually tapered connection extending therefrom to an intermediate body portion of reduced diameter, said tapered connection and said body portion pierced by longitudinal slots, an abrupt change of diameter between said reduced body portion and a collar through which latter one of said longitudinal slots extends.

In testimony whereof I affix my signature in the presence of two witnesses at Majestic Building, Detroit, Michigan.

JACOB A. MANN.

Witnesses:
MAURICE G. VINCE,
GERALD S. BALDWIN.