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I. H. SHEFFER

1,646,771

FEED COLLET

Filed Dec. 29, 1926

Fig. 1

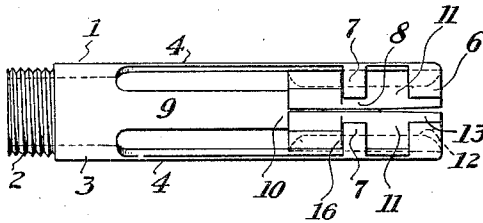


Fig. 2

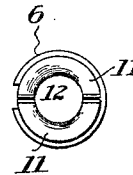


Fig. 3

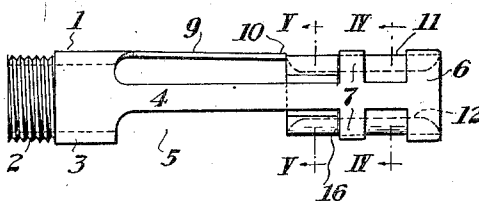


Fig. 4

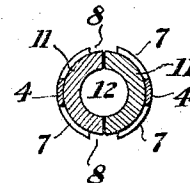
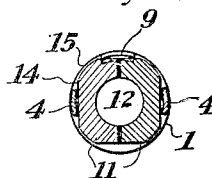


Fig. 5



INVENTOR.
Irving H. Sheffer

BY

Crawford Baedwin
ATTORNEY.

UNITED STATES PATENT OFFICE.

IRVING H. SHEFFER, OF ECORSE, MICHIGAN.

FEED COLLET.

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This invention relates to improvements in feed collets generally employed for feeding stock through hollow spindles of automatics or other metal working machines, and has particular reference to feed collets provided with pads adapted to come directly in contact with the stock.

It is an object of the invention to provide a one-piece feed collet having a longitudinal resilient finger adapted to hold both sections of the pad in position within a front split collar integral with the collet, and to provide supporting means extending partly around the pad sections behind, and spaced from, the split collar so that the pad is held against movement except for the limited amount permitted by the resiliency of the collet and its split collar and supporting means.

Another object of the invention is to provide a feed collet having a pad therein which can be cheaply manufactured and speedily inserted or removed.

With these and other objects in view, the invention is hereinafter more fully described with the aid of the accompanying drawings, in which:

Figure 1 illustrates a side elevation of the invention, and

Figure 2 is an end view.

Figure 3 shows a plan view of Figure 1, and

Figures 4 and 5 are sections on the lines IV—IV and V—V of Figure 3.

Referring to the drawings, 1 designates the body of a feed collet having its circumferentially closed back end 2 threaded so that it may be attached to an operating member—not shown. Adjacent to the threaded end of the collet is an annular portion 3 forwardly from which the latter arms 4 extend. The outer surfaces of these arms are preferably of the same shape as the outer circumference of the annular portion 3, and the arms are so spaced from one another as to leave a substantially semi-circular opening 5 between them for a purpose hereinafter set forth. The front ends of the arms terminate in a split collar 6. Circumferential supporting members 7 extend from each of the arms and on each side of the latter a short distance behind the split collar. These supporting members are each of such length that a gap 8 occurs on each side of the collet between the members integral with one arm and those integral with the opposite arm. A resilient finger 9 extends forwardly between the arms

4 from the annular portion 3 and is flexed inwardly slightly towards its front unsupported end 10. This finger, which usually projects substantially midway around the circumference of the portion 3 between the arms 4 and opposite the opening 5, also has a circumferential outer surface similar to the outer surface of the annular portion 3 of which it forms a part. The whole collet is usually made of seamless tubing, and the unrequired portions are cut away leaving the arms 4, finger 9, collar 6, and supporting members 7 all integral with the annular portion 3.

The pad 11, which is generally made in two longitudinal sections, is bored longitudinally at 12 to suit the size and cross section of the stock to be handled. The front end 13 of the pad is externally circular to fit within the split collar 6 and the supporting member 7, and immediately behind the latter the pad is externally rectangular as shown at 14 but with the corners 15 rounded so that they will not project beyond the sides of the collet. The shape of the back of the pad prevents it from turning in the collet as the inner surfaces of the arms 4 bear against one of the flat sides of each of the pad sections, and furthermore a shoulder 16 is formed at the junction of the rectangular portion 14 with the circular portion 13 so that the back portions of the pad sections cannot pass forward within the supporting members 7. The front end 10 of the resilient finger 9 is flexed sufficiently inwards to bear against a part of the back of both of the pad sections. In this manner the sections are held against longitudinal movement in either direction.

When it is desired to remove the pad sections the finger 9 is flexed outwardly until its end 10 is clear of the pad sections then the latter are moved back until they are behind the supporting members 7. When they reach that position it will be found that they can be removed through the opening 5.

While in the foregoing the preferred embodiment of the invention has been described and shown, it is understood that the construction herein described is subject to such modifications as fall within the scope of the appended claims.

What I claim as my invention and desire to secure by Letters Patent is:

1. In a feed collet, a body circumferentially closed at one end, forwardly extending

arms integral with said closed end, a split collar in which said arms terminate at the opposite end of said body, and circumferential supporting members extending from each of said arms on each side of the latter, said members being of such length that gaps are formed between their outer ends, and a resilient finger extending from said closed end between said arms in combination with a longitudinally split pad held by said supporting members, said split collar, and said resilient finger.

2. In a feed collet, a body circumferentially closed at one end, forwardly extending arms integral with said closed end, a split collar in which the front ends of said arms terminate, circumferential supporting members integral with and extending from each side of said arms, and a resilient finger extending longitudinally from said closed end, in combination with a pad divided into two longitudinal sections and supported by said collar and said members, said resilient finger bearing against the back of said split pad sections, and means for holding said pad against forward movement through said collar and said members.

3. In a feed collet, the combination as described in claim 2 wherein the means for holding said pad against forward movement consists of a shoulder on said pad bearing against the back of said supporting members, and wherein said pad has flats on its rear external surface against which the inner surfaces of the arms rest and hold said pad against rotary movement.

4. In a split pad for feed collets, the combination of two longitudinal sections, said sections each being substantially semi-circular towards the front and adapted to slide through a split collar of a feed collet, said sections having shoulders behind said front semi-circular portions adapted to rest against circumferential supporting members of a feed collet by which the rear end of said semi-circular portions of said pad sections are adapted to be supported, said pad sections having flats externally behind said shoulder two of which are adapted to rest on longitudinal arms integral with said collet, and said pad sections when together having a longitudinal bore therethrough.

IRVING H. SHEFFER.