Aug. 26, 1924. 1,506,108

J. P. BROPHY

STOCK REST

Filed May 21, 1923

Fig. 1.

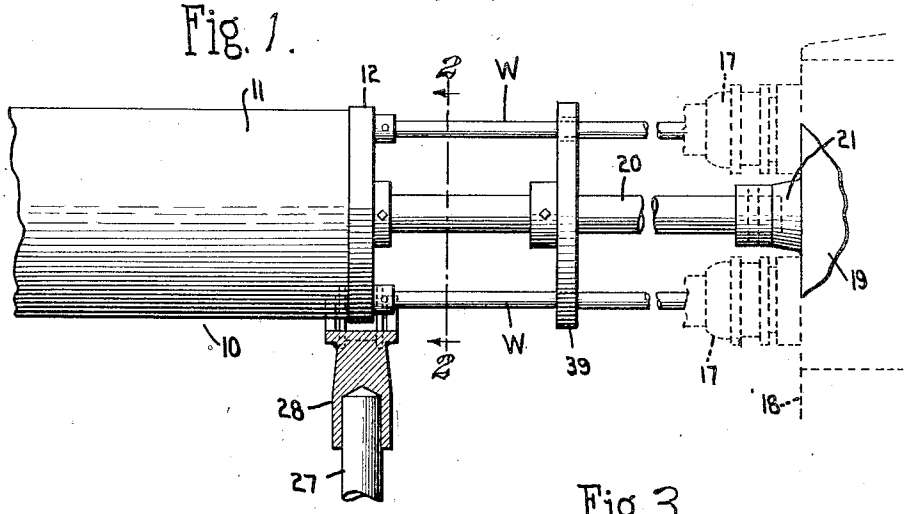


Fig. 2.

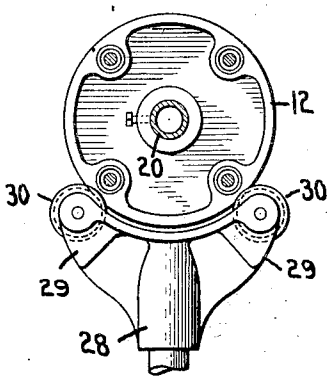


Fig. 3.

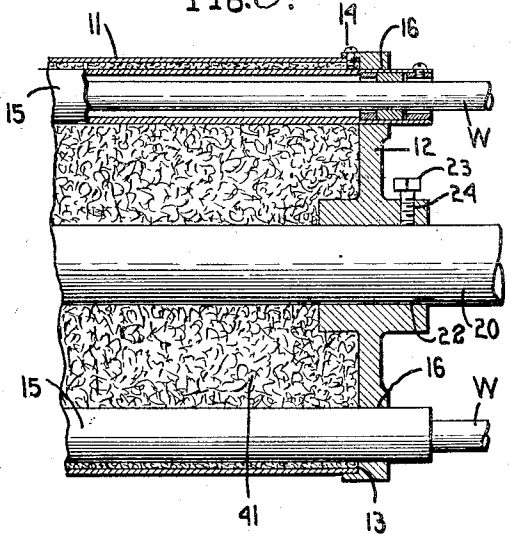


Fig. 4.

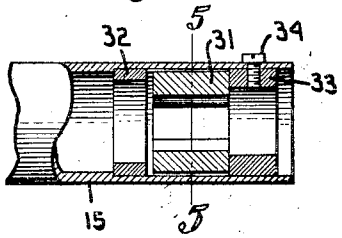
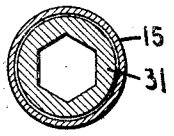


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN P. BROPHY, OF CLEVELAND HEIGHTS, OHIO, ASSIGNOR TO THE CLEVELAND AUTOMATIC MACHINE COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

STOCK REST.

Application filed May 21, 1923. Serial No. 640,369.

To all whom it may concern:

Be it known that I, JOHN P. BROPHY, a citizen of the United States, and a resident of Cleveland Heights, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Stock Rests, 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 relates to stock rests referring more particularly to a new and improved type of stock rests wherein a bar or bars of stock are rotatably held in aligned feeding position for use in connection with metal working machines, the same being in the nature of an improvement on the stock rest disclosed in my copending application, Serial No. 566,014.

In such machines the stock is supplied in bars of considerable length to the spindles which are adapted to receive and support one end of such bars, while the other ends thereof are rotatably supported by one or more supporting members, commonly known as stock rests. In machines of the metal working class it is usual to revolve the spindles, and consequently the bars of stock, from which construction considerable noise results, due to the rapid rotation and vibration of the long bars of stock.

The present invention has for its principal object to provide a simple, rugged and efficient stock rest wherein a bar or bars of stock may be rotatably supported and the noise and vibration of such rotating bars reduced to the minimum.

The above and other objects of this invention will more fully appear from the following description and accompanying drawings and will be especially pointed out in the annexed claims.

In the drawings:—

Fig. 1 an enlarged elevation of the forward end of the present device showing the connection thereof with the spindle turret of such automatic machine; Fig. 2 an end elevation of the stock rest as taken on line 2—2 in Fig. 1; Fig. 3 a greater enlarged longitudinal section through one end of the stock rest; Fig. 4 a longitudinal section through one of the stock guiding pipes; and Fig. 5 is a transverse section on line 5—5, Fig. 4.

While in the foregoing and in the following description mention is made of a multiple spindle automatic metal working machine which is adapted to simultaneously receive a plurality of bars of stock, it is to be understood that the present invention contemplates the use in construction of a stock rest embodying its muffling or silencing features as defined herein, which may be used on a metal working machine having only one spindle.

As seen from the drawings, the stock, which is designated by the letter W, is supported at one end of a metal working machine in longiudinal alignment with the rotating spindles thereof. Means for supporting the stock externally of the machine herein comprises a hollow cylindrical member or members 10, any number of which may be coupled together in alignment and used, depending upon the length of stock used, as will be presently set forth. Each of such members is constructed with a main longitudinal body portion in the form of a cylindrical shell 11, having its ends closed by end plates 12. Such end plates are disk-like in form and may be annularly recessed at 13 to receive the end of the cylinder 11, any suitable means being provided, such as screws 14, for securing the parts 11 and 12 together to provide the closed cylindrical members 10.

15 denotes a plurality of tubular members or pipes which extend longitudinally through the cylinder 10 and are received in aligned apertures 16 provided in end plates 12. The screws 14, or any suitable additional means, may be used for retaining pipes 15 in the cylinder 10. The pipes 15 are adapted to receive therein the bars of stock and rotatably support such stock in proper alignment with the spindles 17 of the metal working machine 18, which is shown in the drawings in the form of a multiple spindle automatic machine as embodied in my co-pending application Serial No. 638,512, filed May 12, 1923.

In such machines the spindles 17 are rotatably supported in a revoluble spindle turret 19. As the spindle turret is adapted to be revolved it is necessary to provide means for revolving the cylinder 10 together

with said turret so that the pipes 15 will be kept in proper alignment with the spindles 17. Such means may comprise a centrally arranged shaft 20 which has its forward end removably secured in a boss 21, provided in the center on the rear face of the turret 19. The shaft 20 extends rearwardly through the center of the cylinder 10, being received in suitable central apertures 22 provided in the end plates 12. The member 10 is secured on to the shaft 20 by set screws 23 located in annular bosses 24 provided on plates 12. Therefore, it will be apparent that, as the spindle turret is revolved, the cylinder 10 will turn with it and maintain the alignment between the pipes 15 and the spindles 17. In case where the stock is of great length, two or more of the cylinders may be mounted on the shaft 20 with the pipes 15 thereof in alignment. Such arrangement is desirable as it provides several bearing points for the stock intermediate its ends. A universal joint 25 may be supplied in the shaft 20 between the turret and the cylinder member 10 to eliminate any binding or strain on such turret as might be caused by a very slight misalignment of the member 10. An additional stock supporting member 39 may be mounted on the shaft 20 between the spindle turret and the stock rest for the purpose of supporting the short ends of the stock after they leave the cylinder 10. On certain machines due to the stock feeding mechanism, it is impossible to mount the cylinder in close proximity to the spindle turret and it is in such cases that the member 39 may be employed.

The cylinder 10 is supported at its ends for rotation by upright standards, each comprising a base 26, in which is adjustably received a vertical column 27 carrying at its upper end a bracket 28. The bracket 28 is provided with transversely extending arms 29, in which are journaled rollers 30 upon which the end plates 12 of the cylinder 10 are adapted to be rotatably supported. Any number of such standards may be supplied to support the stock rests of this invention, there being shown in Fig. 1 only one at each end of the dual arrangement of cylinders 10.

In use the stock is fed through the pipes 15 to the rotating spindles, and to silence or deaden the noise caused by the rotation and vibration of the stock within such pipes I provide in the cylinder 10 a suitable sound insulating material 41. Such material may consist of a packing, as mineral wool, cotton, felt, etc., and is packed within the shell 11 around the pipes 15 and the shaft 20. Thus any vibration occurring in the pipes 15 will be efficiently muffled and the noise confined within the member 10.

Means for supporting the stock centrally of such pipes 15 may be provided to further assist in reducing the noise and vibration of the rotating stock. Said means comprise rotatable bushings 31, one each of which are supplied within the pipes adjacent each end thereof. As seen from Fig. 4, the end of each pipe is bored out a suitable distance to receive the bushing 31 and its retaining means which consists of a fixed collar 32 adapted to prevent longitudinal movement of the bushing in one direction, and of a removable collar 33 provided in the pipe at the other side of said bushing. The above construction also adapts the improved stock rest for various sizes of stock, it being only necessary to remove collars 33 and place the correct size of bushing 31 in place. It will also be been that in the use of the present stock rest on hexagonal or other flat sided stock, the wear will be greatly reduced because of the central arrangement of the supporting bushings 31. As seen in Figs. 1 and 4, the pipes 15 are projected a sufficient distance beyond each end of the cylinders 10 to allow free access to screws 34 employed to retain the collars 33 in place.

It will be obvious from an understanding of the foregoing that I have accomplished the objects primarily stated, and that I have provided a simply constructed stock rest which will efficiently muffle or silence the vibration and noise resulting from the rotatable supporting of a long bar of stock. The embodiment of the invention illustrated in the drawings is intended to be illustrative only, and no unnecessary limitations in the construction and arrangement of parts should be construed therefrom.

Having thus described my invention I claim:—

1. A stock rest comprising a hollow cylinder, a longitudinally extending pipe carried inside said cylinder, rotatable bushings in each end of said pipe, and sound insulating material surrounding said pipe within the cylinder.

2. A stock rest comprising a hollow cylinder, a plurality of parallel longitudinally extending pipes carried inside said cylinder, rotatable bushings in each end of said pipes, and sound insulating material surrounding said pipes and spacing them from the inner surface of the cylinder.

3. A stock rest comprising a hollow cylinder, a longitudinally extending pipe carried inside said cylinder, removable rotatable bushings in each end of said pipe, means for retaining said bushings from longitudinal movement in the pipe, and sound insulating material between said pipe and the inner surface of said cylinder.

Signed by me, this 18 day of May, 1923.

J. P. BROPHY.