Nov. 22, 1932. C. F. WEAVER ET AL 1,888,302

ROLL TRUING APPARATUS

Filed March 6, 1930 2 Sheets-Sheet 1

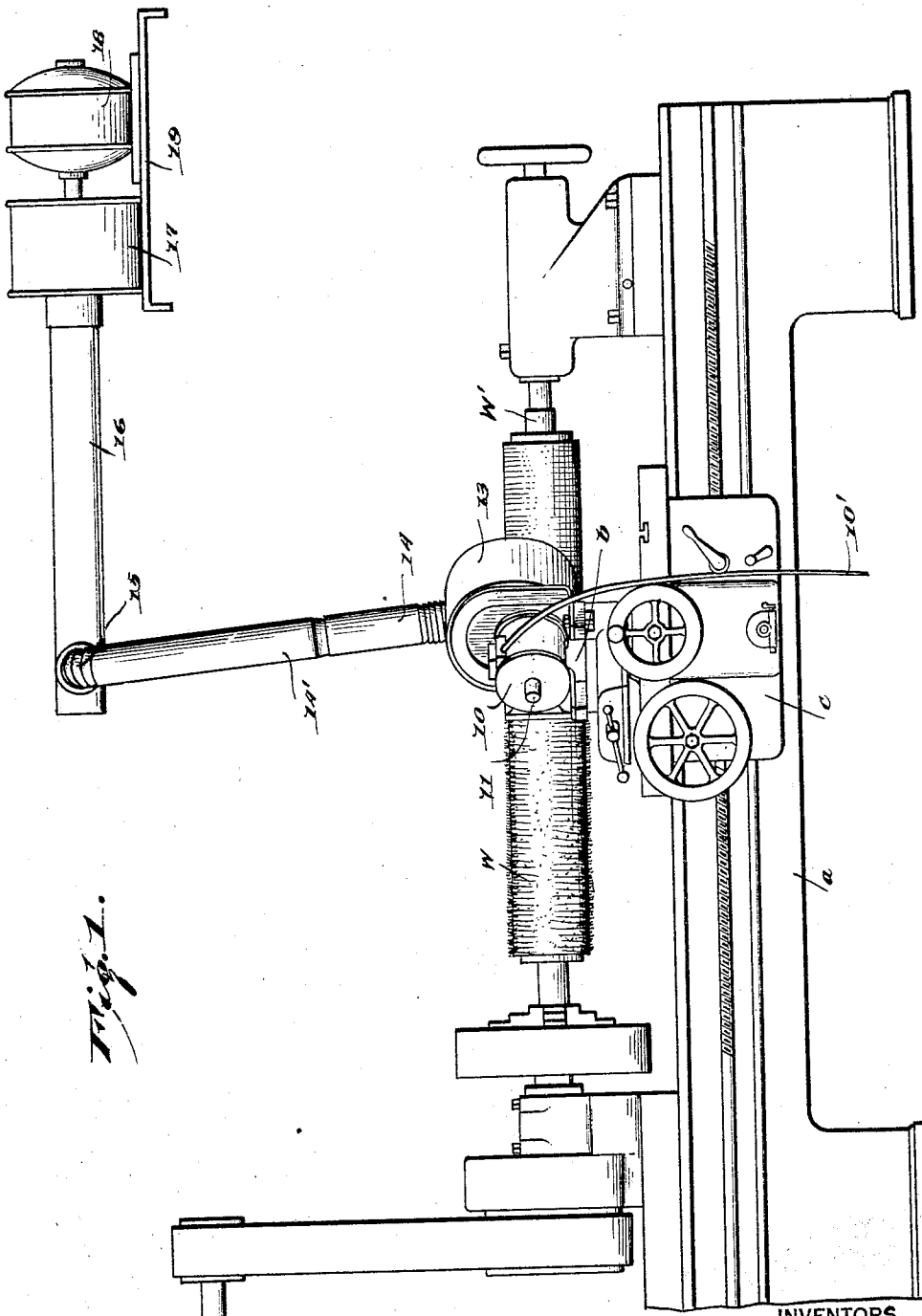


Fig. 1.

WITNESSES

C. E. Mann

John E. Burge.

INVENTORS

C. F. Weaver, R. W. Hyman and G. H. Wheatley,

BY Munn & Co.

ATTORNEY

Nov. 22, 1932. C. F. WEAVER ET AL 1,888,302

ROLL TRUING APPARATUS

Filed March 6, 1930 2 Sheets-Sheet 2

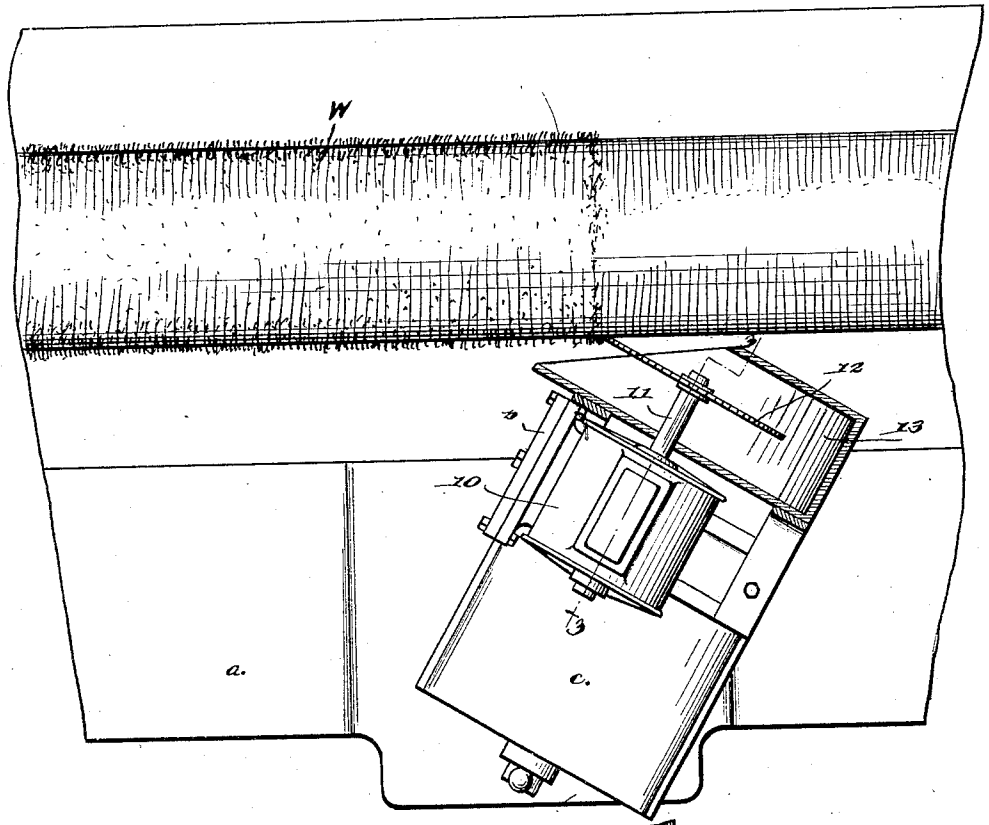


Fig. 2.

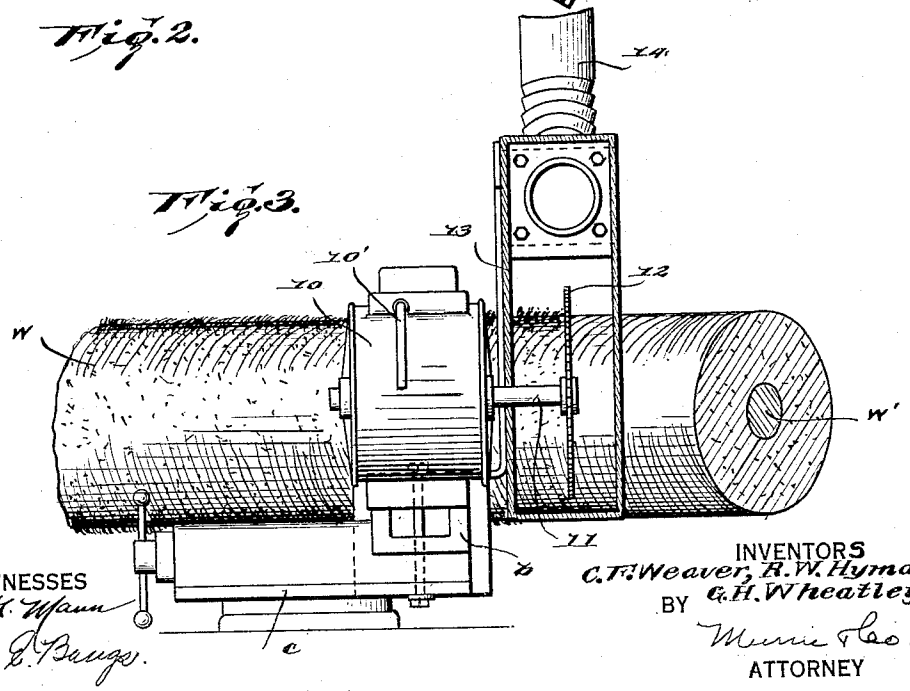


Fig. 3.

WITNESSES
C. A. Mann
John E. Bangs.

INVENTORS
C. F. Weaver, R. W. Hyman,
G. H. Wheatley,
BY
Munn & Co.
ATTORNEY

Patented Nov. 22, 1932

1,888,302

UNITED STATES PATENT OFFICE

CHARLES F. WEAVER, ROBERT W. HYMAN, AND GEORGE H. WHEATLEY, OF ASHLAND, KENTUCKY

ROLL TRUING APPARATUS

Application filed March 6, 1930. Serial No. 433,752.

This invention appertains to improvements in roll truing apparatus generally, and has for its object the provision of a type thereof particularly adapted for truing rolls, such as are commonly employed in steel mills for oiling and drying sheets of steel, and which are made up of disc-like laminations of fabric, such as canton flannel, mounted in massed formation on a metal shaft.

In the practice, unless the surface of an oiling or drying roll is truly cylindrical it will leave objectionable "wet spots" on the metal sheets, and this can only be avoided by accurately truing up the otherwise rough and uneven surface given to a roll in the initial assembling of the fabric laminations or discs on the supporting shaft.

Another object of the invention lies in the provision of a means for collecting the severed portions of the fabric from and about the cutting tool during the truing operation and conveying it away from the apparatus in order to protect the health of the operator and to prevent otherwise objectionable accumulations of the same on or about the apparatus.

With the foregoing and other equally important objects and advantages in view, the invention resides in the certain new and useful combination, construction and arrangement of parts as will be hereinafter more fully described, set forth in the appended claim and illustrated in the accompanying drawings, in which:

Figure 1 is a front elevation of a condensed form of machine lathe, and showing a practical embodiment of the roll truing apparatus installed therein;

Figure 2 is a horizontal section, taken on the line 2—2 of Figure 1; and

Figure 3 is a vertical section, taken approximately on the line 3—3 of Figure 2.

Referring to the drawings wherein like characters of reference designate corresponding parts throughout the several views thereof, the embodiment of the invention, as shown therein by way of example only, is constituted in a power device or electric motor 10 which is mounted in any suitable manner directly on the usual tool post *b* of an ordinary machine lathe *a*.

The rearwardly directed end of the shaft 11, of the motor 10, is preferably elongated to receive a circular cutter, such as a saw 12, on its free end. The tool post *b* and its supporting carriage *c* are to be adjusted to set the motor 10 and the cutter 12 at a proper angle to the work *w*, the latter in the present instance being an oiling or drying roll made up of a series of laminations or discs of canton flannel or other suitable fabric assembled in tightly massed or abutted relation on a metal shaft *w'*.

In order to prevent the surplus material or lint cut or trimmed from the roll *w* by the cutter 12, from accumulating on the lathe *a* or from becoming scattered or blown about the work room or shop a pneumatic gathering and conveying apparatus is provided, and the same consists in a suction head or casing 13 mounted on an upstanding yoke 13′ so as to enclose the cutter 12, with its open side directed toward the roll or work *w*. The yoke 13′ is carried by the tool post *b* of the lathe and is arranged to straddle the motor shaft 11. This open side of the head or casing 13 is angularly formed at the inner end thereof in order to extend substantially parallel to the roll or work *w* in close proximity to the same, whereby to permit the cutter 12 to engage on the surface of the roll or work at a proper working angle.

Swivelled at one side of the head or casing 13 is an upwardly directed elbow 14′ from which rises a lower conduit section 14 which is arranged in telescopic engagement with the upper conduit section 15. The upper end of the conduit section 15 is provided with an angular extension or elbow 15′ which is, in turn, arranged in swivelled engagement with

a stationary conduit section 16 leading to a fan blower or the like 17. This blower 17 is preferably driven from an electric motor 18, and, in the preferred installation, both the blower 17 and the motor 18 will be supported on a bracket or shelf 19 suspended from the ceiling of the work-room. The waste material or lint will be preferably discharged from the blower 17 directly into a suitable receiver (not shown) such as a bag or a so called "cyclone" dust collector.

In the operation of the apparatus, as thus constructed and arranged, and with a roll *w* in position between the usual head and tail stocks of the lathe *a* and the cutter 12 set at a desired angle to the opposed surface of the work, current will be fed to the motor 10 by the lead 10′ from a suitable source of supply (not shown). During the operation of the cutter 12 the carriage *c* will be moved lengthwise of the lathe head in the usual manner and whereby the cutter will traverse the length of the work or roll *w* from one end thereof to the other. At the conclusion of a cutting or truing operation, the roll or work *w* will be found to be truly cylindrical and thereafter ready for subsequent use.

As the cutter 12 and its supporting carriage *c* moves along the lathe bed, the trimmings from the roll or work *w* are drawn, by the suction of the fan blower 17, into the head or casing 13, and is conveyed therefrom through the conduit sections 14, 15 and 16 to a point remote from the apparatus for subsequent disposal. During the movement of the head or casing 13, with the cutter and carriage, the telescopic conduit sections 14 and 15 lengthen and shorten automatically and correspondingly with the reversed directional travel thereof and remain in necessary alinement for the purpose by the swinging movements of the same at the swivelled connections 14′ and 15′.

Without further description, it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention or its scope as claimed.

We claim:

In an apparatus for truing canton flannel rolls and the like, the combination with a lathe, of an electric motor mounted on the tool carriage of the lathe, a circular cutter mounted on the inner end of the rotor shaft of said motor for trimming down the ordinary rough uneven surface of a roll mounted in the usual head and tail stocks of the lathe, an upstanding yoke carried by said tool carriage, a casing carried by said yoke and enclosing said cutter and having an opening therein in immediate proximity to the point of engagement of said cutter with the surface of the roll, the casing being inclined at an angle to the longitudinal axis of the roll, the opening in the casing being in a plane parallel to said axis, and pneumatic means connected to said casing for removing the trimmed material deposited therein, the casing being movable with the head.

CHARLES F. WEAVER.
ROBERT W. HYMAN.
GEORGE H. WHEATLEY.