

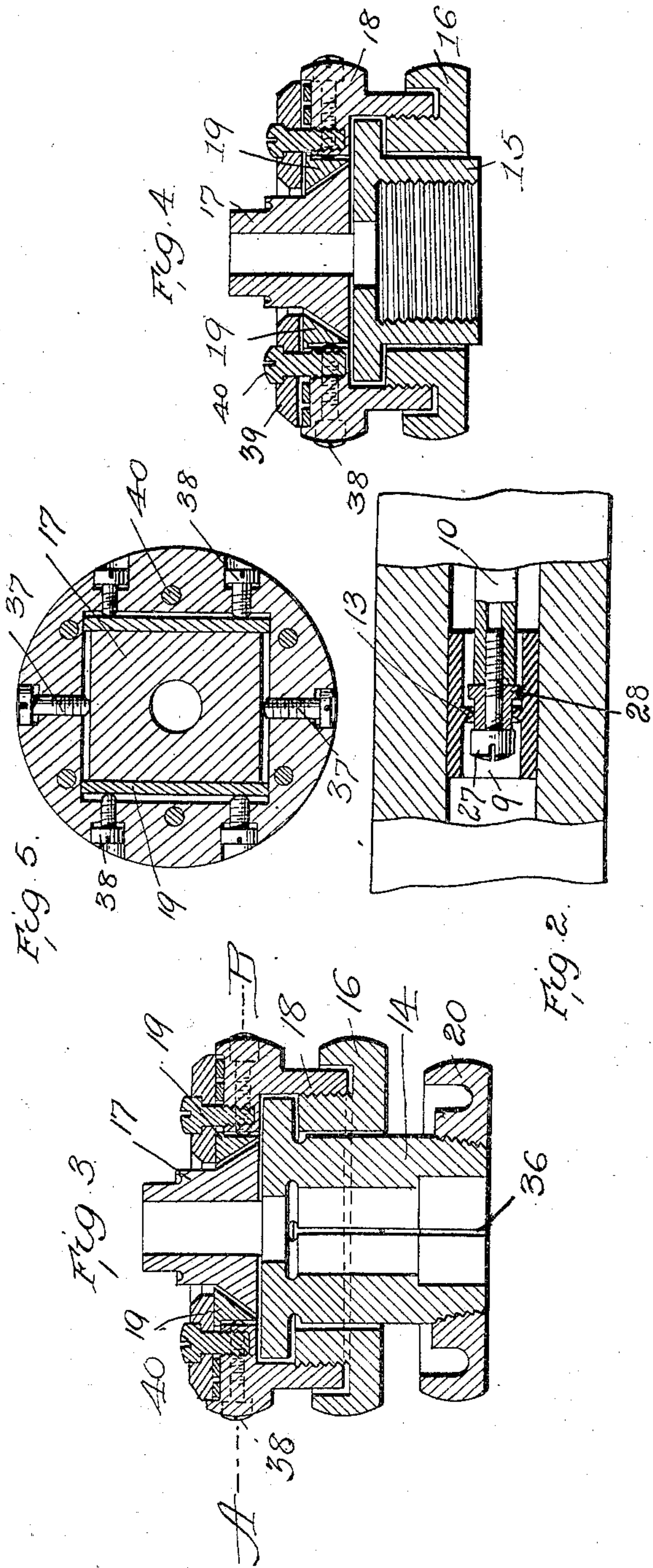
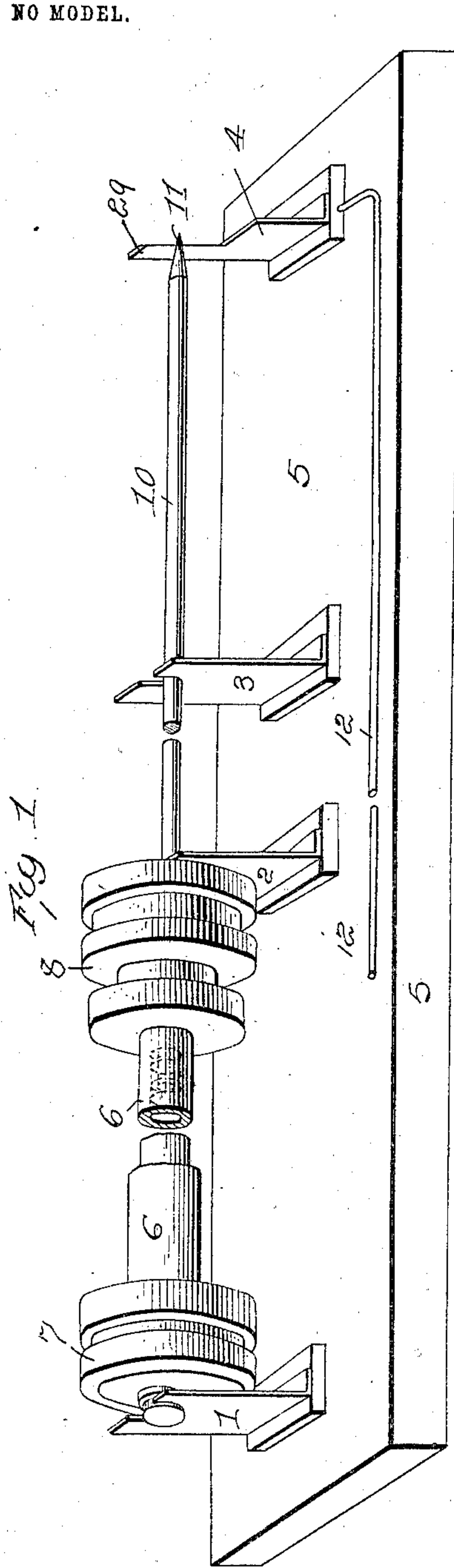
No. 725,293.

PATENTED APR. 14, 1903.

F. STORDEUR.
VERIFYING APPARATUS FOR DRESSING TUBES.

APPLICATION FILED FEB. 9, 1901.

NO MODEL.



Attest:
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UNITED STATES PATENT OFFICE.

FERDINAND STORDEUR, OF BUENOS AIRES, ARGENTINA.

VERIFYING APPARATUS FOR DRESSING TUBES.

SPECIFICATION forming part of Letters Patent No. 725,293, dated April 14, 1903.

Application filed February 9, 1901. Serial No. 46,671. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND STORDEUR, a subject of the King of Belgium, residing at Buenos Aires, Argentina, have invented a
5 Verifying Apparatus for Dressing Tubes, Gun-Barrels, Cannons, and the Like, of which the following is a specification.

This invention has for its object to provide an apparatus which indicates on the surface
10 of the tube, cannon, or gun-barrel to be dressed any sinuosities existing in the interior of said tube, cannon, or gun-barrel. Hitherto such imperfections have been ascertained only by means of light thrown onto the inner
15 walls of said tube, a method which does not enable the operator to ascertain either the length or the width of their extent or even the exact position of such defects. My device permits of the necessary correction being
20 made at the exact spot and with no more force than strictly necessary, since it not only indicates the extent and importance of the internal defect at the exact spot in respect to the length of the tubes, but also at the pre-
25 cise point of circumference on the outer surface of the said tube.

The same numerals of reference indicate the same parts in all the figures, and the specification accompanying the drawings is made
30 so that any professional person can construct the apparatus.

In the drawings, Figure 1 represents a perspective view of the complete apparatus with the gun-barrel and indicator-arm broken
35 away to avoid too extensive a drawing. Figs. 2, 3, and 4 are sectional details. Fig. 5 is a detail sectional view through the chuck 8 on line A B thereof.

The device consists principally of a base 5
40 with the rigidly-secured supports 1 and 2 and adjustable supports 3 and 4. The gun-barrel 6 rigidly locked and perfectly centered in the centering plates or chucks 7 8 can rotate freely together with the said plates in the in-
45 denture of the supports 1 and 2 by the simple pressure of the operator's hand. Both ends of the barrel-bore being strictly coaxial with the external parts of the sectional view of the centering plates or chucks 7 8, it is obvious
50 that the slightest sinuosity or defect in the bore will by the rotation of the barrel 6 produce an eccentric movement of the inner

walls at the place of their deviation or want of truth. When passing slowly through the bore of said gun-barrel, the small feeler-roller
55 9, journaled at the end of the rod 10, on encountering at any particular point a sinuosity higher or lower than the rest of the bore will partake of this eccentricity and communicate the same eccentric movement to the opposite
60 end or pointer 11 of the indicator-rod 10. The portion of the indicator-rod 10 located without the barrel rests on and rotates freely in an indenture in the adjustable support 3 in a way to permit its axis at this point to
65 coincide with that of the bore at the muzzle of the said barrel. Now if the adjustable support be placed at the center of the indicator-rod 10 the opposite end of this rod naturally will execute the same movement as
70 the end bearing the roller 9, and if the support 3 be placed nearer the roller 9 this movement will be proportionately amplified. The feeler-roller 9 is tubular and of a diameter
75 equal to that of the barrel-bore. It is externally perfectly cylindrical; but in order to oscillate freely on the rod 10 it is provided internally with a small collar 13, bearing on the end of the indicator-rod 10. A flat-headed
80 screw 27 is screwed into the end of the indicator-rod 10 to keep the feeler-roller 9 from slipping off, while a shoulder 28 prevents the said roller from sliding backward. The indicating-plate secured to adjustable support 4
85 has a tapered edge 29 to cooperate with the pointer 11. When performing its eccentric movement, the pointer 11 of the indicator-rod will indicate the greater or lesser extent of the defect by approaching or removing
90 from the tapering edge of the plate secured to the adjustable support 4. The said pointer must not bear forcibly upon the tapering edge, but should pass slightly above it. This arrangement affords a far better mode of ob-
95 serving than the one in which a pointer is made to perform its movements simply in front of any surface. The said tapering plate and its support being adjustable, they may at all times follow the pointer and to be nearer
100 to or farther from the end of the barrel 6 as the indicator-rod is introduced or extracted, respectively, and this for two reasons—first, because the tapering edge of the plate must always be in proximity to the pointer, so as to

be able to indicate any eccentricity, and, second, to enable the rod 12, having the same length as the rod 10 and secured to the adjustable support 4, to indicate by means of its free end on the outer surface of the gun-barrel the position of the feeler-roller in the interior of the said barrel.

During the construction of a gun and before finishing the outer surface of the barrel the employment of the centering plates or chucks 7 8 can be dispensed with by simply turning the ends of the tube or gun-barrel to be constructed externally to any preferred diameter, so that they are perfectly concentric with the bore both at the mouth and at the breech of the gun. The said centering-plates (for which I have not made any claim) are solely for supporting a finished gun-barrel that owing to its projecting sight or its breech cannot turn concentric with its bore upon the supports 1 2. I only mention them here for the purpose of answering any objections to the use of my verifying apparatus as a device for dressing gun-barrels whose inner eccentricity or deviation, if any there be, cannot be corrected with respect to the bore at both ends.

For verifying finished gun-barrels I have constructed two chucks 7 8, Fig. 1. These chucks are alike with the exception of the pieces 14, 15, and 20, which are intended to be secured at the muzzle and breech, respectively, of the barrel 6. The piece 14, which is secured at the muzzle of the barrel by means of the conical nut 20, is provided with three elongated slots 36 in order to allow locking under the pressure of the nut 20. The piece 15 screws directly into the screw of the breech of the barrel 6. By means of screw 37, arranged at each side of the piece 18, the dovetail portion 17 is caused to move transversely in said piece and, furthermore, to adjust the slides of the piece 17 in a transverse line to the axis of the parts 14 and 15. The wedges 19 are regulated by means of the screw 38, and then they are locked by means of the cover 39 by means of the screws 40, which are screwed into the

piece 18. The bearing-shaft may be arranged so that it will register with the axis of the barrel 6 by turning the piece 18 sufficiently in order to get a perfect register, after which the pieces 17 are secured in their adjusted positions by screwing strongly the pieces 16 and 18.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination in a verifying apparatus, a feeler-rod shouldered at one end, a feeler-roller journaled on the said shouldered end and adapted to oscillate thereon as well as turn and supporting and indicating means for the said rod, substantially as described.

2. In a verifying apparatus for dressing tubes, gun-barrels and the like, the combination of a feeler-rod having a shoulder at one end, a feeler-roller journaled at the said shouldered end and adapted to oscillate, two adjustable supports one of which serves as a fulcrum for the feeler-rod and the other serving as an indicator in connection with the end of said feeler-rod and an indicator-rod, said rod serving to indicate the position of the feeler-roller without the gun-barrel, substantially as described.

3. In a verifying apparatus for dressing tubes, gun-barrels and the like, the combination of a feeler-rod having a shoulder at one end, a feeler-roller journaled at the said shouldered end and adapted to oscillate, two adjustable supports, one of which serves as a fulcrum for the feeler-rod and the other serving as an indicator in connection with the end of said feeler-rod and an indicator-rod, said rod serving to indicate the position of the feeler-roller within the gun-barrel and two rigid supports in which the gun-barrel is journaled, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

FERDINAND STORDEUR.

Witnesses:

LOTHAIR N. HAANZ,
DANIEL MAYER, Jr.