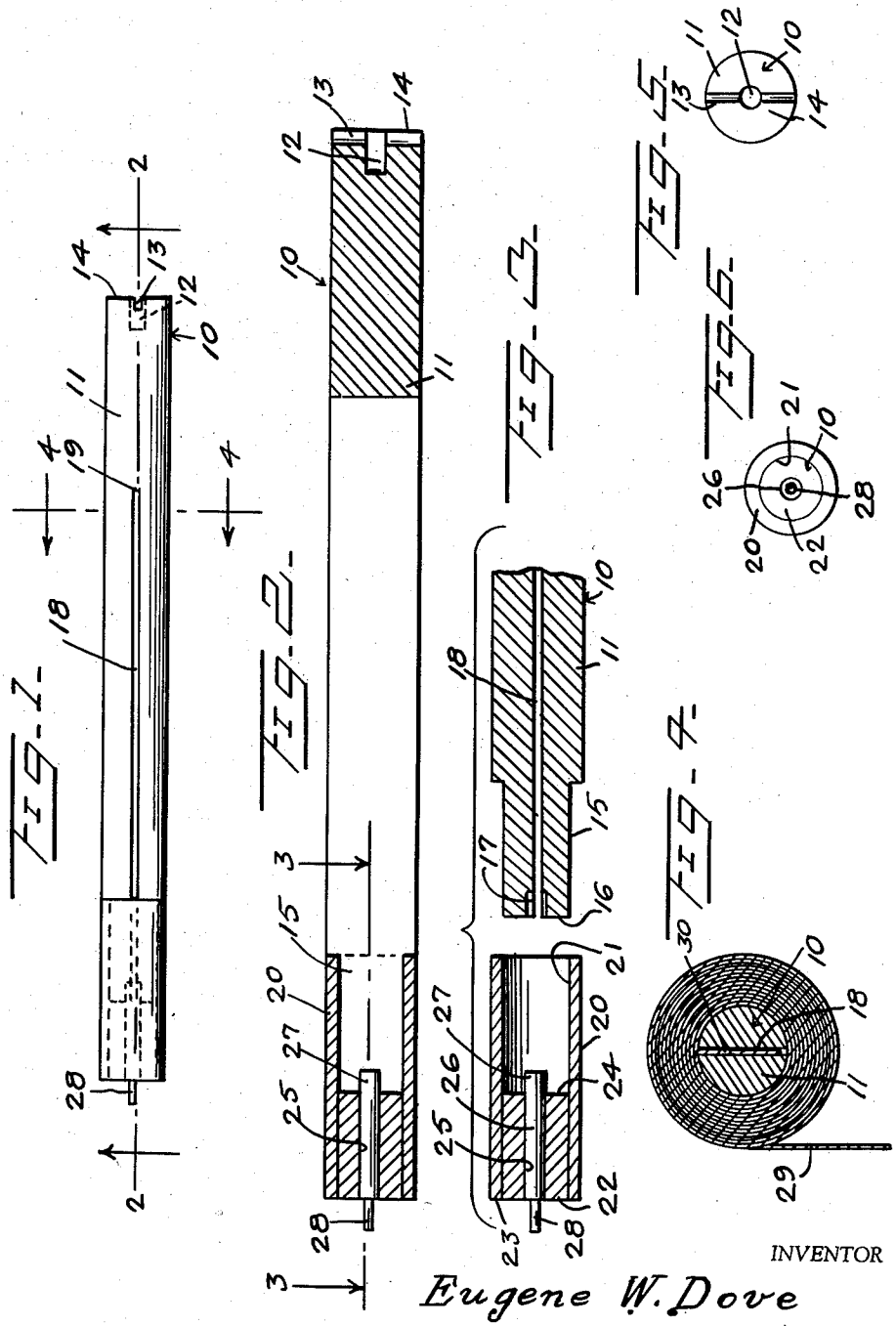
Dec. 9, 1958 E. W. DOVE 2,863,614

CHART SPOOL

Filed May 22, 1956



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United States Patent Office 2,863,614 Patented Dec. 9, 1958

2,863,614

CHART SPOOL

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Application May 22, 1956, Serial No. 586,597

1 Claim. (Cl. 242—74)

The present invention relates to chart spools, and more particularly to such devices which are adaptable to having the chart readily removed therefrom.

The primary object of the invention is to provide a chart spool upon which a chart can be wound and from which the chart can be easily removed when completely wound thereon.

Another object of the invention is to provide a chart spool of the class described above which can be separated to permit the removal of the chart therefrom.

A further object of the invention is to provide a chart spool of the class described above which is inexpensive to manufacture, simple to use, and positive in its action.

Other objects and advantages will become apparent in the following specification when considered in the light of the attached drawings, in which:

Figure 1 is a side elevation of the invention.

Figure 2 is an enlarged longitudinal cross-section taken along the line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a fragmentary exploded longitudinal cross-section taken along the line 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is an enlarged transverse cross-section taken along the line 4—4 of Figure 1, looking in the direction of the arrows.

Figure 5 is an end elevation of one end of the spool.

Figure 6 is an end elevation of the end of the spool opposite to Figure 5.

Referring now to the drawings in detail wherein like reference characters indicate like parts throughout the several figures, the reference numeral 10 indicates generally a spool constructed in accordance with the invention.

The spool 10 includes an elongated solid cylindrical body portion 11 having a short axial bore 12 extending inwardly from one end thereof. A transverse slot 13 extends radially across the end 14 of the spool 10 intersecting the bore 12. The body 11 is provided with a reduced diameter portion 15 adjacent the end 16 thereof opposite the end 14. A bore 17 extends axially inwardly of the body 11 from the end 16 thereof a short distance into the body 11. The body 11 is bifurcated by a slot 18 extending from the end 16 a substantial distance toward the end 14 thereof terminating at a point 19.

A sleeve 20 having a length greater than the reduced diameter portion 15 of the body 11 is provided with an internal bore 21 having a diameter adapted to fit over the reduced portion 15 of the body 11. The external diameter of the sleeve 20 is identical to the external diameter of the major portion of the body 11.

A bushing 22 is positioned in the sleeve 20 projecting inwardly from the end 23 of the sleeve 20 so that its inner end 24 provides an inner end for the bore 21 so positioned that the reduced portion 15 of the body 11 can be completely received therein. The bushing 22 has an axial bore 25 extending therethrough and is provided with a shaft 26 which projects into the bore 21 as at 27 a distance equal to the depth of the bore 17 in the body 11. A reduced outer end portion 28 is provided on the shaft 26 and arranged to project beyond the end 23 of the sleeve 20.

Figure 2 of the drawings illustrates the assembled position of the spool 10, while Figure 3 illustrates the position of the members with the sleeve 20 removed from the reduced portion 15 of the body 11.

In the use and operation of the invention, the spool 10 is mounted in a chart mechanism in a conventional manner with the bore 12 being positioned over a stub shaft in the mechanism and the slot 13 receiving a transverse driving pin which is adapted to rotate the spool 10. The reduced end portion 28 of the shaft 26 is similarly journalled within a suitable bore in the chart mechanism in a conventional manner with the sleeve 20 in the position illustrated in Figure 2.

A chart web 29 has one end 30 thereof inserted within the slot 18 of the body 11 so that the spool 10 will grip the web 29 upon rotation thereof to wind the web 29 upon the spool 10. When the web 29 has been completely wound upon the spool 10, the spool 10 is removed from the mechanism and the sleeve 20 is removed from the reduced portion 15 of the body 11 freeing one end of the slot 18 so that the web 29 can be axially slid from the body 11 while remaining in a rolled condition.

The portion 27 of the shaft 26 extends into the bore 17 in the body 11 preventing the slot 18 from becoming compressed by the wrapping of the web 29 thereabout to the extent that the body 11 might become clamped on the end portion 30 to prevent the removal of the web 29 after the sleeve 20 has been removed.

In previous constructions utilized as spools for chart machines or mechanisms it has been necessary to unroll the web from the spool by hand to release the spool for further use. Obviously, such an operation is time consuming, inefficient, and costly. With the present invention, hand unwinding and rewinding is completely eliminated.

Having thus described the preferred embodiment of the invention, it should be understood that numerous structural modifications and adaptations may be resorted to without departing from the scope of the appended claim.

What is claimed is:

A chart spool comprising an elongated solid cylindrical body, a cylindrical reduced end portion formed on one end of said body, said body having a short shaft receiving bore formed axially in the end thereof opposite said reduced end portion, said body having a driving slot extending transversely of the end of said body having said axial bore, said body having an elongated bifurcating slot extending inwardly from the end thereof having said reduced end portion and terminating adjacent to but spaced from the end of said body having said axial bore, said bifurcating slot being adapted to receive the end portion of a chart therein to be wound on said spool, said reduced end portion of said body having an axial bore formed therein, a cylindrical sleeve telescopically engaged over said reduced end portion closing the open end of said bifurcating slot, a bushing supported in the outer end of said sleeve, and a shaft having the intermediate portion thereof supported in said bushing with the inner end thereof engaging in the axial bore in said reduced end portion of said body to maintain the sides of said bifurcating slot in spaced relation.

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