

Aug. 28, 1928.

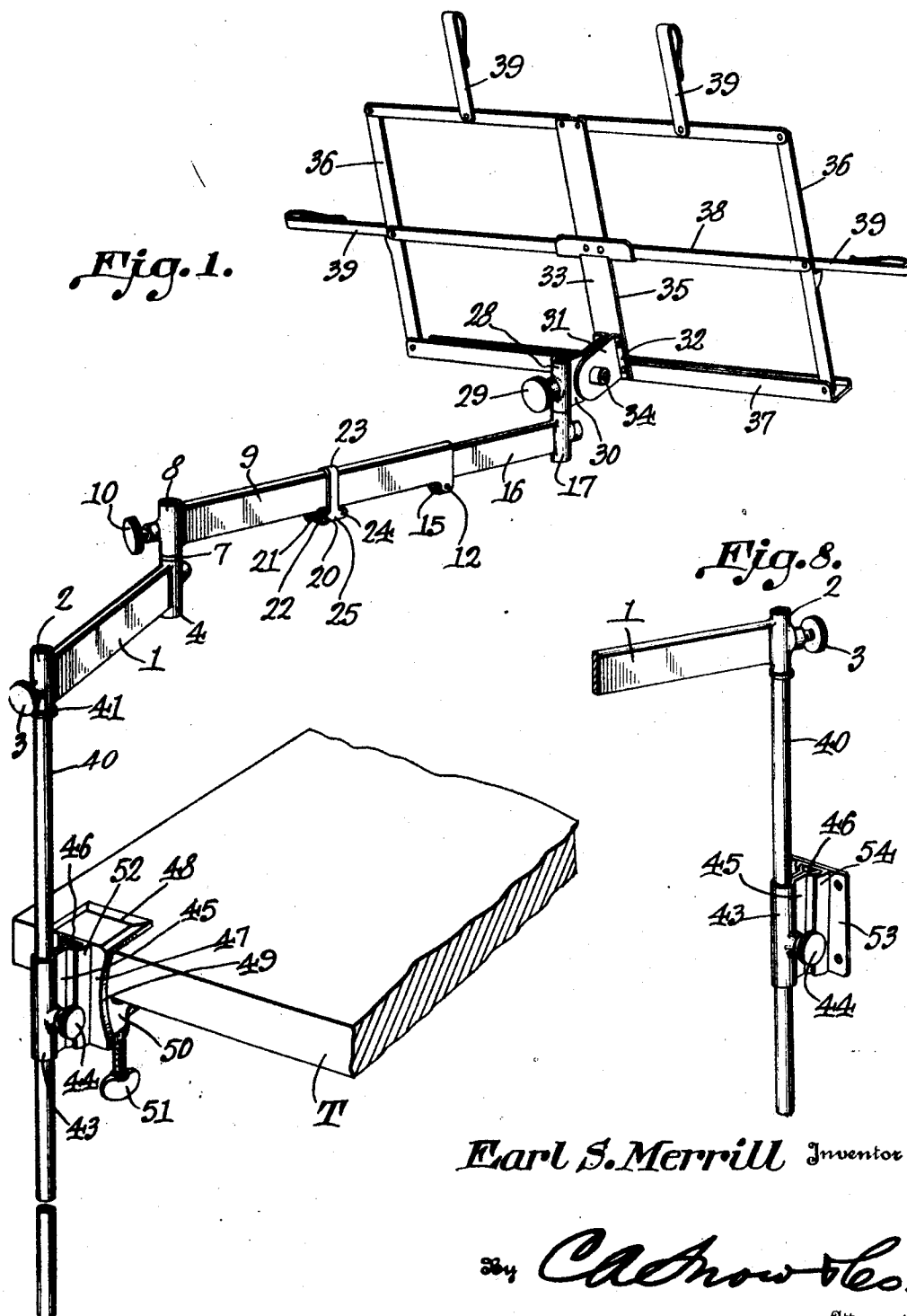
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E. S. MERRILL

RACK

Filed May 7, 1927

2 Sheets-Sheet 1



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1,682,180

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2 Sheets-Sheet 2

Fig. 2.

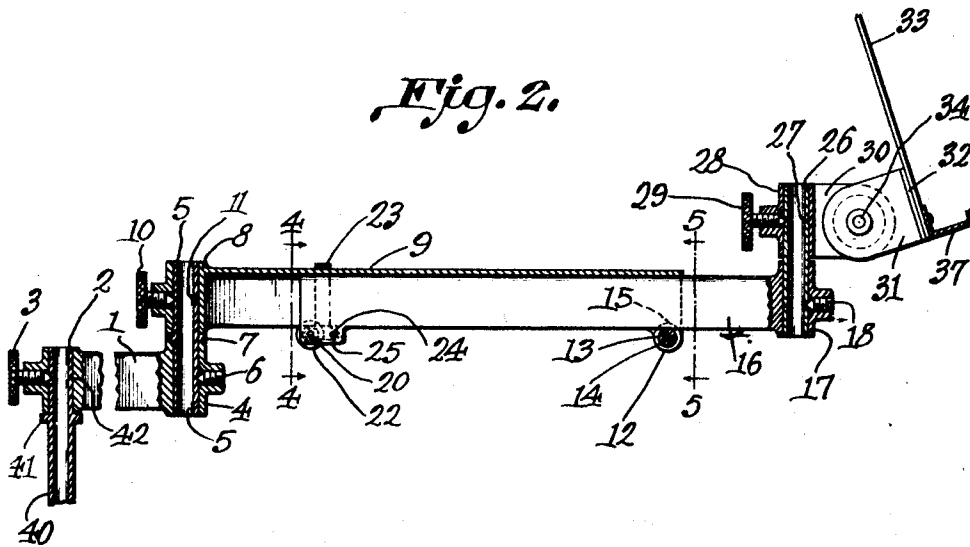


Fig. 4.

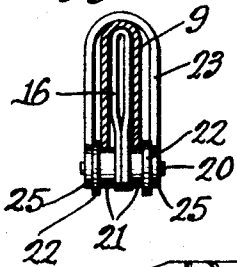


Fig. 3.

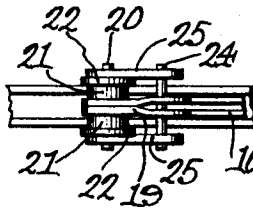


Fig. 5.

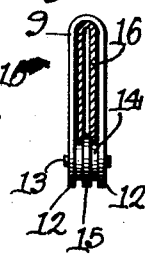


Fig. 6.

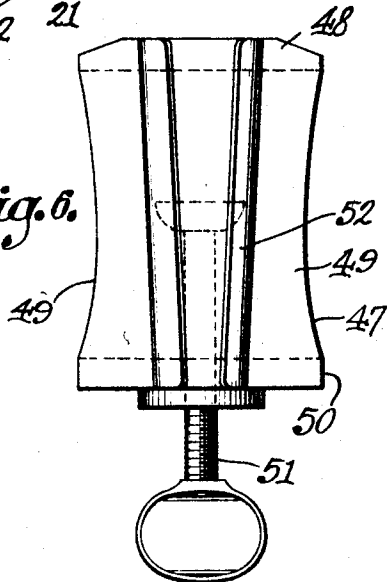
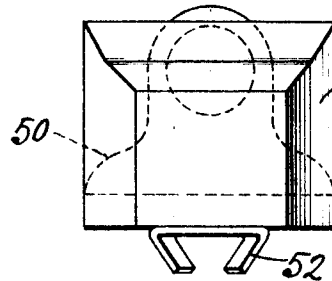


Fig. 7.



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UNITED STATES PATENT OFFICE.

EARL S. MERRILL, OF KANSAS CITY, MISSOURI.

RACK.

Application filed May 7, 1927. Serial No. 189,686.

This invention relates to a rack designed for use as a copy holder, music rack or stand, and for similar purposes. It is more particularly an improvement upon the structure disclosed in my Patent No. 1,243,856 issued on October 23rd, 1917.

One of the objects of the invention is to provide a simple and efficient rack of this character which can be compactly stored, when not in use, and can be easily set up to be used for the purpose intended, means being employed whereby it can be connected readily to a desk, table or like support, to a wall, or to a suitable stand.

Another object is to provide a rack of this character the head of which is adjustable to any desired position so that the manuscript or other article mounted thereon can be held wherever desired, the support for the head being constructed for both angular and horizontal adjustment.

A still further object is to provide a novel form of supporting arm which can be easily extended or shortened, the parts being movable readily and being held against separation.

Another object is to provide a supporting bracket and a member cooperating therewith by means of which the rack can be quickly placed in or removed from engagement with its supporting means.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings, the preferred forms of the invention have been shown.

In said drawings,

Figure 1 is a rear perspective view of the rack supported by the edge of a desk top or the like.

Figure 2 is a vertical longitudinal section through the jointed and extensible supporting arm, adjacent parts being shown.

Figure 3 is a bottom plan view of the extensible section of the supporting arm.

Figure 4 is an enlarged section on line 4—4, Figure 2. 55

Figure 5 is an enlarged section on line 5—5, Figure 2.

Figure 6 is an elevation of a combined socket member and clamp for attachment to a desk or the like. 60

Figure 7 is a plan view thereof.

Figure 8 is a perspective view of a portion of the rack showing a modified means whereby the same can be connected to a wall or similar structure. 65

Referring to the figures by characters of reference 1 designates a member of a jointed supporting arm, this member being provided at one end with a sleeve 2 into which extends a set screw 3. Another sleeve 4 is provided at the other end of the arm 1, there being a pivot tube 5 seated in this sleeve and projecting upwardly therefrom, the tube being held fixed to the sleeve by a set screw 6 or any other suitable means. A spacing collar 7 may be formed integral with the pivot tube or pintle 5 so as to constitute a bearing or abutment for a sleeve 8 located at one end of a longitudinally channeled arm member 9. A set screw 10 is carried by the sleeve 8 and normally projects into an annular groove 11 formed in the pintle 5. When thus located the screw 10 prevents the sleeve 8 from slipping off of the pintle 5 but at the same time permits rotation of the sleeve upon the pintle. 70 75 80 85

Depending from the free end of the channeled member 9 are ears 12 constituting bearings for the trunnions 13 of an anti-friction roller 14. This roller bears at its ends against the inner sides of the ears 12 as shown particularly in Figures 3 and 5 and is provided, at its center, with an annular flange 15. 90

A narrow longitudinally channeled arm member 16 is slidably mounted within the member 9 and has its edges bearing downwardly on the roller 14 at opposite sides of the flange 15. One end of this member 16 has an integral sleeve 17 provided with a set screw 18 while the other end of the member, which is located within the member 9, has its sides closed together, as shown at 19, to provide a bearing for a pin 20 extending through 95 100

spaced anti-friction rollers 21. Each of these rollers engages one of the edges of the member 9 and has an annular flange 22 at its outer end for lapping the outer surface of one of the sides of member 9. The inner ends of the rollers 21 thrust against the portion 19 of member 16. The outer ends of the pins 20 are supported in the end portions of a yoke 23 which straddles and slides upon the member 9. A cross pin 24 also connects the lower portion of the yoke, this pin extending through the adjacent end portion of the member 16 which, as shown particularly in Figure 2, is extended downwardly at 25 to receive the pins 20 and 24 and support them below the plane of the edges of member 9.

Seated within the sleeve 17 and securely held therein by the set screw 18 is a tubular pintle 26 the projecting portion of which is provided with an annular groove 27 in its outer surface. On this projecting portion of the pintle is mounted a sleeve 28 carrying a set screw 29 the end of which is adapted to project into the groove 27 and thus hold the sleeve to the pintle but at the same time permit rotation thereof if so desired. An ear 30 is extended radially from the sleeve 28 and projects between parallel ears 31 extending from a bracket 32 secured to the lower portion of the back of the head 33 of the rack close to the bottom thereof. A clamping screw 34 is extended through the ears 30 and 31 and not only serves to bind them together so as to hold the parts against relative movement, but also constitutes a pivotal connection between the parts when angular adjustment is desired.

The head 33 can be of any preferred construction but is preferably so made that the same can be folded into a compact bundle. For example said head can include a central strip 35 and side strips 36 parallel therewith, the said strips being connected at their lower ends by ledge strips 37 and at their upper ends and at intermediate points by links 38. As the links and ledge strips are parallel and as the parts are all pivotally connected it will be apparent that the head of the rack can thus be easily folded or collapsed by swinging the ledge strips upwardly and inwardly toward each other. Extension clips 39 can also be mounted on the head wherever desired for gripping and holding the edges of manuscript or the like mounted on the head.

The jointed supporting arm consisting of the members 1, 9 and 16 and their connections is adapted to be carried by a standard 40 which has an annular shoulder 41 adapted to bear against one end of the sleeve 2 when the end of the standard is inserted into the sleeve. This standard has an annular groove 42 for the reception of the end of the set screw 3. Consequently the sleeve can be held assembled with the standard and at the same time

rotate thereon if so desired. As shown in Figures 1 and 2 this standard can be arranged below the jointed arm so as to project upwardly into the sleeve 2 but it is to be understood that, under some conditions, it might be desirable to invert the standard and extend it downwardly to and into the sleeve 2. Mounted on the standard 40 is a sleeve 43 adapted to be adjustably held to the standard by a set screw 44. A flange 45 is extended from the sleeve and is arranged longitudinally thereof, this flange having a dovetail 46 along its free edge tapered in one direction.

In the structure illustrated in Figure 1 a clamp 47 is provided for engagement by the dovetail 46. This clamp includes a head 48, a connecting web 49, and an ear 50. The ear is parallel with and spaced from the head and carries a clamping screw 51. A tapered dovetail socket member 52 is carried by the web 49 and adapted to receive the dovetail 46 when the same is inserted downwardly thereinto. The clamp is adapted to be placed in engagement with the edge of a table top T, as shown in Figure 1 and after it has thus been located it will hold the rack securely for adjustment to bring the head 33 in any desired position relative to the user. It might be stated that instead of using a clamp such as shown in Figure 1 a wall plate 53 can be employed, this plate being attached in any suitable manner to a wall and having a tapered dovetail socket member 54 for receiving the dovetail 46 as shown in Figure 8.

It is thought that the various adjustments will be fully understood from the foregoing disclosure. Particular importance, however, is attached to the form of extensible arm used whereby the distance between the pintles 5 and 26 can be easily varied, the anti-friction devices allowing the members 9 and 16 to move readily relative to each other irrespective of the weight to which the head 33 is subjected.

What is claimed is:

1. In a rack of the class described the combination with a head and a standard, of a jointed arm pivotally connected at its ends to the head and standard respectively, said arm including interfitting telescopically connected channeled members, a yoke connected to the inner end of the inner member and straddling and slidable on the outer member, anti-friction devices carried by the inner member and the yoke for rolling engagement with the edges of the outer member, and anti-friction means carried by the outer member for rolling engagement with the edges of the inner member.

2. In a rack of the class described the combination with a head and a standard, of a jointed arm pivotally and detachably connected at its ends to the head and standard respectively, said arm including pivotally and

detachably connected members, one of said members comprising telescopically connected channeled members, a yoke connected to the inner end of the inner member and straddling
5 and slidable on the outer member, anti-friction devices carried by the inner member and the yoke for rolling engagement with the edges of the outer member, and anti-friction means carried by the outer member for rolling engagement with the edges of the inner member. 10

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

EARL S. MERRILL.