

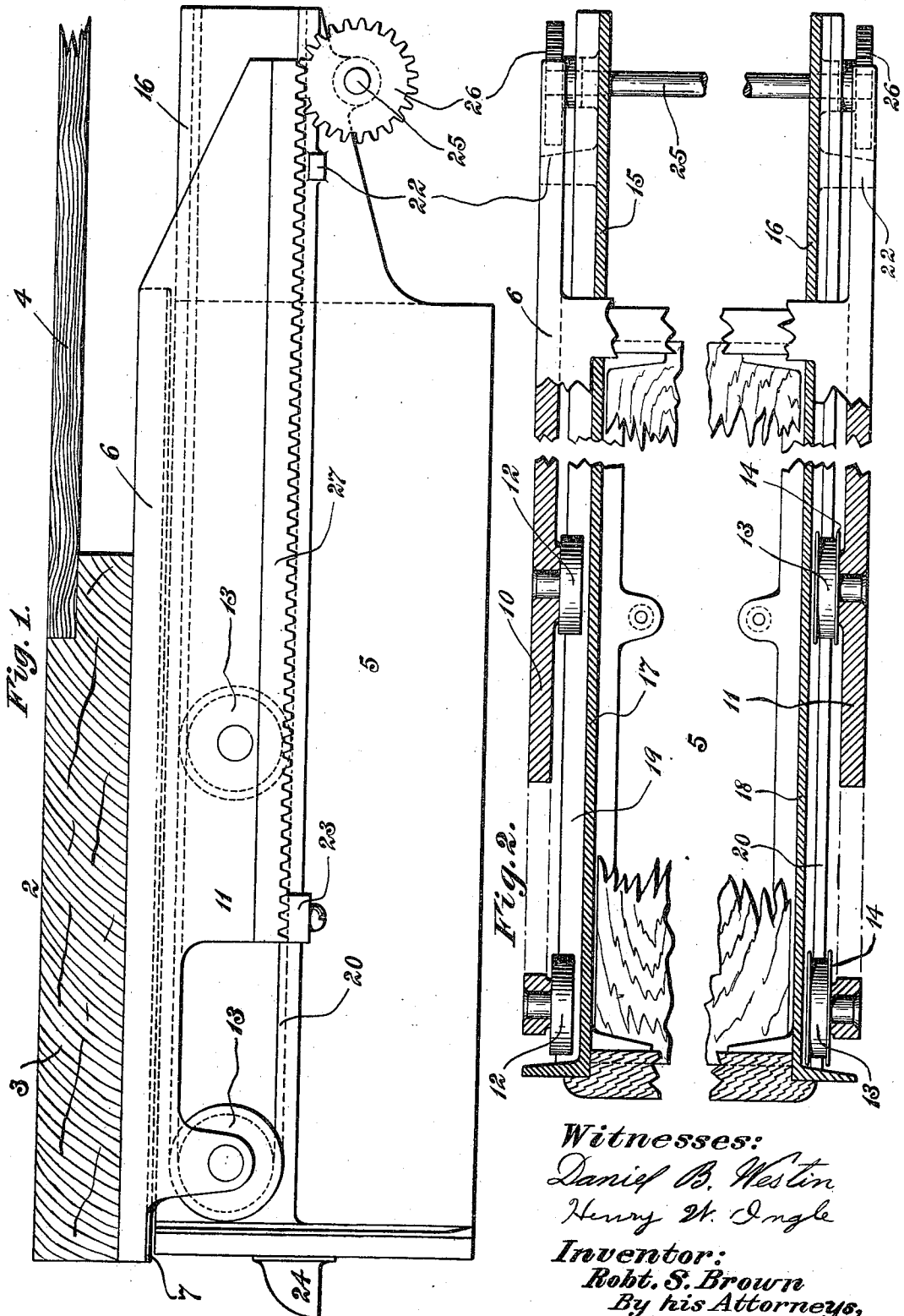
R. S. BROWN.
STOCK DRAWER.

APPLICATION FILED MAR. 24, 1909.

962,122.

Patented June 21, 1910.

2 SHEETS—SHEET 1.



Witnesses:
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By his Attorneys,
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2 SHEETS—SHEET 2.

Fig. 3.

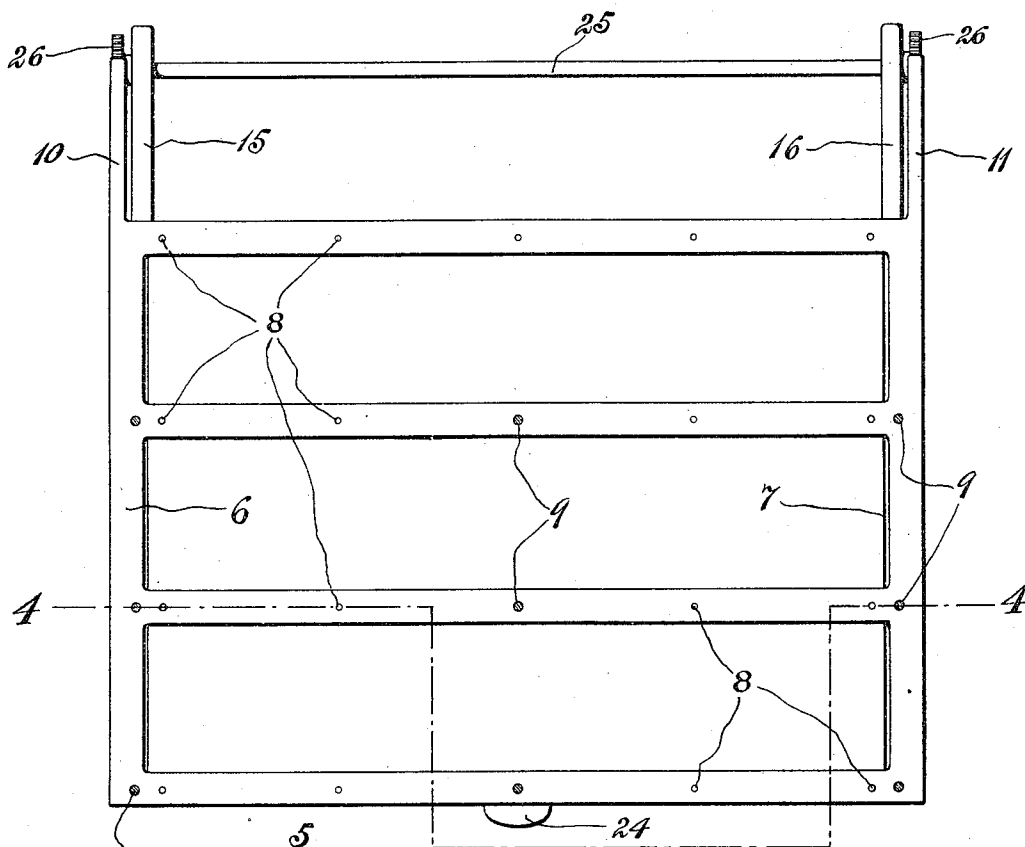
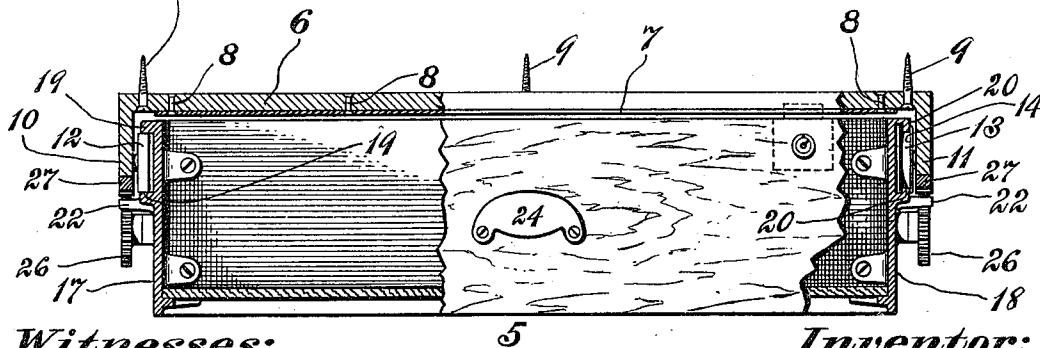


Fig. 4.



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UNITED STATES PATENT OFFICE.

ROBERT S. BROWN, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE NEW BRITAIN MACHINE COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

STOCK-DRAWER.

962,122.

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To all whom it may concern:

Be it known that I, ROBERT S. BROWN, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Stock-Drawers, of which the following is a specification.

This invention relates to what I shall for convenience term a "stock drawer" the principal objects of the invention being to provide an article of this character which can be opened and closed without possibility of sticking and which is effectually supported in its two extreme positions.

A device comprising my invention involves other advantageous features which with the foregoing will be stated at length in the following description wherein I outline in detail that form of embodiment of the invention which I have selected for illustration in the drawings accompanying and forming part of the present specification so that those skilled in the art can practice said invention.

A drawer or equivalent device embodying my invention can be used with advantage in many different connections and this is why I have adopted the title hereinbefore indicated for my invention; I have found said drawer as particularly useful for receiving tools and other implements generally employed in metal-working and wood-working establishments and it is so proportioned as to present a large storage area.

Referring to said drawings, Figure 1 is a side elevation of a stock drawer including my invention and showing the same associated with a work-bench the latter being in section. Fig. 2 is a sectional plan view of said drawer and adjunctive devices the intermediate portion of the drawer being removed and the side portions brought together for economy of space. Fig. 3 is a top plan view of a frame member and drawer with certain cooperating parts separated from the work-bench, and, Fig. 4 is a sectional front elevation of said parts the section being on the line 4-4 of Fig. 3.

Like characters refer to like parts throughout the several figures.

A drawer or equivalent sliding member possessing my invention can be used in conjunction with various devices, for example a work-table or bench such as that denoted in a general way by 2 and illustrated only

and in section in Fig. 1. The top in fact only of said bench or table is shown being composed of two planks or boards 3 and 4, the plank or board 4 being thinner than the forward board and being rabbeted into the latter in such manner that the upper surfaces of the two are flush. As will be hereinafter apparent there will be a space between the back board or plank and the drawer sufficient to receive the hand but I provide means to prevent the hand being put into the drawer when shut even though this shallow board or plank be present as will hereinafter appear.

The drawer is denoted in a general way by 5 and it is supported by the work bench or table 2 although it is not directly carried by the top thereof as will now be pointed out. A frame as 6 serves as a desirable means for sustaining the drawer 5 and the body of this frame as best shown in Fig. 6 is of skeleton form a plate 7 approximately equal in area being fastened suitably and rigidly to the underside of said frame 6, rivets as 8 answering satisfactorily such purpose. Said frame and plate are united in some suitable manner as by screws 9 to the underside of the top of the work-table and at the place where it is desired to locate said drawer. This plate 7 constitutes a suitable protecting cover or top for the drawer said parts being so related that when said drawer is closed said plate will completely cover the open upper side of the same so that if the hand be passed into the space under the plank 4 it cannot reach into said drawer owing to the presence of said plate. It is the custom of course to keep the drawer under lock and key when closed so that at this time unauthorized persons cannot abstract any of the contents therefrom.

The frame 6 is shown as having downwardly extending flanges or wings 10 and 11 associated with which are the pairs of anti-friction rollers 12 and 13 the drawer having suitable rails to receive said rollers as will hereinafter appear. The two pairs of rollers are separated longitudinally of the drawer the rollers 12 being plain while the rollers 13 have lateral or side flanges for a purpose that will also hereinafter appear. In the present case the front plain roller 12 is arranged directly opposite the flanged roller 13 and the same relation follows with respect to the rear rollers 12 and

13. The studs of these rollers are as will be apparent rigidly supported by the flanges or wings 10 and 11.

The drawer 5 is shown as having the rearward parallel extensions 15 and 16 which are preferably continuations of the sides 17 and 18 respectively thereof. On the drawer side 17 I have shown superposed parallel rails 19 which extend the complete length of the drawer and to the outer end of the extension 15 and between these rails or ledges which constitute collectively a suitable track, the anti-friction rollers 12 are situated. Extending along the drawer side 18 and also along the extension 16 are superposed rails 20 which receive between them the flanged rollers 13. While the rails 19 are directly united with the side 17 and extension 15 this is not the case with the rails 20 which are spaced or separated from the side 18 and extension 16 the space or interval receiving and accommodating the inner flanges of the fore and aft rollers 13.

The flanged rollers 13 as will be evident prevent lateral motion bodily of the drawer 5 while owing to the fact that the rollers 12 on the opposite side of the drawer are plain I provide means in this way for positively compensating for lateral expansion and contraction of said parts.

I desire to set forth that in the present case the anti-friction rollers of which four are shown although this number is not essential, are rotative about fixed axes from which it will be evident that said rollers do not travel; they simply rotate and it is not a matter of consequence whether the said rollers be rigid with their shafts or axles or turn thereabout, it being understood that I use the term "axis" in its primary definition, viz., an imaginary line. The opposite rollers travel as will be apparent between superposed rails which is advantageous especially when the drawer is pulled forward sufficiently to carry its center of gravity beyond the front of the drawer support; in such a case as this the rollers will bear against the upper rails so that a proper anti-friction support is provided in case the drawer should be pulled farther forward or backward; that is in such an event there can be no drag. In view of the fact that the rollers are supported independently of the drawer and that they turn about stationary axes I can provide an ample "wheel base" as it were for the drawer which never varies from the wide open position of said drawer to its fully closed position.

The drawer 5 is shown as provided at opposite sides thereof with lugs 22 extending outward from the extensions 15 and 16 respectively and which constitute suitable stops they being adapted to abut against stops or projections as 23 at the extreme forward ends of the wings or flanges 10 and 11

this abutment occurring when the drawer 5 has been pulled forward its maximum extent. It will be apparent that when said drawer has been drawn as far forward as it will go, the two pairs of rollers 12 and 13 are still bearing upon the cooperating rails 19 and 20 so that no matter where the drawer may be located between the limits of its movement it will be substantially supported which is especially advantageous when said drawer is all the way out. It is the case with drawers of the ordinary type and mounting that they receive the least support where it is most requisite. Said drawer 5 may be equipped with a pull or knob 24 serving its usual function.

In connection with the drawer 5 I provide an equalizing or parallel motion mechanism of an advantageous character and of such a nature that no matter where the force be applied to the drawer to either open or close the same said drawer can be operated evenly throughout its lateral extent so that there is no tendency of the drawer sticking or catching.

The extensions 15 and 16 which it will be evident are a part of the drawer 5, are shown as rotatively supporting a transverse shaft 25 which is represented as located near the innermost end of said drawer. To the ends of said shaft I have represented as fastened pinions 26 which mesh with stationary racks 27 united with or forming parts of the side wings or flanges 10 and 11 said rack and pinion mechanism being located preferably in the space between the upper and lower planes of the drawer. The length of each of said racks 27 is practically the same as the length of stroke in and out of the drawer 5 the consequence being that the two pinions 26 are always in mesh with their cooperating racks. It therefore follows that if a thrust be applied to the drawer longitudinally thereof either in an inward or outward direction said thrust is equally distributed to the drawer at opposite sides of a longitudinal central line so that there is no possibility of said drawer binding when opened or closed.

By the construction described I provide a drawer which is longer than those ordinarily in use for the stowage of stock, tools and the like, and notwithstanding the unusual length of said drawer it can be easily opened or closed. The base for the anti-friction rollers or wheels forming in the present case a part of the invention, is always the same whether the drawer be closed or fully open.

I do not restrict myself to the exact showing made by the drawings and their accompanying description and many variations may be adopted within the scope of my claims. As will be obvious I have described the drawer and its accessories in detail so that those working in the present art can

readily practice the invention from said drawings and description.

What I claim is:

1. A drawer provided with bearings on its opposite sides combined with anti-friction rollers supported independently of the drawer at opposite sides thereof and adapted to turn respectively on said side bearings on the back and forth motion of said drawer one set of rollers and the bearing at one side of the drawer being positively coöperative to prevent lateral motion of the drawer and the other set of rollers and bearing being adapted to permit free expansion and contraction of the drawer.

2. The combination of a drawer, and means for supporting and guiding said drawer for backward and forward movement said means comprising bearings and rollers at opposite sides of the drawer, one set of rollers and the bearing therefor at one side of the drawer being positively coöperative to prevent lateral motion of the drawer and the other set of rollers and bearing being adapted to permit free expansion and contraction of said drawer.

3. A drawer having side bearings combined with anti-friction rollers at opposite sides of the drawer and supported independently thereof the rollers bearing against said side bearings at longitudinally separated points and those on one side being plain and those on the other side being flanged and the flanges of the said flanged rollers being coöperative with the bearing on which said flanged rollers run to prevent lateral motion bodily of said drawer.

4. The combination of a sliding drawer, stationary racks supported independently of the drawer, and two rotatively connected pinions situated between the planes of the upper and lower surfaces of said drawer, below and in mesh with said racks, said drawer having means behind its compartment portion for supporting said pinions.

5. The combination of a sliding drawer, wings at opposite sides of the drawer and stationary with respect thereto, racks fastened to said wings, rotatively connected pinions in mesh at all times with the respective racks, and anti-friction rollers sup-

ported by said wings, the drawer having tracks to receive said rollers.

6. The combination of a slidable drawer, a frame having depending wings, anti-friction rollers supported by said wings the drawer having bearings to receive said rollers, and a cover plate for the drawer when closed, connected with said frame.

7. The combination of a sliding drawer having a closed rear end and provided with extensions projecting rearwardly from said closed end, and antifriction rollers supported independently of the drawer one roller in front of the other at opposite sides of said drawer the latter having rails extending longitudinally thereof and also along said extensions back of said closed end said rollers bearing against said rails to support the drawer and the front rollers being adapted to engage against the front portions of said rails when the door is closed and the rear rollers being adapted to engage said rails to the rear of said closed end when the drawer is open its maximum extent.

8. The combination of a sliding drawer having a closed rear end and provided with extensions projecting rearwardly from said closed end, anti-friction rollers supported independently of the drawer one roller in front of the other at opposite sides of the drawer the latter having rails extending longitudinally thereof and also along said extensions back of said closed end said rollers bearing against said rails to support the drawer and the front rollers being adapted to engage against the front portions of said rails when the drawer is closed and the rear rollers being adapted to engage said rails to the rear of said closed end when the drawer is open its maximum extent, rotatively connected pinions supported by said extensions, and stationary racks with which the pinions respectively mesh, said racks being supported independently, and located at opposite sides, of the drawer.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT S. BROWN.

Witnesses:

HERBERT E. ERWIN,
HEATH SUTHERLAND.