In [3]:
```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

In [5]:
```
df = pd.read_excel("theft.xlsx")
df.sample(5)
```

Out[5]:

	Region	Sub Region	Country	Count	Rate	Year
849	Asia	Western Asia	Israel	70809	935.541212	2011
412	Europe	Eastern Europe	Hungary	124522	1242.252631	2007
696	Americas	Central America	Belize	836	259.943782	2010
390	Asia	Eastern Asia	Hong Kong Special Administrative Region of China	36762	532.906413	2007
1011	Africa	Eastern Africa	Uganda	18146	48.320105	2013

In [9]:
```
df["Year"].unique()
```

Out[9]:
```
array([2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013,
       2014, 2015, 2016], dtype=int64)
```

In [17]:
```
dfg = df.groupby("Country").agg({"Count": "sum", "Rate":"mean", "Year": "last" })
dfg
```

Out[17]:

Country	Count	Rate	Year
Albania	55135	155.732120	2016
Algeria	503764	138.175460	2015
Andorra	9213	1245.890066	2015
Argentina	1973821	684.376679	2016
Armenia	53275	130.385450	2016
...	...	...	...
United Kingdom (Scotland)	1582686	2167.057437	2016
United Republic of Tanzania	2644	1.292696	2015
United States of America	88604714	2070.255291	2016
Uruguay	1313708	2993.075371	2016
Zimbabwe	759572	975.257666	2008

142 rows × 3 columns

In [23]:
```
dfg_sorted = dfg.sort_values(by=["Count", "Year"],ascending=False )
dfg_sorted
```

Out[23]:

Country	Count	Rate	Year
United States of America	88604714	2070.255291	2016
Germany	23524591	2063.732022	2016
United Kingdom (England and Wales)	21816558	2824.315003	2016
Russian Federation	15203337	815.245719	2016
France	15137111	1716.158535	2016
...	...	...	...
St. Kitts and Nevis	1577	1022.307558	2011
Guinea	1348	13.350861	2007
Madagascar	646	0.463441	2015
Sao Tome and Principe	43	4.087118	2011
Holy See	0	0.000000	2015

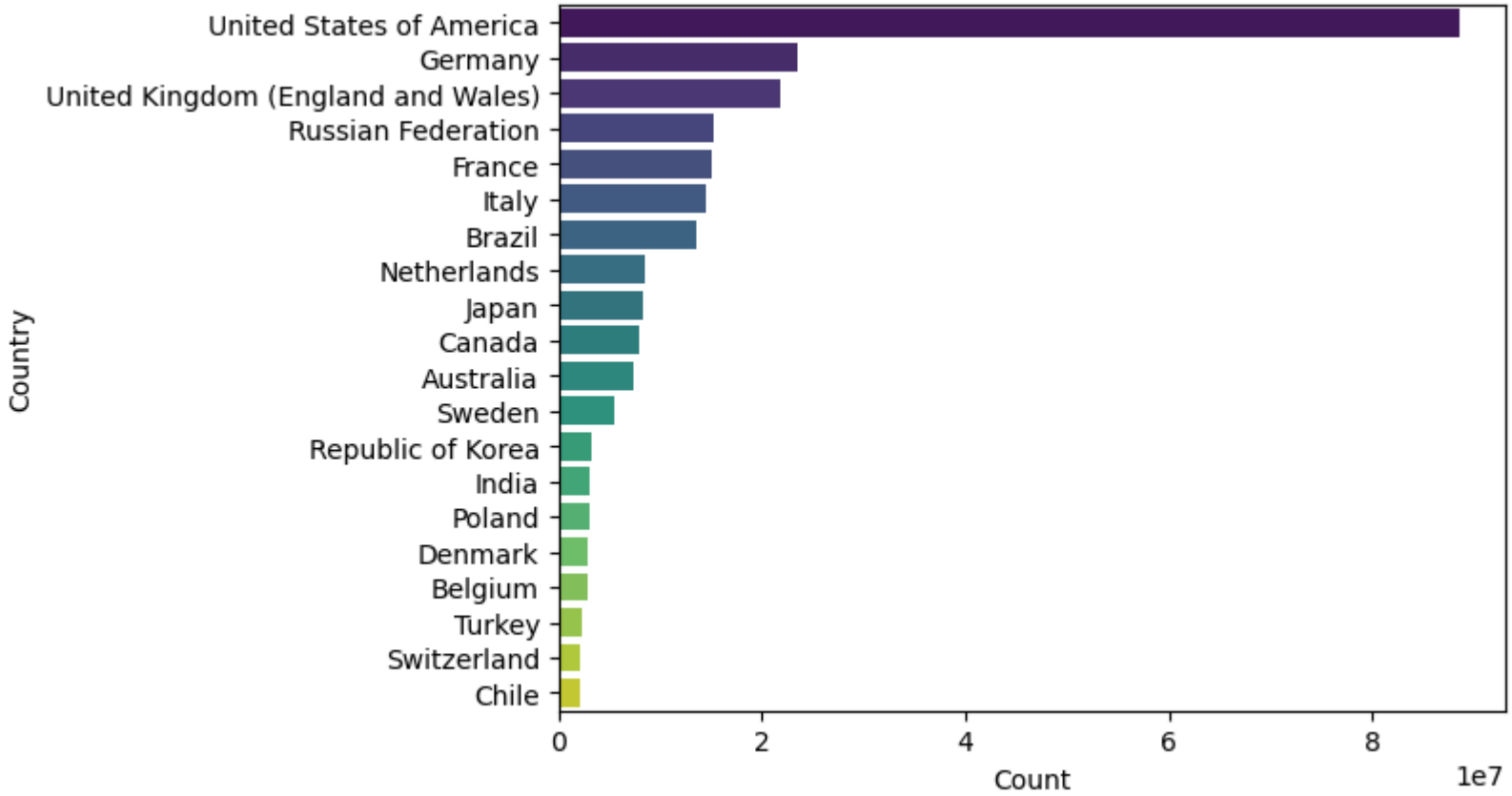
142 rows × 3 columns

In [53]:
```
dfg_top20 = dfg_sorted.head(20)
sns.barplot(data=dfg_top20, x="Count", y="Country", palette="viridis")
plt.savefig("plot.png", bbox_inches="tight")
```

```
C:\Users\bocci\AppData\Local\Temp\ipykernel_1156\2805446548.py:2: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `y` variable to `hue` and se
t `legend=False` for the same effect.

  sns.barplot(data=dfg_top20, x="Count", y="Country", palette="viridis")
```



In [27]:
```
dfg_sorted.loc["Argentina"]
```

Out[27]:
```
Count    1.973821e+06
Rate     6.843767e+02
Year     2.016000e+03
Name: Argentina, dtype: float64
```

In [31]:
```
dfg_sorted.reset_index(inplace=True)
dfg_sorted
```

Out[31]:

	Country	Count	Rate	Year
0	United States of America	88604714	2070.255291	2016
1	Germany	23524591	2063.732022	2016
2	United Kingdom (England and Wales)	21816558	2824.315003	2016
3	Russian Federation	15203337	815.245719	2016
4	France	15137111	1716.158535	2016
...	...	...	...	...
137	St. Kitts and Nevis	1577	1022.307558	2011
138	Guinea	1348	13.350861	2007
139	Madagascar	646	0.463441	2015
140	Sao Tome and Principe	43	4.087118	2011
141	Holy See	0	0.000000	2015

142 rows × 4 columns

In [ ]: